REDACTED VERSION

REF. 1

ecology and environment, inc.
6440 HILLCROFT AVENUE, HOUSTON, TEXAS 77081, TEL. 713/771-9460
International Specialists in the Environment

CERCLIS#: TXD987966900

SITE ASSESSMENT REPORT

FOR

JENSEN DRIVE DRUM SITE
Houston, Harris County, Texas

Prepared for

EPA - Region VI
Emergency Response Branch

J. Chris Petersen
Deputy Project Officer

By

Ecology and Environment, Inc.
Technical Assistance Team

November 10, 1988

90126172

recycled paper

ecology and environment, inc.
6440 HILLCROFT AVENUE, HOUSTON, TEXAS 77081, TEL. 713/771-9460
International Specialists in the Environment

CERCLIS #: TXD987966900

DATE: November 10, 1988

TO: Pat Hammack, OSC
EPA Region VI, Emergency Response Branch

THRU: J. Chris Petersen, DPO
EPA Region VI, Emergency Response Branch

THRU: Kishor Fruitwala, TATL
Region VI, Technical Assistance Team

FROM: Patricia Herrera
Region VI, Technical Assistance Team

SUBJECT: Site Assessment of Jensen Drive Drum Site
Houston, Harris County, Texas

TDD #: T06-8810-28
PAN #: TTX 0829 SAB

Introduction

The EPA On-Scene Coordinator (OSC) and the Technical Assistance Team (TAT) performed a site assessment at the Jensen Drive drum site located in Houston, Harris County, Texas. This assessment was conducted to determine whether conditions at the site present a potential threat to public health and welfare and/or to the environment. If so, the site would be eligible for immediate removal status in accordance with the National Contingency Plan guidelines.

Current Harris County deed records indicate the property is owned by LEAS-IT, Inc. of Harris County, Texas. During a site assessment at the nearby Davis Street site, Mr. Winston informed EPA that a Mr. J. D. Gray owned the property. Mr. Gray is a representative for LEAS-IT, Inc. J. D. Gray

I. Purpose

This memorandum requests approval for a Removal Action pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) at the Jensen Street Drum site.

This action meets the criteria for initiating a removal action under Section 300.65 of the National Contingency Plan (NCP) and is anticipated to require less than twelve months and under $2 million for completion.

recycled paper

II. Background

A. National Significance:

This site is not of national significance.

B. Site Description:

The Jensen Drive drum site is located at 3116 Jensen Drive, two blocks south of Collingsworth in northeast Houston. It is in a light industry and residential area. Inhabited houses are as close to the site as 30 feet. Three churches are located near the site, and a school is less than one-half mile away.

The site itself occupies a rectangular lot measuring approximately 400 feet by 150 feet. There is a warehouse in the center of the site with two open bay doors facing east and west. The site is surrounded by a five foot chain link fence. The side facing Jensen Drive is secured only by a gate three feet high and ten feet wide. The gate is chained and pad locked. A key is kept across the street at Winkman and Doggett Auto Parts.

There are a number of vehicles on the site. These vehicles include cars, trucks and trailers. Charles Lee of Workman and Doggett Auto Parts informed TAT that some of the vehicles belong to the Auto Parts store. Mr. Lee also told TAT that a car stripping operation was going on at the site until the Houston Police shut it down.

Over 400 drums of unknown content are present on site. Many of the drums are empty and/or overturned. The drums were checked for liquid contents. Those that had any contents were numbered consecutively with spray paint. The drums are in varying stages of deterioration and some are bulging. Measurements taken of the drum contents indicated material present with pH ranging from 0-13. For example, drum #81, labeled sulfuric acid, had a pH of 0. Drum #82, immediately adjacent to #81 had a pH of 13. Many of the drums bore labels. Information compiled from the labels is presented in Table 4 included in the attachment.

Vegetation on site consists of weeds and grass. The perimeter of the site is overgrown. Various areas show stress vegetation. There are areas of chemical stained soil evident throughout the site. Two large areas of soil discoloration where present. One is on the northeast corner of the site at the fence line. The other, at the southeast corner of the site, is also adjacent to the fence line. The land in the area is generally flat. Buffalo Bayou is less than one mile south of the site (see topographic map attachment).

The warehouse contains 91 steel drums, 20 filterboard barrels, 10 compressed gas cylinders and a 500 gallon polypropylene vat that is about half full. There is a small locked office in the southwest corner of the warehouse. This office has 10 five gallon cans. There is a loft along the interior south side of the warehouse where lumber is stored.

Ambient air monitoring was conducted with an explosimeter, the RAM 10, and the HNU photoionization detector. No explosive or oxygen deficient atmospheres were observed. No radiation above background was present. HNU readings above background where observed in various locations throughout the site. Outside of the warehouse several readings in the range of 3-5 (isobutylene equivalency) ppm were measured. Inside the warehouse, three separate readings of 15 ppm, 50 ppm and 110 ppm were measured.

C. Incident Characteristics

Historical accounts on this site are limited. However, the site was known to be the location of the May-Cooperidge Drum Reclamation Co. owned by Fred Winston. A complaint by an anonymous caller prompted the Texas Water commission (TWC) and tne City of Houston to file complaints against Mr. Winston. Mr. Winston moved his operation to 3116 Jensen Drive from 1705 Davis Street, another site which is currently under EPA evaluation.

D. Quantity and Types of Substances Present

On 30 August 1988, Technical Assistance Team personnel collected and transported a vat sample, six drum and two soil samples to the EPA Houston laboratory for BNA and metals analysis. The approximate location of each sample is shown on the attached site sketch.

The results of analysis are summarized in the following tables. The laboratory report is included in the attachments. Inorganic analysis results for drum samples are shown in Table 1, also included is the EPA drinking water standards if applicable. Table 2 summarizes the inorganic results for the two soil samples. Table 3 is a summary of the organic analysis for both drum and soil samples. It included the concentrations and the toxicity properties of each compound of interest.

There are a number of inorganic compounds on site which can be considered toxic. Notably the levels of iron, lead and manganese are elevated. Those organic compounds listed as hazardous substances in 40 CFR 302.4 were considered of interest and reported with the pertinent toxicological information. The list is lengthy and includes a number of carcinogens.

E. State and Local Authorities Role:

F. Federal Action To Date:

On 30 August 1988, the EPA Emergency Response Branch conducted a site assessment at this site to evaluate the potential threat to the public health on the environment which exists at the site.

G. NPL Status

This site is not on the National Priorities List.

III. THREAT TO PUBLIC HEALTH, WELFARE OR THE ENVIRONMENT

A. Three obvious threats to public health are present at the Jensen Street Site:

1). High concentrations of metals - metals can be highly toxic if ingested or inhaled. Metals may be transported offsite via airborne or surface migration and affect the surrounding properties.

2). Numerous toxic organic compounds - there are a large number of organic compounds that are hazardous substances. These compounds may be transported off site via airborne or surface migration and affect the surrounding properties. Headspace monitoring indicates the presence of volatile organic compounds which could potentially be toxic, explosive, flammable and/or carcinogenic. Of the compounds listed many when heated decompose and emit toxic fumes. A fire at the site could potentially cause an airborne disaster.

3). Numerous drums on-site - these drums are in varying stages of deterioration and many are leaking unknown compounds. The metals and hazardous organic compounds present a direct contact, inhalation and ingestion threat because of the deteriorating nature of the drums.

B. Threats to the Environment:

A release of these materials would contaminate the surrounding soil, water, and drainage area. An air release, possibly from a fire, would result in a much greater extent of contamination of the surrounding air, soil, water and vegetation.

IV. Enforcement

V. Proposed Actions and Costs

VI. Expected Change In the Situation Should No Action Be Taken

Without further attention, the containers will continue to deteriorate. If this is allowed, the health and welfare of the area residents will be endangered. If the materials are inadvertently allowed to mix with one another, a fire and explosion danger to the local citizens may result. In the event of a fire toxic fumes would be emitted, endangering the local citizens in the area.

If a removal is not conducted soon, it is likely that a removal would have to be conducted under emergency conditions. The more time these containers are allowed to deteriorate, the greater the probability for the liberation and release of chemical substances to the atmosphere with detrimental health effects.

VII. Important Policy Issues

Not applicable

VIII. Recommendation

Because conditions at the site meet the NCP section 300.65 (b) (2) criteria for a removal, I recommend your approval of the proposed removal action. The estimated total project costs are of which are for extramural cleanup contractor costs. You may indicate your approval or disapproval by signing below.

ECOLOGY AND ENVIRONMENT, INC.

DALLAS, TEXAS

MEMORANDUM

To: Ed Sierra, Region VI RPO

Thru: K. H. Malone, Jr., FITOM

From: Jairo Guevara, FIT Chemical Engineer

Date: March 14, 1989

Subj: Preliminary Assessment for Jensen Drive Drum Site
Houston, Harris County, TX (TXD987966900)
TDD #F06-8901-33
PAN FTX0829PAA

1. Site Information

The Jensen Drive Drum site is located at 3116 Jensen Drive Northeast, Houston, Texas 77026 (Reference 1, pages 3 and 32). The geographic coordinates are Latitude 29°47'25"N and Longitude 95°20'29"W (Reference 2 and Figure 1). The property is under the name of Leas-It, Inc., which is owned by Ronald J. Gray of Lufkin, Texas (b) (6) [redacted] work phone 409/829-2282). The site is 1.465 acres, approximately 400 feet by 150 feet, and is located in a light industrial and residential area (Reference 2 and Figure 2). Apparently Mr. Gray has leased his land to Mr. Fred Winston, (b) (6) [redacted] (b) (6) [redacted], who was operating a company on the property which is known as May Cooperage, Inc., and also named in some reports as May Cooperidge Drum Reclaiming Company. More than 400 drums were present at the site during the August, 1988 TAT sampling inspection. A small warehouse facility with an office was located at the center of the site. Several vehicles from a neighboring business, Winkman and Doggett Auto Parts (Reference 1, pages 3a and 18), were located on-site.

The site is completely surrounded by a five foot chainlink, locked fence. The side facing Jensen Drive has a gate three feet high and ten feet wide (Reference 1, page 3).

The site vegetation consists of grass and weeds. Stressed vegetation was seen in various areas. Two large areas of discolored soil were sampled by the TAT and found to be contaminated. The areas were located

PRELIMINARY REPORT
This does not constitute
final opinion of EPA

Reviewed by E&E-ES
Date

on the northeast corner of the site next to the fence and on the southeast corner near the fence (Reference 1, pages 3, 4, 15, 23 and 24 and Figure 3).

The FIT was tasked by the EPA to conduct a preliminary assessment on this site to determine whether any imminent environmental hazards exist off and on-site, and to define the seriousness of the problem through the multiple migration routes.

2. Background/Operating History

The site was bought by Leas-It, Inc. from the Texas Bank and Trust Company of Houston on April 28, 1982 (Reference 3). May Cooperage, Inc. has operated at the site location since 1985 or 1986 (Reference 4). The company was moved to the Jensen Drive site from its former location at 1705 Davis Street after the Texas Water Commission and the City of Houston filed complaints against the Davis Street site operation. No information about the history or past operations of the site was available.

Liquid contents were found in 210 of the more than 400 drums during the TAT inspection of August, 1988 (Reference 4). At this point, it is not known if the drums found empty at the site during this inspection were empty when they were brought there (Reference 1). The drums were numbered and their labels were recorded. The drums observed on-site during the inspection were in various stages of deterioration. Several drums were overturned and some were bulging. Incompatible wastes were placed adjacently. The pH values measured in some drums varied from 0 to 13. The site warehouse contained 91 steel drums, 20 fiberboard drums, 10 compressed gas cylinders and a 500-gallon polypropylene vat (half full). A locked office in the warehouse contained ten 5-gallon cans (Reference 1, pages 3, 49-53).

During the TAT inspection, nine samples (six from drums, one from the plastic vat and two from the large contaminated soil areas) were collected and analyzed for metals and base/neutral/acid (BNA) organics. The analyses revealed the presence of several metals and organics: antimony, chromium, cobalt, copper, iron, lead, potassium, sodium, polynuclear aromatics, 2,4-dimethyl phenol, phthalates, benzoic acid and several unknown hydrocarbons (Reference 1, pages 4, 7-10, 15-17 and 60-98). The site was recently resampled in a more comprehensive way as part of an EPA emergency ~~remedial~~ removal action. The laboratory results of these analyses have not been received (Reference 4).

3. Waste Containment/Hazardous Substance Identification

The hazardous waste constituents found on-site were listed in the previous section. Their quantities are unknown. The companies from which the wastes originated, according to the on-site drum labels, are partially included in Reference 1, pages 49-53. The total quantity of waste was estimated at 180 full drums at 75% capacity, 37.5 gallons/drum or 6,750 gallons (Reference 19).

4. Pathway Characteristics

a. Air Characteristics

During the TAT inspection, HNu readings above background were observed inside the site warehouse (15 to 115 ppm) and on-site outdoors (3-5 ppm)(Reference 1, page 4). These values could be duplicated and specified to serve as an HRS documented evidence by conducting a complete air survey.

b. Ground Water Characteristics

The important aquifers in the area are the Chicot and the Evangeline. The Chicot aquifer is approximately 1,000 feet thick and tops the Evangeline aquifer. The Chicot consists of interbedded sands, silts and clays of Pleistocene age. It is comprised of the Willis sand, the Bentley and Montgomery formations, and the Beaumont clay. The Evangeline aquifer is the most significant source of drinking water in the Houston area. It is approximately 2,000 feet thick in this area and extends from the Chicot aquifer base to the underlying Burkeville confining layer. The Evangeline is formed by the Goliad sand of Pliocene age and the Fleming formation of Miocene age. It is characterized by layers of sand and gravel with interbedded clay and silt layers (Reference 5; Reference 6).

No private wells in the area were located. Five city wells within three miles of the site are used in northeast Houston as a source of drinking water supply (Figure 4). These city wells draw water from the Evangeline aquifer and are screened at depths of approximately 600 to 625 feet. The 1969-1971 water table levels of these wells was between 332 to 367 feet (Reference 7).

A net precipitation of -6 inches per year has been estimated (Reference 8).

c. Surface Water Characteristics

The runoff from the site has two routes. One is to the northeast to Hunting Bayou (0.95 miles from the site) through the city of Houston drainage system. The second one is south to Buffalo Bayou, approximately two miles from the site. Hunting Bayou flows east and then south to discharge into the Houston Ship Channel. Buffalo Bayou flows east and becomes the Houston Ship Channel. The 15-mile downstream water bodies within the area of concern include Hunting Bayou, Buffalo Bayou and the Houston Ship Channel (Reference 2). Surface water along these 15 miles is used for limited recreation (canoeing) and industrial water supply for cooling water. These streams do not provide drinking water or irrigation supplies (Reference 9; Reference 10).

The site is located in a flat area approximately 50 feet above sea level. It does not receive drainage from other areas (Reference 2).

The 2-year, 24-hour rainfall at the site area is five inches (Reference 11). The site is not located in a flood plain and the potential for flooding is minimal (Reference 12).

d. On-Site Pathway Characteristics

Spillage and migration from the site are present in different areas. Two large areas of contamination were located at the northeast and southeast corners of the site. As mentioned in the section on surface water characteristics, drainage from the site can go south to the Buffalo Bayou or northeast to the Hunting Bayou. No liners or runoff diversion systems exist at the site.

Although the site was secured and locked at the end of 1988, it was used by nearby businesses. The presence of vehicles on the site suggest that widespread contamination could exist. In addition, a stripping operation of stolen cars was carried out at the site and a person lived on-site at one time (Reference 1, page 3; Reference 19).

5. Targets

Houston water supply in the northeast area is served by a combination of ground water and surface water. As mentioned in the section on ground water, five city water supply wells are located within 3 miles of the site. Domestic surface water comes from Lakes Houston (17 miles north of downtown Houston), Conroe and Livingston (Reference 13; Reference 14). The population within four miles of the site served by the municipal water supply was estimated at 237,469 (Reference 15).

The site is located in the middle of the city with adjacent residential and industrial areas (Reference 1, pages 3-12 and 13). No environmentally sensitive areas exist within four miles of the site or within 15 miles downstream of the site (Reference 16).

6. Other Regulatory Involvement

As mentioned in the section on background/operating history, an emergency EPA remedial clean up operation is in progress at the site. Sampling by the TAT has been accomplished and the drums have been moved inside the site warehouse, pending receipt of the analytical results (Reference 4). Drums and contaminated soil will be removed from the site and disposed at appropriate facilities.

7. Conclusions and Recommendations

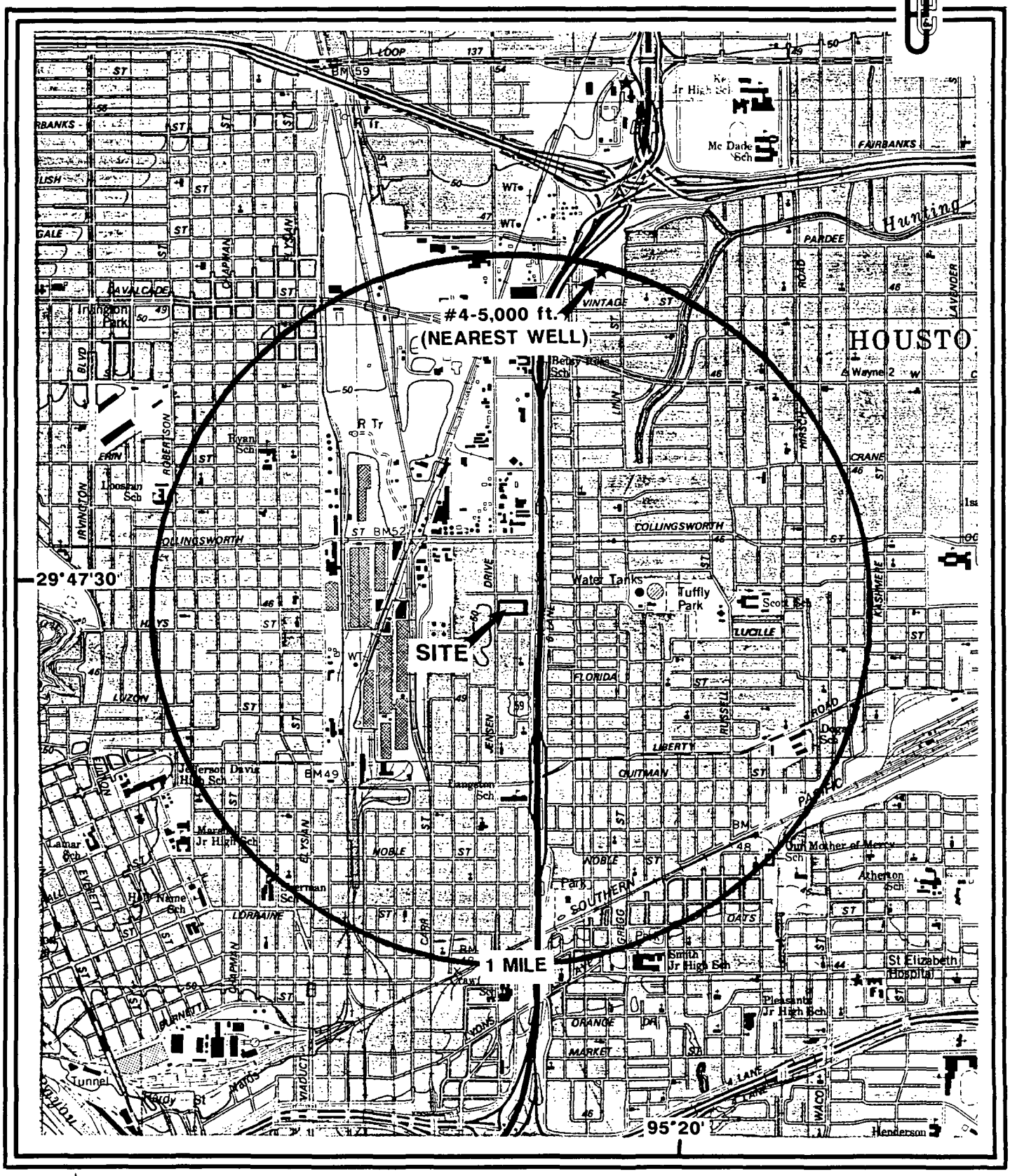
The site apparently received all kinds of wastes in drums. Incompatible wastes were being stored indiscriminately, creating potential reactions and hazardous releases. From the description of the August, 1988 TAT report, operations at the site had been abandoned. Drums were in disarray and had deteriorated. Two large areas of contaminated soil and stressed vegetation in several locations were observed on-site.

During the TAT inspection, heavy metals and BNA organics were identified from drums and soil samples. Several vehicles were found on the site, including some from a neighboring auto parts business. The number of vehicles and people using the site are unknown.

A release of hazardous compounds to the atmosphere should be investigated. Quantitative readings of unidentified compounds (3 to 115 ppm) were recorded with a photoionizer instrument (HNu) by the TAT during the reconnaissance and sampling inspections in August, 1988. The readings were taken to provide general information about the site.

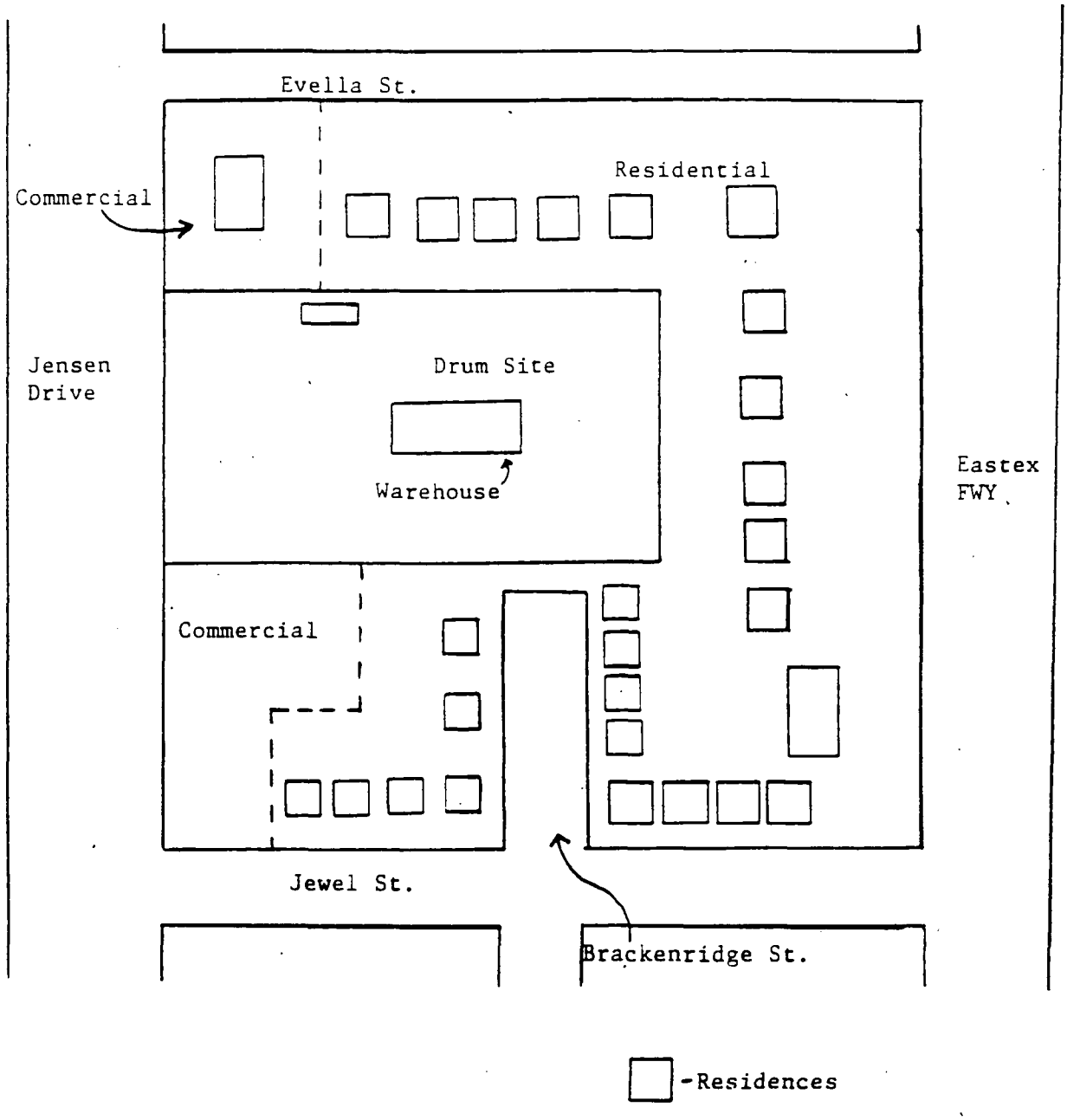
The site is presently undergoing EPA emergency ~~remedial~~ removal PSH actions. A sample inspection by TAT has been conducted. The drums with wastes have been repacked and moved into a site warehouse. Removal of the drums and the soil is pending the receipt of analytical results from the contracted laboratories. A final report of the EPA ~~remedial~~ removal PSH action of the site will be prepared when this operation is completed.

JG/amw



0 N 2000 ft.

FIGURE 1
SITE LOCATION MAP
JENSEN DRIVE DRUM SITE
HOUSTON, TEXAS
TXD987966900



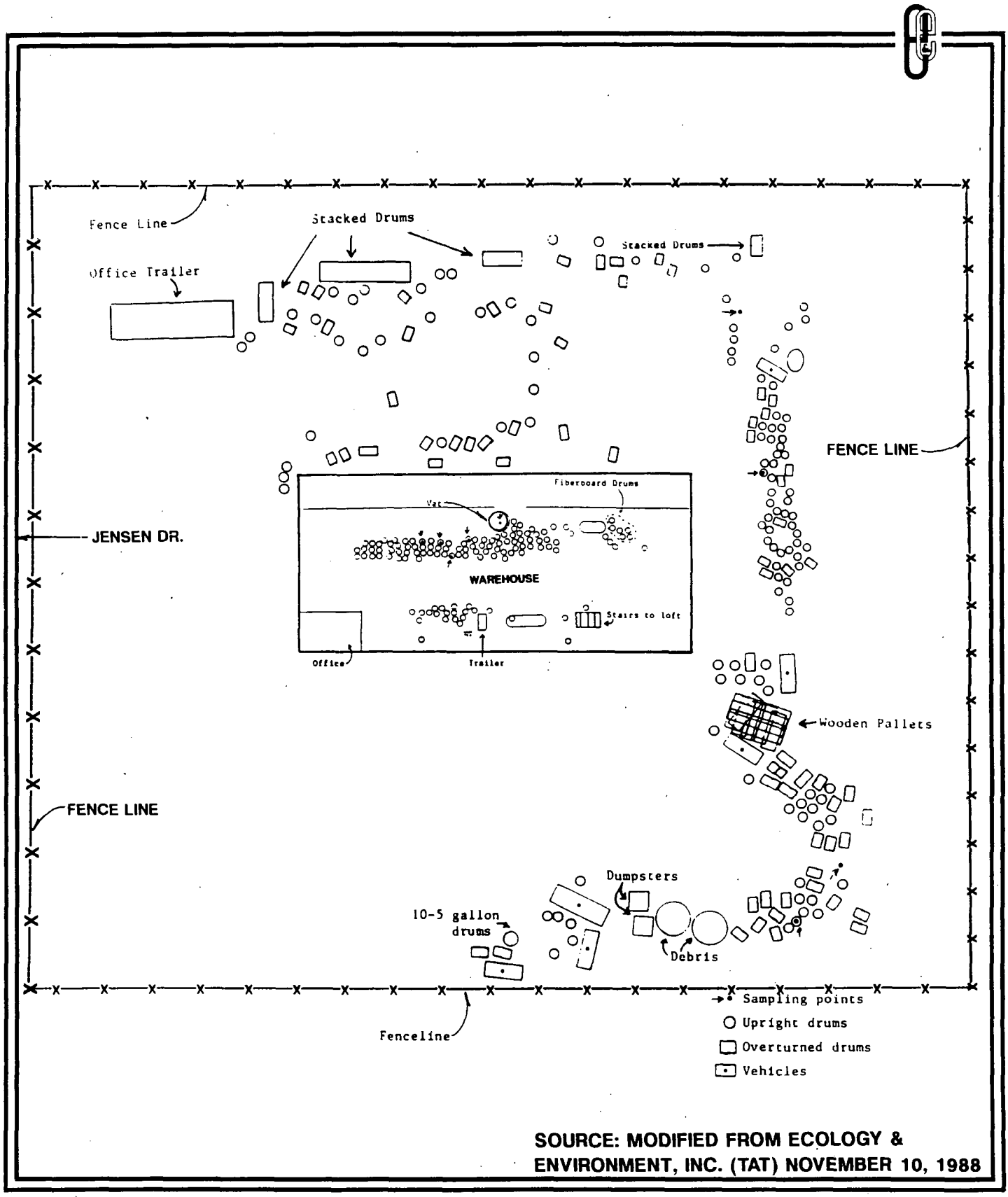
Sketch of location
of Jensen Drive
drum site showing
proximity to residences

SOURCE: ECOLOGY & ENVIRONMENT, INC. (TAT) NOVEMBER 10, 1988

N

NOT TO SCALE

FIGURE 2
SITE AREA SKETCH
JENSEN DRIVE DRUM SITE
HOUSTON, TEXAS
TXD987966900

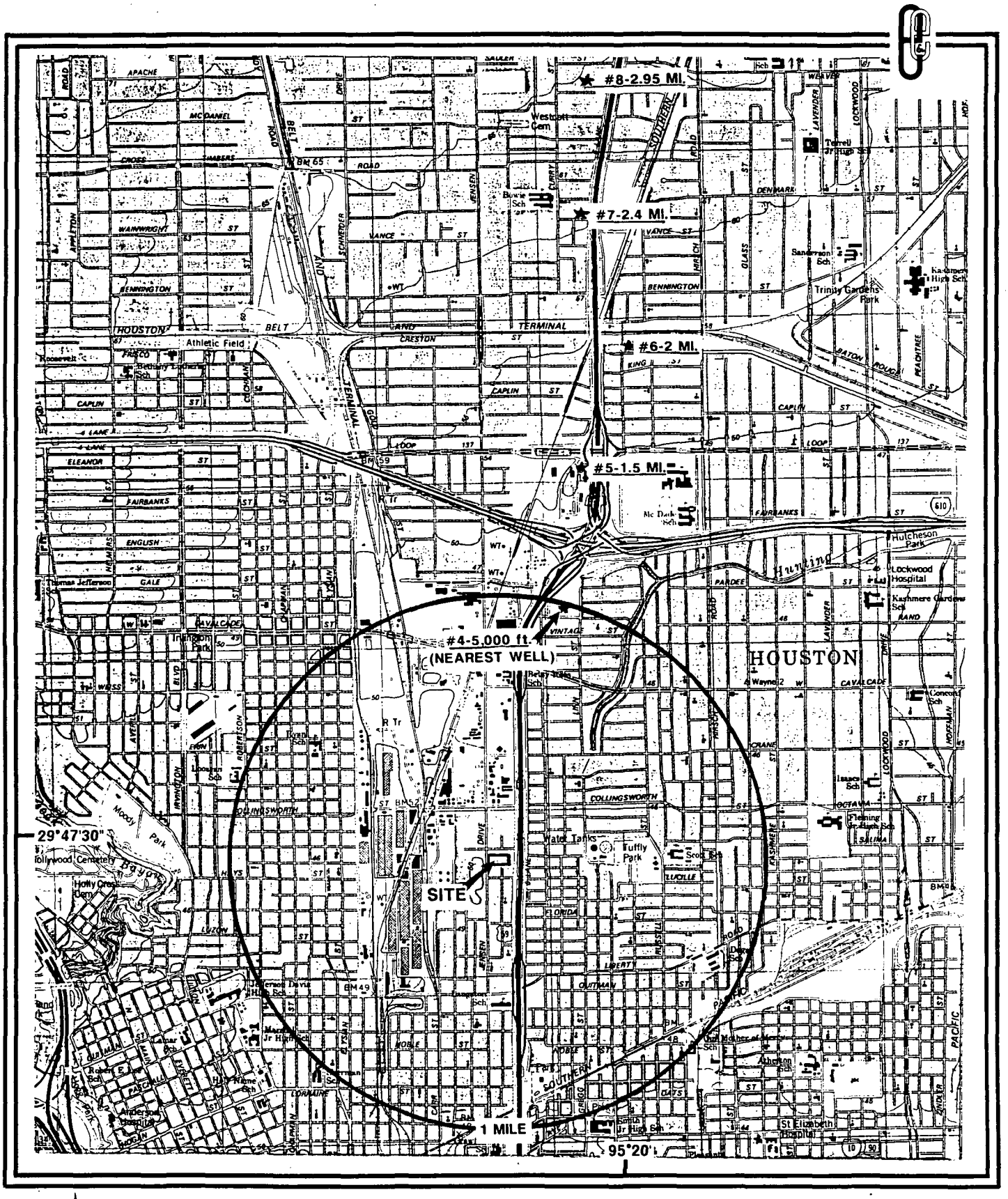


SOURCE: MODIFIED FROM ECOLOGY & ENVIRONMENT, INC. (TAT) NOVEMBER 10, 1988

N

NOT TO SCALE

FIGURE 3
SITE SKETCH
JENSEN DRIVE DRUM SITE
HOUSTON, TEXAS
TXD987966900



0 N 2668 ft.

FIGURE 4
CITY OF HOUSTON NORTHEAST WELLS
JENSEN DRIVE DRUM SITE
HOUSTON, TEXAS
TXD987966900

Preliminary Assessment References
for
Jensen Drive Drum Site
Houston, Harris County, TX (TXD987966900)
TDD #F06-8901-33

Reference Number	Description of the Reference
01	Site Assessment Report for Jensen Drive Drum Site in Houston, Harris County, Texas. Prepared by Patricia Herrera, TAT. EPA Region VI. November 10, 1988.
02	U.S.G.S. 7.5 Minute Series Topographic Maps. Settegast, Texas. 1982. Houston Heights, Texas. 1982. Park Place, Texas. 1982. Pasadena, Texas. 1982.
03	Property Deed on Sale of 3116 Jensen Drive Tract from the Texas Bank and Trust Company of Houston to Leas-It, Inc. of Harris County, Texas. May 3, 1982.
04	Record of Communication. To: Pat Hammack, Emergency Response Group OSC. From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Additional Information for Jensen Drive Drum Site. February 2, 1989.
05	Texas Department of Water Development, D.G. Jorgensen, 1975. Analog-Model Studies of Ground Water Hydrology in the Houston District. Texas Report 190.
06	Texas Department of Water Resources, E.T. Baker, 1979. Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas. Report 236.
07	Texas Water Development Board. January 1974. Ground Water Data for Harris County, Texas. Volume II. Records of Wells 1892-1972. Report 178.
08	U.S. Department of Commerce, National Climatic Center, Ashville, North Carolina. 1979. Climatic Atlas of the United States.
09	Record of Communication. To: Robert Devillier, Storm Sewer Engineer. City of Houston Public Works. From: Bradley Morris, FIT Geologist. EPA Region VI. Re: Uses of Hunting Bayou. Houston, Texas. June 24, 1987.
10	Record of Communication. To: Dr. Herbert McKee, Occupational Health. City of Houston. From: Kelly Bowles, FIT Geologist. EPA Region VI. Re: Lead Products Facility Site and Buffalo/Houston Ship Channel. January 9, 1989.

Preliminary Assessment References
for
Jensen Drive Drum Site
Houston, Harris County, TX (TXD987966900)
TDD #F06-8901-33
Continued

Reference Number	Description of the Reference
11	U.S. Weather Bureau, D.M. Herschfield, 1961. Rainfall Frequency Atlas of the United States. Technical Paper No. 40.
12	Record of Communication. To: Henry Fleming, Technical ACOE. Galveston District. From: Brian Boerner, FIT Chemist. EPA Region VI. January 10, 1989.
13	Record of Communication. To: Louis Bowen, Manager Ground Water Section. Public Works Department. From: Bradley Morris, FIT Geologist. EPA Region VI. July 24, 1987.
14	Record of Communication. To: Don McInnes, Houston Public Works Water Production Office. From: Kelly Bowles, FIT Geologist. EPA Region VI. Re: Ground Water and Surface Use - City of Houston. January 5, 1989.
15	U.S. Department of Commerce. Bureau of Census Tracts. Houston, Texas. 1989. Census of Population and Housing. July, 1983. Publication PHC80-2-184.
16	Record of Communication. To: Julie Massey, Ecological Services. U.S. Fish and Wildlife Service. From: Kelly Bowles, FIT Geologist. EPA Region VI. Re: Sensitive Environments along Buffalo Bayou. January 9, 1989.
17	Uncontrolled Hazardous Waste Site Ranking System: A Users Manual. 47 FR 31219-31243, 16 July 1982 (Appendix A, CERCLA).
18	Sax, N. Irving. 1984. Dangerous Properties of Industrial Materials, Sixth Edition. Van Nostrand Reinhold Co. New York.
19	Record of Communication. To: Patricia Herrera, Region VI TAT. Houston, Texas. From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Additional Information on Jensen Drive Drum Site. February 13, 1989.

*****CONFIDENTIAL*****PRE-DECISIONAL DOCUMENT*****
PRESCORE ANALYSIS HRS SCORESHEET

DECLASSIFIED
Date:
SF: ____ or ORC: ____

Site Name: Jensen Drive Drum Site
EPA ID No: TXD987966900
TDD No: F06-8905-68
City: Houston
County: Harris
State: Texas

Site Evaluator: Jairo Guevara
Region VI FIT Chemical Engineer
Date: November 9, 1989

POTENTIAL RELEASES

[ ] Ground Water
[ ] Surface Water
[x] Air
[x] On-Site/Direct Contact

SCORING SCENARIOS		Preliminary	Projected
GROUNDWATER ROUTE SCORE (Sgw)	=	17.16	17.16
SURFACE WATER ROUTE SCORE (Sw)	=	2.80	2.80
AIR ROUTE SCORE (Sa)	=	0	0
TOTAL SCORE (Sm)	=	10.05	10.05

NEW HRS MODEL CONSIDERATIONS

GROUNDWATER ROUTE: No private wells are with a four mile radius from the site. Therefore, no changes are foreseen.

SURFACE WATER ROUTE: No release to surface water has been documented. The site drainage has two routes, northeast to the Hunting Bayou and south to the Buffalo Bayou. These bayous are not a source of drinking water or land irrigation within 15 miles downstream from the site.

AIR ROUTE: Air readings with an HNu were recorded between 3 and 115 ppm before the cleanup action during the August 1988 TAT inspection. An air survey was conducted with the HNu during the FIT reconnaissance inspection after the site was cleaned up. No readings of contaminants were detected.

ON-SITE ROUTE: The site has been cleaned up by the EPA Emergency Response Branch. No evidence of any hazard was observed during the reconnaissance inspection.

==========

Preliminary S_m WORKSHEET

	S	S^2
Groundwater Route Score (Sgw)	17.16	294.47
Surface Water Route Score (Ssw)	2.80	7.84
Air Route Score (Sa)	0	0
$Sgw^2 + Ssw^2 + Sa^2$		302.31
$(Sgw^2 + Ssw^2 + Sa^2)^{1/2}$		17.39
$(Sgw^2 + Ssw^2 + Sa^2)^{1/2} / 1.73 = S_M =$		10.05

==========

Projected S_m WORKSHEET

	S	S^2
Groundwater Route Score (Sgw)	17.16	294.47
Surface Water Route Score (Ssw)	2.80	7.84
Air Route Score (Sa)	0	0
$Sgw^2 + Ssw^2 + Sa^2$		302.31
$(Sgw^2 + Ssw^2 + Sa^2)^{1/2}$		17.39
$(Sgw^2 + Ssw^2 + Sa^2)^{1/2} / 1.73 = S_M =$		10.05

INTEROFFICE MEMORANDUM

TO: File

FROM: Jairo Guevara, FIT Chemical Engineer

DATE: November 9, 1989

SUBJECT: Rationale for HRS PreScore for Jensen Drive Drum Site
Houston, Harris County, TX (TXD987966900)

GROUND WATER RELEASE

1. Depth to Aquifer of Concern

   The only wells within three miles from the site are the city wells which draw water at depths of 558 to 625 feet. Assigned value =0.

2. Net Precipitation

   Minus six inches = 47 inches/year (annual precipitation) -53 inches-/year (lake evaporation).

3. Containment

   Containers leaking. Assigned value = 3.

4. Toxicity/Persistence

   Lead and chromium gave the maximum score of 18. Other compounds analyzed were antimony, polynuclear aromatics and benzoic acid.

5. Waste Quantity

   176 drums x 55 gallons x 75% (fill capacity) = 7,260 gallons.

   Equivalency in 50 gallon drums:
   7,260 gallons/50 gallon/drum = 145 drums or an assigned value of 2.

6. Distance to Nearest Well/Population Served

   The closest city well is District Well Number 4, which is 3,000 feet from the site. The population within three mile radius of the site is 136,377. Assigned value = 35.

Surface Water Route

7. Facility and Intervening Terrain

   These slopes are less than 3%. Assigned value = 0.

8. One year, 24 Hour Rainfall

   One Year, 24 hour rainfall = 4 inches.
   Assigned value = 3.

9. Distance to Nearest Surface Water

   2,800 feet to Hunting Bayou.
   Assigned value = 2.

10. Containment

    Containers leaking. Assigned value = 3.

11. Surface Water Use

    Industrial. Assigned value = 1.

12. Population Served/Distance to Downstream Water Intake.

    No water intakes exist within three miles downstream from the site.
    Assigned value = 0.

Air Route

13. Readings with an HNu were recorded between 3 and 115 ppm before the EPA emergency cleanup took effect. A comprehensive air survey was not conducted. Assigned value = 0.

    Projected: Any projected air release has been eliminated because of the EPA emergency cleanup of the site. An on-site survey conducted by the FIT with an HNu after the emergency remedial action did not indicate any readings.

NO. 1

PHOTOGRAPHER/WITNESS

James A. Insley

DATE / TIME / DIRECTION

9/13/89 9:25 AM SE

COMMENTS

Drums (empty) and scrap metal at SW side of site (near main entrance)

PHOTOGRAPHER/WITNESS

James A. Insley

DATE / TIME / DIRECTION

9/13/89 9:27 AM N.E.

COMMENTS

Drums, empty office and usable vehicles on NW side of site (near main entrance)

NOTICE: Concrete SLAB

NO. 2

NO. 3

PHOTOGRAPHER/WITNESS

[illegible] / James A. Dudley

DATE / TIME / DIRECTION

9/13/89 9:29AM S.E.

COMMENTS

vehicles, empty drums, pallets near SW corner of site (PHOTO #1)

PHOTOGRAPHER/WITNESS

[illegible] / James A. Dudley

DATE / TIME / DIRECTION

9/13/89 9:33AM E

COMMENTS

west side of site warehouse which stores body car parts.

NO. 4

NO. 5

PHOTOGRAPHER/WITNESS

James A. Insley

DATE / TIME / DIRECTION

9/13/89 9:35AM ESE

COMMENTS

NEAR SE CORNER of site where soil was replaced. Notice grass growing.

PHOTOGRAPHER/WITNESS

James A. Insley

DATE / TIME / DIRECTION

9/13/89 9:36AM SE

COMMENTS

near trailer with oil stained soil near to it.

NO. 6

NO. 7

PHOTOGRAPHER/WITNESS

James A. Trudy

DATE / TIME / DIRECTION

9/13/89 9:38AM SE

COMMENTS

SE CORNER of SITE: NOTICE UNUSABLE vehicles

PHOTOGRAPHER/WITNESS

James A. Trudy

DATE / TIME / DIRECTION

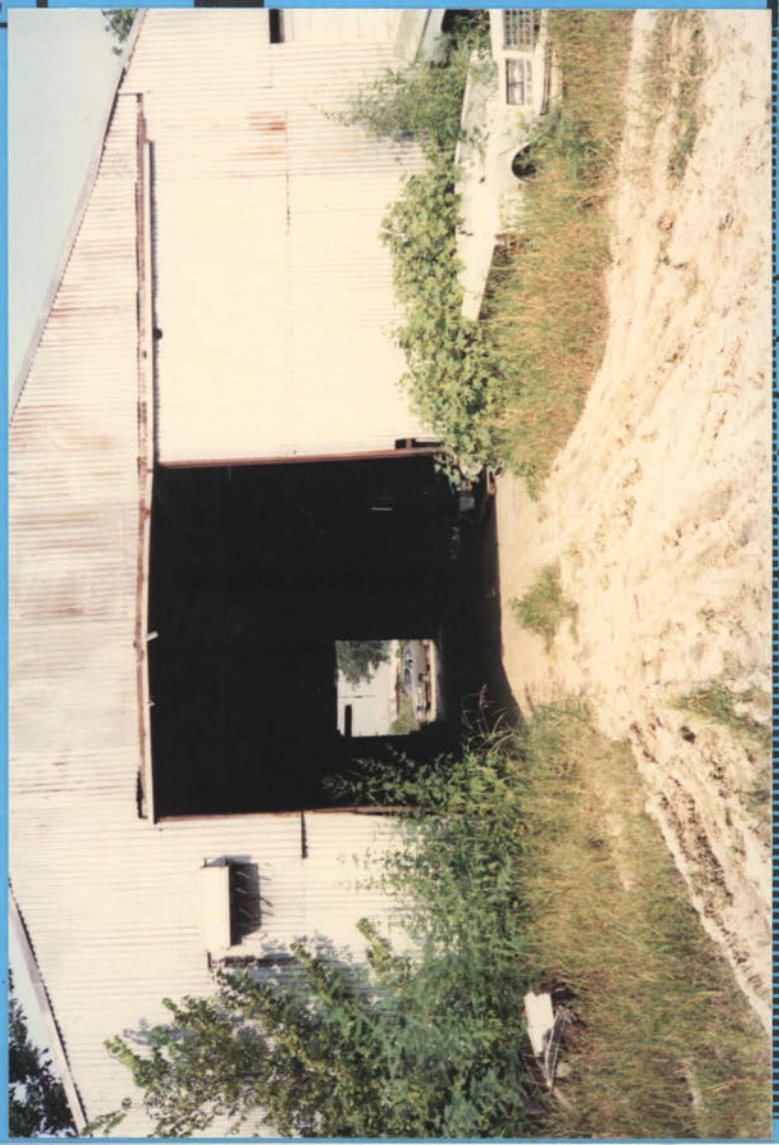
9/13/89 9:39AM NE

COMMENTS

N-E CORNER of SITE. NOTICE UNUSABLE vehicles

NO. 8

NO. 9



PHOTOGRAPHER/WITNESS

James A. Insley

DATE / TIME / DIRECTION

9/13/89 9:40AM W

COMMENTS

EAST side of warehouse. New soil EAST of IT

PHOTOGRAPHER/WITNESS

James A. Insley

DATE / TIME / DIRECTION

9/13/89 9:17AM E

COMMENTS

MAIN ENTRANCE: 3116 Jensen DRIVE. NOTICE sign for SALE

NO. 10

REFERENCES

Reference Number	Description of the Reference
01	Site Assessment Report for Jensen Drive Drum Site in Houston, Harris County, Texas. Prepared by Patricia Herrera, TAT. EPA Region VI. November 10, 1988.
02	U.S.G.S. 7.5 Minute Series Topographic Maps. Settegast, Texas, 1982. Houston Heights, Texas, 1982. Park Place, Texas, 1982. Pasadena, Texas, 1982.
03	Property Deed on Sale of 3116 Jensen Drive Tract from the Texas Bank and Trust Company of Houston to Leas-It, Inc. of Harris County, Texas. May 3, 1982.
04	Record of Communication. To: Pat Hammack, Emergency Response Group OSC. From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Additional Information for Jensen Drive Drum Site. February 2, 1989.
05	Texas Department of Water Development, D. G. Jorgensen, 1975. Analog-Model Studies of Ground Water Hydrology in the Houston District. Texas Report 190.
06	Texas Department of Water Resources, E. T. Baker, 1979. Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas. Report 236.
07	Texas Water Development Board. January 1974. Ground Water Data for Harris County, Texas. Volume II. Records of Wells 1892-1972. Report 178.
08	U.S. Department of Commerce, National Climatic Center, Ashville, North Carolina. 1979. Climatic Atlas of the United States.
09	Record of Communication. To: Robert Devillier, Storm Sewer Engineer. City of Houston Public Works. From: Bradley A. Morris, FIT Geologist. EPA Region VI. Re: Uses of Hunting Bayou. Houston, Texas. June 24, 1987.
10	Record of Communication. To: Dr. Herbert McKee, Occupational Health, City of Houston. From: Kelly L. Bowles, FIT Geologist. EPA Region VI. Re: Lead Products Facility Site and Buffalo/Houston Ship Channel. January 9, 1989.
11	U.S. Weather Bureau, D. M. Herschfield, 1961. Rainfall Frequency Atlas of the United States. Technical Paper No. 40.

REFERENCES

Reference Number	Description of the Reference
12	Record of Communication. To: Henry Fleming, Technical ACOE. Galveston District. From: Brian K. Boerner, FIT Chemist. EPA Region VI. January 10, 1989.
13	Record of Communication. To: Louis Bowen, Manager Ground Water Section. Public Works Department. From: Bradley A. Morris, FIT Geologist. EPA Region VI. July 24, 1987.
14	Record of Communication. To: Don McInnes, Houston Public Works Water Production Office. From: Kelly L. Bowles, FIT Geologist. EPA Region VI. Re: Ground Water and Surface Use - City of Houston. January 5, 1989.
15	U.S. Department of Commerce. Bureau of Census Tracts. Houston, Texas. 1989. Census of Population and Housing. July, 1983. Publication PHC80-2-184.
16	Record of Communication. To: Julie Massey, Ecological Services. U.S. Fish and Wildlife Service. From: Kelly L. Bowles, FIT Geologist. EPA Region VI. Re: Sensitive Environments Along Buffalo Bayou. January 9, 1989.
17	Uncontrolled Hazardous Waste Site Ranking System: A Users Manual. 47 CFR 31219-31243, 16 July 1982 (Appendix A, CERCLA).
18	Sax, N. Irving. 1984. Dangerous Properties of Industrial Materials, Sixth Edition. Van Nostrand Reinhold Co. New York.
19	Record of Communication. To: Patricia Herrera, Region VI TAT. Houston, Texas. From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Additional Information on Jensen Drive Drum Site. February 13, 1989.
20	Record of Communication. To: (b) (6) [redacted] Site Neighbor (b) (6) [redacted] (b) (6) [redacted] From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Information on Jensen Drive Drum Site. September 14, 1989.
21	Draft After Action Report for Removal Funded Action at Jensen Drive Drum Site in Houston, Texas. Prepared by: Patricia Herrera, TAT. EPA Region VI. June 14, 1989.
22	Site Preliminary Assessment Report. Prepared by: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. March 14, 1989.

REFERENCES

Reference Number	Description of the Reference
23	M.B.A. Laboratories Results of Soil Samples Collected During EPA Emergency Cleanup of the Jensen Drive Drum Site, Including Samples Chain of Custody Documentation. March 24, 1989 to March 19, 1989.
24	Record of Communication. To: Patricia Herrera, TAT. EPA Region VI. From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Jensen Drive Drum Site Soil Samples. September 27, 1989.
25	Record of Communication. To: Peter Sam, EPA Region VI Superfund Project Manager. From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Jensen Drive Drum Site. September 20, 1989.
26	Record of Communication. To: File. From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Jensen Drive Drum Site Reconnaissance Inspection. September 12, 1989.

REF. 1

ecology and environment, inc.
6440 HILLCROFT AVENUE, HOUSTON, TEXAS 77081, TEL. 713/771-9460
International Specialists in the Environment

CERCLIS#: TXD987966900

SITE ASSESSMENT REPORT

FOR

JENSEN DRIVE DRUM SITE
Houston, Harris County, Texas

Prepared for

EPA - Region VI
Emergency Response Branch

J. Chris Petersen
Deputy Project Officer

By

Ecology and Environment, Inc.
Technical Assistance Team

November 10, 1988

recycled paper

ecology and environment, inc.
6440 HILLCROFT AVENUE, HOUSTON, TEXAS 77081, TEL. 713/771-9460
International Specialists in the Environment

CERCLIS #: TXD987966900

DATE: November 10, 1988

TO: Pat Hammack, OSC
EPA Region VI, Emergency Response Branch

THRU: J. Chris Petersen, DPO
EPA Region VI, Emergency Response Branch

THRU: Kishor Fruitwala, TATL
Region VI, Technical Assistance Team

FROM: Patricia Herrera
Region VI, Technical Assistance Team

SUBJECT: Site Assessment of Jensen Drive Drum Site
Houston, Harris County, Texas

TDD #: T06-8810-28
PAN #: TTX 0829 SAB

Introduction

The EPA On-Scene Coordinator (OSC) and the Technical Assistance Team (TAT) performed a site assessment at the Jensen Drive drum site located in Houston, Harris County, Texas. This assessment was conducted to determine whether conditions at the site present a potential threat to public health and welfare and/or to the environment. If so, the site would be eligible for immediate removal status in accordance with the National Contingency Plan guidelines.

Current Harris County deed records indicate the property is owned by LEAS-IT, Inc. of Harris County, Texas. During a site assessment at the nearby Davis Street site, Mr. Winston informed EPA that a Mr. J. D. Gray owned the property. Mr. Gray is a representative for LEAS-IT, Inc.

I. Purpose

This memorandum requests approval for a Removal Action pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) at the Jensen Street Drum site.

This action meets the criteria for initiating a removal action under Section 300.65 of the National Contingency Plan (NCP) and is anticipated to require less than twelve months and under $2 million for completion.

recycled paper

II. Background

A. National Significance:

This site is not of national significance.

B. Site Description:

The Jensen Drive drum site is located at 3116 Jensen Drive, two blocks south of Collingsworth in northeast Houston. It is in a light industry and residential area. Inhabited houses are as close to the site as 30 feet. Three churches are located near the site, and a school is less than one-half mile away.

The site itself occupies a rectangular lot measuring approximately 400 feet by 150 feet. There is a warehouse in the center of the site with two open bay doors facing east and west. The site is surrounded by a five foot chain link fence. The side facing Jensen Drive is secured only by a gate three feet high and ten feet wide. The gate is chained and pad locked. A key is kept across the street at Winkman and Doggett Auto Parts.

There are a number of vehicles on the site. These vehicles include cars, trucks and trailers. Charles Lee of Workman and Doggett Auto Parts informed TAT that some of the vehicles belong to the Auto Parts store. Mr. Lee also told TAT that a car stripping operation was going on at the site until the Houston Police shut it down.

Over 400 drums of unknown content are present on site. Many of the drums are empty and/or overturned. The drums were checked for liquid contents. Those that had any contents were numbered consecutively with spray paint. The drums are in varying stages of deterioration and some are bulging. Measurements taken of the drum contents indicated material present with pH ranging from 0-13. For example, drum #81, labeled sulfuric acid, had a pH of 0. Drum #82, immediately adjacent to #81 had a pH of 13. Many of the drums bore labels. Information compiled from the labels is presented in Table 4 included in the attachment.

Vegetation on site consists of weeds and grass. The perimeter of the site is overgrown. Various areas show stress vegetation. There are areas of chemical stained soil evident throughout the site. Two large areas of soil discoloration where present. One is on the northeast corner of the site at the fence line. The other, at the southeast corner of the site, is also adjacent to the fence line. The land in the area is generally flat. Buffalo Bayou is less than one mile south of the site (see topographic map attachment).

The warehouse contains 91 steel drums, 20 filterboard barrels, 10 compressed gas cylinders and a 500 gallon polypropylene vat that is about half full. There is a small locked office in the southwest corner of the warehouse. This office has 10 five gallon cans. There is a loft along the interior south side of the warehouse where lumber is stored.

Ambient air monitoring was conducted with an explosimeter, the RAM 10, and the HNU photoionization detector. No explosive or oxygen deficient atmospheres were observed. No radiation above background was present. HNU readings above background where observed in various locations throughout the site. Outside of the warehouse several readings in the range of 3-5 (isobutylene equivalency) ppm were measured. Inside the warehouse, three separate readings of 15 ppm, 50 ppm and 110 ppm were measured.

C. Incident Characteristics

Historical accounts on this site are limited. However, the site was known to be the location of the May-Cooperidge Drum Reclamation Co. owned by Fred Winston. A complaint by an anonymous caller prompted the Texas Water commission (TWC) and the City of Houston to file complaints against Mr. Winston. Mr. Winston moved his operation to 3116 Jensen Drive from 1705 Davis Street, another site which is currently under EPA evaluation.

D. Quantity and Types of Substances Present

On 30 August 1988, Technical Assistance Team personnel collected and transported a vat sample, six drum and two soil samples to the EPA Houston laboratory for BNA and metals analysis. The approximate location of each sample is shown on the attached site sketch.

The results of analysis are summarized in the following tables. The laboratory report is included in the attachments. Inorganic analysis results for drum samples are shown in Table 1, also included is the EPA drinking water standards if applicable. Table 2 summarizes the inorganic results for the two soil samples. Table 3 is a summary of the organic analysis for both drum and soil samples. It included the concentrations and the toxicity properties of each compound of interest.

There are a number of inorganic compounds on site which can be considered toxic. Notably the levels of iron, lead and manganese are elevated. Those organic compounds listed as hazardous substances in 40 CFR 302.4 were considered of interest and reported with the pertinent toxicological information. The list is lengthy and includes a number of carcinogens.

E. State and Local Authorities Role:

F. Federal Action To Date:

On 30 August 1988, the EPA Emergency Response Branch conducted a site assessment at this site to evaluate the potential threat to the public health on the environment which exists at the site.

G. NPL Status

This site is not on the National Priorities List.

III. THREAT TO PUBLIC HEALTH, WELFARE OR THE ENVIRONMENT

A. Three obvious threats to public health are present at the Jensen Street Site:

1). High concentrations of metals - metals can be highly toxic if ingested or inhaled. Metals may be transported offsite via airborne or surface migration and affect the surrounding properties.

2). Numerous toxic organic compounds - there are a large number of organic compounds that are hazardous substances. These compounds may be transported off site via airborne or surface migration and affect the surrounding properties. Headspace monitoring indicates the presence of volatile organic compounds which could potentially be toxic, explosive, flammable and/or carcinogenic. Of the compounds listed many when heated decompose and emit toxic fumes. A fire at the site could potentially cause an airborne disaster.

3). Numerous drums on-site - these drums are in varying stages of deterioration and many are leaking unknown compounds. The metals and hazardous organic compounds present a direct contact, inhalation and ingestion threat because of the deteriorating nature of the drums.

B. Threats to the Environment:

A release of these materials would contaminate the surrounding soil, water, and drainage area. An air release, possibly from a fire, would result in a much greater extent of contamination of the surrounding air, soil, water and vegetation.

IV. Enforcement

V. Proposed Actions and Costs

VI. Expected Change In the Situation Should No Action Be Taken

Without further attention, the containers will continue to deteriorate. If this is allowed, the health and welfare of the area residents will be endangered. If the materials are inadvertently allowed to mix with one another, a fire and explosion danger to the local citizens may result. In the event of a fire toxic fumes would be emitted, endangering the local citizens in the area.

If a removal is not conducted soon, it is likely that a removal would have to be conducted under emergency conditions. The more time these containers are allowed to deteriorate, the greater the probability for the liberation and release of chemical substances to the atmosphere with detrimental health effects.

VII. Important Policy Issues

Not applicable

VIII. Recommendation

Because conditions at the site meet the NCP section 300.65 (b) (2) criteria for a removal, I recommend your approval of the proposed removal action. The estimated total project costs are of which are for extramural cleanup contractor costs. You may indicate your approval or disapproval by signing below.

Table 1
Inorganic Analysis Results from Drum Sample Jensen Drive Site, With
laboratory numbers 8TFAKC46 01 through 10
Results Reported in ug/L

Element	01	02	05	06	08	09	10	Drinking Water Std
Aluminum			722		203	279	2480	-
Antimony	520	356						-
Barium		122	144	74			153	1
Beryllium					50	67		11*
Cadmium	18							10
Calcium		52900	1610	14300	1800	3320	2400	-
Chromium		106	264				39	50
Cobalt		1800	3190					-
Copper	388	88	9760	50			162	1000
Iron	83	20700	7960	9460	440000	494000	1050	300
Lead		269	57300			133	129	50
Magnesium		424000	8150	1150			1940	-
Manganese		2990	132	95	5820	6000	46	50
Nickel		52	50					-
Potassium		20100		5130			16600000	-
Sodium		124000	2310	26800	5660	6060	3140000	-
Zinc	661	448	1770	302	72	144	177	5000*

- No EPA drinking water standard.

* Suggested criterion for drinking water, there is no EPA drinking water standard.

Table 2
Inorganic Analysis Results From Soil Samples At Jensen Drum Site With
laboratory numbers 8TFAKC46 03 and 04

Results Reported in mg/kg

Element	03	04
Antimony	13	
Barium	182	117
Beryllium	3	1
Cadmium	1	1
Chromium	17	8
Cobalt	4	2
Copper	34	18
Lead	158	127
Mercury		0.4
Nickel	17	5
Zinc	381	333

Table 3 Organic Analysis Results From Drum and Soil Sample at Jensen Drum Site With Chemical Properties of Substances Detected.

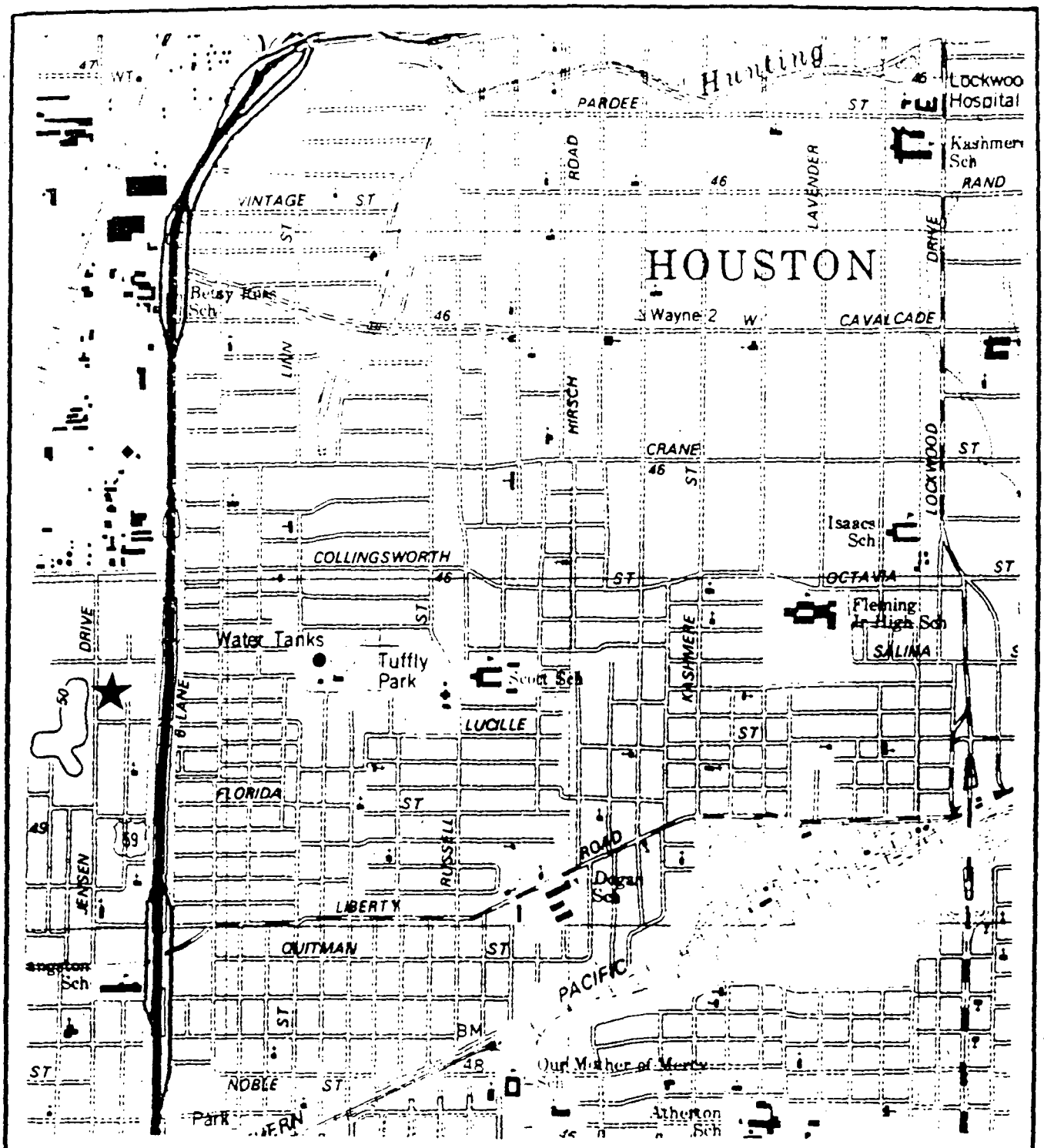
Sample #	Substance	Concentration	Toxicity Properties
02	2,4 - Dimethylphenol	366 ug/L	An equivocal tumorigenic agent; high oral, intra-peritoneal and intravenous. Disaster hazard: when heated to decomposition it emits toxic fumes.
	1 Bis - (2-ethylhexyl) phthalate	235 ug/L	Teratogenic effects; gastro-intestinal tract effects; possible human carcinogen; high intravenous; low oral, and intra-peritoneal; mild irritation effects skin, eye, and systemic. Disaster hazard: when heated to decom-position it emits toxic fumes.
	Benzoic acid	515 ug/L	High toxicity by vapor inhalation, a moderate skin irritant. Disaster hazard: When heated to decomposition it emits toxic fumes.
03	2 - Methylnaphthalene	28,500 ug/kg	Low oral. Disaster hazard: when heated to decomposition it emits toxic fumes.
05	Naphthalene	210 ug/L	Moderate oral; high intra-peritoneal and intravenous. An equivocal tumorigenic agent. Poisoning may occur by ingestion of large doses, inhalation or skin absorption. Moderate fire hazard when exposed to heat or flame.
	Phenanthrene	25 ug/L	Neoplastic effects; an equivocal tumorigenic agent, mutagen. High intravenous; moderate oral. Skin photo-

			sensitizer. A slight fire hazard. Disaster hazard: when heated to decomposition it emits toxic fumes.
	Fluoranthene	23 ug/L	An equivocal tumorigenic agent; high intravenous, moderate oral and skin, mutagenic. Slight fire hazard when exposed to heat or flame. Disaster hazard: when heated to decomposition it emits toxic fumes.
	Pyrene	13 ug/L	Mutagenic; an equivocal tumorigenic agent; a skin irritant. Disaster hazard: when heated to decomposition it emits toxic fumes.
06	2,4 - Dimethyphenol	1370 ug/L	Mutagenic; an equivocal tumorigenic agent; a skin irritant. Disaster hazard: when heated to decomposition it emits toxic fumes.
	Isophorone	129 ug/L	Serious eye, nose and throat irritant by inhalation; seriously toxic by inhalation

List of Attachments:

Topographic Location Map (Figure 1)
Location Sketch (Figure 2)
Site Sketch, North Side of Site (Figure 3)
Site Sketch, Northeast side of Site (Figure 4)
Site Sketch, Southeast side of Site (Figure 5)
Site Sketch, Warehouse (Figure 6)
Photographs
Unused Photographs and Negatives
Records of Communication
Logbook Copies
Information From Drum Labels
Sample Custody Form
Analytical Results
Deed Information
Copy of TDD #: T06-8810-28

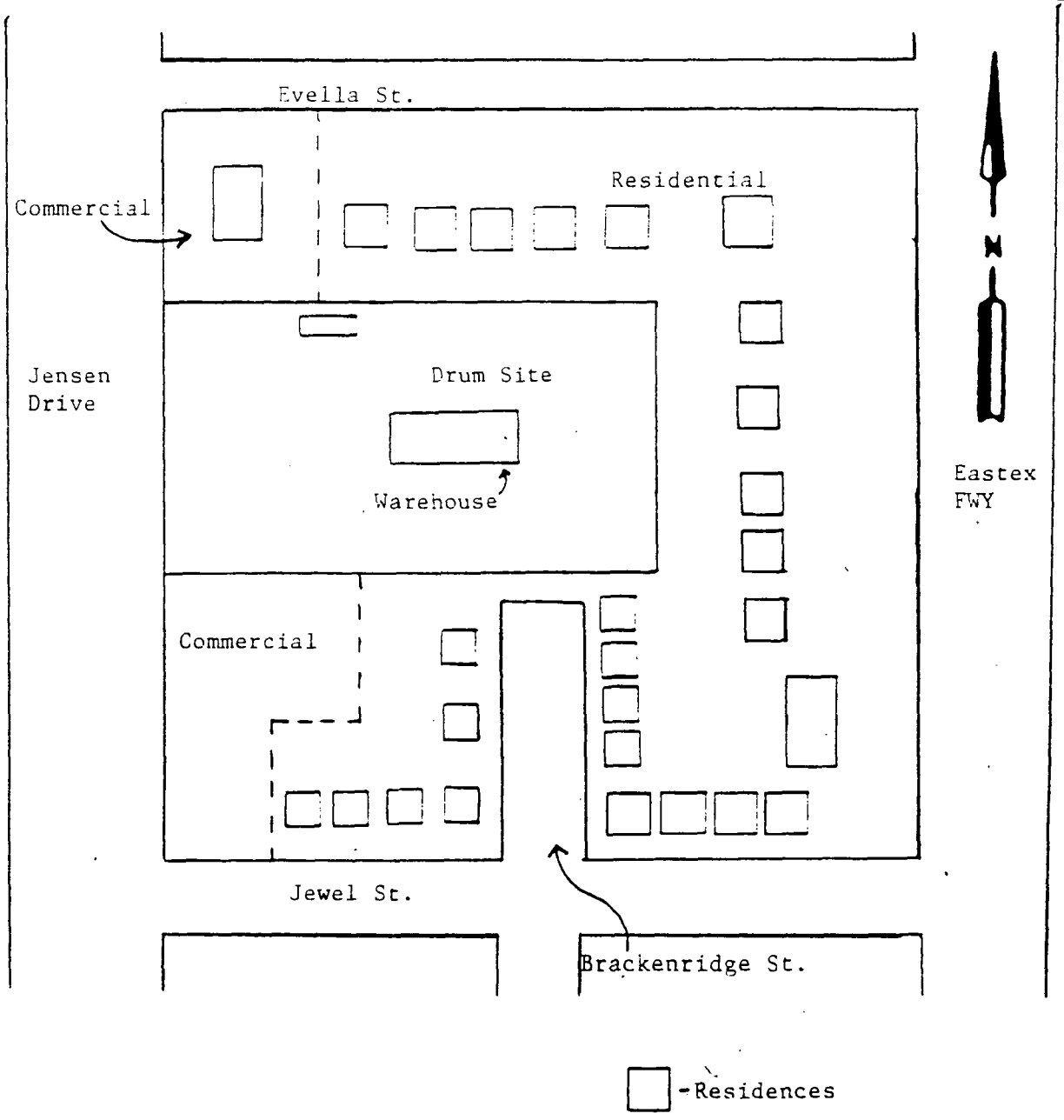
Figure 1



	Ecology and Environment, Inc. Technical Assistance Team RegionVI	Case No: N/A	TDD No: T06-8810-28
		PAN: TTX 0829 SAB	Date: 11/10/88
		Originator: Patricia Herrera	

Houston - Settegast Quadrant
Houston - Harris County
Topographic Location Map
Jensen Street Drum Site

Figure 2



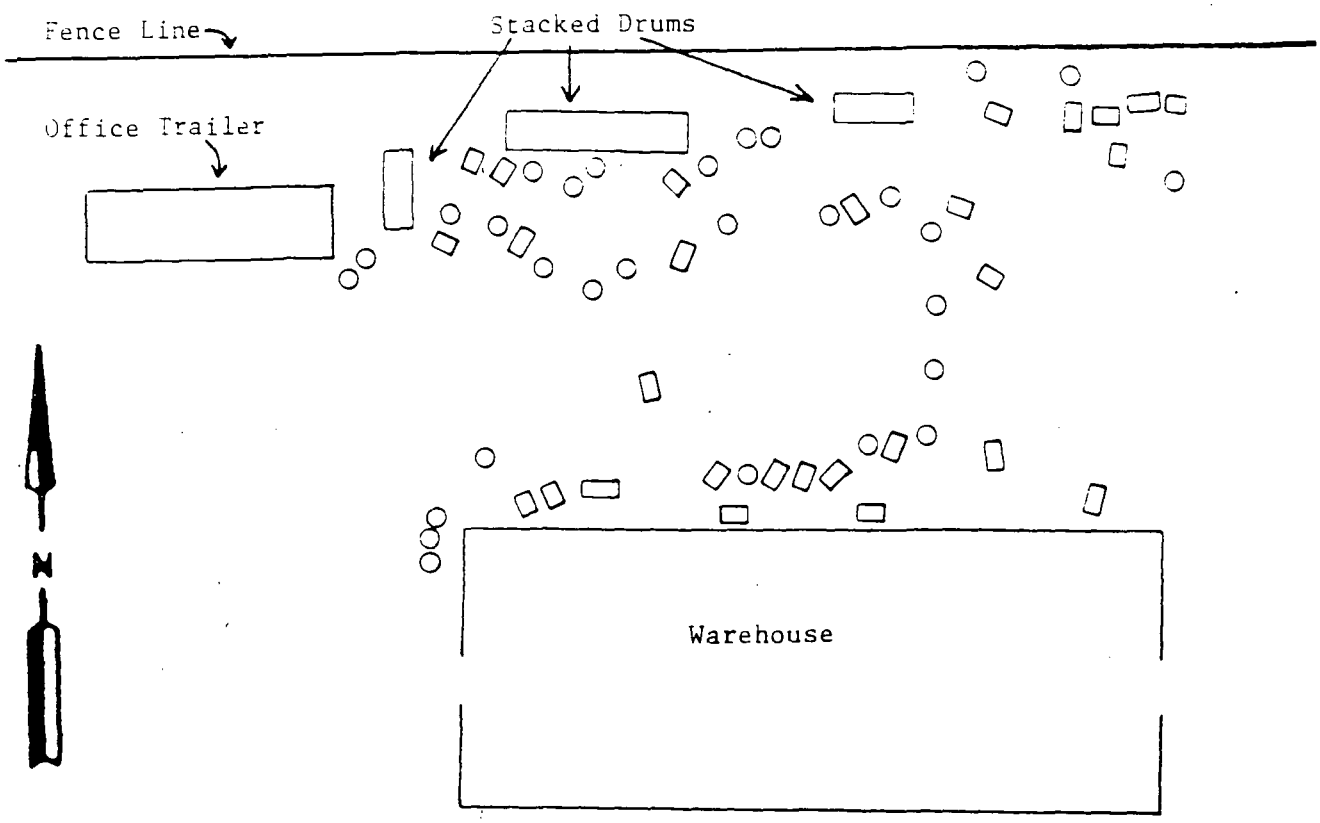
Sketch of location
of Jensen Drive
drum site showing
proximity to residences

Not To Scale

	Ecology and Environment, Inc. Technical Assistance Team RegionVI	Case No: N/A	TDD No: T06-8810-28
		PAN: TTX 0829 SAB	Date: 10-18-88
		Originator: Michael C. Taormina	

Site Sketch
Jensen Street Drum Site
Houston, Texas

Figure 3



Location of drums and other objects at the Jensen Drive drum site (north side of warehouse).

○ Upright drums

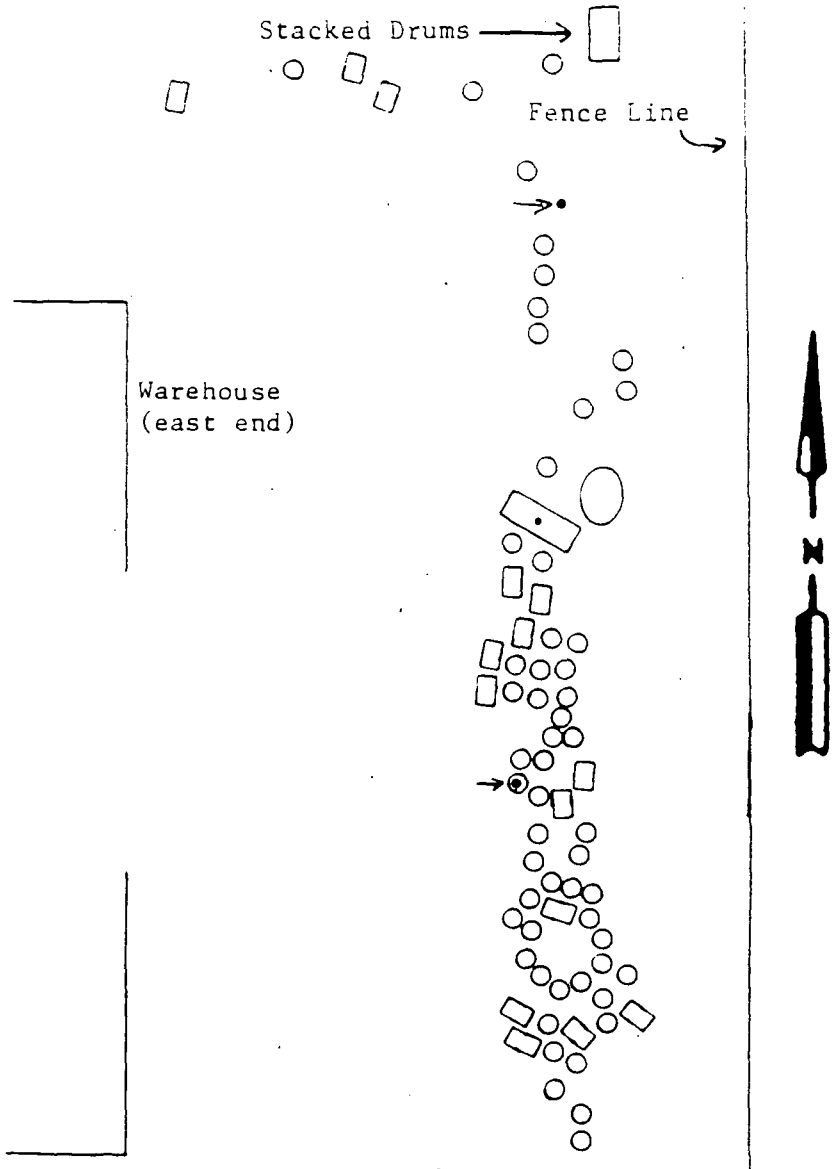
□ Overturned drums

▭ Vehicles

Not To Scale

	Ecology and Environment, Inc. Technical Assistance Team Region VI	Case No:	TDD No: T06-8810-28
		PAN: TTX 0829 SAB	Date: 10-18-88
		Originator: Michael C. Taormina	

Figure 4



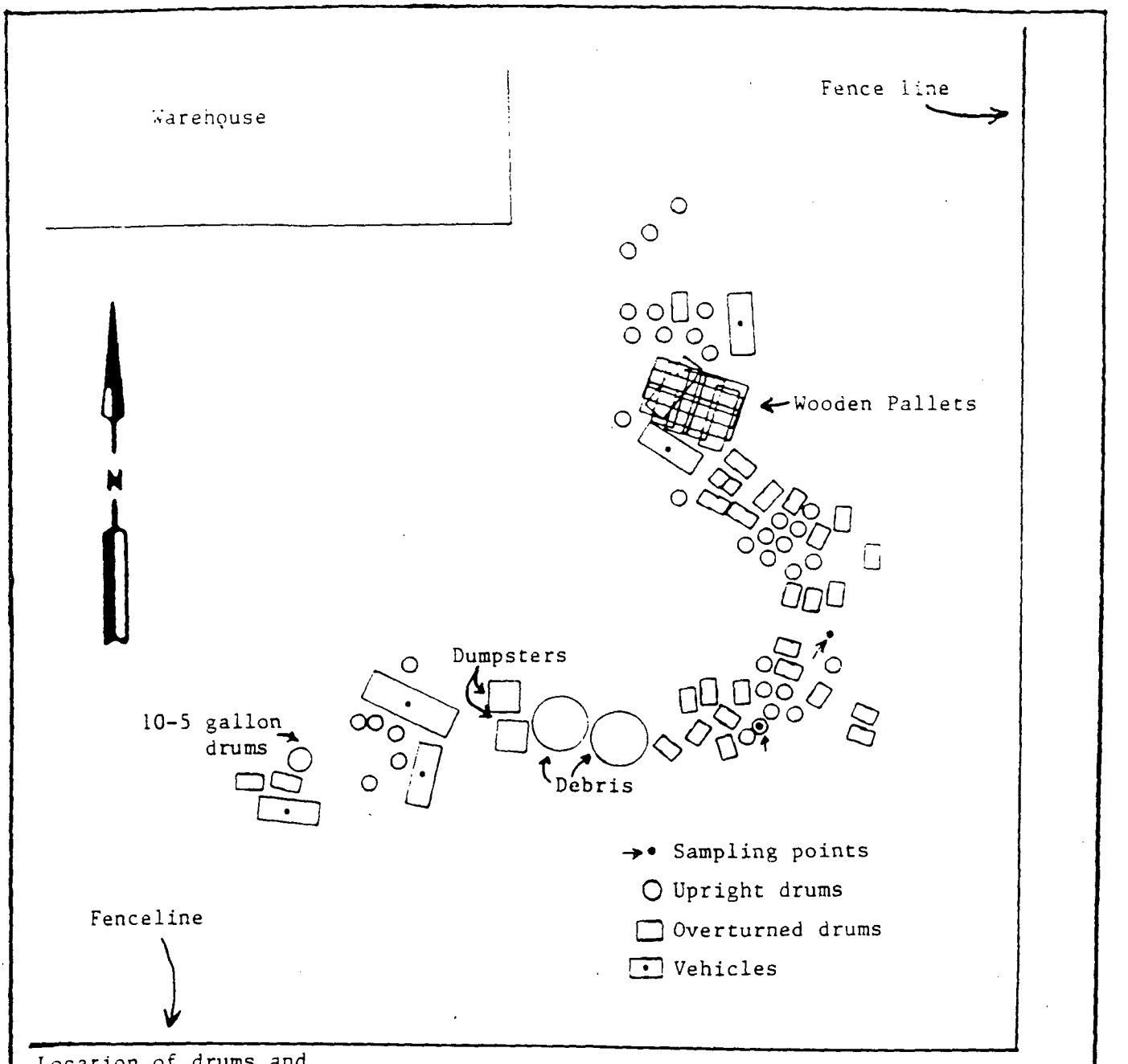
Location of drums
and other objects
at the Jensen Drive
drum site (northeast area).

Sample locations
Upright drums
Overturned drums
Vehicles
Plastic liners

Not To Scale

	Ecology and Environment, Inc. Technical Assistance Team Region VI	Case No:	TDD No: T06-8810-28
		PAN: TTX 0829 SAB	Date: 10-18-88
		Originator: Michael C. Taormina	

Figure 5

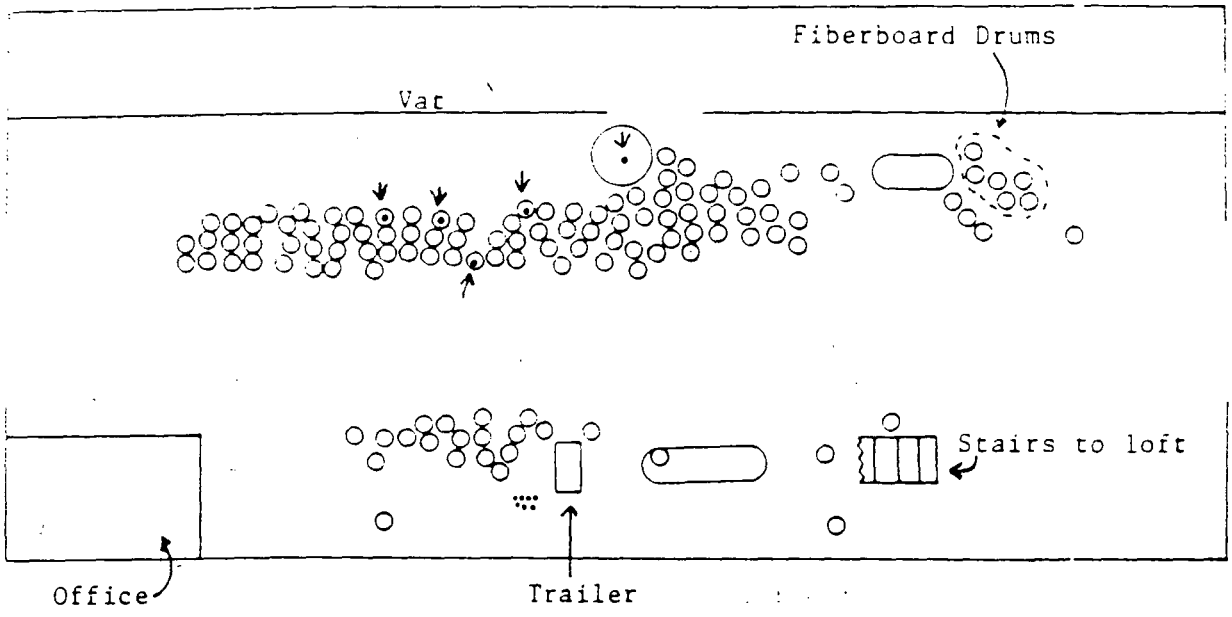


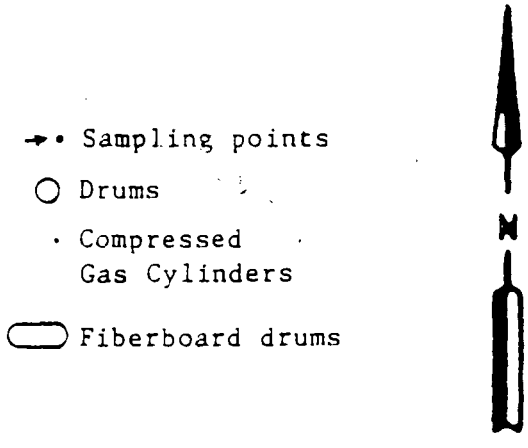
Location of drums and other objects at the Jensen Drive drum site (southeast corner).

Not To Scale

	Ecology and Environment, Inc. Technical Assistance Team Region VI	Case No:	TDD No: T06-8810-28
		PAN: TTX 0829 SAB	Date: 10-18-88
		Originator: Michael C. Taormina	

Figure 6





Sketch of warehouse
at Jensen Drive drum site

Not To Scale

	Ecology and Environment, Inc. Technical Assistance Team Region VI	Case No:	TDD No: T06-8810-28
		PAN: TTX 0829 SAB	Date: 10-18-88
		Originator: Michael C. Taormina	

TDD#: T06-8810-28 Pg. 1 of 12

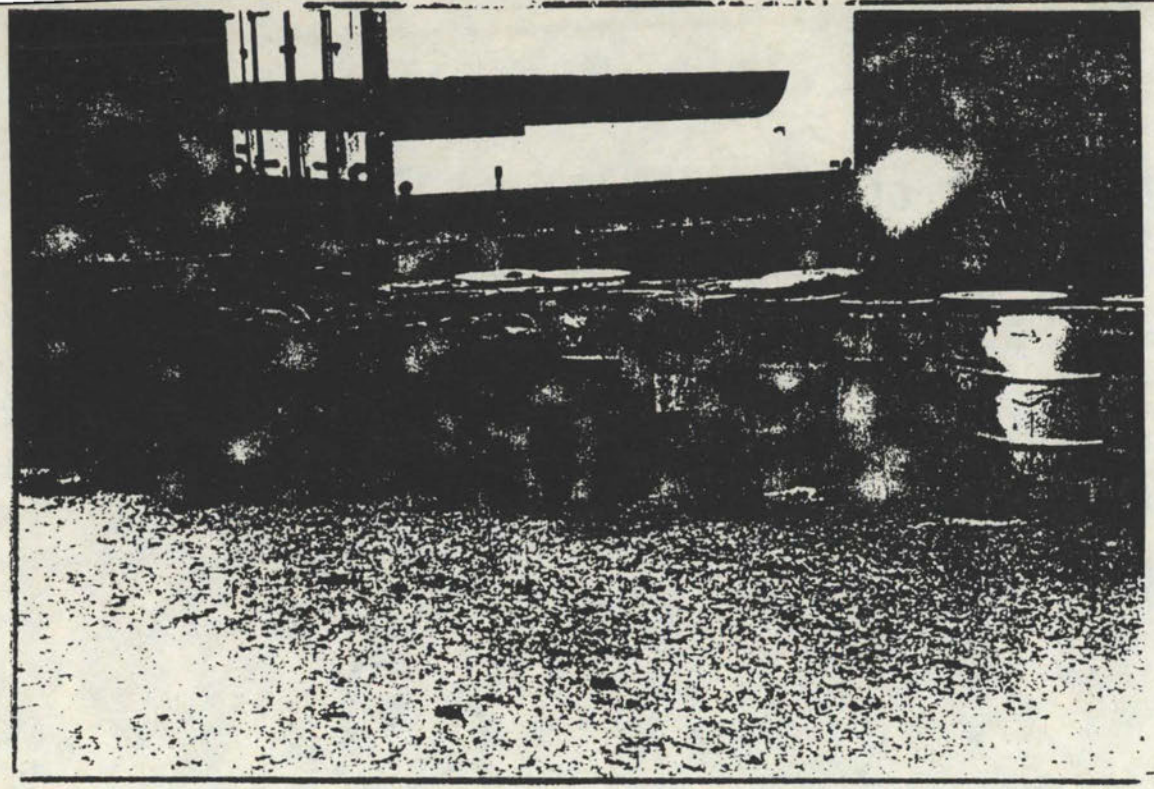
PHOTOGRAPHER/WITNESS #1 - roll 1

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/ 1056/ N

COMMENTS: Sign at entrance of site.



TDD#: T06-8810-20 Pg. 2 of 12

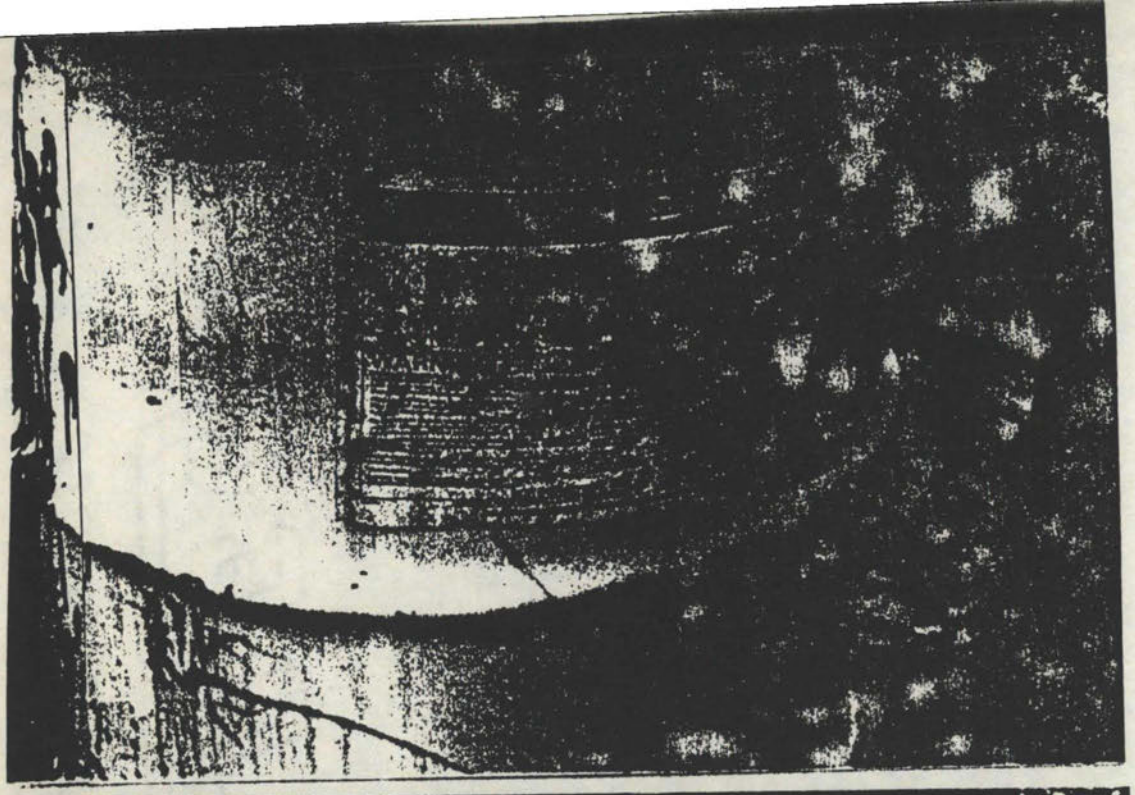
PHOTOGRAPHER/WITNESS # 2-4 - roll 1

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1102/E

COMMENTS: Drums at northeast area of site, behind warehouse.



TDD#: T06-8810-28 Pg. 3 of 12

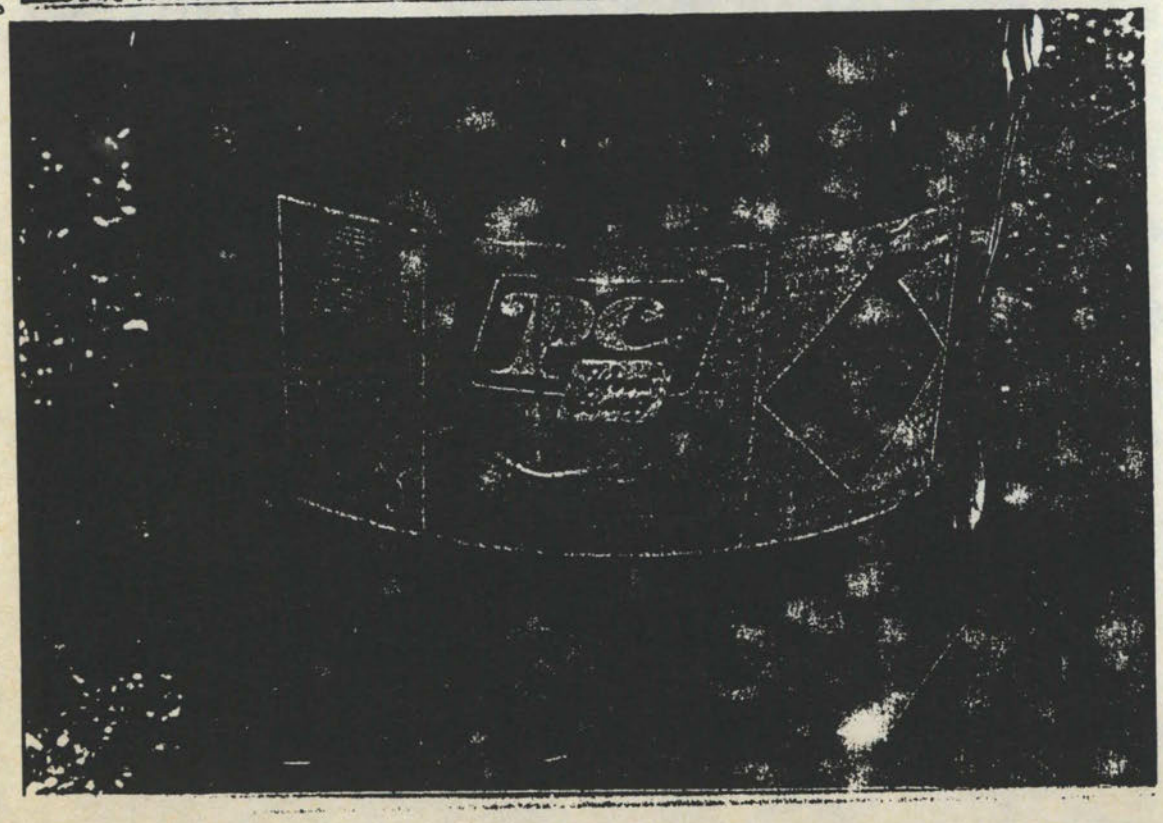
PHOTOGRAPHER/WITNESS #5 - roll1

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1103 / E

COMMENTS: Label on drum showing warnings and original contents.



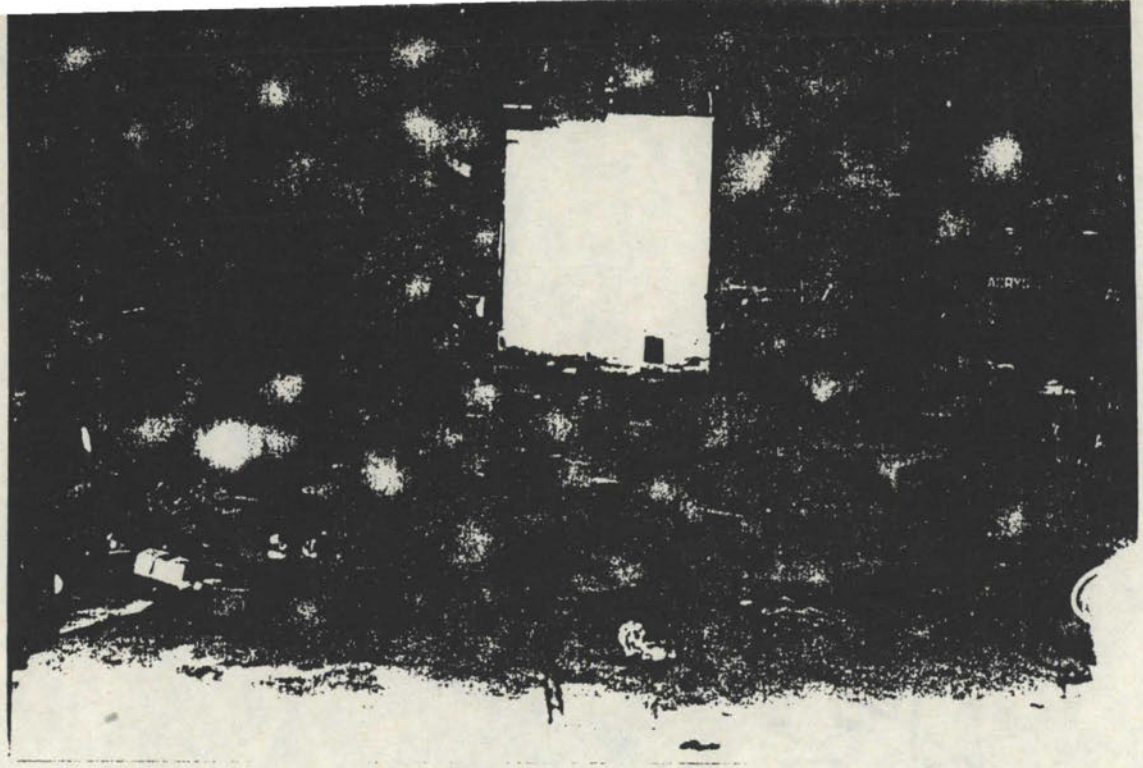
PHOTOGRAPHER/WITNESS # 6 - roll1

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/ 1104/ E

COMMENTS: Label on drum showing origin and original contents of drum.



TDD#: TQ6-8810-28 Pg. 4 of 12

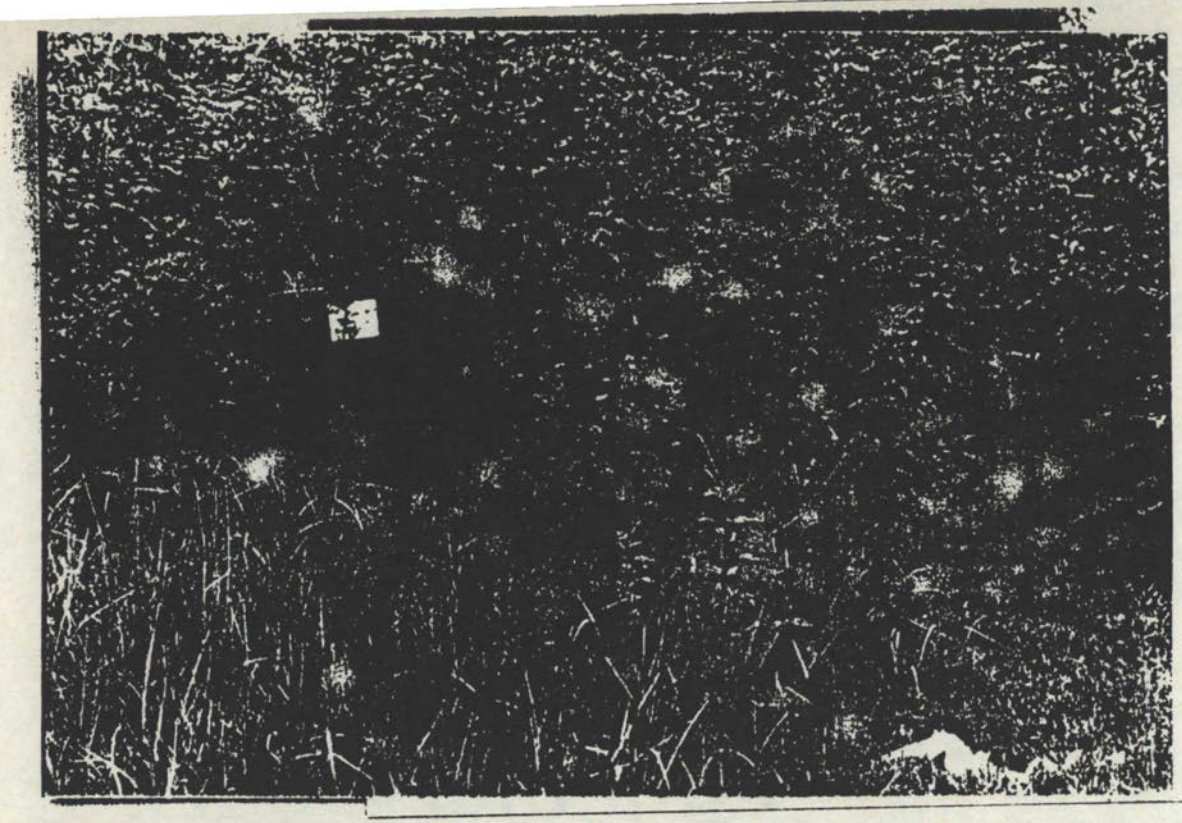
PHOTOGRAPHER/WITNESS # 7 - roll

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1105 / W

COMMENTS: Photo of interior of warehouse.



TDD#: T06-8810-28 Pg. 5 of 12

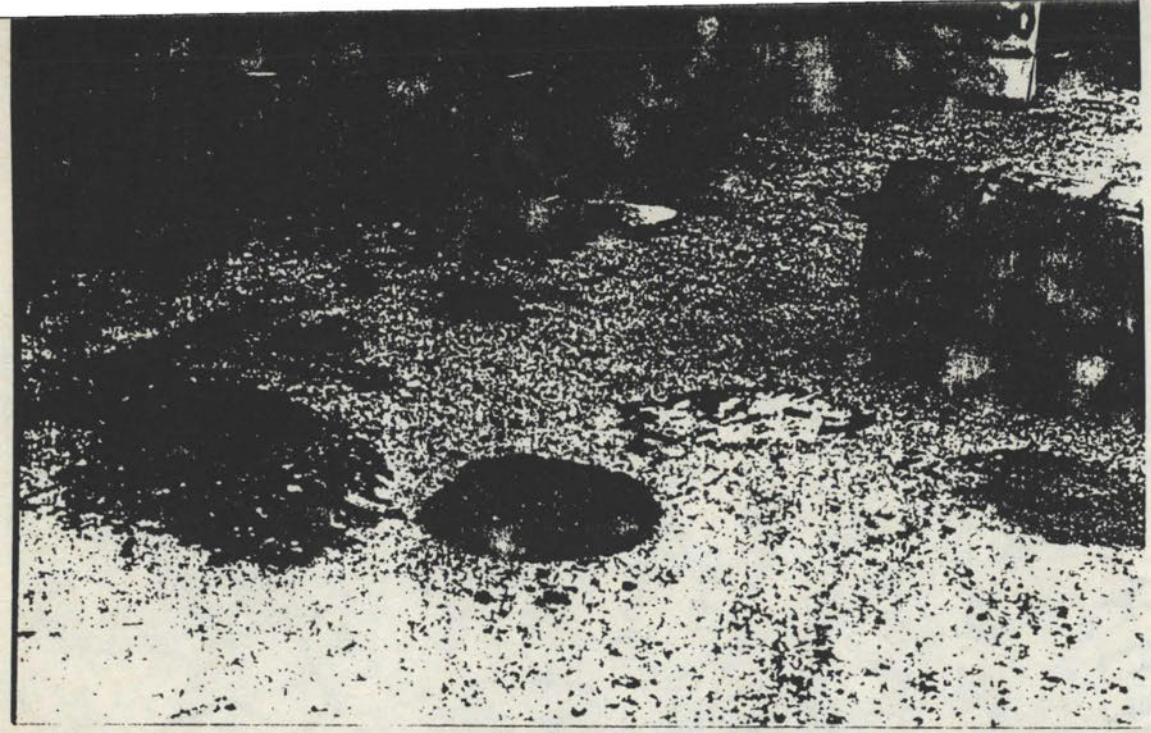
PHOTOGRAPHER/WITNESS # 8-10 - roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/ 1107/ NE

COMMENTS: Pan of NE corner of site showing drums, vegetation, and spill on ground.



PHOTOGRAPHER/WITNESS #11 - roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1108 / NW

COMMENTS: Drum and liquid spill on north side of the building.

PHOTOGRAPHER/WITNESS #12 - roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/ 1108/ NW

COMMENTS: Photo shows spill, stressed vegetation, drums and debris on north side of the building.

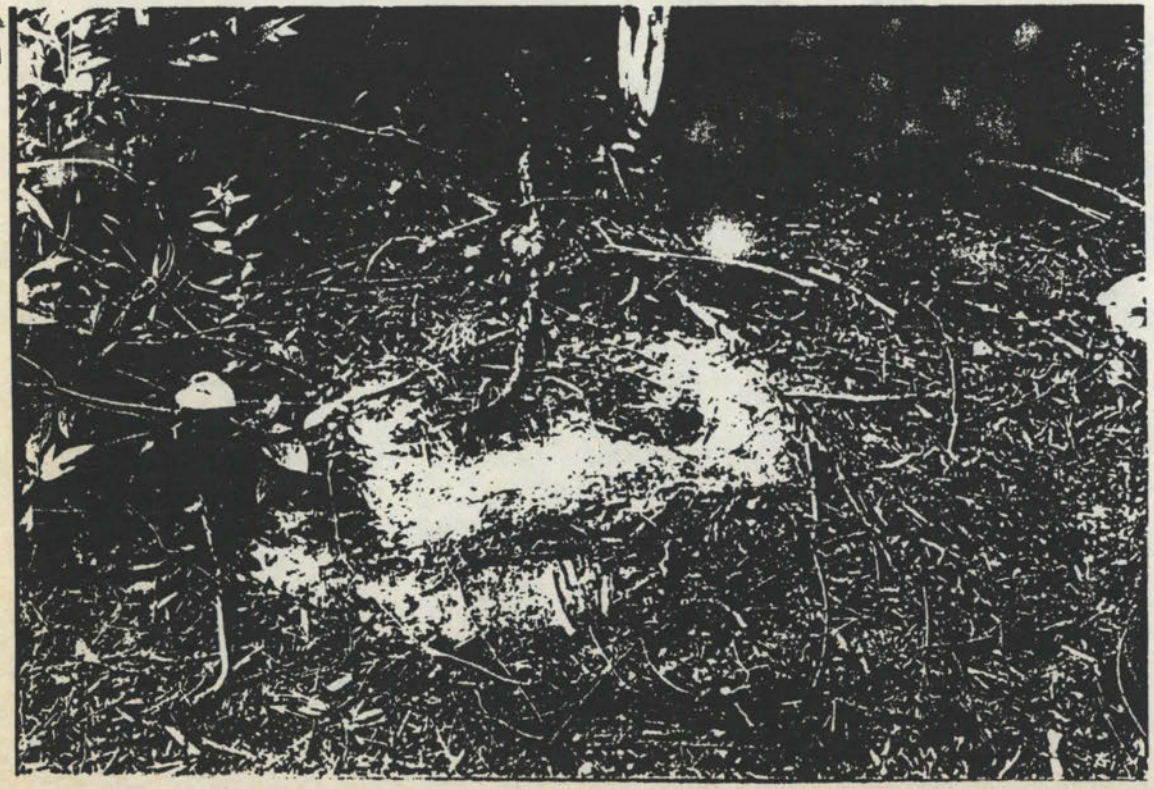
PHOTOGRAPHER/WITNESS # 13- roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1108 /N

COMMENTS: Stacked drums and stressed vegetation on north side of property. Note residence just beyond the fence.



PHOTOGRAPHER/WITNESS # 14 - roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1111/W

COMMENTS: Photo shows drums, stressed vegetation and chemical stain.

-24-

TDD#: T06-8810-28 Pg. 8 of 12

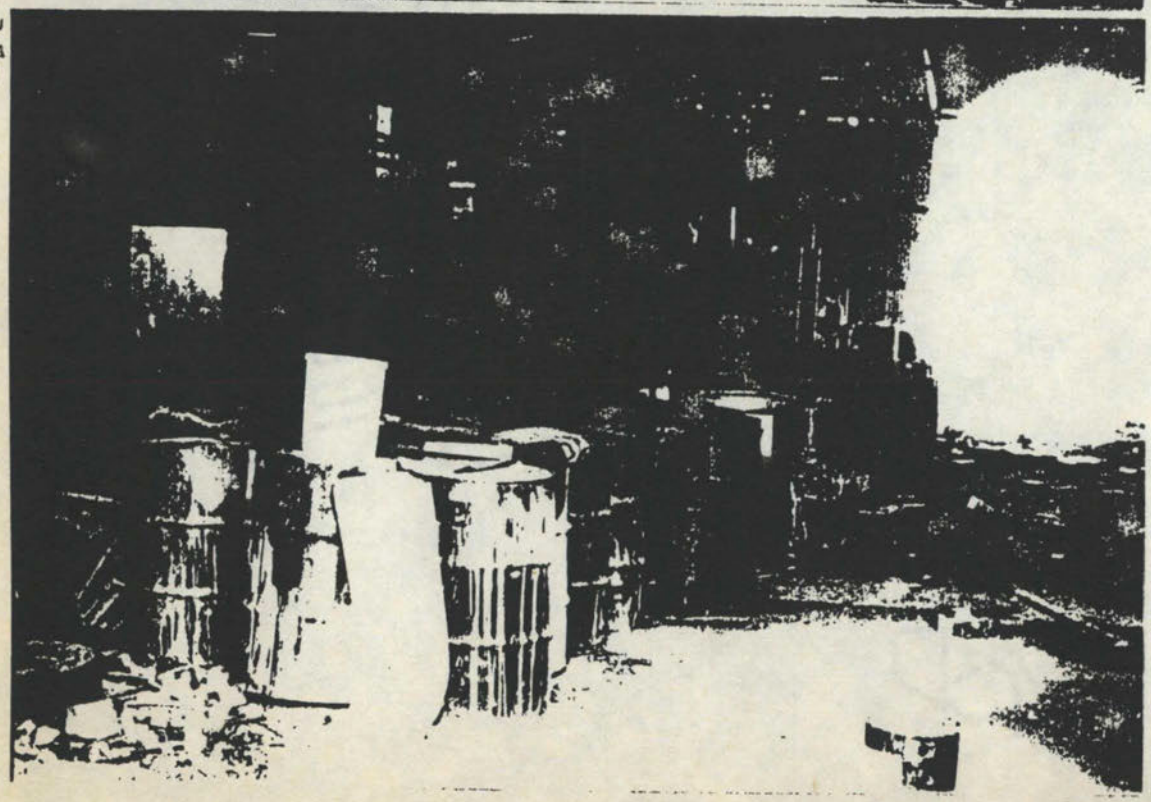
PHOTOGRAPHER/WITNESS #15 - roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1112 / W

COMMENTS: Photo of drums, and one that originally contained a herbicide.



PHOTOGRAPHER/WITNESS # 16 - roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/ 1112/ E

COMMENTS: Interior of warehouse showing drums, vat and debris.

TDD#: T06-8810-28 Pg. 9 of 12

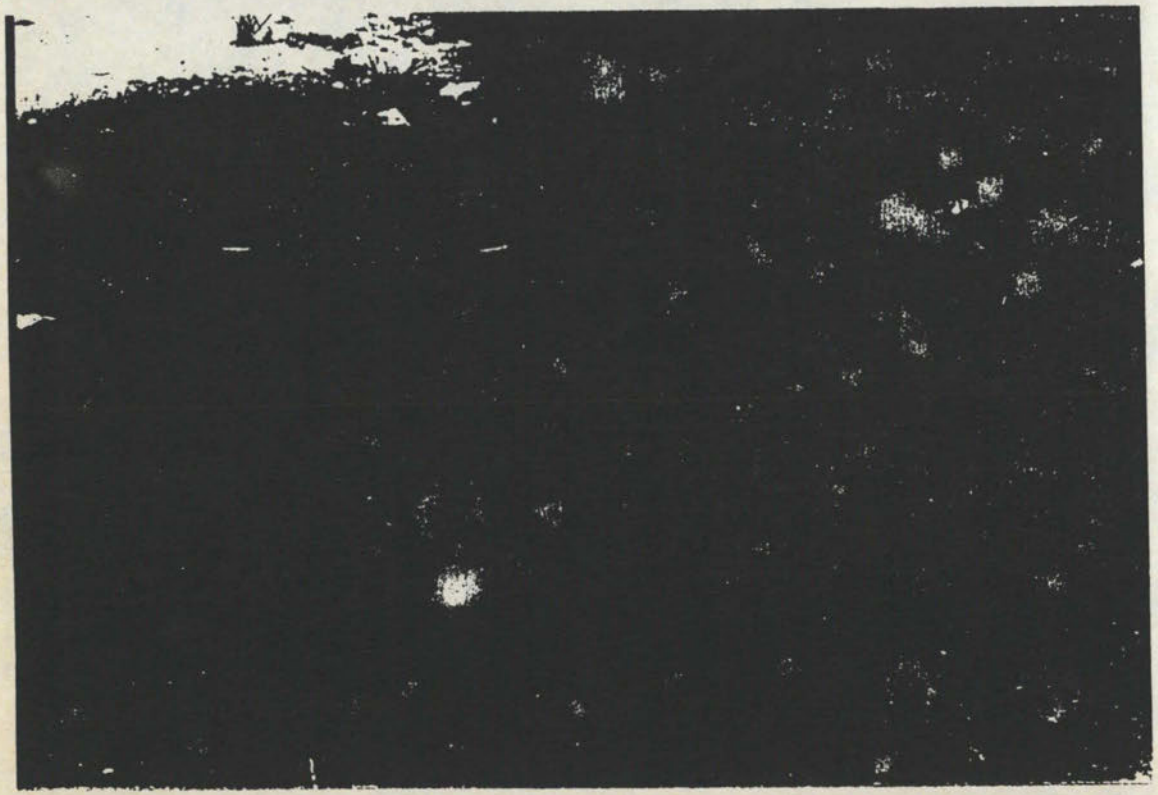
PHOTOGRAPHER/WITNESS #17- roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1115 /E

COMMENTS: Drums and abandonded vehicles on south end of site.



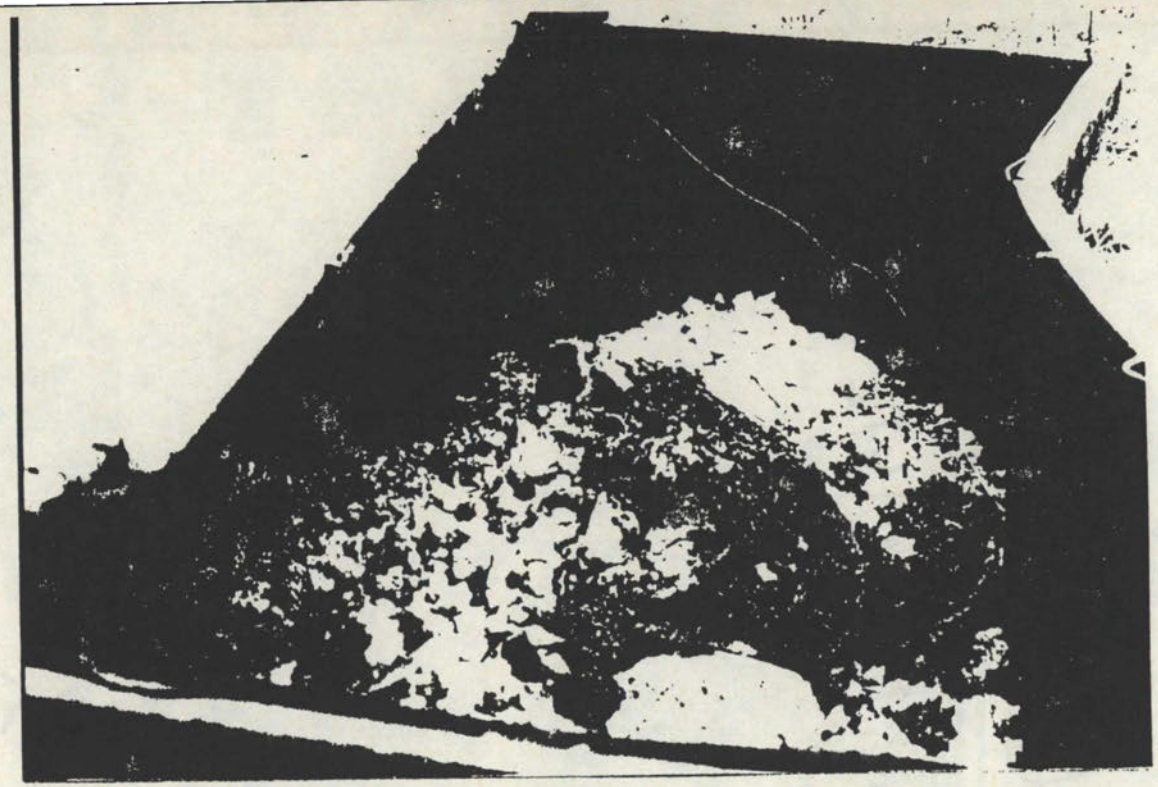
PHOTOGRAPHER/WITNESS #18- roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1117 /W

COMMENTS: Chemical stains in puddle near SE corner of warehouse.



TDD#: T06-8810-28 Pg. 10 of 12

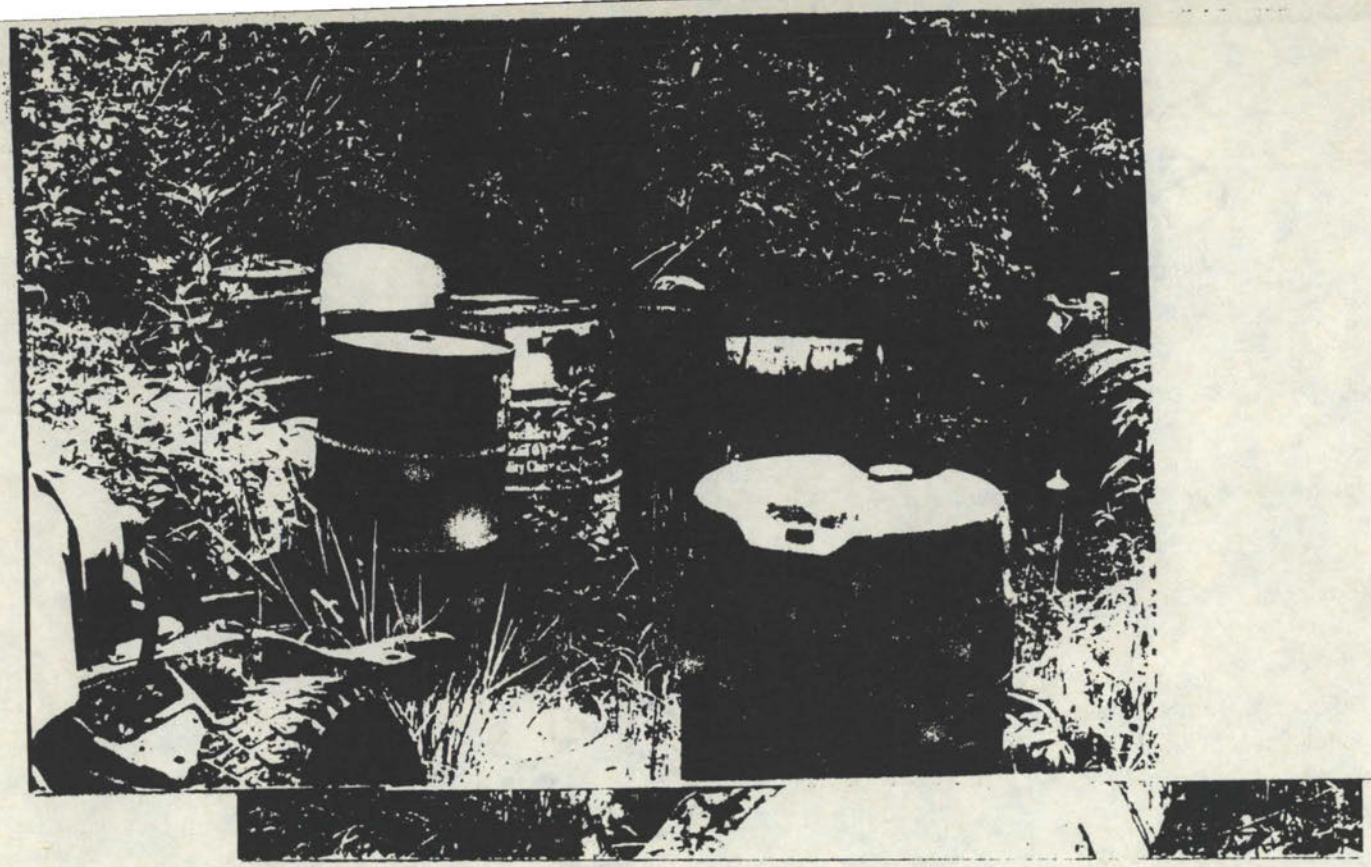
PHOTOGRAPHER/WITNESS # 19- roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/ 1118/ E

COMMENTS: Inside of dumpster showing polymer - like material.



TDD#: T06-8810-20 Pg. 11 of 12

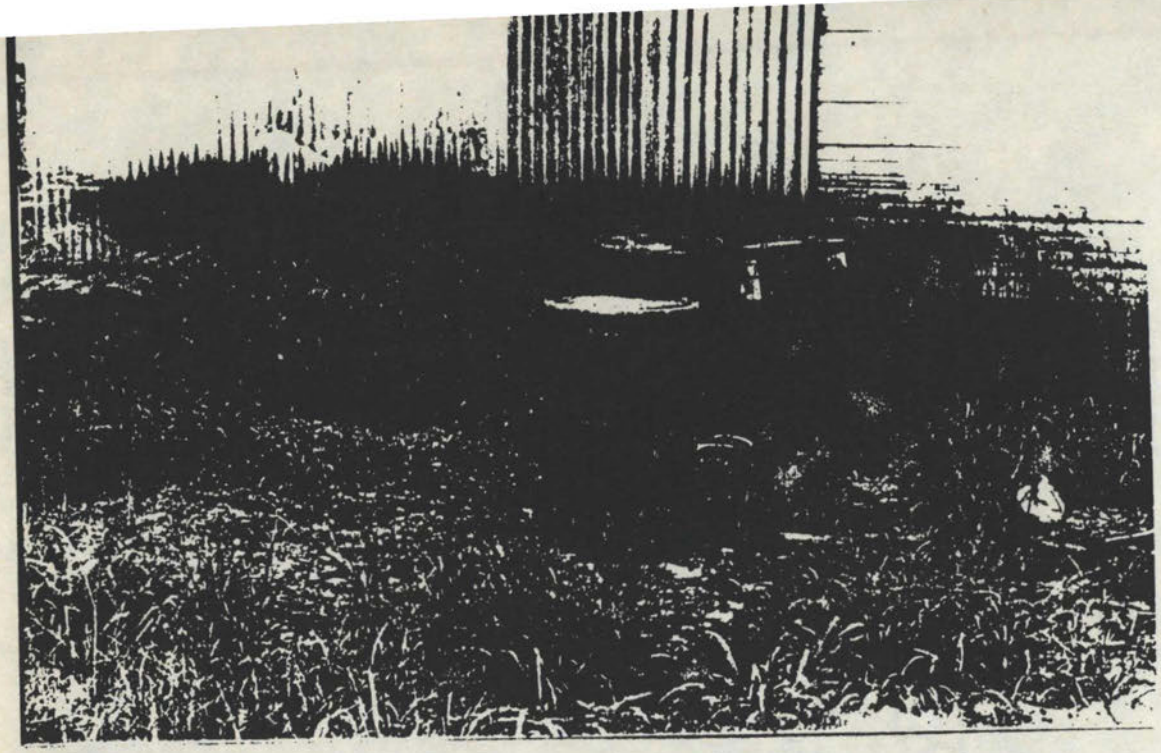
PHOTOGRAPHER/WITNESS # 20-22- roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1119/ E

COMMENTS: Pan of drums and debris in southeast area of site. Note stains on ground.



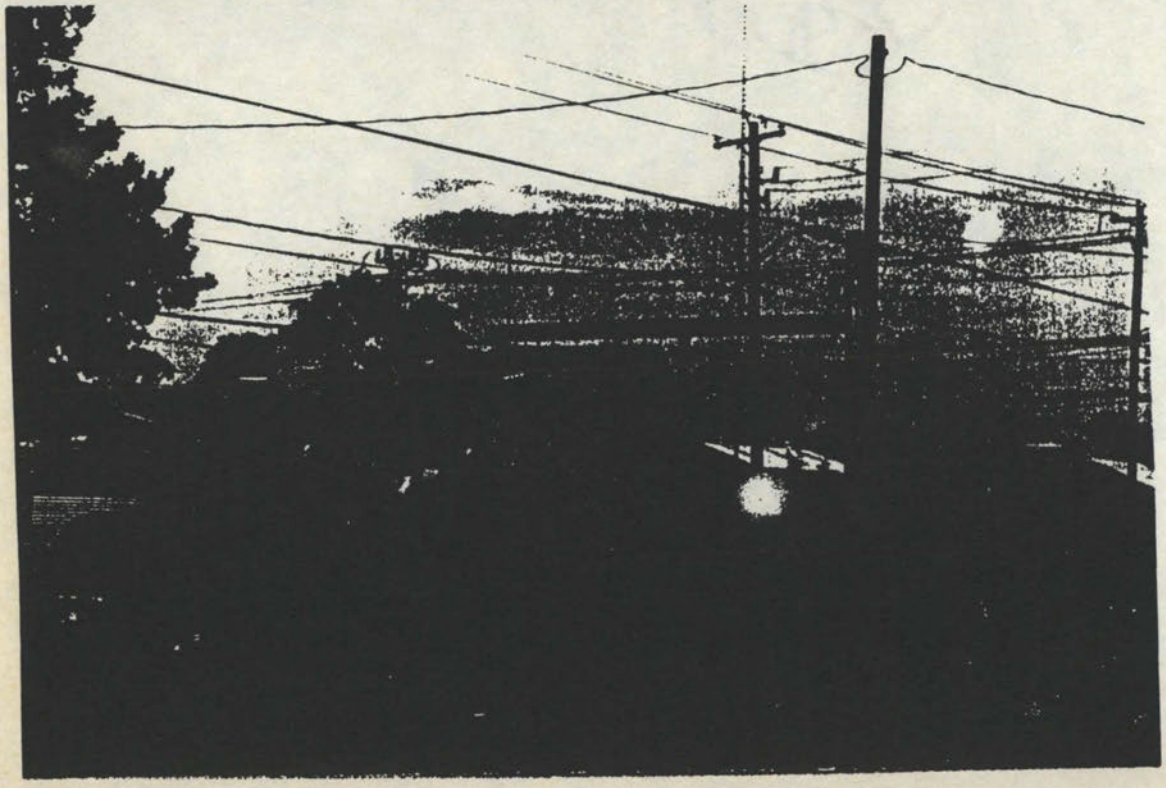
PHOTOGRAPHER/WITNESS # 23- roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/1122 / W

COMMENTS: Drums and stained ground on east side of warehouse.



PHOTOGRAPHER/WITNESS # 24- roll 2

Richard Yeager

DATE/TIME/DIRECTION

8-19-88/ 1127/ NW

COMMENTS: Sign and entrance to site. Street is Jensen Drive.

[illegible]

Originat[illegible]

PHONE CONVERSATION RECORD

Conversation with:

Name: PAT HAMMACK

Company: EPA - DALLAS

Address:

Phone: 214-655-2270

Date: 8/ 16/ 88

Time: 1235 AM/PM

✓ Originator Placed Call

___ Originator Received Call

W.O. No.:

Subject: JENSEN ST. / DAVIS ST. DRUM SITES

Notes: Purpose: To get preliminary information on the operation at these sites - what to expect and how to approach the job.

Result: Mr. Fred Winston of May Coopendge owns both sites.

The Jensen St site is an open lot with about 35 drums that have been vented with an ax. Ten samples - drum and soil will be taken there.

The Davis St site has about 150 drums none of which are open. Some are under protection some are bulging. Ten samples - drum and soil are to be taken here also.

The object of the sampling is to determine if ~~there~~ [illegible] hazardous materials are present or not.

___ File:

___ Tickle File: ___/___/___

___ Follow-Up By:

___ Copy/Route To:

Follow-Up Action: Visit sites and plan sampling plan.

Originator's Initials: [illegible]

-30-

Originat

PHONE CONVERSATION RECORD

Conversation with:

Name: CHARLES LEE

Company: ~~Work~~ DOGGETT + WORMAN AUTO PARTS

Address: 3111 JENSEN ST

HOUSTON TX

Phone: (b) (6) [redacted]

Date: 11 / 2 / 88

Time: 0950 AM

X Originator Placed Call

___ Originator Received Call

W.O. No.:

Subject: Jensen St. ~~and Davis St.~~ Drum Sites

Notes: Purpose To find phone numbers for R J Gray-Landowner at 3116 Jensen St.

Result: Mr. Lee had no number for R J Gray, but did have a number for his son Richard D Gray

(b) (6) [redacted]

lives in Humble.

___ File:

___ Tickle File: ___/___/___

___ Follow-Up By:

___ Copy/Route To:

Follow-Up Action: Call R D Gray

Originator's Initials: MC

Original

PHONE CONVERSATION RECORD

Conversation with:

Name: RICHARD D GRAY

Company: JENSEN SITE

Address:

Phone: (b) (6) [redacted]

Date: 10/3/88

Time: 0455

X Originator Placed Call

____ Originator Received Call

W.O. No.:

Subject: Jensen St. and Davis St. Drum Sites

Notes: Purpose: To find the phone number of his father R J Gray

Result: Ronald J Gray lives in Lufkin
Home phone: (b) (6) [redacted]
Work phone: 409-829-2287

Mr. RD Gray said that Mr. Winston knows who brought drum to the warehouse - one entity being Fisher Drum in Diboral.

Mr. Gray wants to help any way he can.

TAT gave Mr. Gray DSCI Pat Hammack's name + phone number so that he could give Pat information, and get advice.

File:

Tickle File: / /

Follow-Up By:

Copy/Route To:

Follow-Up Action: Call PAT Hammack with information

Originator's Initials:

Origina·

PHONE CONVERSATION RECORD

Conversation with:

Name: PAT HAMMICK

Company: EPA DALLAS

Address:

Phone: 214-655-2270

Date: 10/3/88

Time: 1025 AM/PM

X Originator Placed Call

____ Originator Received Call

W.O. No.:

Subject: Jensen St. ~~and Davis St~~. Drum Sites

Notes: Purpose: Give OSC Hammock information about Mario Gray, and ask about information to get the title search done.

Results: OSC Hammock had already spoken to Mr. Gray. Mr. Gray will get names of people ~~who~~ [illegible] from whom Mr. Winston received drums.

Instructions for TAT:

- Call Mr. Winston and get names from him also.
- Commence a title search on both Jensen St and Davis St sites for the last 10 years.

____ File:

____ Tickle File: ____/____/____

____ Follow-Up By:

____ Copy/Route To:

Follow-Up Action: As above

Originator's Initials: [illegible]

Original

PHONE CONVERSATION RECORD

Conversation with:

Name: Fred Winston

Company: Maverick Courier

Address: 3116 Jensen
Houston TX

Phone: (b) (6) [redacted]

Date: 10/ 3 / 98

Time: 12:50 AM/PM

X **Originator Placed Call**

____ **Originator Received Call**

W.O. No.:

Subject: Jensen St. and Davis St. Drum Sites

Notes: Purpose: To call Mr Winston from whom the company has received drums!

Result: Mr Winston gave TAT the following information

SAMMY FISHER
LIONEL FLANNAGAN - (b) (6) [redacted]
MARK PETER - MAVERICK DRUM CO
VERDI BOBBINS ON YELLOWSTONE [BLVD]

Mr. Winston said the drums were placed in the warehouse ~~on Davis St~~ @ [3116 JENSEN] without his knowledge.
Mr. Winston said he would call TAT with more information

File:

Tickle File: / /

Follow-Up By:

Copy/Route To:

Follow-Up Action: Wait for more information - call Hammack for direction

Originator's Initials: MC

Origina

PHONE CONVERSATION RECORD

Conversation with:

Name: Calvin Simmons

Company: re: May Cooperidge Drum

Address: 3116 Jensen St
Houston TX

Phone: (b) (6) [redacted] (John)

Date: 10/ 4/ 88.

Time: 1315 AM/PM

(mcw)

X Originator Placed Call

X Originator Received Call

W.O. No.:

Subject: Jensen St. and Davis St. Drum Sites

Notes: Purpose: To get help from Pat Hammack regarding Pat's site visit to the Jensen St. Drum site.

Result: Mr. Simmons called from jail to see if he could get pictures from OSC Hammack. These pictures may contain Mr. Simmons. Mr. Simmons said he spoke with OSC Hammack while OSC Hammack was making a preliminary site investigation.

Mr. Simmons said he could give the EPA names of people who left drums at the warehouse.

Mr. Simmons mentioned the names of RD + RJ Dray and Fred [Winston] referring to the owners of the property and the drum operation.

TAT said it would relay the message and information to OSC Hammack. A message could be left at (b) (6) [redacted]

___ **File:**

___ **Tickle File:** ___/___/___

___ **Follow-Up By:**

___ **Copy/Route To:**

Follow-Up Action: Call Pat Hammack

Originator's Initials: [illegible]

Original

PHONE CONVERSATION RECORD

Conversation with:

Name: Pat Hammack

Company: ESC Dallas

Address:

Phone: 214-655-2270

Date: 10/ 4/ 88

Time: 1:40 AM/PM

_____ Originator Placed Call

_____ Originator Received Call

W.O. No.:

Subject: Jensen St. and Davis St. Drum Sites

Notes: Purpose: To give ESC Hammack information from Mr. Calvin Simmons as presented on the previous Phone Conversation Record.

Results/Result: TAT conveyed the information found on the previous conversation record.

File:

Tickle File: / /

Follow-Up By:

Copy/Route To:

Follow-Up Action: None

Originator's Initials: MJC

Monday August , 1988
1300 Tarimino & Wisnieski OSC
Hammack Discussed site safty
1320 Left site to return to office
RAM IV & Victoreen gave reading thought to be invalid but contacted
Texas Radiation to check site.

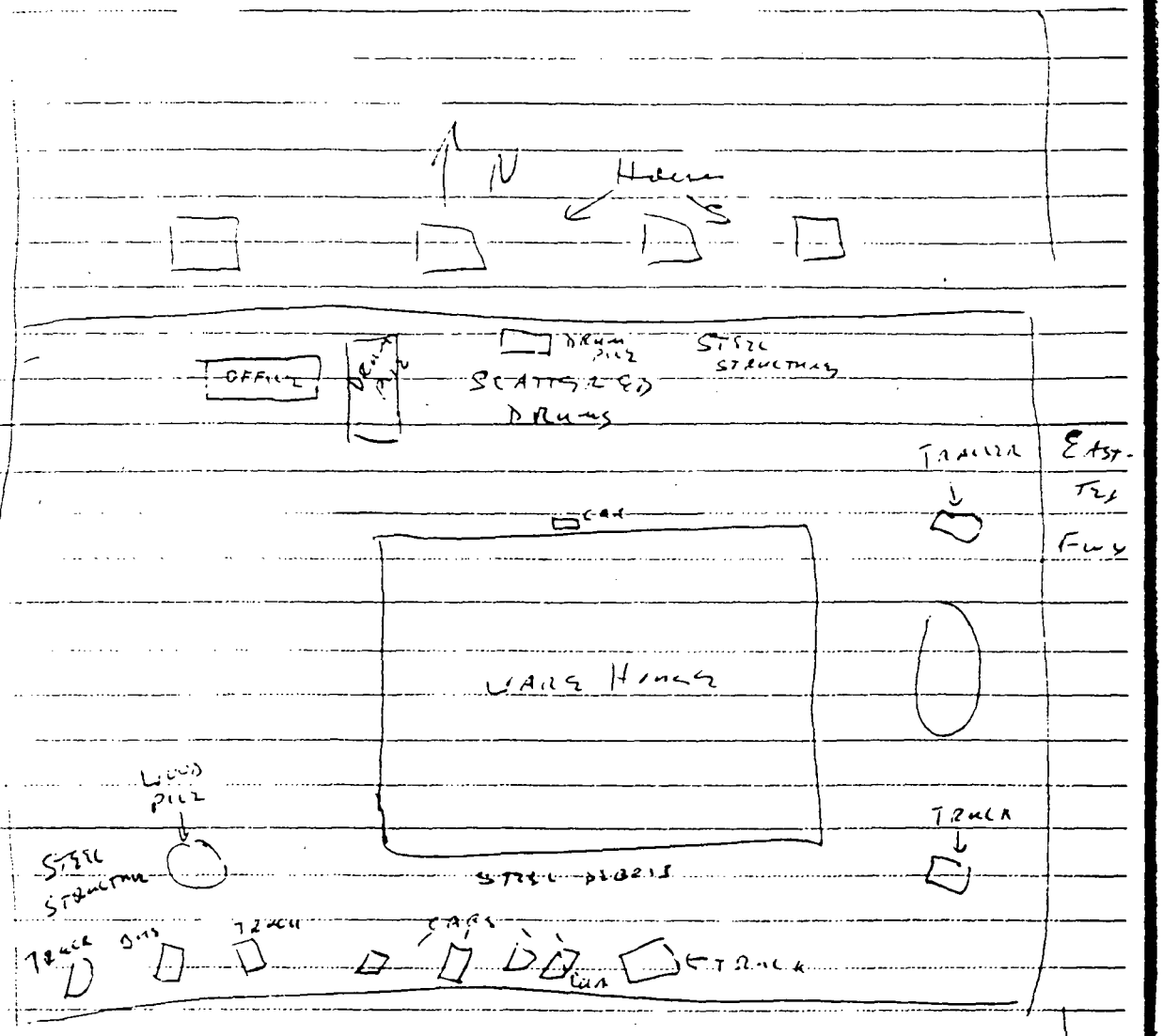
[signature]

Tuesday Aug. 30, 1988
Wen. at 70's to mid 90's
Wind North 5 to 10 mph
Cloudy
0920 TAT'S Wisnieski, Tarimino & Herrera Arive @ site.
0950 Discuss site safety plan & drum opening procedure with TAT'S Wisnieski, Tarimino, Herrera
1030 Wisnieski, Tarimino enter hot zone in Level C
1115 TAT'S Wisnieski, Tarimino exit hot zone
1210 TAT'S Wisnieski, Tarimino & Herrera enter warehouse in Level "B" to check drum's with O Hmu, explosive-meter & RAM IV.
1230 TAT'S exit warehouse
1315 Leave's for lunch
1445 Survey outer prim. of site & count drums
1555 TAT enters warehouse
1618 TAT exit's warehouse
1630 TAT leaves site
[signature]

Wed, Aug 31, 1980
0930 TAT Leaves warehouse
0920 TAT arrives at site
0959 Safety meeting is held present at meeting TAT'S Tarimino, Herrera, Wisnieski & OSC Hammack @ meeting Drum opening procedures are discussed Drums to be opened are talked about soil sample area are discussed.
1030 TAT'S Wisnieski & Tarimino Dress out Level "B" & enter Hot Zone to sample Drums.
1055 TAT'S Wisnieski & Tarimino Exit Hot Zone.
1205 TAT'S Wisnieski Tarimino Returns to Hot Zone in Level B
1258 TAT Exits Hot Zone
1315 TAT'S Wisnieski, Herrera OSC Hamack Leave site to find air for SCBA.
1610 find air & return to site
1650 TAT Leaves site

Thursday Sept. 1, 1988
0745 TAT Leaves warehouse
0850 TAT arrives @ site
0925 TAT'S Wisnieski, Tarmino & Herrera has H&S meeting talk about opening drums in confined space & work assingments.
0940 TAT'S Wisnieski & Herrera suit up in Level "B" for Drum opening in warehouse
1035 TAT Exits warehouse for break
1110 TAT'S Wisnieski & Herrera enter warehouse to finish sampling
1150 TAT'S Wisnieski & Herrera Exit warehouse
1200 Sampleing Completed @ 1150
1215 Secure site & Leave All sampling complete

August 19, 1988 Friday
Weather - overcast, , humid
0935 TATs Taormina, Wisneski and Yeager leave office for Jensen St Drum site. TAT will stop at Davis St site first
1053 Arrive at 3116 Jensen St. TAT spoke with Charles of Doggett & Workman Auto Parts store located across Jensen Dr. from the site Mr. ~~Dog~~ Charles stated that the owner of 3116 Jensen Dr., Mr R J Gray did not want unauthorized persons on the property. TAT assured Mr Charles that the EPA was just taking a survey and sampling in the near future
The site is approximately 300 feet by 150 feet There are abandoned vehicles on the site and up to 200 drums scattered about. There is a large shed in the ~~site~~ center of the site about 50 ft by 100 feet. There are drums fiberboard barrels, tires, wood, some car parts and other debris in the warehouse
Labels on some of the drums indicate that flammable liquids, laquer, ammonium bisulfite corrosive liquids, waste oil and other materials were kept in them.
Company names include Reichold Chemicals, Chemtron Chemical, Ashland Chemicals, PC Wood Beauty.
Drums ~~material~~ are made of steel, polyethylene & other plastic and are in varying stages of ~~decay~~ decay
There are compressed gas cylinders present also
Michael Taormina



Michael Tammin

Most of the drums are not sealed ie bungs have been removed

1056 Sign in front of property from W. photo #1

1102 #2-4 pan of drums at rear of property

1103 #5 label on drum at rear of property from E

1104 #6 A/A from E

1105 #7+8 drums in bldg.

1107 film roll #2, photo #1-3 pan of drums in NW corner

1108 #4 liquid on ~~side~~ (NW Cr) ground on N side of bldg from NW

1108 #5 A/A from N

1108 #6 stacked 20 gallon drums on N side of property from N

1111 #7 chemical stains on ground from W

1112 #8 herbicide drum from W

1112 #9 drums in warehouse - note large plastic container from E

1115 #10 drums on southern boundary of property from E

1117 #11 chemicals stains in puddle, near SE corner of bldg. from W

1118 #12 Dumpster containing chemicals from E

1119 #13-15 Pan of SE section of property - note stained soil from E.

1122 #16 E side of property from W

1127 #17 picture of sign from NW.

1130 Leave site to return to office.

Michael C. Taormina

Monday August 2[illegible], 1988

1305 Arrive at [illegible] St site. TATs, Taormina, Wisniewski & OSC Hammack are present
The Victoreen is giving reading 0.1 and greater before entering the site.

1320 Left site for office

1400 Arrived at Houston TAT office. TATs Taormina, Wisniewski, Hogue, McLaughlin and OSC Hammack discussed how to approach the problem. Since the RAM IV and the Victoreen Thyrac did not give comparable readings, it was decided to try and get more sensitive ~~equip~~ MCA radiation monitoring instrumentation.
OSC Hammack contacted the Texas
, and asked for assistance.
agreed and would meet TAT at the Davis St Site at 0800 on Tuesday August 23.

Tuesday August 30, 1988
Weather - 70's rising to ~90°C, wind N, 5-10 mph
Slightly overcast.

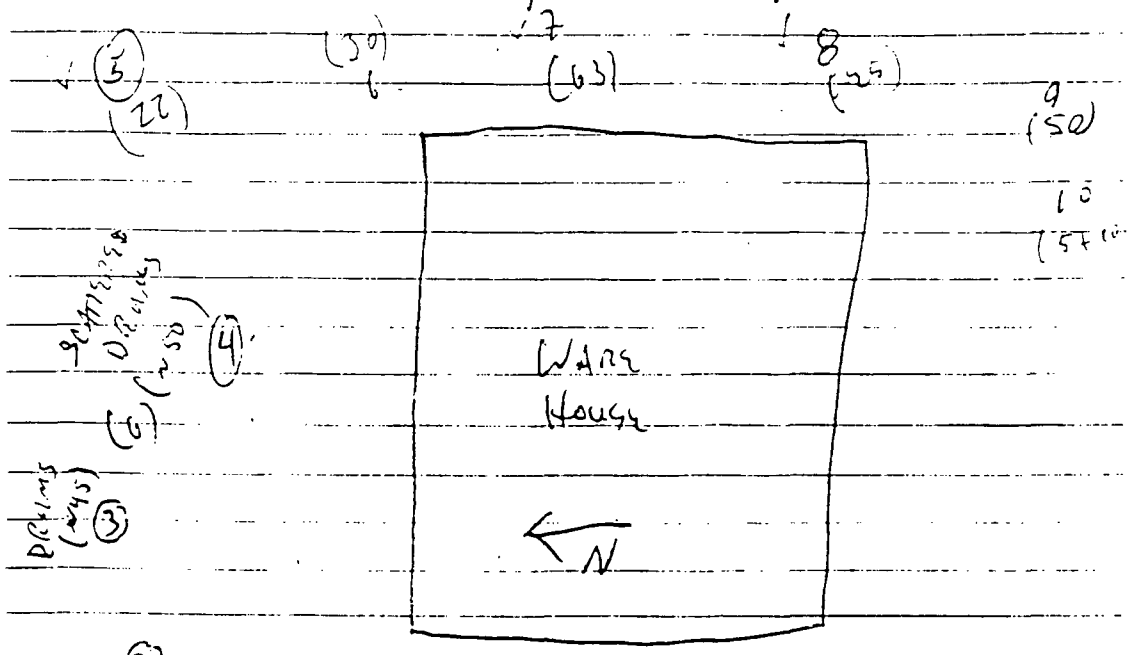
0715 TAT Taormina arrives at E+E warehouse
0720 TAT Wisniewski arrives at E+E warehouse
0730 TAT Herrera arrives at E+E warehouse
Load Suburban with SCBAs instruments & expendables
0750 Leave for E+E office
0810 Arrive at E+E office
0815 Leave E+E office
0840 Stop for breakfast
0855 Leave for site
0920 Arrive at site pick up key from Charles Lee at Doggett & Workman Auto Parts opposite site

Ed. L. Taormina

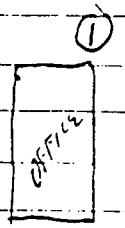
925 Enter site and set up at far W end
1015 HNU EPAID #

1023 143/104 98.6
1030 Taormina, Wisnieski enter hot zone level C

	HNU	EXP/O2	RAD
1	bg	bg	bg
2	bg	bg	bg
3	bg	bg	bg
4	bg	bg	bg

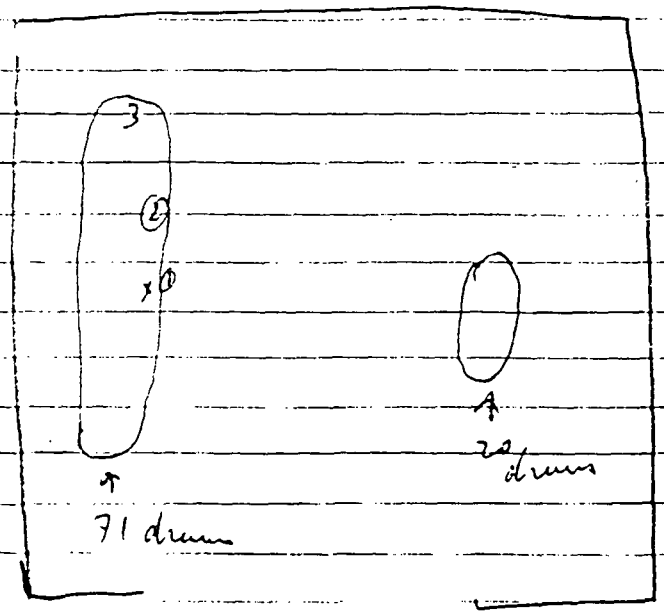


DRUMS 2
(~40)



1035 OSC Hammah arrives on site
1115 Taormina + Wisnieski leave hot zone
1130 Taormina + Hammah go to get supplies

	HNU	CAP/O2	RAD
5	5	BG	bg
6	bg	bg	bg
7	5	bg	bg
8	3	bg	bg
9	bg	bg	bg
10	bg	bg	bg



① rusted drum 110 ppm HNU
② [illegible] cardboard drums 15
③ near E end, open bung 50 ppm

1145 Taormina & Hammond return to site
1210 Taormina, Winiecki & Herrera enter warehouse in Level B
1230 Taormina Winiecki & Herrera exit warehouse
1250 put up instruments to leave for lunch

M. Taormina

15 leave for lunch
1435 return to site
1445 Commenced survey - made sketches of drum location, took a drum count and marked drums that had any substance. Took down information that was labelled on the drums
1540 finished taking drum survey of drums outside of warehouse - took break
1555 TAT team entered warehouse to survey drums there
1618 exited warehouse
1630 left site
1710 arrived at C + E warehouse
1730 left warehouse
Wednesday August 31, 1988
0730 TAT Taormina arrives at E + E office + picks up phone, paperwork + other material
0735 Leave for warehouse
0755 Arrive at warehouse TAT Wisnieski already there
0800 TAT HERRERA arrives. Led subcontractor.
0830 Leave Warehouse
0820 Arrive at site OSC Hamrick on site
0930 Set up tarp + material.
0959 H + S meeting. Held by TAT Wisnieski
1030 TATS Taormina + Wisnieski dress out in level B to sample drums
1040 Start sample drum ~~labeled~~ #82 unlabelled
1047 End sampled drum #82
1055 Exit site, decon, dress down, rest
1140 Persons from Doggett + Workman Auto Parts entered site + removed a trailer - Mr. Valentine

removed the [illegible]

1150 Doggett persons leave site.

1205 Dress out level B to continue sampling drum

1215 Begin taking sample from drum #82 for 2nd sample bottle

1222 End sample for 2nd sample bottle at drum #82 ph 13

1225 Check other drums for sample-able material must have cooled in them

1232 begin sample drum to the ~~[illegible]~~ east of drum #32 & termed drum 32A

1237 end sample drum 32A ~~pH 13~~ (mco) (mco) (mco)

1245 TAT Taormina samples material ~~of~~ on ~~ground~~ concrete pad in NE section of property, TAT Wisnieski samples soil near caustic drums in SE section of site. OSC Hammack accompanies TAT Taormina & TAT Herrera accompanies TAT Wisnieski

1252 End sample of ground material in NE & SE parts of site.

1258 Go back to command post decon, dress down rest

1315 TATS Wisnieski, Herrera & OSC Hammack leave for branch. TAT Taormina remains at command post.

Note substance on concrete pad is black oily & tarry.

~~410~~ 1610 TATs Wisnieski, Herrera & OSC Hammack arrive back on site — They had trouble finding a place to fill the SCBA ~~tab~~ tanks.

Michael Taormina

1600 Secure area pack leave - Chain of
Custody + labelling complete
1650 Exit site
1730 Arrive E+E Warehouse - put up vehicle
organize supplies
1750 End day
Thursday September 1, 1988
0720 TAT Taormina arrives at warehouse
0730 TAT Wisniewski arrives at warehouse
0740 TAT Herrera arrives at warehouse
0745 Leave warehouse for EPA lab.
0815 Drop off samples at lab.
0820 Pick up cooler at E+E office
0850 Arrive at site
0855 Set up equipment
0925 H+S meeting Noted hazards connected
with drum opening
0935 Scoped out which drums to open
0940 TATS Wisniewski + Herrera dress out
in level B
1005 Begin sample drum 154
1012 End sample drum 154
1015 Begin sample drum 146
1024 End sample drum 146
1027 Begin sample drum 143
1035 End sample drum 143
1037 exit warehouse dress down-rest
1110 TATS Herrera + Wisniewski dress out in level B
to finish drum sampling
1124 Begin sample drum # 104 + dup
1135 End sample drum # 104 + dup
1140 begin sample Vat
[illegible], Taormina

1142 End sampling wat - pH 11.
1150 Exit warehouse drum down, decon + secure area
1215 Exit site - lunch - OSC Hammel leaves
1310 Return to Warehouse - complete chain of custody and seal coolers for delivery to EPA Lab on Friday morning
1645 TAT Tarman leaves for home
Note: at 1440 TAT Wisniski leaves
at 1530 TAT Herrera leaves

Table 4
Informaton Compiled From Drum Labels

	Label Information	Contents	Full/Partial	Comments
1	Pelican Mudd Co. 713-952-7400			
2	Ribelin			
3	Pelican Mudd Co. 713-952-7400			
4	None			leaking
5	None			
6	Aspha Mul			
7	Mil Chem 390 Essex Ln P.O. Box 22111 Houston, TX 77227	Carbo-Tec - L		
8	N/A		Part	
9	N/A		Part	
10	N/A		Part	
11	N/A		Part	
12	N/A		Part	
13	Banner Labs Inc.			
14	N/A		Part	
15	N/A		Part	
16		Polyester Styrene Vinyl Toluene Acrylate ?		UN 1866, Un 1860 Hlth-2,Fire-3, Rx-2,PPE-1
17	N/A	Aircraft Lab Odor Control Compound		
18	N/A		Part	
19	N/A		Part	
20	N/A	posibly oil	Full	
21	N/A	black laquer		harmful Flammable liquid
22	N/A	methylimidazole		UN 2735
23	N/A	methylimidazole		UN 2735
24	Ashland Oil	N/A	N/A	N/A
25	Ashland Oil	N/A	N/A	N/A
26	N/A	paint	Full	UN 1263, ???
27	N/A	paint	Full	UN 1263, ???
28	N/A	paint	Full	UN 1263, ???
29	Ashland Oil			UN 1866
30	Ashland Oil			UN 1866
31	N/A	paint	Full	UN 1263, ???
32	N/A	paint	Full	UN 1263, ???
33	Ashland Oil			UN 1866
34	N/A		Part	open
35	Ashland Oil			
36	Ashland Oil			
37	Ashland Oil			
38	Ashland Oil			
39	Ashland Oil			
40	Ashland Oil			
41	Conoco		Part	Hazardous Waste EPA waste #189 (or 89) TXD 981544230 or

42	Ashland Oil	laquer		
43	Ashland Oil			
44	Ashland Oil			
45	PC Paint	laquer		
46	Ashland Oil shipped to Hines Pottery 10450 West Gulfbank Dr. Houston, TX			
47	Ashland Oil shipped to Hines Pottery 10450 West Gulfbank Dr. Houston, TX			suite 7, unopened
48		waste	part	rainwater
49	Reichhold Chemical Houston, TX or 525 N. Bdwy White Plains, NY	polyester resin		UN 1866, leaking flamm liq Reichhold per- formance technol.
50	Reichhold Chemical Houston, TX or 525 N. Bdwy White Plains, NY	polyester resin		UN 1866, leaking flamm liq Reichhold per- formance technol.
51	Ashland Chemical			UN 1866
52	PC Speciality System	laquer		
53	Chemtron Chemical Fresno, CA	unsaturated polyester resin vinyl toluene acrylate monomer styrene		UN 1866
54	Ashland Chemical			
55	N/A	waste polymer		solid, open
56	PC Speciality System			
57	N/A	xylol resin		sludge
58	???			UN 1760, paraffin odor waste, carr. 8
59	Imperial Chemical Speciality Chemical Manchester, England			prod code - 05198 UN 1760
60	unnumbered drums			corrosive liq
61	unnumbered drums			NOS, stain on ground
62	unnumbered drums			2 yards, odor in area
63	unnumbered drums			same
64	unnumbered drums			same
65	unnumbered drums			same
66	unnumbered drums			same
67	unnumbered drums			same
68	unnumbered drums			same
69	unnumbered drums			same
70	unnumbered drums			same
71	unnumbered drums			same
72	unnumbered drums			same
73	unnumbered drums			same
74	unnumbered drums			same

75	NL ???			
76	N/A			
77	N/A		part	
78	N/A		full	
79	N/A		full	
80	N/A		full	
81	N/A	sulfuric acid	part	UN 1790,corroding
82	N/A		full	
83	Ethyl Corp	alcohol & hydro-carbon oils		BPAL 20+
84	N/A	not oil	full	
85	N/A		full	
86	N/A		full	
87	N/A			
88	Ashland Chemical		full	UN 1933,across -

Subtitle list of substances noted.

	Pelican Mudd Co. 713-952-7400 Ribelin Pelican Mudd Co. Aspha Mul			
	Mil Chem 390 Essex Ln P.O. Box 22111 Houston, TX 77227	Carbo-Tec - L		
	Banner Labs Inc.			
	Ashland Oil Conoco	N/A	N/A Part	
	PC Paint Ashland Oil shipped to Hines Pottery 10450 West Gulfbank Dr. Houston, TX	laquer		
	Reichhold Chemical Houston, TX or 525 N. Bdwy White Plains, NY	polyester resin		
	PC Speciality System Chemtron Chemical Fresno, CA	laquer unsaturated polyester resin vinyl toluene acrylate monomer styrene		
	Imperial Chemical Speciality Chemical Manchester, England			
	Ethyl Corp	alcohol & hydro-		
7	Mil Chem 390 Essex Ln P.O. Box 22111 Houston, TX 77227	Carbo-Tec - L		
16		Polyester Styrene Vinyl Toluene Acrylate ?		UN 1866, Un 1860 Hlth-2,Fire-3, Rx-2,PPE-1
17	N/A	Aircraft Lab Odor Control Compound		
20	N/A	posibly oil	Full	
21	N/A	black laquer		harmful Flammable liquid
22	N/A	methylimidazole		UN 2735
23	N/A	methylimidazole		UN 2735
26	N/A	paint	Full	UN 1263, ???
27	N/A	paint	Full	UN 1263, ???
28	N/A	paint	Full	UN 1263, ???
29	Ashland Oil			UN 1866
30	Ashland Oil			UN 1866
31	N/A	paint	Full	UN 1263, ???
32	N/A	paint	Full	UN 1263, ???

Subtitle list of substances noted

33	Ashland Oil			UN 1866
41	Conoco		Part	Hazardous Waste EPA waste #189 (or 89) TXD 981544230 or TXD 982544230
42	Ashland Oil	laquer		
45	PC Paint	laquer		
48		waste	part	rainwater
49	Reichhold Chemical Houston, TX or 525 N. Bdwy White Plains, NY	polyester resin		UN 1866, leaking flamm liq Reichhold per- formance technol.
50	Reichhold Chemical Houston, TX or 525 N. Bdwy White Plains, NY	polyester resin		UN 1866, leaking flamm liq Reichhold per- formance technol.
51	Ashland Chemical			UN 1866
52	PC Speciality System	laquer		
53	Chemtron Chemical Fresno, CA	unsaturated polyester resin vinyl toluene acrylate monomer styrene		UN 1866
55	N/A	waste polymer		solid, open
57	N/A	xylol resin		sludge
58	???			UN 1760, paraffin odor waste, carr. 8
59	Imperial Chemical Speciality Chemical Manchester, England			prod code - 05198 UN 1760
60	unnumbered drums			corrosive liq
61	unnumbered drums			NOS, stain on ground
62	unnumbered drums			2 yards, odor in area
63	unnumbered drums			same
64	unnumbered drums			same
65	unnumbered drums			same
66	unnumbered drums			same
67	unnumbered drums			same
68	unnumbered drums			same
69	unnumbered drums			same
70	unnumbered drums			same
71	unnumbered drums			same
72	unnumbered drums			same
73	unnumbered drums			same
74	unnumbered drums			same
81	N/A	sulfuric acid	part	UN 1790,corroding
83	Ethyl Corp	alcohol & hydro- carbon oils		BPAL 20+
84	N/A	not oil	full	
88	Ashland Chemical		full	UN 1933,across

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 6
First International Bldg., 1201 Elm St.
Dallas, Texas 75270

CHAIN OF CUSTODY RECORD

PROJ. NO.: TFA-K

PROJECT NAME: [illegible] Drum Site

SAMPLERS: (Signature) [illegible] / [illegible] 68-EI

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BNA	METALS					REMARKS
1	[illegible]/31/88	[illegible]		X	Drum # 82, unlabelled	2	✓	✓					6-052278/6052279
2	8/31/88	1231-1257		X	Drum # 32 A	2	✓	✓					6-042321, 6-042322
	8/31/88	[illegible]		X	NE ground [illegible] Concrete Pad	2	✓	✓					6-042323, 6-042324
4	8/31/88	[illegible]		X	[illegible] Soil, [illegible] drums	2	✓	✓					

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	9-1-88 08/7				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Leroy Carter	Date / Time 9/1/88 08:17	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

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ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 6
First International Bldg., 1201 Elm St.
Dallas, Texas 75270

CHAIN OF CUSTODY RECORD

PROJ. NO.: TFA-K

PROJECT NAME: Jensen St. Drums

SAMPLERS: (Signature) [illegible]

ATTN: PAT HAMMACK
GI-EI

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BNA	METALS					REMARKS
5	9/1/88	1105-1012		✓	Drum # 154	2	✓	✓					6-042327, 6-042328
6	9/1/88	1015-1024		✓	Drum # 146	2	✓	✓					6-042329, 6-042330
	9/1/88	1027-1035		✓	Drum # 143	2	✓	✓					6-042331, 6-042332
8	9/1/88	1124-1128		✓	Drum # 104	2	✓	✓					6-042334, 6-042333
8 DUP	9/1/88	1128-1135		✓	Drum # 104	2	✓	✓					6-042335, 6-042336
9	9/1/88	1140-1147		✓	Polypropylene VAT	2	✓	✓					6-042337, 6-042338

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	9/2/88 [illegible]				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [illegible]	Date / Time [illegible]	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON TEXAS 77074

October 17, 1988

MEMORANDUM

SUBJECT: Notice of Intent to Dispose of Samples

FROM: Diana Ayers, Chief, Houston Branch; 6E-H

TO: Charles Gazda, Chief, Emergency Response Branch; 6E-E

The Houston Laboratory is required to dispose of all hazardous wastes we generate in a manner consistent with RCRA regulations. This includes all samples received for analysis provided we find them to contain contaminants which classify them as RCRA hazardous wastes.

I have included this memorandum in the final analytical report to serve as notice to the program that we have completed all analysis. If we have any of the original sample remaining after analysis is complete we will dispose of it within 90 days. Please note that even though original sample may be left over, it does not mean that a reanalysis of the sample may be requested since the sample has most likely exceeded its holding time and any subsequent analysis may not be valid.

If you have a need to hold these samples in custody longer than 90 days, please sign below and return this memorandum to me within the next 30 days. Also, state briefly your need to hold these samples in custody.

Thank you for your cooperation in this request.

Jensen Street Drums (8TFAKC46)

_____
Facility Name

_____
Program Manager Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON TEXAS 77074

MEMORANDUM

DATE: October 17, 1988

SUBJECT: Laboratory Results for Jensen St. Drums (8TFAKC46)

FROM: Diana Ayers, Chief, Houston Branch; 6E-H Dave L Payne for

TO: Charles Gazda, Chief, Emergency Response Branch; 6E-E

ATT: Pat Hamick: 6E-EF

Attached are the analytical results for the subject site. Ten samples were received on September 1, 1988 for analysis of ABN and metals(HSL).

This is a final report.

Attachments

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON TEXAS 77074

October 12, 1988

MEMORANDUM

SUBJECT: Laboratory results for Jensen Street Drum.

FROM: R. Ray Clark for M. Kendall Young
Chief
Inorganic Section

TO: Diana G. Ayers
Chief
Houston Branch

Attached are laboratory results for the subject site. Ten (10) samples were received on September 2, 1988 to analyzed for metals.

The laboratory numbers assigned were 8TFAKC4601 through 8TFAKC4610.

This is a final report.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON, TEXAS 77074

MEMORANDUM

Date: 9/30/88

Subject: Organic Laboratory Results for Jensen St. Drum Site (8TFAKC46)

From: Michael Daggett, Chief, Organic Lab Section; 6E-HL

To: Diana Ayers, Chief, Houston Branch; 6E-H

Attached are the Organic Laboratory results for samples 8TFAKC4601 through 8TFAKC4610. These samples were analyzed for ABNs only.

This is a final report.

Attachments

Date: 10/14/88

Appendix 6

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: 8TFAKC46 Date Recvd: 09/01/88 Date Collected: 08/31/88
Sample Number: 1 Time Recvd: 08:30 Time Collected: 10:47

Source: Jensen St. Drum Site Tag Number:
Site Description: Drum # 82, unlabelled Sta # 1
Sample Type: WATER
Sample Retention:

Param- Organic: ABN
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

Attachment 1

ORGANIC ANALYSIS DATA

GES-HL SAMPLE NO.: BTFAK046-01 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER ANALYST: MARVELYN HUMPHREY

HSL ACID BASE/NEUTRAL COMPOUNDS BY METHOD 625

COMPOUND	ug/L	COMPOUND	ug/L
Phenol	nd dl=440	Acenaphthene	nd dl=220
bis(2-Chloroethyl) Ether	nd dl=220	2,4-Dinitrophenol	nd dl=3300
2-Chlorophenol	nd dl=440	4-Nitrophenol	nd dl=880
1,3-Dichlorobenzene	nd dl=220	Dibenzofuran	nd dl=220
1,4-Dichlorobenzene	nd dl=220	2,4-Dinitrotoluene	nd dl=660
Benzyl Alcohol	nd dl=440	2,6-Dinitrotoluene	nd dl=660
1,2-Dichlorobenzene	nd dl=220	Diethylphthalate	nd dl=220
2-Methylphenol	nd dl=660	4Chlorophenylphenyl Ether	nd dl=880
bis(2-chloroisopropyl)Ether	nd dl=220	Fluorene	nd dl=220
4-Methylphenol	nd dl=660	4-Nitroaniline	nd dl=880
N-Nitroso-Di-n-Propylamine	nd dl=660	4,6-Dinitro-2-Methylphenol	nd dl=2200
Hexachloroethane	nd dl=220	N-Nitrosodiphenylamine	nd dl=440
Nitrobenzene	nd dl=220	4-Bromophenylphenyl Ether	nd dl=880
Isophorone	nd dl=440	Hexachlorobenzene	nd dl=220
2-Nitrophenol	nd dl=1100	Pentachlorophenol	nd dl=1650
2,4-Dimethylphenol	nd dl=660	Phenanthrene	nd dl=220
Benzoic Acid	nd dl=1100	Anthracene	nd dl=220
bis(2-Chloroethoxy)Methane	nd dl=220	Di-n-Butylphthalate	nd dl=220
2,4-Dichlorophenol	nd dl=660	Fluoranthene	nd dl=220
1,2,4-trichlorobenzene	nd dl=220	Benzidine	nd dl=2200
Naphthalene	nd dl=220	Pyrene	nd dl=220
4-Chloroaniline	nd dl=440	Butylbenzylphthalate	nd dl=440
Hexachlorobutadiene	nd dl=220	3,3'-Dichlorobenzidine	nd dl=1100
4-Chloro-3-Methylphenol	nd dl=880	Benzo(a)Anthracene	nd dl=880
2-Methylnaphthalene	nd dl=220	bis(2-Ethylhexyl)Phthalate	nd dl=440
Hexachlorocyclopentadiene	nd dl=1100	Chrysene	nd dl=880
2,4,6-Trichlorophenol	nd dl=660	Di-n-Octyl Phthalate	nd dl=440
2,4,5-Trichlorophenol	nd dl=660	Benzo(b)Fluoranthene	nd dl=880
2-Chloronaphthalene	nd dl=220	Benzo(k)Fluoranthene	nd dl=880
2-Nitroaniline	nd dl=880	Benzo(a)Pyrene	nd dl=880
DimethylPhthalate	nd dl=220	Indeno(1,2,3-cd) Pyrene	nd dl=880
Acenaphthylene	nd dl=220	Dibenzo(a,h)Anthracene	nd dl=880
3-Nitroaniline	nd dl=880	Benzo(g,h,i)Perylene	nd dl=880

Attachment 1

ORGANIC ANALYSIS DATA

GES-HL SAMPLE NO.: 8TFAKC46-01 DATE REPORTED: 9/30/88

SAMPLE TYPE:WATER

ANALYST: MARVELYN HUMPHREY

TENTATIVE COMPOUNDS BY METHODS 625

SCAN#	CAS #	EST.CONC (ug/l)	COMPOUND NAME
384		4,280	UNKNOWN
635		336,000	UNKNOWN

* ANALYSTS NOTE ! - THE COMPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
** Estimated concentration is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #:	BTFAKC46-01	DATE RECEIVED:	01-Sep-88
SOURCE:	JENSEN STREET DRUM		
TYPE:	AQUEOUS	DATE REPORTED:	12-Oct-88
ANALYSTS:	CLARK,FELDMAN		

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	92	UG/L
SELENIUM	ND	96	UG/L
THALLIUM	ND	30	UG/L
MERCURY	*	0.2	UG/L
SILVER	ND	20	UG/L
BERYLLIUM	ND	10	UG/L
CADMIUM	18	10	UG/L
CHROMIUM	ND	20	UG/L
COPPER	388	40	UG/L
NICKEL	ND	40	UG/L
LEAD	ND	60	UG/L
ZINC	661	10	UG/L
ALUMINUM	ND	200	UG/L
BARIUM	ND	20	UG/L
COBALT	ND	40	UG/L
IRON	83	50	UG/L
MANGANESE	ND	10	UG/L
VANADIUM	ND	60	UG/L
ANTIMONY	520	120	UG/L
SODIUM	ND	1000	UG/L
POTASSIUM	ND	2000	UG/L
CALCIUM	ND	300	UG/L
MAGNESIUM	ND	300	UG/L

* : UNABLE TO ANALYZE DUE TO STRONG INTERFERENCE

ND: NOT DETECTED

Date: 10/14/88

Appendix 2

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: 8TFAKC46 Date Recvd: 09/01/88 Date Collected: 08/31/88
Sample Number: 2 Time Recvd: 08:30 Time Collected: 12:37

Source: Jensen St. Drum Site Tag Number:
Site Description: Drum # 32A, Sta # 2
Sample Type: WATER
Sample Retention:

Param- Organic: A8N
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

Attachment 2

ORGANIC ANALYSIS DATA

SEC-HL SAMPLE NO.: STTAR046-02 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER ANALYST: MARVELYN HUMPHREY

HSL ACID BASE/NEUTRAL COMPOUNDS BY METHOD 625

COMPOUND	ug/L	COMPOUND	ug/L
Phenol	nd dl=100	Acenaphthene	nd dl= 50
bis(2-Chloroethyl) Ether	nd dl= 50	2,4-Dinitrophenol	nd dl=750
2-Chlorophenol	nd dl=100	4-Nitrophenol	nd dl=200
1,3-Dichlorobenzene	nd dl= 50	Dibenzofuran	nd dl= 50
1,4-Dichlorobenzene	nd dl= 50	2,4-Dinitrotoluene	nd dl=150
Benzyl Alcohol	17,800	2,6-Dinitrotoluene	nd dl=150
1,2-Dichlorobenzene	nd dl= 50	Diethylphthalate	nd dl= 50
2-Methylphenol	nd dl=150	4-Chlorophenylphenyl Ether	nd dl=200
bis(2-chloroisopropyl)Ether	nd dl= 50	Fluorene	nd dl= 50
4-Methylphenol	nd dl=150	4-Nitroaniline	nd dl=200
N-Nitroso-Di-n-Propylamine	nd dl=150	4,6-Dinitro-2-Methylphenol	nd dl=500
Hexachloroethane	nd dl= 50	N-Nitrosodiphenylamine	nd dl=100
Nitrobenzene	nd dl= 50	4-Bromophenylphenyl Ether	nd dl=200
Isophorone	nd dl=100	Hexachlorobenzene	nd dl= 50
2-Nitrophenol	nd dl=250	Pentachlorophenol	nd dl=375
2,4-Dimethylphenol	366	Phenanthrene	nd dl= 50
Benzoic Acid	nd dl=250	Anthracene	nd dl= 50
bis(2-Chloroethoxy)Methane	nd dl= 50	Di-n-Butylphthalate	nd dl= 50
2,4-Dichlorophenol	nd dl=150	Fluoranthene	nd dl= 50
1,2,4-trichlorobenzene	nd dl= 50	Benzidine	nd dl=500
Naphthalene	nd dl= 50	Pyrene	nd dl= 50
4-Chloroaniline	nd dl=100	Butylbenzylphthalate	nd dl=100
Hexachlorobutadiene	nd dl= 50	3,3'-Dichlorobenzidine	nd dl=250
4-Chloro-3-Methylphenol	nd dl=200	Benzo(a)Anthracene	nd dl=200
2-Methylnaphthalene	nd dl= 50	bis-(2-Ethylhexyl)Phthalate	235
Hexachlorocyclopentadiene	nd dl=250	Chrysene	nd dl=200
2,4,6-Trichlorophenol	nd dl=150	Di-n-Octyl Phthalate	nd dl=100
2,4,5-Trichlorophenol	nd dl=150	Benzo(b)Fluoranthene	nd dl=200
2-Chloronaphthalene	nd dl= 50	Benzo(k)Fluoranthene	nd dl=200
2-Nitroaniline	nd dl=200	Benzo(a)Pyrene	nd dl=200
DimethylPhthalate	nd dl= 50	Indeno(1,2,3-cd) Pyrene	nd dl=200
Acenaphthylene	nd dl= 50	Dibenzo(a,h)Anthracene	nd dl=200
3-Nitroaniline	nd dl=200	Benzo(g,h,i)Perylene	nd dl=200

ATTACHMENT 2

ORGANIC ANALYSIS DATA

SES-HL SAMPLE NO.: 8TFAKC46-02 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER

ANALYST: MARVELYN HUMPHREY

TENTATIVE COMPOUNDS BY METHODS 625

SCAN#	CAS #	EST.CONC (ug/l)	COMPOUND NAME
115	111762	16,500	2-BUTOXY-ETHANOL
150		140	UNKNOWN
399		700	UNKNOWN
414		435	UNKNOWN
436	149575	340	2-ETHYL-HEXANOIC ACID
459		750	UNKNOWN
464	112345	365	2-(2-BUTOXYETHOXY)-ETHANOL
495		600	UNKNOWN
515	18636 34	515	BENZOIC ACID, ammonium salt
568	99047	125	3-METHYL, BENZOIC ACID
582		500	UNKNOWN

* ANALYSTS NOTE ! - THE COMPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
** Estimated concentration is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #: 8TFAKC46-02
SOURCE: JENSEN STREET DRUM
TYPE: AQUEOUS
ANALYSTS: CLARK,FELDMAN

DATE RECEIVED: 01-Sep-88
DATE REPORTED: 12-Oct-88

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	92	UG/L
SELENIUM	ND	96	UG/L
THALLIUM	ND	30	UG/L
MERCURY	ND	0.2	UG/L
SILVER	ND	20	UG/L
BERYLLIUM	ND	10	UG/L
CADMIUM	ND	10	UG/L
CHROMIUM	106	20	UG/L
COPPER	88	40	UG/L
NICKEL	52	40	UG/L
LEAD	269	60	UG/L
ZINC	448	10	UG/L
ALUMINUM	ND	200	UG/L
BARIUM	122	20	UG/L
COBALT	1800	40	UG/L
IRON	20700	50	UG/L
MANGANESE	2990	10	UG/L
VANADIUM	ND	60	UG/L
ANTIMONY	356	120	UG/L
SODIUM	124000	1000	UG/L
POTASSIUM	20100	2000	UG/L
CALCIUM	52900	300	UG/L
MAGNESIUM	424000	300	UG/L

ND: NOT DETECTED

Date: 10/14/88

Appendix 3

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: 8TFAKC46 Date Recvd: 09/01/88 Date Collected: 08/31/88
Sample Number: 3 Time Recvd: 08:30 Time Collected: 12:52

Source: Jensen St. Drum Site Tag Number:
Site Description: NE ground material, Sta # 3
Sample Type: SOIL
Sample Retention:

Param- Organic: ABN
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

Attachment 3

ORGANIC ANALYSIS DATA

SES-HL SAMPLE NO.: STFAKC46-03 DATE REPORTED: 9/30/88

SAMPLE TYPE: SOIL ANALYST: MARVELYN HUMPHREY

HSL ACID BASE/NEUTRAL COMPOUNDS BY METHOD 625

COMPOUND	ug/KG	COMPOUND	ug/KG
Phenol	nd dl= 56000	Acenaphthene	nd dl= 28000
bis(2-Chloroethyl) Ether	nd dl= 28000	2,4-Dinitrophenol	nd dl= 42000
2-Chlorophenol	nd dl= 56000	4-Nitrophenol	nd dl=112000
1,3-Dichlorobenzene	nd dl= 28000	Dibenzofuran	nd dl= 28000
1,4-Dichlorobenzene	nd dl= 28000	2,4-Dinitrotoluene	nd dl= 84000
Benzyl Alcohol	nd dl= 56000	2,6-Dinitrotoluene	nd dl= 84000
1,2-Dichlorobenzene	nd dl= 28000	Diethylphthalate	nd dl= 28000
2-Methylphenol	nd dl= 84000	4-Chlorophenylphenyl Ether	nd dl=112000
bis(2-chloroisopropyl)Ether	nd dl= 28000	Fluorene	nd dl= 28000
4-Methylphenol	nd dl= 84000	4-Nitroaniline	nd dl=112000
N-Nitroso-Di-n-Propylamine	nd dl= 84000	4,6-Dinitro-2-Methylphenol	nd dl= 28000
Hexachloroethane	nd dl= 28000	N-Nitrosodiphenylamine	nd dl= 56000
Nitrobenzene	nd dl= 28000	4-Bromophenylphenyl Ether	nd dl=112000
Isophorone	nd dl= 56000	Hexachlorobenzene	nd dl= 28000
2-Nitrophenol	nd dl=140000	Pentachlorophenol	nd dl=210000
2,4-Dimethylphenol	nd dl= 84000	Phenanthrene	nd dl= 28000
Benzoic Acid	nd dl=140000	Anthracene	nd dl= 28000
bis(2-Chloroethoxy)Methane	nd dl= 28000	Di-n-Butylphthalate	nd dl= 28000
2,4-Dichlorophenol	nd dl= 84000	Fluoranthene	nd dl= 28000
1,2,4-trichlorobenzene	nd dl= 28000	Benzidine	nd dl= 28000
Naphthalene	nd dl= 28000	Pyrene	nd dl= 28000
4-Chloroaniline	nd dl= 56000	Butylbenzylphthalate	nd dl= 56000
Hexachlorobutadiene	nd dl= 28000	3,3'-Dichlorobenzidine	nd dl=140000
4-Chloro-3-Methylphenol	nd dl=,11200	Benzo(a)Anthracene	nd dl=112000
2-Methylnaphthalene	28,500	bis(2-Ethylhexyl)Phthalate	nd dl= 56000
Hexachlorocyclopentadiene	nd dl=140000	Chrysene	nd dl=112000
2,4,6-Trichlorophenol	nd dl= 84000	Di-n-Octyl Phthalate	nd dl= 56000
2,4,5-Trichlorophenol	nd dl= 84000	Benzo(b)Fluoranthene	nd dl=112000
2-Chloronaphthalene	nd dl= 28000	Benzo(k)Fluoranthene	nd dl=112000
2-Nitroaniline	nd dl=112000	Benzo(a)Pyrene	nd dl=112000
DimethylPhthalate	nd dl= 28000	Indeno(1,2,3-cd) Pyrene	nd dl=112000
Acenaphthylene	nd dl= 28000	Dibenzo(a,h)Anthracene	nd dl=112000
3-Nitroaniline	nd dl=112000	Benzo(g,h,i)Perylene	nd dl=112000

Attachment 3

ORGANIC ANALYSIS DATA

GES-HL SAMPLE NO.: BTFAKC46-03 DATE REPORTED: 9/30/88

SAMPLE TYPE: SOIL

ANALYST: MARVELYN HUMPHREY

TENTATIVE COMPOUNDS BY METHODS 625

SCAN#	CAS #	EST.CONC (ug/Kg)	COMPOUND NAME
THIS SAMPLE CONTAINS A VARIETY OF UNKNOWN			
HYDROCARBONS RANGING FROM SCAN # 359 TO SCAN # 1263.			

* ANALYSTS NOTE ! - THE COMPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
** Estimated concentration is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #:	8TFAKC46-03	DATE	
SOURCE:	JENSEN STREET DRUM	RECEIVED:	01-Sep-88
TYPE:	SOIL	DATE	
ANALYSTS:	CLARK,FELDMAN	REPORTED:	12-Oct-88

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	4.1	MG/KG
SELENIUM	ND	4.2	MG/KG
THALLIUM	ND	1.3	MG/KG
MERCURY	ND	0.1	MG/KG
SILVER	ND	1.1	MG/KG
BERYLLIUM	3	0.5	MG/KG
CADMIUM	1	0.5	MG/KG
CHROMIUM	17	1.1	MG/KG
COPPER	34	2.1	MG/KG
NICKEL	17	2.1	MG/KG
LEAD	158	3.2	MG/KG
ZINC	381	0.5	MG/KG
ALUMINUM	2360	11	MG/KG
BARIUM	182	1.1	MG/KG
COBALT	4	2.1	MG/KG
IRON	27000	2.7	MG/KG
MANGANESE	181	0.5	MG/KG
VANADIUM	ND	3.2	MG/KG
ANTIMONY	13	6.4	MG/KG
SODIUM	295	53	MG/KG
POTASSIUM	148	107	MG/KG
CALCIUM	28700	16	MG/KG
MAGNESIUM	1520	16	MG/KG

ND: NOT DETECTED

CONCENTRATIONS REPORTED ON A DRY WEIGHT BASIS

164

Date: 10/14/88

Appendix 4

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: 8TFAKC46 Date Recvd: 09/01/88 Date Collected: 08/31/88
Sample Number: 4 Time Recvd: 08:30 Time Collected: 12:52

Source: Jensen St. Drum Site Tag Number:
Site Description: SE soil, caustic drums Sta # 4
Sample Type: SOIL
Sample Retention:

Param- Organic: ABN
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

Attachment 4

ORGANIC ANALYSIS DATA

SES-HL SAMPLE NO.: BTFAKC46-04 DATE REPORTED: 9/30/88

SAMPLE TYPE: SOIL ANALYST: MARVELYN HUMPHREY

HSL ACID BASE/NEUTRAL COMPOUNDS BY METHOD 625

COMPOUND	ug/KG	COMPOUND	ug/KG
Phenol	nd dl= 68000	Acenaphthene	nd dl= 34000
Bis(2-Chloroethyl) Ether	nd dl= 34000	2,4-Dinitrophenol	nd dl=510000
2-Chlorophenol	nd dl= 68000	4-Nitrophenol	nd dl=136000
1,3-Dichlorobenzene	nd dl= 34000	Dibenzofuran	nd dl= 34000
1,4-Dichlorobenzene	nd dl= 34000	2,4-Dinitrotoluene	nd dl=102000
Benzyl Alcohol	nd dl= 68000	2,6-Dinitrotoluene	nd dl=102000
1,2-Dichlorobenzene	nd dl= 34000	Diethylphthalate	nd dl= 34000
2-Methylphenol	nd dl=102000	4-Chlorophenylphenyl Ether	nd dl=136000
bis(2chloroisopropyl)Ether	nd dl= 34000	Fluorene	nd dl= 34000
4-Methylphenol	nd dl=102000	4-Nitroaniline	nd dl=136000
N-Nitroso-Di-n-Propylamine	nd dl=102000	4,6-Dinitro-2-Methylphenol	nd dl=340000
Hexachloroethane	nd dl= 34000	N-Nitrosodiphenylamine	nd dl= 68000
Nitrobenzene	nd dl= 34000	4-Bromophenylphenyl Ether	nd dl=136000
Isophorone	nd dl= 68000	Hexachlorobenzene	nd dl= 34000
2-Nitrophenol	nd dl=107000	Pentachlorophenol	nd dl=255000
2,4-Dimethylphenol	nd dl=102000	Phenanthrene	nd dl= 34000
Benzoic Acid	nd dl=107000	Anthracene	nd dl= 34000
bis(2-Chloroethoxy)Methane	nd dl= 34000	Di-n-Butylphthalate	nd dl= 34000
2,4-Dichlorophenol	nd dl=102000	Fluoranthene	nd dl= 34000
1,2,4-trichlorobenzene	nd dl= 34000	Benzidine	nd dl=340000
Naphthalene	nd dl= 34000	Pyrene	nd dl= 34000
4-Chloroaniline	nd dl= 68000	Butylbenzylphthalate	nd dl= 68000
Hexachlorobutadiene	nd dl= 34000	3,3'-Dichlorobenzidine	nd dl=170000
4-Chloro-3-Methylphenol	nd dl=136000	Benzo(a)Anthracene	nd dl=136000
2-Methylnaphthalene	nd dl= 34000	bis(2Ethylhexyl)Phthalate	nd dl= 68000
Hexachlorocyclopentadiene	nd dl=170000	Chrysene	nd dl=136000
2,4,6-Trichlorophenol	nd dl=102000	Di-n-Octyl Phthalate	nd dl= 68000
2,4,5-Trichlorophenol	nd dl=102000	Benzo(b)Fluoranthene	nd dl=136000
2-Chloronaphthalene	nd dl= 34000	Benzo(k)Fluoranthene	nd dl=136000
2-Nitroaniline	nd dl=136000	Benzo(a)Pyrene	nd dl=136000
DimethylPhthalate	nd dl= 34000	Indeno(1,2,3-cd) Pyrene	nd dl=136000
Acenaphthylene	nd dl= 34000	Dibenzo(a,h)Anthracene	nd dl=136000
3-Nitroaniline	nd dl=136000	Benzo(g,h,i)Perylene	nd dl=136000

Attachment 4

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: 8TFAKC46-04 DATE REPORTED: 9/30/88

SAMPLE TYPE: SOIL

ANALYST: MARVELYN HUMPHREY

TENTATIVE COMPOUNDS BY METHODS 625

SCAN#	CAS #	EST.CONC (ug/Kg)	COMPOUND NAME
THIS SAMPLE CONTAINS A VARIETY OF UNKNOWN			
HYDROCARBONS RANGING FROM SCAN # 357 TO SCAN # 1306.			

* ANALYSTS NOTE ! - THE COMPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
** Estimated concentration is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #:	8TFAKC46-04	DATE RECEIVED:	01-Sep-88
SOURCE:	JENSEN STREET DRUM		
TYPE:	SOIL	DATE REPORTED:	12-Oct-88
ANALYSTS:	CLARK,FELDMAN		

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	4.6	MG/KG
SELENIUM	ND	4.7	MG/KG
THALLIUM	ND	1.5	MG/KG
MERCURY	0.4	0.1	MG/KG
SILVER	ND	0.8	MG/KG
BERYLLIUM	1	0.4	MG/KG
CADMIUM	1	0.4	MG/KG
CHROMIUM	8	0.8	MG/KG
COPPER	18	1.5	MG/KG
NICKEL	5	1.5	MG/KG
LEAD	127	2.3	MG/KG
ZINC	333	0.4	MG/KG
ALUMINUM	2660	7.6	MG/KG
BARIUM	117	0.8	MG/KG
COBALT	2	1.5	MG/KG
IRON	4610	1.9	MG/KG
MANGANESE	445	0.4	MG/KG
VANADIUM	7	2.3	MG/KG
ANTIMONY	ND	4.5	MG/KG
SODIUM	1890	38	MG/KG
POTASSIUM	299	76	MG/KG
CALCIUM	179000	11	MG/KG
MAGNESIUM	2950	11	MG/KG

ND: NOT DETECTED

CONCENTRATIONS REPORTED ON A DRY WEIGHT BASIS

Date: 10/13/88

Appendix 5

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: 8TFAKC46 Date Recvd: 09/02/88 Date Collected: 09/01/88
Sample Number: 5 Time Recvd: 08:47 Time Collected: 10:12

Source: Jensen St. Drum Site Tag Number:
Site Description: Drum # 154 Sta # 5
Sample Type: WATER
Sample Retention:

Param- Organic: ABN
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: STFAKC46-05 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER ANALYST: MARVELYN HUMPHREY

HSL ACID BASE/NEUTRAL COMPOUNDS BY METHOD 625

COMPOUND	ug/L	COMPOUND	ug/L
Phenol	nd dl=20	Acenaphthene	nd dl= 10
bis(2-Chloroethyl) Ether	nd dl=10	2,4-Dinitrophenol	nd dl=150
2-Chlorophenol	nd dl=20	4-Nitrophenol	nd dl= 20
1,3-Dichlorobenzene	nd dl=10	Dibenzofuran	nd dl= 10
1,4-Dichlorobenzene	nd dl=10	2,4-Dinitrotoluene	nd dl= 30
Benzyl Alcohol	nd dl=20	2,6-Dinitrotoluene	nd dl= 30
1,2-Dichlorobenzene	nd dl=10	Diethylphthalate	nd dl= 10
2-Methylphenol	nd dl=30	4-Chlorophenylphenyl Ether	nd dl= 40
bis(2-chloroisopropyl)Ether	nd dl=10	Fluorene	nd dl= 10
4-Methylphenol	nd dl=30	4-Nitroaniline	nd dl= 40
N-Nitroso-Di-n-Propylamine	nd dl=30	4,6-Dinitro-2-Methylphenol	nd dl=100
Hexachloroethane	nd dl=10	N-Nitrosodiphenylamine	nd dl= 20
Nitrobenzene	nd dl=10	4-Bromophenylphenyl Ether	nd dl= 40
Isophorone	nd dl=20	Hexachlorobenzene	nd dl= 10
2-Nitrophenol	nd dl=50	Pentachlorophenol	nd dl= 75
2,4-Dimethylphenol	nd dl=30	Phenanthrene	25
Benzoic Acid	nd dl=50	Anthracene	nd dl= 10
bis(2-Chloroethoxy)Methane	nd dl=10	Di-n-Butylphthalate	nd dl= 10
2,4-Dichlorophenol	nd dl=30	Fluoranthene	23
1,2,4-trichlorobenzene	nd dl=10	Benzidine	nd dl=100
Naphthalene	210	Pyrene	13
4-Chloroaniline	nd dl=20	Butylbenzylphthalate	nd dl= 20
Hexachlorobutadiene	nd dl=10	3,3'-Dichlorobenzidine	nd dl= 50
4-Chloro-3-Methylphenol	nd dl=40	Benzo(a)Anthracene	nd dl= 40
2-Methylnaphthalene	56	bis-(2-Ethylhexyl)Phthalate	nd dl= 20
Hexachlorocyclopentadiene	nd dl=50	Chrysene	nd dl= 40
2,4,6-Trichlorophenol	nd dl=30	Di-n-Octyl Phthalate	nd dl= 20
2,4,5-Trichlorophenol	nd dl=30	Benzo(b)Fluoranthene	nd dl= 40
2-Chloronaphthalene	nd dl=10	Benzo(k)Fluoranthene	nd dl= 40
2-Nitroaniline	nd dl=40	Benzo(a)Pyrene	nd dl= 40
DimethylPhthalate	nd dl=10	Indeno(1,2,3-cd) Pyrene	nd dl= 40
Acenaphthylene	nd dl=10	Dibenzo(a,h)Anthracene	nd dl= 40
3-Nitroaniline	nd dl=40	Benzo(g,h,i)Perylene	nd dl= 40

Attachment 5

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: 8TFAKC46-05 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER

ANALYST: MARVELYN HUMPHREY

TENTATIVE COMPOUNDS BY METHODS 625

SCAN#	CAS #	EST.CONC (ug/L)	COMPOUND NAME
THIS SAMPLE CONTAINS A VARIETY OF UNKNOWN			
HYDROCARBONS RANGING FROM SCAN # 51 TO SCAN # 467.			

* ANALYSTS NOTE ! - THE COMPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
** Estimated concentration is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #:	STFAKC46-05	DATE	
SOURCE:	JENSEN STREET DRUM	RECEIVED:	01-Sep-88
TYPE:	AQUEOUS	DATE	
ANALYSTS:	CLARK,FELDMAN	REPORTED:	12-Oct-88

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	92	UG/L
SELENIUM	ND	96	UG/L
THALLIUM	ND	30	UG/L
MERCURY	*	0.2	UG/L
SILVER	ND	20	UG/L
BERYLLIUM	ND	10	UG/L
CADMIUM	ND	10	UG/L
CHROMIUM	264	20	UG/L
COPPER	9760	40	UG/L
NICKEL	50	40	UG/L
LEAD	57300	60	UG/L
ZINC	1770	10	UG/L
ALUMINUM	722	200	UG/L
BARIUM	144	20	UG/L
COBALT	3190	40	UG/L
IRON	7960	50	UG/L
MANGANESE	132	10	UG/L
VANADIUM	ND	60	UG/L
ANTIMONY	ND	120	UG/L
SODIUM	2310	1000	UG/L
POTASSIUM	ND	2000	UG/L
CALCIUM	1610	300	UG/L
MAGNESIUM	8150	300	UG/L

* : UNABLE TO ANALYZE DUE TO STRONG INTERFERENCE

ND: NOT DETECTED

Date: 10/13/88

Appendix 6

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: 8TFAKC46 Date Recvd: 09/02/88 Date Collected: 09/01/88
Sample Number: 6 Time Recvd: 08:47 Time Collected: 10:24

Source: Jensen St. Drum Site Tag Number:
Site Description: Drum # 146 Sta # 6
Sample Type: WATER
Sample Retention:

Param- Organic: ABN
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

Attachment 6

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: BTFAKC46-06 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER ANALYST: MARVELYN HUMPHREY

HSL ACID BASE/NEUTRAL COMPOUNDS BY METHOD 625

COMPOUND	ug/L	COMPOUND	ug/L
Phenol	nd dl=28	Acenaphthene	nd dl= 14
bis(2-Chloroethyl) Ether	nd dl=14	2,4-Dinitrophenol	nd dl=210
2-Chlorophenol	nd dl=28	4-Nitrophenol	nd dl= 56
1,3-Dichlorobenzene	nd dl=14	Dibenzofuran	nd dl= 14
1,4-Dichlorobenzene	nd dl=14	2,4-Dinitrotoluene	nd dl= 42
Benzyl Alcohol	nd dl=28	2,6-Dinitrotoluene	nd dl= 42
1,2-Dichlorobenzene	nd dl=14	Diethylphthalate	nd dl= 14
2-Methylphenol	nd dl=42	4-Chlorophenylphenyl Ether	nd dl= 56
bis(2-chloroisopropyl)Ether	nd dl=14	Fluorene	nd dl= 14
4-Methylphenol	70	4-Nitroaniline	nd dl= 56
N-Nitroso-Di-n-Propylamine	nd dl=42	4,6-Dinitro-2-Methylphenol	nd dl=140
Hexachloroethane	nd dl=14	N-Nitrosodiphenylamine	nd dl= 28
Nitrobenzene	nd dl=14	4-Bromophenylphenyl Ether	nd dl= 56
Isophorone	nd dl=28	Hexachlorobenzene	nd dl= 14
2-Nitrophenol	nd dl=70	Pentachlorophenol	nd dl=105
2,4-Dimethylphenol	1370	Phenanthrene	nd dl= 14
Benzoic Acid	nd dl=70	Anthracene	nd dl= 14
bis(2-Chloroethoxy)Methane	nd dl=14	Di-n-Butylphthalate	nd dl= 14
2,4-Dichlorophenol	nd dl=42	Fluoranthene	nd dl= 14
1,2,4-trichlorobenzene	nd dl=14	Benzidine	nd dl=140
Naphthalene	nd dl=14	Pyrene	nd dl= 14
4-Chloroaniline	nd dl=28	Butylbenzylphthalate	nd dl= 28
Hexachlorobutadiene	nd dl=14	3,3'-Dichlorobenzidine	nd dl= 70
4-Chloro-3-Methylphenol	nd dl=56	Benzo(a)Anthracene	nd dl= 56
2-Methylnaphthalene	nd dl=14	bis-(2-Ethylhexyl)Phthalate	nd dl= 28
Hexachlorocyclopentadiene	nd dl=70	Chrysene	nd dl= 56
2,4,6-Trichlorophenol	nd dl=42	Di-n-Octyl Phthalate	nd dl= 28
2,4,5-Trichlorophenol	nd dl=42	Benzo(b)Fluoranthene	nd dl= 56
2-Chloronaphthalene	nd dl=14	Benzo(k)Fluoranthene	nd dl= 56
2-Nitroaniline	nd dl=56	Benzo(a)Pyrene	nd dl= 56
DimethylPhthalate	nd dl=14	Indeno(1,2,3-cd) Pyrene	nd dl= 56
Acenaphthylene	nd dl=14	Dibenzo(a,h)Anthracene	nd dl= 56
3-Nitroaniline	nd dl=56	Benzo(g,h,i)Perylene	nd dl= 56

Attachment 6

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: 8TFAKC46-06 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER

ANALYST: MARVELYN HUMPHREY

TENTATIVE COMPOUNDS BY METHODS 625

SCAN#	CAS #	EST.CONC (ug/l)	COMPOUND NAME
310	98862	23	1-PHENYL-ETHANONE
364	95874	43	2,5-DIMETHYL-PHENOL
398		126	UNKNOWN
307	90006	87	2-ETHYL-PHENOL
549		37	UNKNOWN
1058		50	UNKNOWN
1382		27	UNKNOWN
1504		27	UNKNOWN

* ANALYSTS NOTE ! - THE COMPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
** Estimated concentration is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #:	BTFAKC46-06	DATE RECEIVED:	01-Sep-88
SOURCE:	JENSEN STREET DRUM		
TYPE:	AQUEOUS	DATE REPORTED:	12-Oct-88
ANALYSTS:	CLARK,FELDMAN		

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	92	UG/L
SELENIUM	ND	96	UG/L
THALLIUM	ND	30	UG/L
MERCURY	ND	0.2	UG/L
SILVER	ND	20	UG/L
BERYLLIUM	ND	10	UG/L
CADMIUM	ND	10	UG/L
CHROMIUM	ND	20	UG/L
COPPER	50	40	UG/L
NICKEL	ND	40	UG/L
LEAD	ND	60	UG/L
ZINC	302	10	UG/L
ALUMINUM	ND	200	UG/L
BARIUM	74	20	UG/L
COBALT	ND	40	UG/L
IRON	9460	50	UG/L
MANGANESE	95	10	UG/L
VANADIUM	ND	60	UG/L
ANTIMONY	ND	120	UG/L
SODIUM	26800	1000	UG/L
POTASSIUM	5130	2000	UG/L
CALCIUM	14300	300	UG/L
MAGNESIUM	1150	300	UG/L

ND: NOT DETECTED

Date: 10/13/88

Appendix 7

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: 8TFAKC46 Date Recvd: 09/02/88 Date Collected: 09/01/88
Sample Number: 7 Time Recvd: 08:47 Time Collected: 10:35

Source: Jensen St. Drum Site Tag Number:
Site Description: Drum # 143 Sta # 7
Sample Type: OIL
Sample Retention:

Param- Organic: ABN
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

GANIC ANALYSIS DATA

17 DATE REPORTED: 9/30/88

E REPORTED: 9/30/88

LYST: MARVELYN HUMPHREY

METHOD 625

UND	ug/Kg
ne	nd dl= 10000
phenol	nd dl=150000
nol	nd dl= 40000
n	nd dl= 10000
toluene	nd dl= 30000
toluene	nd dl= 30000
alate	nd dl= 10000
nylphenyl Ether	nd dl= 40000
.....	nd dl= 10000
ine	nd dl= 40000
-2-Methylphenol	nd dl=100000
phenylamine	nd dl= 20000
ylphenyl Ether .	nd dl= 40000
enzene	nd dl= 10000
phenol	nd dl= 75000
e	nd dl= 10000
.....	nd dl= 10000
thalate	nd dl= 10000
e	nd dl= 10000
.....	nd dl=100000
.....	nd dl= 10000
nthalate	nd dl= 20000
obenzidine	nd dl= 50000
racene	nd dl= 40000
hexyl)Phthalate	nd dl= 20000
.....	nd dl= 40000
nthalate	nd dl= 20000
anthene	nd dl= 40000
anthene	nd dl= 40000
e	nd dl= 40000
cd) Pyrene ...	nd dl= 40000
nthracene	nd dl= 40000
erylene	nd dl= 40000

COMPOUNDS BY METHODS 625

COMPOUND NAME
UNKNOWN
UNKNOWN
UNKNOWN
UNKNOWN
UNKNOWN
UNKNOWN
UNKNOWN
UNKNOWN
2,4,6-TRIS[(DIMETHYLAMINO)METHYL] PHENOL
UNKNOWN
UNKNOWN
UNKNOWN

MPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST
EY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA
WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #:	8TFAKC46-07	DATE RECEIVED:	01-Sep-88
SOURCE:	JENSEN STREET DRUM		
TYPE:	OIL	DATE REPORTED:	12-Oct-88
ANALYSTS:	CLARK,FELDMAN		

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	4.5	MG/KG
SELENIUM	ND	4.7	MG/KG
THALLIUM	ND	1.5	MG/KG
MERCURY	ND	0.1	MG/KG
SILVER	ND	1.0	MG/KG
BERYLLIUM	ND	0.5	MG/KG
CADMIUM	ND	0.5	MG/KG
CHROMIUM	ND	1.0	MG/KG
COPPER	ND	2.0	MG/KG
NICKEL	ND	2.0	MG/KG
LEAD	ND	3.0	MG/KG
ZINC	6	0.5	MG/KG
ALUMINUM	ND	9.9	MG/KG
BARIUM	ND	1.0	MG/KG
COBALT	ND	2.0	MG/KG
IRON	48	2.5	MG/KG
MANGANESE	ND	0.5	MG/KG
VANADIUM	ND	3.0	MG/KG
ANTIMONY	ND	5.9	MG/KG
SODIUM	ND	49	MG/KG
POTASSIUM	ND	99	MG/KG
CALCIUM	ND	15	MG/KG
MAGNESIUM	ND	15	MG/KG

ND: NOT DETECTED

164

Date: 10/13/88

Appendix 8

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: BTFAKC46 Date Recvd: 09/02/88 Date Collected: 09/01/88
Sample Number: 8 Time Recvd: 08:47 Time Collected: 11:28

Source: Jensen St. Drum Site Tag Number:
Site Description: Drum # 104 Sta # 8
Sample Type: WATER
Sample Retention:

Param- Organic: ABN
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

Attachment 8

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: 8TFAKC46-08 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER ANALYST: MARVELYN HUMPHREY

HSL ACID BASE/NEUTRAL COMPOUNDS BY METHOD 625

COMPOUND	ug/L	COMPOUND	ug/L
Phenol	nd dl= 600	Acenaphthene	nd dl= 300
bis(2-Chloroethyl) Ether	nd dl= 300	2,4-Dinitrophenol	nd dl=4500
2-Chlorophenol	nd dl= 600	4-Nitrophenol	nd dl=1200
1,3-Dichlorobenzene	nd dl= 300	Dibenzofuran	nd dl= 300
1,4-Dichlorobenzene	nd dl= 300	2,4-Dinitrotoluene	nd dl= 900
Benzyl Alcohol	nd dl= 600	2,6-Dinitrotoluene	nd dl= 900
1,2-Dichlorobenzene	nd dl= 300	Diethylphthalate	nd dl= 300
2-Methylphenol	nd dl= 900	4-Chlorophenylphenyl Ether	nd dl=1200
bis(2-chloroisopropyl)Ether	nd dl= 300	Fluorene	nd dl= 300
4-Methylphenol	nd dl= 900	4-Nitroaniline	nd dl=1200
N-Nitroso-Di-n-Propylamine	nd dl= 900	4,6-Dinitro-2-Methylphenol	nd dl=3000
Hexachloroethane	nd dl= 300	N-Nitrosodiphenylamine	nd dl= 600
Nitrobenzene	nd dl= 300	4-Bromophenylphenyl Ether	nd dl=1200
Isophorone	nd dl= 600	Hexachlorobenzene	nd dl= 300
2-Nitrophenol	nd dl=1500	Pentachlorophenol	nd dl=2250
2,4-Dimethylphenol	nd dl= 900	Phenanthrene	nd dl= 300
Benzoic Acid	nd dl=1500	Anthracene	nd dl= 300
bis(2-Chloroethoxy)Methane	nd dl= 300	Di-n-Butylphthalate	nd dl= 300
2,4-Dichlorophenol	nd dl= 900	Fluoranthene	nd dl= 300
1,2,4-trichlorobenzene	nd dl= 300	Benzidine	nd dl=3000
Naphthalene	nd dl= 300	Pyrene	nd dl= 300
4-Chloroaniline	nd dl= 600	Butylbenzylphthalate	nd dl= 600
Hexachlorobutadiene	nd dl= 300	3,3'-Dichlorobenzidine	nd dl=1500
4-Chloro-3-Methylphenol	nd dl=1200	Benzo(a)Anthracene	nd dl=1200
2-Methylnaphthalene	nd dl= 300	bis-(2-Ethylhexyl)Phthalate	nd dl= 600
Hexachlorocyclopentadiene	nd dl=1500	Chrysene	nd dl=1200
2,4,6-Trichlorophenol	nd dl= 900	Di-n-Octyl Phthalate	nd dl= 600
2,4,5-Trichlorophenol	nd dl= 900	Benzo(b)Fluoranthene	nd dl=1200
2-Chloronaphthalene	nd dl= 300	Benzo(k)Fluoranthene	nd dl=1200
2-Nitroaniline	nd dl=1200	Benzo(a)Pyrene	nd dl=1200
DimethylPhthalate	nd dl= 300	Indeno(1,2,3-cd) Pyrene	nd dl=1200
Acenaphthylene	nd dl= 300	Dibenzo(a,h)Anthracene	nd dl=1200
3-Nitroaniline	nd dl=1200	Benzo(g,h,i)Perylene	nd dl=1200

Attachment 8

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: BTFAKC46-08 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER

ANALYST: MARVELYN HUMPHREY

TENTATIVE COMPOUNDS BY METHODS 625

SCAN#	CAS #	EST.CONC (ug/l)	COMPOUND NAME
10	141797	36000	4-METHYL-3-PENTEN-2-ONE
22		32000	UNKNOWN
47		86000	UNKNOWN
152		2300	UNKNOWN
158	107415	1100	2-METHYL-2,4-PENTANEDIOL
252	50598500	1700	3,5,5-TRIMETHYL-2(5H)-FURANONE
267		1300	UNKNOWN
274		1100	UNKNOWN
323		1200	UNKNOWN
348		2100	UNKNOWN
367		900	UNKNOWN
404		26000	UNKNOWN
445		6000	UNKNOWN
452		1500	UNKNOWN
467		3000	UNKNOWN
504		1200	UNKNOWN
543		1500	UNKNOWN
596		880	UNKNOWN
833		940	UNKNOWN
1374	122623	3300	BIS(2-ETHYLHEXYL)DECANEDIOIC ACID

* ANALYSTS NOTE ! - THE COMPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
** Estimated concentration is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #:	8TFAKC46-08	DATE RECEIVED:	01-Sep-88
SOURCE:	JENSEN STREET DRUM		
TYPE:	AQUEOUS	DATE REPORTED:	12-Oct-88
ANALYSTS:	CLARK,FELDMAN		

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	92	UG/L
SELENIUM	ND	96	UG/L
THALLIUM	ND	30	UG/L
MERCURY	*	0.2	UG/L
SILVER	ND	20	UG/L
BERYLLIUM	50	10	UG/L
CADMIUM	ND	10	UG/L
CHROMIUM	ND	20	UG/L
COPPER	ND	40	UG/L
NICKEL	ND	40	UG/L
LEAD	133	60	UG/L
ZINC	72	10	UG/L
ALUMINUM	203	200	UG/L
BARIUM	ND	20	UG/L
COBALT	ND	40	UG/L
IRON	440000	50	UG/L
MANGANESE	5820	10	UG/L
VANADIUM	ND	60	UG/L
ANTIMONY	ND	120	UG/L
SODIUM	5560	1000	UG/L
POTASSIUM	ND	2000	UG/L
CALCIUM	1800	300	UG/L
MAGNESIUM	ND	300	UG/L

* : UNABLE TO ANALYZE DUE TO STRONG INTERFERENCE

ND: NOT DETECTED

Date: 10/13/88

Appendix 9

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: 8TFAKC46 Date Recvd: 09/02/88 Date Collected: 09/01/88
Sample Number: 9 Time Recvd: 08:47 Time Collected: 11:35

Source: Jensen St. Drum Site Tag Number:
Site Description: Drum # 104 Sta # 8 (dup)
Sample Type: WATER
Sample Retention:

Param- Organic: ABN
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

Attachment 9

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: 8TFAKC46-09 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER ANALYST: MARVELYN HUMPHREY

HSL ACID BASE/NEUTRAL COMPOUNDS BY METHOD 625

COMPOUND	ug/L	COMPOUND	ug/L
Phenol	nd dl= 600	Acenaphthene	nd dl= 300
bis(2-Chloroethyl) Ether	nd dl= 300	2,4-Dinitrophenol	nd dl=4500
2-Chlorophenol	nd dl= 600	4-Nitrophenol	nd dl=1200
1,3-Dichlorobenzene	nd dl= 300	Dibenzofuran	nd dl= 300
1,4-Dichlorobenzene	nd dl= 300	2,4-Dinitrotoluene	nd dl= 900
Benzyl Alcohol	nd dl= 600	2,6-Dinitrotoluene	nd dl= 900
1,2-Dichlorobenzene	nd dl= 300	Diethylphthalate	nd dl= 300
2-Methylphenol	nd dl= 900	4-Chlorophenylphenyl Ether	nd dl=1200
bis(2-chloroisopropyl)Ether	nd dl= 300	Fluorene	nd dl= 300
4-Methylphenol	nd dl= 900	4-Nitroaniline	nd dl=1200
N-Nitroso-Di-n-Propylamine	nd dl= 900	4,6-Dinitro-2-Methylphenol	nd dl=3000
Hexachloroethane	nd dl= 300	N-Nitrosodiphenylamine	nd dl= 600
Nitrobenzene	nd dl= 300	4-Bromophenylphenyl Ether	nd dl=1200
Isophorone	1290	Hexachlorobenzene	nd dl= 300
2-Nitrophenol	nd dl=1500	Pentachlorophenol	nd dl=2250
2,4-Dimethylphenol	nd dl= 900	Phenanthrene	nd dl= 300
Benzoic Acid	nd dl=1500	Anthracene	nd dl= 300
bis(2-Chloroethoxy)Methane	nd dl= 300	Di-n-Butylphthalate	nd dl= 300
2,4-Dichlorophenol	nd dl= 900	Fluoranthene	nd dl= 300
1,2,4-trichlorobenzene	nd dl= 300	Benzidine	nd dl=3000
Naphthalene	nd dl= 300	Pyrene	nd dl= 300
4-Chloroaniline	nd dl= 600	Butylbenzylphthalate	nd dl= 600
Hexachlorobutadiene	nd dl= 300	3,3'-Dichlorobenzidine	nd dl=1500
4-Chloro-3-Methylphenol	nd dl=1200	Benzo(a)Anthracene	nd dl=1200
2-Methylnaphthalene	nd dl= 300	bis-(2-Ethylhexyl)Phthalate	nd dl= 600
Hexachlorocyclopentadiene	nd dl=1500	Chrysene	nd dl=1200
2,4,6-Trichlorophenol	nd dl= 900	Di-n-Octyl Phthalate	nd dl= 600
2,4,5-Trichlorophenol	nd dl= 900	Benzo(b)Fluoranthene	nd dl=1200
2-Chloronaphthalene	nd dl= 300	Benzo(k)Fluoranthene	nd dl=1200
2-Nitroaniline	nd dl=1200	Benzo(a)Pyrene	nd dl=1200
DimethylPhthalate	nd dl= 300	Indeno(1,2,3-cd) Pyrene	nd dl=1200
Acenaphthylene	nd dl= 300	Dibenzo(a,h)Anthracene	nd dl=1200
3-Nitroaniline	nd dl=1200	Benzo(g,h,i)Perylene	nd dl=1200

Attachment 9

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: BTFAKC46-09 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER

ANALYST: MARVELYN HUMPHREY

TENTATIVE COMPOUNDS BY METHODS 625

SCAN#	CAS #	EST. CONC (ug/l)	COMPOUND NAME
12		73000	UNKNOWN
39		94000	UNKNOWN
145		3100	UNKNOWN
251	50598500	1500	3,5,5-TRIMETHYL-2(5H)-FURANONE
268		1300	UNKNOWN
276		1100	UNKNOWN
324		1200	UNKNOWN
352		540	UNKNOWN
367		1300	UNKNOWN
408		6000	UNKNOWN
450		1100	UNKNOWN
471		670	UNKNOWN
509		250	UNKNOWN
548		360	UNKNOWN
1378	122623	610	BIS(2-ETHYLHEXYL)ESTER DECANEDIOIC ACID

* ANALYSTS NOTE ! - THE COMPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
** Estimated concentration is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #:	8TFAKC46-09	DATE RECEIVED:	01-Sep-88
SOURCE:	JENSEN STREET DRUM		
TYPE:	AQUEOUS	DATE REPORTED:	12-Oct-88
ANALYSTS:	CLARK,FELDMAN		

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	92	UG/L
SELENIUM	ND	96	UG/L
THALLIUM	ND	30	UG/L
MERCURY	*	0.2	UG/L
SILVER	ND	20	UG/L
BERYLLIUM	67	10	UG/L
CADMIUM	ND	10	UG/L
CHROMIUM	ND	20	UG/L
COPPER	ND	40	UG/L
NICKEL	ND	40	UG/L
LEAD	129	60	UG/L
ZINC	144	10	UG/L
ALUMINUM	279	200	UG/L
BARIUM	ND	20	UG/L
COBALT	ND	40	UG/L
IRON	494000	50	UG/L
MANGANESE	6000	10	UG/L
VANADIUM	ND	60	UG/L
ANTIMONY	ND	120	UG/L
SODIUM	6060	1000	UG/L
POTASSIUM	ND	2000	UG/L
CALCIUM	3320	300	UG/L
MAGNESIUM	ND	300	UG/L

* : UNABLE TO ANALYZE DUE TO STRONG INTERFERENCE

ND: NOT DETECTED

Date: 10/13/88

Appendix 10

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICE DIVISION
HOUSTON LABORATORY SECTION

LAB SAMPLE REPORT

Activity Number: 8TFAKC46 Date Recvd: 09/02/88 Date Collected: 09/01/88
Sample Number: 10 Time Recvd: 08:47 Time Collected: 11:47

Source: Jensen St. Drum Site Tag Number:
Site Description: Polypropylene vat Sta # 9
Sample Type: WATER
Sample Retention:

Param- Organic: ABN
Metals: HSL
Inorganic:
Biology:

Due Date: 10/06/88
Date Projected: 10/06/88
Date Completed: / /
Comment:
Your Initials: RLR

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: 8TFAKC46-10 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER ANALYST: MARVELYN HUMPHREY

HSL ACID BASE/NEUTRAL COMPOUNDS BY METHOD 625

COMPOUND	ug/L	COMPOUND	ug/L
Phenol	nd dl=20	Acenaphthene	nd dl= 10
bis(2-Chloroethyl) Ether	nd dl=10	2,4-Dinitrophenol	nd dl=150
2-Chlorophenol	nd dl=20	4-Nitrophenol	nd dl= 20
1,3-Dichlorobenzene	nd dl=10	Dibenzofuran	nd dl= 10
1,4-Dichlorobenzene	nd dl=10	2,4-Dinitrotoluene	nd dl= 30
Benzyl Alcohol	nd dl=20	2,6-Dinitrotoluene	nd dl= 30
1,2-Dichlorobenzene	nd dl=10	Diethylphthalate	nd dl= 10
2-Methylphenol	nd dl=30	4-Chlorophenylphenyl Ether	nd dl= 40
bis(2-chloroisopropyl)Ether	nd dl=10	Fluorene	nd dl= 10
4-Methylphenol	nd dl=30	4-Nitroaniline	nd dl= 40
N-Nitroso-Di-n-Propylamine	nd dl=30	4,6-Dinitro-2-Methylphenol	nd dl=100
Hexachloroethane	nd dl=10	N-Nitrosodiphenylamine	nd dl= 20
Nitrobenzene	nd dl=10	4-Bromophenylphenyl Ether	nd dl= 40
Isophorone	nd dl=20	Hexachlorobenzene	nd dl= 10
2-Nitrophenol	nd dl=50	Pentachlorophenol	nd dl= 75
2,4-Dimethylphenol	nd dl=30	Phenanthrene	nd dl= 10
Benzoic Acid	nd dl=50	Anthracene	nd dl= 10
bis(2-Chloroethoxy)Methane	nd dl=10	Di-n-Butylphthalate	nd dl= 10
2,4-Dichlorophenol	nd dl=30	Fluoranthene	nd dl= 10
1,2,4-trichlorobenzene	nd dl=10	Benzidine	nd dl=100
Naphthalene	nd dl=10	Pyrene	nd dl= 10
4-Chloroaniline	nd dl=20	Butylbenzylphthalate	nd dl= 20
Hexachlorobutadiene	nd dl=10	3,3'-Dichlorobenzidine	nd dl= 50
4-Chloro-3-Methylphenol	nd dl=40	Benzo(a)Anthracene	nd dl= 40
2-Methylnaphthalene	nd dl=10	bis-(2-Ethylhexyl)Phthalate	nd dl= 20
Hexachlorocyclopentadiene	nd dl=50	Chrysene	nd dl= 40
2,4,6-Trichlorophenol	nd dl=30	Di-n-Octyl Phthalate	nd dl= 20
2,4,5-Trichlorophenol	nd dl=30	Benzo(b)Fluoranthene	nd dl= 40
2-Chloronaphthalene	nd dl=10	Benzo(k)Fluoranthene	nd dl= 40
2-Nitroaniline	nd dl=40	Benzo(a)Pyrene	nd dl= 40
DimethylPhthalate	nd dl=10	Indeno(1,2,3-cd) Pyrene	nd dl= 40
Acenaphthylene	nd dl=10	Dibenzo(a,h)Anthracene	nd dl= 40
3-Nitroaniline	nd dl=40	Benzo(g,h,i)Perylene	nd dl= 40

Attachment 10

ORGANIC ANALYSIS DATA

6ES-HL SAMPLE NO.: 8TFAKC46-10 DATE REPORTED: 9/30/88

SAMPLE TYPE: WATER

ANALYST: MARVELYN HUMPHREY

TENTATIVE COMPOUNDS BY METHODS 625

SCAN#	CAS #	EST.CONC (ug/l)	COMPOUND NAME
107	111762	200	2-BUTOXY-ETHANOL

* ANALYSTS NOTE ! - THE COMPOUNDS LISTED ARE TENATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL MASS SPECTRA INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.
** Estimated concentration is based on a RF of 1.0 to internal standard !

US EPA HOUSTON BRANCH

SAMPLE #:	8TFAKC46-10	DATE RECEIVED:	01-Sep-88
SOURCE:	JENSEN STREET DRUM		
TYPE:	AQUEOUS	DATE REPORTED:	12-Oct-88
ANALYSTS:	CLARK,FELDMAN		

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ARSENIC	ND	92	UG/L
SELENIUM	ND	96	UG/L
THALLIUM	ND	30	UG/L
MERCURY	*	0.2	UG/L
SILVER	ND	20	UG/L
BERYLLIUM	ND	10	UG/L
CADMIUM	ND	10	UG/L
CHROMIUM	39	20	UG/L
COPPER	162	40	UG/L
NICKEL	ND	40	UG/L
LEAD	ND	60	UG/L
ZINC	177	10	UG/L
ALUMINUM	2480	200	UG/L
BARIUM	153	20	UG/L
COBALT	ND	40	UG/L
IRON	1050	50	UG/L
MANGANESE	46	10	UG/L
VANADIUM	ND	60	UG/L
ANTIMONY	ND	120	UG/L
SODIUM	3140000	1000	UG/L
POTASSIUM	16600000	2000	UG/L
CALCIUM	24000	300	UG/L
MAGNESIUM	1940	300	UG/L

* : UNABLE TO ANALYZE DUE TO STRONG INTERFERENCE

ND: NOT DETECTED

H431158

GF# 114874 SW/EL

013-90-0035

05/03/87 00132087 H431158 $ 7.00

THE STATE OF TEXAS)

COUNTY OF HARRIS) WARRANTY DEED WITH VENDOR'S LIEN

That TEXAS BANK & TRUST COMPANY OF HOUSTON, a State Banking Institution, of the County of Harris and State of Texas, for and in consideration of the sum of Ten and No/100 Dollars ($10.00) and other valuable consideration to the undersigned paid by the Grantee herein named, the receipt of which is hereby acknowledged, and the further consideration of the execution and delivery by Grantee of that one certain real estate lien note of even date herewith, in the principal sum of SIXTY SIX THOUSAND AND NO/100 DOLLARS ($66,000.00) payable to TEXAS BANK & TRUST COMPANY OF HOUSTON, of Harris County, Texas by terms and bearing interest as therein provided, containing the usual clauses providing for acceleration of maturity and for attorney's fees, the payment of which note is secured by the vendor's lien herein retained, and as additionally secured by a Deed of Trust of even date herewith to John L. Gardner, Trustee, have GRANTED, SOLD AND CONVEYED, AND BY THESE PRESENTS DO GRANT, SELL AND CONVEY unto LEAS-IT, INC., of Harris County, Texas, all of the following described real property in Harris County, Texas, to-wit:

See Exhibit "A" attached hereto and incorporated herein for all intents and purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said Grantee, its heirs and assigns forever; and we do hereby bind ourselves, our heirs, executors and administrators to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantee, its heirs and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

FILED
MAY 1 9 30 AM '87
COUNTY CLERK
HARRIS COUNTY TEXAS

013-90-0036

But it is expressly agreed that the VENDOR'S LIEN, as well as the Superior Title in and to the above described premises, is retained against the above described property, premises and improvements until the above described note and all interest thereon are fully paid according to the face, tenor, effect and reading thereof, when this Deed shall become absolute.

But it is expressly agreed and stipulated that the taxes for the current year have been prorated and are assumed by the Grantee. This conveyance is made and accepted subject to all and singular the reservations, restrictions, easements, rights-of-way, zoning ordinances, maintenance charges, oil, gas and mineral reservations, royalties, and covenants, if any applicable to and enforceable against the above described property as reflected by the records of the County Clerk of Harris County, Texas.

EXECUTED this 28th day of April, 1982.

William R. Glass
Executive Vice President

STATE OF TEXAS)
COUNTY OF Harris)

Before me the undersigned authority, on this day personally appeared WILLIAM R. GLASS, Executive Vice President of TEXAS BANK & TRUST COMPANY OF HOUSTON, a State Banking Institution, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 28th day of April, 1982.

Notary Public in and for
Harris County, Texas

E LEE
Notary Public for the State of Texas
My Commission Expires 6-5-84

Grantee's Address:

3116 Jensen Drive
Houston, Texas 77026

RETURN TO:

UNITE TITLE COMPANY OF HOUSTON
6300 BAYOU, SUITE 120
HOUSTON, TEXAS 77036

EXHIBIT A

OT3-90-0037

A tract or parcel of land containing 63,815.64 SQ. FT. or 1.46501 acre being known as Lot 9 and the North 1/2 of Lot 8 save the west 9 FT. Conveyed to the City of Houston of a subdivision of the MOFFATT TRACT and the North 208.00 FT. of the BRADY 4.08 acre tract in the City of Houston out of the Samuel M.Harris Survey, Abstract 327 Harris County, Texas. said MOFFATT SUBDIVISION delineated on plat recorded in Vol.998, Page 716 of the Harris County Deed Records said so-called 4.08 acre tract conveyed to Mary M. Brady by A.W. Schuller, et al, in instrument recorded in Vol.36, Page 580 of the Harris County Deed Records, said 1.46501 acre tract being more particularly described by metes and bounds as follows, To-Wit:

BEGINNING at a 1/2 inch iron pipe at the Northwest corner of the herein described 1.46501 acre tract marking the intersection of the East right-of-way line of Jensen Drive (60.00 ft. in width) with the North line of said Lot 9 of the subdivision of the Moffatt Tract, said iron pipe being located South a distance of 101.00 ft. from the intersection of the South right-of-way line of Evella Street (50.00 ft. in width) with the East right-of-way of said Jensen Dr.;

THENCE North 89 deg. 41 min. 24 sec. East partially with an old fence line passing a 1/2 inch iron rod at the Northeast corner of said Lot 9 at 147.96 ft in all a total distance of 355.96 ft. to a 1/2 inch iron pipe at the Northeast corner at a fence corner.

THENCE South with the East line of said Brady so-called 4.08 acre tract a distance of 208.00 ft. to a 1/2 inch iron pipe at a fence corner;

THENCE South 89 deg. 41 min. 24 sec. West partially with a wood fence a distance of 208.00 ft. to a 1/2 inch iron rod at a fence corner and marking the lower Southwest corner of the herein described tract;

THENCE North with the West line of said Brady so-called 4.08 acre tract a distance of 69.10 ft. to a 1/2 inch iron rod at a re-entrant corner marking the Southeast corner of the North 1/2 of said Lot 8;

THENCE South 89 deg. 41 min. 24 sec. West with the mid line of said Lot 8 a distance of 147.96 ft. to a 3/8 inch iron rod at a fence corner marking the upper Southwest corner of the herein described tract and being in the East right-of-way line of Jensen Dr.;

THENCE North with the East right-of-way line of said Jensen Dr. a distance of 138.90 ft. to the PLACE OF BEGINNING and containing 1.46501 acre.

STATE OF TEXAS
COUNTY OF HARRIS

I hereby certify that this instrument was FILED in File Number Sequence on the date and at the time stamped hereon by me; and was duly RECORDED, in the Official Public Records of Real Property of Harris County, Texas on

MAY 3 - 1982

COUNTY CLERK,
HARRIS COUNTY, TEXAS

4/15/82

1A. Cost Center: TS1312	TAT ZONE II CONTRACT CONTRACT NO. 68-01-7368 TECHNICAL DIRECTION DOCUMENT (TDD) ECOLOGY AND ENVIRONMENT, INC.	2. No.: T06-8810-28 TXD987966900 Amendment _____
1B. Account No.: TX 0829 SAB		

3A. Priority	4A. Estimate of Total Hours:	5A. EPA Site Name:	7. Completion Date:
[X] High [ ] Medium [ ] Low	(b) (4) [redacted] Total Costs: $4000	Jensen Drums	11/30/88
		5B. SSID No.: K9 / 5C. City/County/State: Houston/Harris/TX	8. Reference Info: [ ] Yes [ ] Attached [X] No [ ] Pick-up
3B. Key EPA Contact: Name: Hammack Phone: 655-2270	4B. Overtime Approved: [X] Yes [ ] No	6. Source of Funds: [X] CERCLA [ ] 311 [ ] UST [ ] Other _____	8A. Subtask Code:

9. Type of Activity:

CWA-311	CERCLA	AS SPECIFIED ABOVE	
[ ] SPCC	[X] Site Assessment	[ ] Special Project	[ ] Quality Assurance
[ ] On-Scene Monitoring	[ ] Removal Funded	[ ] Analytical Project	[ ] Training
[ ] Spill Clean-up Funded	[ ] Removal PRP (AO/CO)	[ ] TITLE III	[ ] Program Management
	[ ] On-Site Monitoring	[ ] UST	[ ] Technical Assistance
		[ ] FEMA	[ ] Information Management

10. General Task Description: Conduct site assessment and drum sampling at the Jensen drum site.

11. Desired Report Form:
[X] Formal Report
[ ] Letter Report
[ ] Formal Briefing
[ ] Other (Specify)

12. Specific Elements:
1. Conduct formal site assessment
2. Photodocument site
3. Conduct drum sampling
4. Coordinate with EPA lab

13. Interim Deadlines:

RE: T06-8808-09 ac6

14. Authorizing DPO: Barbara Biggs for JCP (Signature)

15. Date: 10/5/88

16. Received by: [X] Accepted [ ] Accepted with Exceptions (Attached) [ ] Rejected
Kisher [signature] (TATL Signature)

17. Date: 10/7/88

T007037

Distribution:
Sheet 1 White - DPO Copy
Sheet 2 Blue - TATL Copy
Sheet 3 Green - ZPM Copy
Sheet 4 Canary - PO Copy
Sheet 5 Pink - CO Copy
Sheet 6 Goldenrod - DPO Original (Unsigned by TATL)

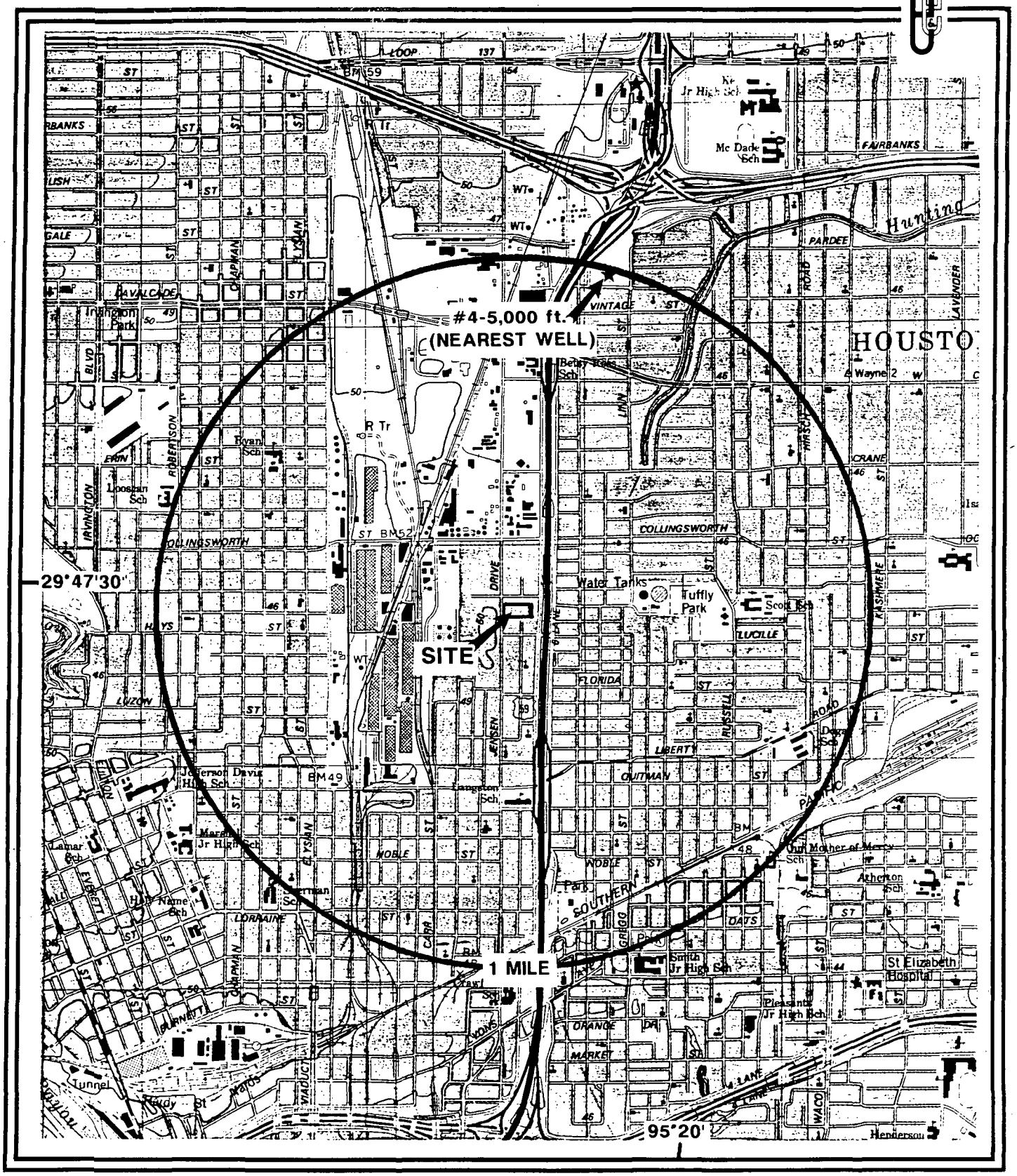
-102-

~~J. McLaughlin~~ MT

REF 2

Jensen Drive Drum Site
Houston, Harris County, TX (TXD987966900)
TDD #F06-8901-33

U.S.G.S. TOPOGRAPHIC MAPS QUADS



0 N 2000 ft.

REFERENCE 2

SITE LOCATION MAP

JENSEN DRIVE DRUM SITE

HOUSTON, TEXAS

TXD987966900

REF. 3

EXTRACTED FROM REF. 1

013-90-0036

060036

But it is expressly agreed that the VENDOR'S LIEN, as well as the Superior Title in and to the above described premises, is retained against the above described property, premises and improvements until the above described note and all interest thereon are fully paid according to the face, tenor, effect and reading thereof, when this Deed shall become absolute.

But it is expressly agreed and stipulated that the taxes for the current year have been prorated and are assumed by the Grantee. This conveyance is made and accepted subject to all and singular the reservations, restrictions, easements, rights-of-way, zoning ordinances, maintenance charges, oil, gas and mineral reservations, royalties, and covenants, if any applicable to and enforceable against the above described property as reflected by the records of the County Clerk of Harris County, Texas.

EXECUTED this 28th day of April, 1982.

William R. Glass
Executive Vice President

STATE OF TEXAS)
COUNTY OF Harris)

Before me the undersigned authority, on this day personally appeared WILLIAM R. GLASS, Executive Vice President of TEXAS BANK & TRUST COMPANY OF HOUSTON, a State Banking Institution, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 28th day of April, 1982.

Notary Public in and for
Harris County, Texas

E. LEE
Notary Public for the State of Texas
My Commission Expires 9-5-84

Grantee's Address:

3116 Jensen Drive
Houston, Texas 77026

RETURN TO:

USLIFE TITLE COMPANY OF HOUSTON
6200 SAVOY, SUITE 120
HOUSTON, TEXAS 77036

DT3-90-0037

EXHIBIT A

A tract or parcel of land containing 63,815.64 SQ. FT. or 1.46501 acre being known as Lot 9 and the North 1/2 of Lot 8 save the west 9 FT. Conveyed to the City of Houston of a subdivision of the MOFFATT TRACT and the North 208.00 FT. of the BRADY 4.08 acre tract in the City of Houston out of the Samuel M.Harris Survey, Abstract 327 Harris County, Texas. said MOFFATT SUBDIVISION delineated on plat recorded in Vol.998, Page 716 of the Harris County Deed Records said so-called 4.08 acre tract conveyed to Mary M. Brady by A.W. Schuller, et al, in instrument recorded in Vol.36, Page 580 of the Harris County Deed Records, said 1.46501 acre tract being more particularly described by metes and bounds as follows, To-Wit:

BEGINNING at a 1/2 inch iron pipe at the Northwest corner of the herein described 1.46501 acre tract marking the intersection of the East right-of-way line of Jensen Drive (60.00 ft. in width) with the North line of said Lot 9 of the subdivision of the Moffatt Tract, said iron pipe being located South a distance of 101.00 ft. from the intersection of the South right-of-way line of Evella Street (50.00 ft. in width) with the East right-of-way of said Jensen Dr.;

THENCE North 89 deg. 41 min. 24 sec. East partially with an old fence line passing a 1/2 inch iron rod at the Northeast corner of said Lot 9 at 147.96 ft in all a total distance of 355.96 ft. to a 1/2 inch iron pipe at the Northeast corner at a fence corner.

THENCE South with the East line of said Brady so-called 4.08 acre tract a distance of 208.00 ft. to a 1/2 inch iron pipe at a fence corner;

THENCE South 89 deg. 41 min. 24 sec. West partially with a wood fence a distance of 208.00 ft. to a 1/2 inch iron rod at a fence corner and marking the lower Southwest corner of the herein described tract;

THENCE North with the West line of said Brady so-called 4.08 acre tract a distance of 69.10 ft. to a 1/2 inch iron rod at a re-entrant corner marking the Southeast corner of the North 1/2 of said Lot 8;

THENCE South 89 deg. 41 min. 24 sec. West with the mid line of said Lot 8 a distance of 147.96 ft. to a 3/8 inch iron rod at a fence corner marking the upper Southwest corner of the herein described tract and being in the East right-of-way line of Jensen Dr.;

THENCE North with the East right-of-way line of said Jensen Dr. a distance of 138.90 ft. to the PLACE OF BEGINNING and containing 1.46501 acre.

STATE OF TEXAS
COUNTY OF HARRIS

I hereby certify that this instrument was FILED in File Number Sequence on the date and at the time stamped hereon by me; and was duly RECORDED, in the Official Public Records of Real Property of Harris County, Texas on

MAY 3 - 1982

COUNTY CLERK,
HARRIS COUNTY, TEXAS

4/15/91

RECORD OF COMMUNICATION	(Record of Item Checked Below) _X_Phone Call ___Discussion ___Field Trip ___Conference ___Other(Specify)	
To: Pat Hammack, OSC Emergency Response Group, Region VI (214) 655-2270	From: Jairo Guevara, FIT Chemical Engineer	Date: 2/2/89 Time: 2:20 pm

SUBJECT: Additional Information for Jensen Drive Drum Site

SUMMARY OF COMMUNICATION

Called Pat Hammack to clarify and complete some information for Jensen Drive Drum site Preliminary Assessment.

Mr. Hammack stated:

1. The site is under remedial cleanup action. All the drums with contents had been sampled and placed in the site warehouse. The drums will be removed pending receipt of analyses from laboratories. The soil was also sampled and the contaminated soil will be removed.
2. No more history of the site is known. The site is presently known as May Cooperage, Inc., and it moved from a previous location at Davis site (another site being investigated by EPA). May Cooperage, Inc. moved to Jensen Drive in 1985-1986. He doesn't know what was in the Jensen Drive property before the May Cooperage operations.
3. There were more than 400 drums on-site. About 210 drums have some waste contents.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

REF. 5

TEXAS WATER DEVELOPMENT BOARD

REPORT 190

ANALOG-MODEL STUDIES OF GROUND-WATER HYDROLOGY IN THE HOUSTON DISTRICT, TEXAS

By

Donald G. Jorgensen
U.S. Geological Survey

This report was prepared by the U.S. Geological Survey
under cooperative agreement with the
Texas Water Development Board
and the City of Houston

February 1975

Second Printing
August 1975

ANALOG-MODEL STUDIES OF GROUND-WATER HYDROLOGY IN THE HOUSTON DISTRICT, TEXAS

INTRODUCTION

Purpose and Scope of the Project

Continual declines of water levels in wells, land-surface subsidence, and salt-water encroachment are problems related to ground-water pumping in the Houston district that necessitate additional studies of the hydrologic system.

This study was begun in 1970 by the U.S. Geological Survey in cooperation with the city of Houston and the Texas Water Development Board. The principal purpose was to develop a means for forecasting declines in the altitudes of the potentiometric surfaces (levels to which water will rise in tightly cased wells) under various conditions of pumping. Because of the complexity of the hydrologic system, an electric analog model was chosen as the most suitable device for analyzing the system and simulating future responses.

This report presents the results of the geologic and hydrologic studies, discusses the theory and construction of the analog model, and presents the simulation of the declines in the altitudes of the potentiometric surfaces as determined by using the model.

Most of the data upon which this report is based are available in reports by the U.S. Geological Survey and the Texas Water Development Board (see references) or in the files of the U.S. Geological Survey in Houston. Data are obtained through a continuing cooperative program of the U.S. Geological Survey, the Texas Water Development Board, the city of Houston, and the city of Galveston.

For those readers interested in using the metric system, metric equivalents of English units of measurements are given in parentheses. The English units used in this report may be converted to metric units by the following conversion factors:

From		Mutiply by	To obtain	
Unit	Abbreviation		Unit	Abbreviation
cubic foot	ft^3	0.028317	cubic meter	m^3
foot	ft	0.3048	meter	m
foot per day	ft/day	0.3048	meter per day	m/day
foot squared per day	ft^2/day	0.0929	meter squared per day	m^2/day
inch	in	2.540	centimeter	cm
million gallons	10^6 gal	3,785	cubic meters	m^3
square mile	mi^2	2.590	square kilometer	km^2

Description of the Area

The Houston district, as used in this report, consists of all of Harris, Waller, and Fort Bend Counties and parts of Galveston, Montgomery, Brazoria, Chambers, and Liberty Counties (Figure 1). The area of the district is approximately 6,600 square miles (17,100 square kilometers).

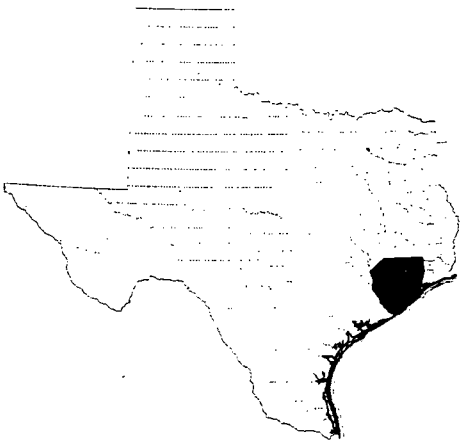


Figure 1.—Location and Extent of the Houston District

Except for a small area in Montgomery and Waller Counties, the land surface is nearly flat and featureless;

the only significant relief is in the valleys of the streams. The land is generally treeless in the rural areas from Houston southeast to Galveston.

The climate of the Houston district is characterized by mild winters and hot summers. The lowest temperature recorded at Houston was 15°F (-9.5°C) and the maximum temperature was 108°F (42°C). The mean annual temperature is 69.2°F (20.6°C). The 30-year average (1931-60) rainfall at Houston was 45.95 inches (116.7 centimeters); monthly rainfall is distributed uniformly throughout the year.

The Houston district has a large and diversified industrial economy, but also has extensive agricultural developments. Large amounts of water are used by industry for processing and cooling purposes and by rice and cotton growers for irrigation. The rapid growth and development of the district are due in part to the availability of large amounts of inexpensive ground-water supplies. The locations of the major pumping areas are shown on Figure 2.

Previous Studies

Among the more comprehensive earlier reports describing the geology and hydrology of the Houston district is the report by Lang and others (1950). Pettit and Winslow (1957) summarized the geology and ground-water resources of Galveston County. The relation of salt water to fresh ground water in Harris County was discussed by Winslow and others (1957). Land-surface subsidence and its relation to the withdrawal of ground water in the Houston-Galveston area was first reported by Winslow and Doyel (1954) and later by Gabrysch (1969).

Previous ground-water investigations were made in Waller County (Wilson, 1967); Liberty County (Anders and others, 1968); Montgomery County (Popkin, 1971); Fort Bend County (Wesselman, 1972); Brazoria County (Sandeen and Wesselman, 1973); and Chambers County (Wesselman, 1971). These studies provided relatively recent data on the ground-water resources and ground-water development in most of the Houston district exclusive of Harris and Galveston Counties.

A report containing data on ground-water withdrawals and water-level declines in Galveston and Harris Counties was prepared by Gabrysch (1972), and the role of groundwater in the development of the water system for the city of Houston was described in reports by Turner, Collie and Braden, Inc. (1966, 1972).

A report by Wood and Gabrysch (1965) describes the results of the first analog-model study of ground-water hydrology in the Houston district. The usefulness of the first analog model was limited because the simulations required that the aquifers be operated independently of each other and because the results of pumping in the western part of the area could not be simulated. Evaluation of the performance of the first model indicated that improvement in aquifer designation was needed and that the transmissivity of the aquifers and vertical leakage between the aquifers were not adequately modeled.

Acknowledgments

The author expresses his appreciation to Mr. D. E. VanBuskirk of the city of Houston Water Department and to the well owners and drillers who supplied pertinent information for this study. The aquifers in the district were mapped by John Wesselman, U.S. Geological Survey, and the model was designed and constructed by William Bruns, U.S. Geological Survey.

GEOHYDROLOGY

The geologic formations from which most of the ground water is pumped in the Houston district are composed of sedimentary deposits of gravel, sand, silt, and clay. The formations, from oldest to youngest, that form important hydrologic units are: The Catahoula Sandstone and Fleming Formation of Miocene age; the Goliad Sand of Pliocene age; the Willis Sand, Bentley and Montgomery Formations, and Beaumont Clay of Pleistocene age; and alluvium of Quaternary age (Table 1). Correlation of the hydrologic units from northern Montgomery County to the Gulf of Mexico is shown by the chart on Figure 3.

With exception of the alluvium and the Goliad Sand, the formations crop out in belts that are nearly parallel to the shoreline of the Gulf of Mexico. The younger formations crop out nearer the Gulf and the older ones farther inland. All the formations thicken downdip so that the older formations dip more steeply than the younger ones. Locally, however, the occurence of salt domes and faults may cause reversals of the regional dip and thickening or thinning of individual beds.

Salt domes are cylindrical structures resulting from the upward movement of salt masses that are probably of Mesozoic age. In some areas, the salt domes penetrate the uppermost aquifer and nearly reach the surface. In

Table 1.—Geologic and Hydrologic Units Used in This Report and In Recent Reports on Nearby Areas

This report					Wood and Gabrysch (1965)	Sandeen and Wesselman (1969)	Wilson (1967)	Popkin (1971)	Lang, Winslow, and White (1950)	Pettit and Winslow (1957)	Wesselman (1971)	Anders and others (1968)	Wesselman (1972)
System	Series	Stratigraphic unit	Aquifer		Houston district	Brazoria County	Austin and Waller Counties	Montgomery County	Houston district	Galveston County	Chambers and Jefferson Counties	Liberty County	Fort Bend County
Quaternary	Holocene	Quaternary alluvium	Chicot aquifer	Upper unit	Confining layer and Alta Loma Sand of Rose (1943)	Chicot aquifer: Upper unit	Alluvium of the Brazos River	Chicot aquifer	Alluvial deposits	Beach and dune sand	Chicot aquifer: Upper unit	Chicot aquifer	Chicot aquifer: Upper unit
	Pleistocene	Beaumont Clay					Evangeline aquifer (May contain unidentifiable parts of basal Chicot aquifer along the edges of Brazos River flood plain or along southern part of both counties)		Beaumont Clay	Beaumont Clay			
		Montgomery Formation		Lower unit		Chicot aquifer: Lower unit			"Alta Loma Sand"	"Alta Loma Sand"	Chicot aquifer: Lower unit	Chicot aquifer	Chicot aquifer: Lower unit
		Bentley Formation							Zone 7	Lissie Formation			
		Willis Sand							Zone 6				
Tertiary	Pliocene	Goliad Sand	Evangeline aquifer		Heavily pumped layer	Evangeline aquifer		Evangeline aquifer	Zone 5		Evangeline aquifer	Evangeline aquifer	Evangeline aquifer
	Miocene	Fleming Formation	Burkeville confining layer		Zone 2		Burkeville aquiclude	Burkeville aquiclude			Burkeville aquiclude	Burkeville aquiclude	Burkeville aquiclude
			Jasper aquifer	Upper unit			Jasper aquifer	Jasper aquifer: Upper part of Jasper	Zone 4		Jasper aquifer	Jasper aquifer	Jasper aquifer
									Zone 3				
				Lower unit				Jasper aquifer: Lower part of Jasper	Zone 2				
									Zone 1				

most instances, however, the domes pierce only the lower aquifers. Ground-water circulation within the vicinity of the domes may result in salt water contamination.

Faults in the area may have several hundred feet of displacement in the older Tertiary formations, but displacement tends to decrease upward so that the faulting may not be apparent at the surface; generally, the geologic units containing fresh water are not displaced enough to disrupt hydraulic continuity.

Description of the Water-Bearing Units

Chicot Aquifer

The Chicot aquifer is composed of the Willis Sand, Bentley Formation, Montgomery Formation, Beaumont Clay, and Quaternary alluvium (Table 1). The Chicot includes all deposits from the land surface to the top of the Evangeline aquifer (Figure 4).

The basis for separating the Chicot aquifer from the underlying Evangeline aquifer is primarily a difference in hydraulic conductivity, which in part causes the difference in the altitudes of the potentiometric surfaces in the two aquifers.

In most of the Houston district, the Chicot aquifer consists of discontinuous layers of sand and clay of about equal total thickness, and in some parts of the district, the aquifer can be separated into an upper and lower unit. Throughout most of Galveston County and southeast Harris County, the basal part of the lower Chicot aquifer is formed by a massive sand section with high hydraulic conductivity. (See Figure 4.) This sand unit, which is heavily pumped, is known locally as the Alta Loma Sand. In many previous reports, the unit is identified as the Alta Loma Sand of Rose (1943). The term Alta Loma Sand is not often used in this report because the stratigraphic relationships are not clear.

If the upper unit of the Chicot aquifer cannot be defined in a particular area, the aquifer is said to be undifferentiated. The areal extent of the upper unit roughly corresponds to the areal extent of the Beaumont Clay. The areas in which the aquifer cannot be differentiated into units are mostly in the northern part of the district (Figure 5).

Wells that are completed in the uppermost sand layers of the Chicot aquifer and that have water levels that are distinctly higher than water levels in wells completed in the underlying sand layers are considered to produce water from the upper unit.

The transmissivity of the Chicot aquifer ranges from zero to about 20,000 ft^2/day (feet squared per day) or 1,858 m^2/day (meters squared per day). The storage coefficient ranges from 0.0004 to 0.20 (Figure 6). The larger values of the storage coefficient occurs in the northern part of the district where the aquifer is partly or totally under water-table conditions.

Evangeline Aquifer

The Evangeline aquifer, which is the most important source of fresh ground water in the Houston metropolitan area, consists of layers of sand and clay that are present throughout the district except where the unit is pierced by salt domes (Figure 7). The aquifer is underlain by the Burkeville confining layer.

The transmissivity of the Evangeline aquifer ranges from less than 5,000 ft^2/day (460 m^2/day) to about 15,000 ft^2/day (1,400 m^2/day). (See Figure 8.) In general, the horizontal hydraulic conductivity of the Evangeline aquifer is less than the horizontal hydraulic conductivity of the Chicot aquifer, but because the Evangeline is generally thicker than the Chicot, it is generally more transmissive.

The storage coefficient of the Evangeline ranges from about 0.0005 to 0.0002 where it occurs under artesian conditions; in the outcrop area, where the aquifer is under water-table conditions, the storage coefficient ranges from greater than 0.002 to 0.20.

Burkeville Confining Layer

The Burkeville confining layer, which in the outcrop area is in the upper part of the Fleming Formation of Tertiary age, is composed mostly of clay but contains some layers of sand. The Burkeville restricts the flow of water except where it is pierced by salt domes and in the northeastern part of the district where it contains many water-yielding sand layers. The Burkeville is underlain by the Jasper aquifer.

Declines in the Altitudes of the Potentiometric Surfaces

Records of ground-water withdrawals in the Houston district date back to 1887, and records exist for probably 90 percent of the total withdrawals.

Use of ground water increased slowly until about 1937, when rapid industrialization increased the rate of use. In 1955, surface water from the San Jacinto River (Lake Houston) became available, and the use of ground water remained relatively constant until 1962. From 1962 to 1970, the use of ground water increased to about 575 mgd (million gallons per day) or 2.2 million m^3/day (cubic meters per day). The historic withdrawals of ground water for 1890-1970 and the predicted withdrawals for 1971-80 are shown on Figure 9.

The pumping of large quantities of ground water has caused large declines in the altitudes of the potentiometric surfaces in the aquifers, except in the upper unit of the Chicot. The declines from 1890 to 1953, from 1890 to 1960, and from 1890 to 1970 in the lower unit of the Chicot aquifer and in the Chicot aquifer undifferentiated are shown on Figures 10, 11, and 12. Figures 13, 14, and 15 show the decline of the altitude of the potentiometric surface in the Evangeline aquifer for the same periods.

By 1970, the altitude of the potentiometric surface had declined a maximum of about 330 feet (100 meters) in the lower unit of the Chicot aquifer and Chicot aquifer undifferentiated and about 430 feet (130 meters) in the Evangeline aquifer.

Not enough data are available to map the decline of the altitude of the potentiometric surface in the upper unit of the Chicot aquifer.

Houston Area

Nearly all the ground water pumped in the Houston area (Figure 2) is from wells screened in the Evangeline or Chicot aquifers, and many of the wells are screened in both aquifers. (The reader should note that the Houston area is only a part of the Houston district.) The declines of water levels in wells screened in each of the aquifers are shown on Figure 16. Locations of the wells are shown on Figure 2.

Declines in the Evangeline aquifer and the lower unit of the Chicot aquifer have been the greatest. The upper unit of the Chicot is relatively undeveloped; therefore, the decline of water levels shown on Figure 16 for the upper unit of the Chicot is due in part to the discharge of water to the lower unit.

Pasadena Area

The Pasadena area is an industrialized area east of the Houston area and mostly west of the San Jacinto River (Figure 2). Most of the ground water pumped in this area is from the Evangeline aquifer, but a considerable amount is withdrawn from the lower unit of the Chicot in the southeastern part of the area. A small and mostly unrecorded amount is pumped from the upper unit of the Chicot.

Figure 17 shows the decline of water levels in three wells, each of which is screened in a different water-bearing unit. The decline of the altitude of the potentiometric surface in the upper unit of the Chicot is not as great as the decline in either the Evangeline or the lower unit of the Chicot. The decline in the upper unit of the Chicot is attributed to discharge to the lower unit and to a small amount of pumping.

Katy Area

The Katy area is an agricultural area west of the Houston area and includes the northern and western parts of Harris County, about half of Waller County, and northern Fort Bend County (Figure 2).

Ground water is used exclusively in the Katy area and most of it is used for rice irrigation. Most of the water pumped is from the lower unit of the Chicot aquifer, the Chicot aquifer undifferentiated, and the Evangeline aquifer. In the northern part of Fort Bend County, along the Brazos River, some water is pumped from the alluvium, which is a part of the upper unit of the Chicot aquifer.

Figure 18 shows the water-level declines in well LJ-65-04-507, completed in the Chicot aquifer undifferentiated and in well LJ-65-04-607, completed in the Evangeline aquifer. Declines are greater in wells screened in the Evangeline aquifer than in wells screened in the Chicot aquifer undifferentiated.

Baytown-LaPorte Area

The Baytown-LaPorte area extends eastward from the Pasadena area to the Chambers County line (Figure 2). It is primarily an industrial area, in which most of the ground water used is pumped from the lower unit of the Chicot aquifer.

Figure 19 shows the water-level declines in well LJ-65-24-606, screened in the Evangeline aquifer and in well LJ-65-24-501, screened in the lower unit of the Chicot aquifer. Although most withdrawals in the area are from the lower unit of the Chicot, the rate of decline in the Evangeline is nearly as large as the decline in the lower unit of the Chicot.

a result of pumping. The northern part of the district also has the highest vertical leakage, which allows water to move easily from the surface to the Chicot aquifer.

Limitations on Use of the Analog Model

The values of the parameters modeled are rational values for the hydrologic system. Further investigation and new data will allow refinements to be made and will allow more accurate determination of the values for the parameters modeled.

The model was not designed to simulate the effects of one well over a short period of time. The model was designed to simulate the effects of withdrawal of water from a well field for periods of a year or longer.

The model was not designed to predict subsidence accurately; although, the simulation of clay compaction was included. Declines in the altitudes of the potentiometric surfaces are simulated, and these values can be used in calculations to predict subsidence.

Caution should be used in applying the modeled values in equations to predict short-term specific capacity of an individual well. The model simulates leaky-aquifer conditions with clay storage for time intervals greater than 1 year.

Data Required for Improvement of the Model

Observation wells that are screened in only one water-bearing unit are needed for better calibration of the model. The areas where measurements from such observation wells are needed are determined easily by noting the areas in which no potentiometric measurements are shown on Figures 12 and 15.

The accuracy of the model could be improved by better delineation of the water-bearing sands above the basal sand (Alta Loma Sand of Rose, 1943) of the lower unit of the Chicot in the Texas City area. To improve the correlation of observed and measured declines in the altitude of the potentiometric surface in the Texas City area, it was necessary to program extra pumpage.

More data are needed on the quantity of ground water pumped for irrigation in the vicinity of Dayton and Liberty and on the quantity of water discharged from flowing and pumped wells prior to 1930 in Galveston County.

The model could be modified to simulate clay compaction more accurately if the storage coefficient for clay compaction is determined accurately for each aquifer. In the present model, the storage coefficient for clay compaction is modeled as existing entirely between the land surface and the centerline of the lower unit of the Chicot aquifer and the Chicot aquifer undifferentiated. To distribute the storage coefficient accurately, more data concerning the characteristics of these clay layers are needed. These data can be obtained from consolidation tests on core samples, records of clay compaction from compaction recorders, and possibly from studies of various types of geophysical logs.

The present model could be modified to be one of the elements of a hybrid analog-digital model that could be used for detailed studies of such problems as salt-water encroachment and land-surface subsidence.

SUMMARY

The Houston district has two major aquifers above the Burkeville confining layer. The uppermost aquifer is the Chicot aquifer, which consists of sand and clay layers that dip gently toward the Gulf of Mexico. In places in the Houston district, the Chicot aquifer can be separated into an upper and a lower unit.

The upper unit, which is not an important source of water for most of the district, can be defined where the altitude of the potentiometric surface differs from the altitude of the potentiometric surface in the lower unit. Where the upper unit cannot be defined, the aquifer is said to be undifferentiated.

The Evangeline aquifer, which is the major aquifer in the district, underlies the Chicot aquifer and consists of sand and clay layers that dip toward the Gulf of Mexico.

The Burkeville confining layer consists mostly of clay layers that form an effective barrier to ground-water flow at nearly all locations except at and near the outcrop of the Evangeline aquifer in Montgomery County.

The large cones of depression in the potentiometric surfaces in the lower unit of the Chicot aquifer, the Chicot aquifer undifferentiated, and the Evangeline aquifer are caused by large withdrawals of water. Water now flows toward the center of these cones, creating a reversal of the original hydraulic gradient in most areas south of Houston. This reversal of the hydraulic gradient has resulted in salt-water encroachment toward the centers of the cones, but

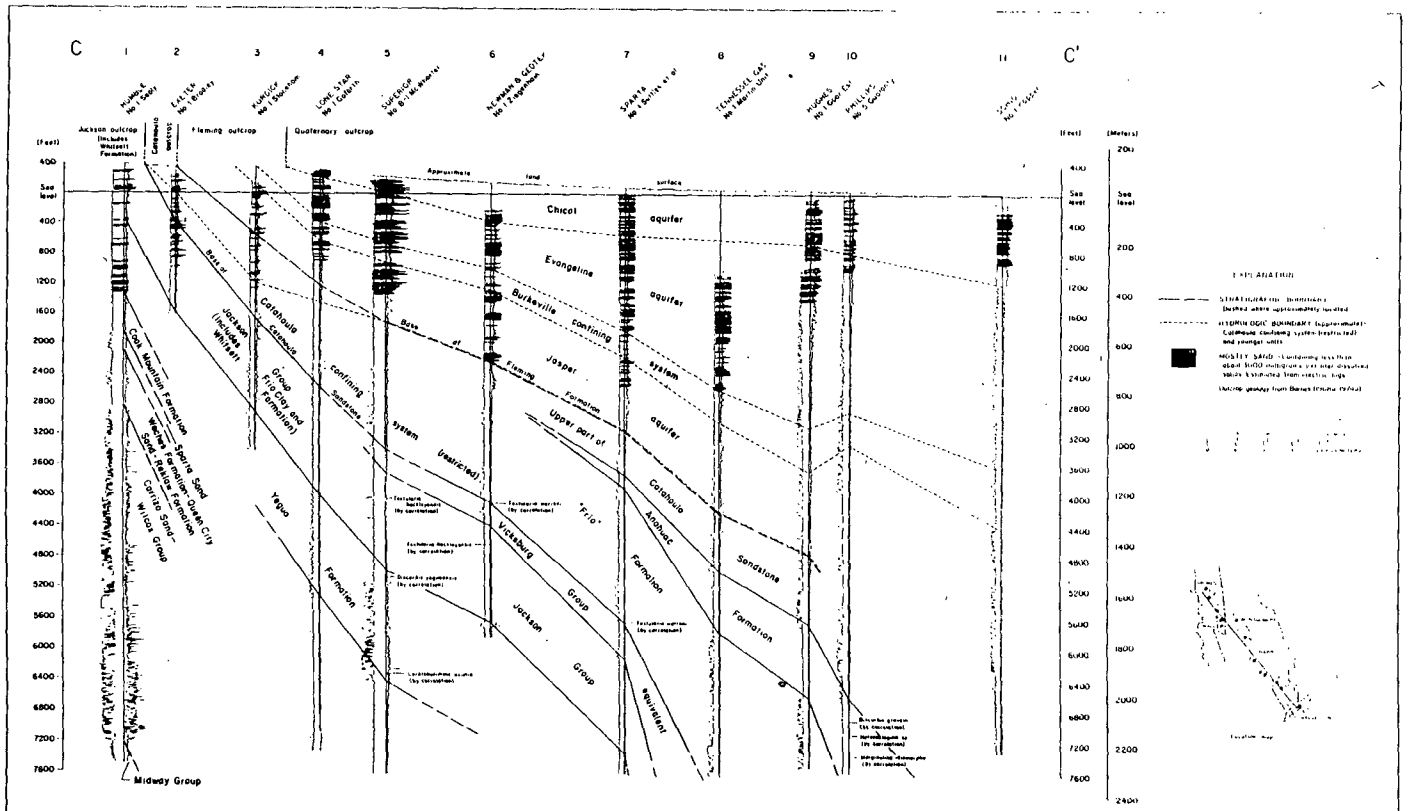


Figure 4
Stratigraphic and Hydrogeologic Section C-C'

REF. 6

TEXAS DEPARTMENT OF WATER RESOURCES

REPORT 236

STRATIGRAPHIC AND HYDROGEOLOGIC FRAMEWORK OF PART OF THE COASTAL PLAIN OF TEXAS

By

E. T. Baker, Jr.
United States Geological Survey

This report was prepared by the U.S. Geological Survey under cooperative agreement with the Texas Department of Water Resources.

July 1979

STRATIGRAPHIC AND HYDROGEOLOGIC FRAMEWORK OF PART OF THE COASTAL PLAIN OF TEXAS

INTRODUCTION

This report has been prepared to illustrate the stratigraphic and hydrogeologic framework of a part of the Coastal Plain of Texas from the Sabine River to the Rio Grande. It is the outgrowth of a project that has as its ultimate objective the construction of a digital ground-water flow model, if feasible or desirable, of at least a part of the Miocene aquifers in the Gulf Coastal Plain of Texas. The model would serve as a tool for planning the development of the ground-water supplies. Work on the project is being done by the U.S. Geological Survey in cooperation with the Texas Department of Water Resources.

During the course of delineating the Miocene aquifers, which is basic to the design and development of the model, the scope of the study was broadened to include delineations of other hydrogeologic units, as well as delineations of stratigraphic units. As a result, units ranging in age from Paleocene to Holocene were delineated (Table 1). A relationship of stratigraphic units to designated hydrogeologic units was thus established statewide.

Eleven dip sections and 1 strike section are included in this report. The dip sections are spaced about 50 miles (80 km) apart with the most easterly one being near the Sabine River and the most southerly one being near the Rio Grande. Each dip section is about 100 miles (161 km) long and extends from near the coastline to short distances inland from the outcrop of the oldest Miocene formation—the Catahoula Tuff or Sandstone. The strike section, which is about 500 miles (804 km) long (in three segments), extends from the Sabine River to the Rio Grande and joins the dip sections at common control points. This section is from 50-75 miles (80-121 km) inland from the Gulf of Mexico and is essentially parallel to the coastline. The location of the sections and the Catahoula outcrop are shown on Figure 1.

The sections extend from outcrops at the land surface to maximum depths of 7,600 feet (2,316 m) below sea level. Selected faunal occurrences, where known or inferred by correlation from nearby well logs, are included. The extent of sand that contains water having less than 3,000 mg/l (milligrams per liter) of dissolved solids was estimated from the electrical characteristics shown by the logs. This information is included on all of the sections.

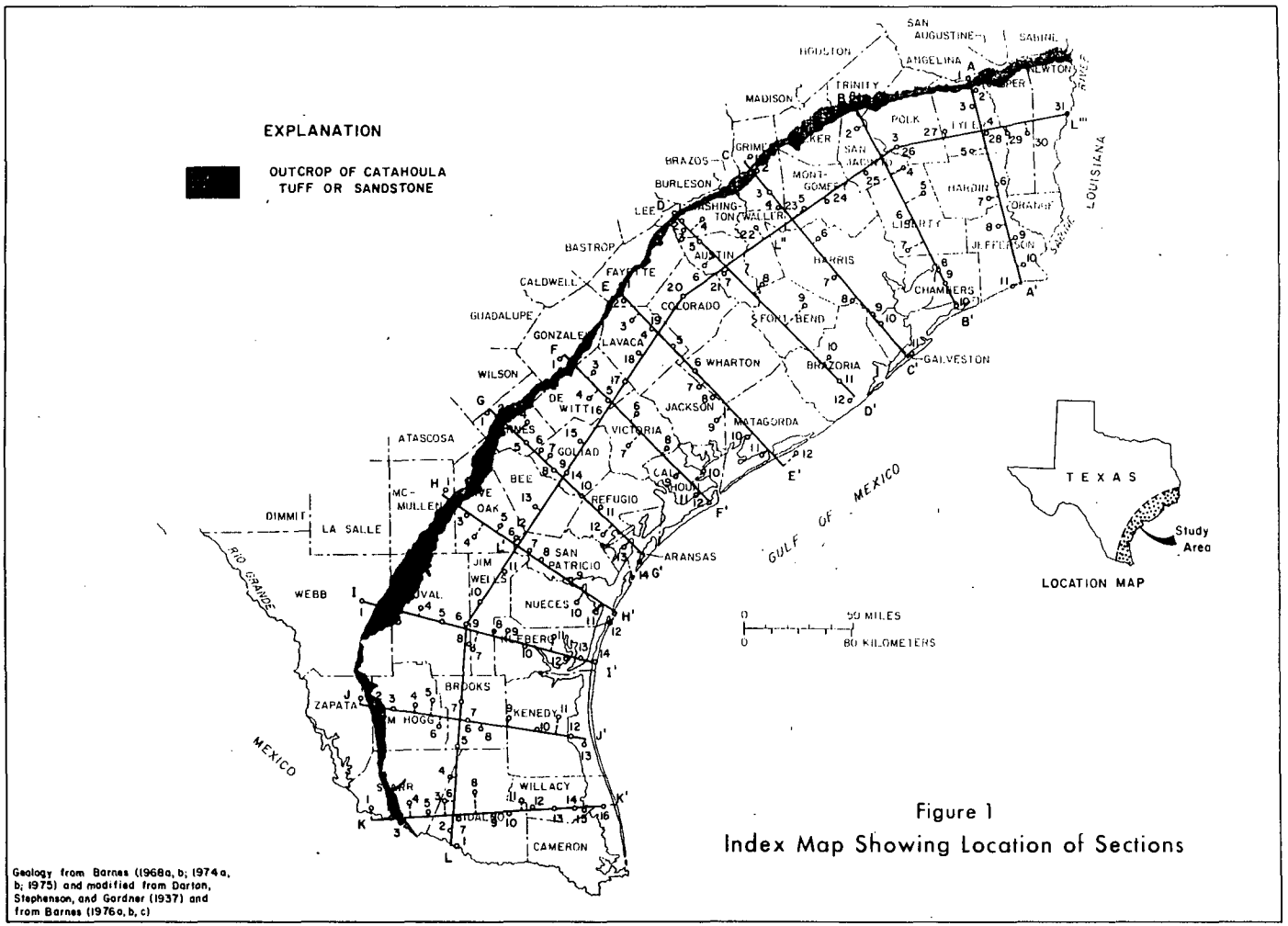
Although faulting is common in the Coastal Plain and is complex in some areas, all faults have been omitted from the sections to maintain continuity of the stratigraphic and hydrogeologic boundaries. The disadvantage of such omission is, of course, the representation of an unrealistic and simplistic picture of unbroken strata with uninterrupted boundaries. In reality, many of the faults have not only broken the hydraulic continuity of the strata but more importantly have become barriers to fluid flow or conduits for cross-formational flow. The sections are presented in this report as Figures 2-15.

Acknowledgements

The author wishes to express his appreciation to C. W. Holcomb (Exxon Co., USA), C. B. Phillips (Mobil Oil Corp.), and G. C. Hardin, Jr. (Ashland Exploration Co.) of Houston, Texas; J. G. Klatt (Mobil Oil Corp.) and J. C. Wyeth (Continental Oil Co.) of Corpus Christi, Texas; H. C. Hixson (Mobil Oil Corp.) of Denver, Colorado; and D. C. Bebout (Bureau of Economic Geology, University of Texas at Austin), for discussing correlation problems. Their assistance does not necessarily constitute an endorsement of the views expressed by the author in this report. The assistance of V. E. Barnes (Bureau of Economic Geology, University of Texas at Austin), who provided unpublished geologic maps of South Texas areas; of R. H. Wallace, Jr., J. B. Wesselman, and R. E. Taylor (U.S. Geological Survey) of Bay St. Lewis, Mississippi; of P. H. Jones (Department of Geology, Louisiana State University), Baton Rouge, Louisiana, who provided log data, is also appreciated. D. G. Jorgensen (U.S. Geological Survey) of Lawrence, Kansas (formerly of Houston, Texas) and W. R. Meyer

Table 1.--Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas

Era	System	Series	Stratigraphic Units	Hydrogeologic Units	Selected Faunal Markers	Remarks
CENOZOIC	Quaternary	Holocene	Alluvium	Chicot aquifer		Quaternary System undifferentiated on sections.
		Pleistocene	Beaumont Clay			
			Montgomery Formation			
			Bentley Formation			
			Willis Sand			
	Tertiary	Pliocene	Goliad Sand	Evangeline aquifer		Goliad Sand overlapped east of Lavaca County.
		Miocene	Fleming Formation	Burkeville confining system	*Potamides matsoni* *Bigenerina nodosaria var. directa* *Bigenerina humblei* *Amphistegina sp.*	
			Oakville Sandstone	Jasper aquifer		Oakville Sandstone included in Fleming Formation east of Washington County.
			Surface: Catahoula Tuff or Sandstone; Subsurface: Upper part of Catahoula Tuff or Sandstone	Catahoula confining system (restricted)	*Discorbis nomada* *Discorbis gravelli* *Heterostegina sp.* *Marginulina idiomorpha*	Catahoula Tuff designated as Catahoula Sandstone east of Lavaca County.
			Subsurface: Anahuac Formation			Anahuac and "Frio" Formations may be Oligocene in age.
			Subsurface: "Frio" Formation		*Textularia mississippiensis*	
		Oligocene(?)	Surface: Frio Clay; Subsurface: Vicksburg Group equivalent	Not discussed as hydrologic units in this report.	*Textularia warreni*	Frio Clay overlapped or not recognized on surface east of Live Oak County.
		Eocene	Jackson Group: Whitsett Formation: Fashing Clay Member			Indicated members of Whitsett Formation apply to south-central Texas. Whitsett Formation east of Karnes County may be, in part or in whole, Oligocene in age.
			Jackson Group: Whitsett Formation: Calliham Sandstone Member or Tordilla Sandstone Member			
			Jackson Group: Whitsett Formation: Dubose Member		*Marginulina cocoaensis*	
			Jackson Group: Whitsett Formation: Deweesville Sandstone Member			
			Jackson Group: Whitsett Formation: Conquista Clay Member		*Textularia hockleyensis*	
			Jackson Group: Whitsett Formation: Dilworth Sandstone Member		*Massilina pratti*	
			Jackson Group: Manning Clay			
			Jackson Group: Wellborn Sandstone		*Textularia dibollensis*	
			Jackson Group: Caddell Formation			
			Claiborne Group: Yegua Formation		*Nonionella cockfieldensis*	
			Claiborne Group: Cook Mountain Formation		*Discorbis yeguaensis*	
			Claiborne Group: Sparta Sand		*Eponides yeguaensis*	
			Claiborne Group: Weches Formation		*Ceratobulimina eximia*	
			Claiborne Group: Queen City Sand			
			Claiborne Group: Reklaw Formation			
			Claiborne Group: Carrizo Sand			
			Wilcox Group			
		Paleocene	Midway Group			



Geology from Barnes (1968a, b; 1974a, b; 1975) and modified from Darton, Stephenson, and Gardner (1937) and from Barnes (1976a, b, c)

Figure 1
Index Map Showing Location of Sections

subsurface correlations of the Catahoula-Fleming contact, as well as formation thicknesses, will continue to differ.

Burkeville Confining System

The Burkeville confining system, which was named by Wesselman (1967) for outcrops near the town of Burkeville in Newton County, Texas, is delineated on the sections from the Sabine River to near the Rio Grande. It separates the Jasper and Evangeline aquifers and serves to retard the interchange of water between the two aquifers.

The Burkeville has been mapped in this report as a rock-stratigraphic unit consisting predominantly of silt and clay. Boundaries were determined independently from time concepts although in some places the unit appears to possess approximately isochronous boundaries. In most places, however, this is not the case. For example, the entire thickness of sediment in the Burkeville confining system in some areas is younger than the entire thickness of sediment in the Burkeville in other places.

The configuration of the unit is highly irregular. Boundaries are not restricted to a single stratigraphic unit but transgress the Fleming-Oakville contact in many places. This is shown on sections D-D' to G-G' and J-J' (Figures 5-8 and 11). Where the Oakville Sandstone is present, the Burkeville crops out in the Fleming but dips gradually into the Oakville because of facies changes from sand to clay downdip.

The typical thickness of the Burkeville ranges from about 300 to 500 feet (91 to 152 m). However, thick sections of predominantly clay in Jackson and Calhoun Counties account for the Burkeville's gradual increase to its maximum thickness of more than 2,000 feet (610 m) as shown on section F-F' (Figure 7).

The Burkeville confining system should not be construed as a rock unit that is composed entirely of silt and clay. This is not typical of the unit, although examples of a predominance of silt and clay can be seen in some logs in sections H-H' and I-I' (Figures 9-10). In most places, the Burkeville is composed of many individual sand layers, which contain fresh to slightly saline water; but because of its relatively large percentage of silt and clay when compared to the underlying Jasper aquifer and overlying Evangeline, the Burkeville functions as a confining unit.

Evangeline Aquifer

The Evangeline aquifer, which was named and defined by Jones (Jones, Turcan, and Skibitzke, 1954) for a ground-water reservoir in southwestern Louisiana, has been mapped also in Texas, but heretofore has been delineated no farther west than Washington, Austin, Fort Bend, and Brazoria Counties. Its presence as an aquifer and its hydrologic boundaries to the west have been a matter of speculation. D. G. Jorgensen, W. R. Meyer, and W. H. Sandeen of the U.S. Geological Survey (written commun., March 1, 1976) recently refined the delineation of the aquifer in previously mapped areas and continued its delineation to the Rio Grande. The boundaries of the Evangeline as they appear on the sections in this report are their determinations.

The Evangeline aquifer has been delineated in this report essentially as a rock-stratigraphic unit. Although the aquifer is composed of at least the Goliad Sand, the lower boundary transgresses time lines to include sections of sand in the Fleming Formation. The base of the Goliad Sand at the outcrop coincides with the base of the Evangeline only in South Texas as shown in sections H-H' to K-K' (Figures 9-12). Elsewhere, the Evangeline at the surface includes about half of the Fleming outcrop. The upper boundary of the Evangeline probably follows closely the top of the Goliad Sand where present, although this relationship is somewhat speculative.

The Evangeline aquifer is typically wedge shaped and has a high sand-clay ratio. Individual sand beds are characteristically tens of feet thick. Near the outcrop, the aquifer ranges in thickness from 400 to 1,000 feet (122 to 305 m), but near the coastline, where the top of the aquifer is about 1,000 feet (305 m) deep, its thickness averages about 2,000 feet (610 m). The Evangeline is noted for its abundance of good quality ground water and is considered one of the most prolific aquifers in the Texas Coastal Plain. Fresh to slightly saline water in the aquifer, however, is shown to extend to the coastline only in section J-J' (Figure 11).

Chicot Aquifer

The Chicot aquifer, which was named and defined by Jones (Jones, Turcan, and Skibitzke, 1954) for a ground-water reservoir in southwestern Louisiana, is the youngest aquifer in the Coastal Plain of Texas. Over the years, the aquifer gradually was mapped westward from Louisiana into Texas where, heretofore, its most

westerly mapped limit was Austin, Fort Bend, and Brazoria Counties. In this report, the delineation of the Chicot was refined in previously mapped areas and extended to near the Rio Grande by D. G. Jorgensen, W. R. Meyer, and W. M. Sandeen of the U.S. Geological Survey (written commun., March 1, 1976).

It is believed that the base of the Chicot in some areas has been delineated on the sections in this report as the base of the Pleistocene. Early work in Southeast Texas indicates that the Chicot probably comprises the Willis Sand, Bentley Formation, Montgomery Formation, and Beaumont Clay of Pleistocene age and any overlying Holocene alluvium (Table 1). The problem that arises in this regard is that the base of the Pleistocene is difficult to pick from electrical logs. Thus any delineation of the base of the Chicot in the subsurface as the base of the Pleistocene is automatically suspect. At the surface, the base of the Chicot on the sections has been picked at the most landward edge of the oldest undissected coastwise terrace of Quaternary age. In practice, the delineation of the Chicot in the subsurface, at least on the sections in Southeast Texas, has been based on the presence of a higher sand-clay ratio in the Chicot than in the underlying Evangeline. In some places, a prominent clay layer was used as the boundary. Differences in hydraulic conductivity or water levels in some areas also served to differentiate the Chicot from the Evangeline.

The high percentage of sand in the Chicot in Southeast Texas, where the aquifer is noted for its abundance of water, diminishes southwestward. Southwest of section G-G' (Figure 8) the higher clay content of the Chicot and the absence of fresh to slightly saline water in the unit is sharply contrasted with the underlying Evangeline aquifer that still retains relatively large amounts of sand and good quality water.

REF. 7

TEXAS
WATER
DEVELOPMENT
BOARD

Report 178

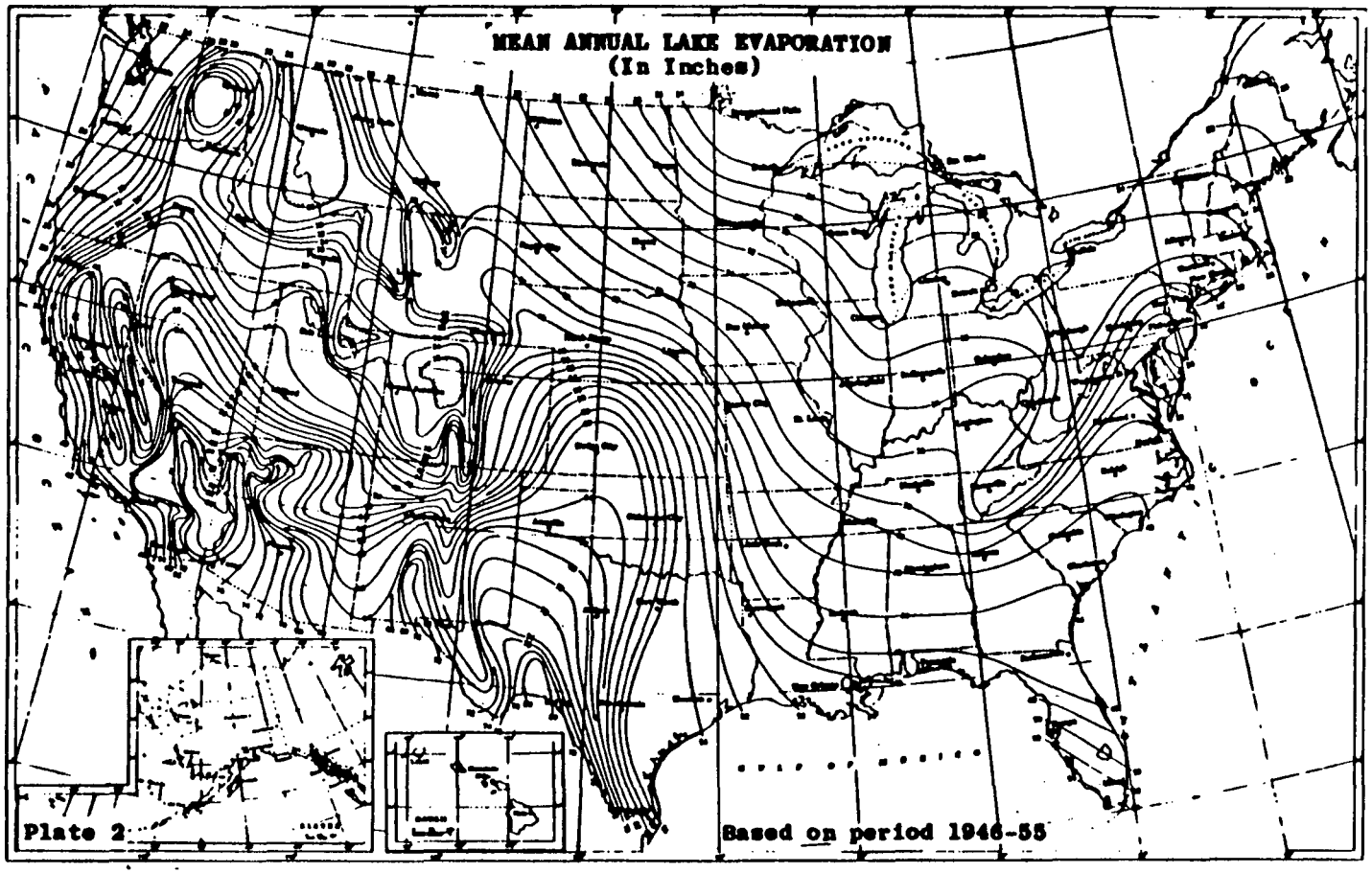
GROUND-WATER DATA FOR HARRIS COUNTY, TEXAS
VOLUME II
RECORDS OF WELLS, 1892-1972

January 1974

Records of wells in Harris County--Continued

No.	Owner	Driller	Date completed	Depth of well (ft.)	Casing: Diameter (in.)	Casing: Depth (ft.)	Water bearing unit	Altitude of land surface (ft.)	Water Level: Above (+) below land surface datum (ft.)	Water Level: Date of Measurement	Method of lift	Use of Water	Remarks
•65-14-307	Tidwell School	A. Chrysty Kuhlmann	1962	384	4 2½	-- 384	CL	46	140	Feb. 1962	Sub,E 5	P	Screen from 358 to 384 ft.
308	Mrs. H. J. Williams	Lowry Water Wells	1963	151	4 2½	136 151	CU	46	105	July 1963	Sub,E ½	D	Screen from 136 to 151 ft. 2/
309	Charles Ketty	A and L Pump and Well Service	1963	70	2	63	CU	52	30	Sept. 1963	J,E ½	D	Open end. 2/
310	Smiley High School	B. J. Swinehart Co.	1964	475	6	475	CL	57	196	1964	Sub,E 10	P	35 ft. of screen between 392 and 469 ft. Reported yield 100 gpm with 11 ft. drawdown when drilled. 2/
• 401	City of Houston Northeast Well 8	Layne Texas Co.	1949	1,970	24 12	604 1,970	E	64	136.1 352.2	Mar. 24, 1950 Feb. 19, 1971	T,E	P	390 ft. of screen between 1,010 and 1,950 ft. Measured yield 2,950 gpm with 84 ft. drawdown when drilled. 1/
• 402	City of Houston Northeast Well 7	do	1949	1,901	24 12	601 1,901	E	61	141.7 352.7	Dec. 9, 1949 Feb. 12, 1971	T,E	P	417 ft. of screen between 1,001 and 1,880 ft. Measured yield 2,610 gpm with 50 ft. drawdown when drilled. 1/
• 403	City of Houston Northeast Well 6	do	1949	1,839	24 12	624 1,839	E	55	148.9 349.5	Nov. 13, 1949 Feb. 19, 1971	T,E	P	419 ft. of screen between 1,017 and 1,819 ft. Measured yield 2,690 gpm with 81 ft. drawdown when drilled. 1/
• 404	City of Houston Northeast Well 5	Texas Water Wells, Inc.	1949	1,980	24 12	625 1,980	E	50	139.3 332.3	Mar. 8, 1950 Feb. 26, 1969	T,E	P	400 ft. of screen between 1,060 and 1,960 ft. Measured yield 2,180 gpm with 38 ft. drawdown Jan. 5, 1951. 1/
• 405	City of Houston Northeast Well 4	do	1949	2,080	24 12	610 2,080	E	50	166.8 367.0	May 12, 1949 Feb. 16, 1971	T,E	P	405 ft. of screen between 1,030 and 2,060 ft. Measured yield 2,400 gpm with 62 ft. drawdown when drilled. 1/
• 406	City of Houston Northeast Well 3	Layne Texas Co.	1944	1,993	24 12	558 1,993	E	50	87.6 347.0	June 12, 1944 Feb. 11, 1971	T,E	P	267 ft. of screen between 1,143 and 1,970 ft. Measured yield 2,525 gpm with 68 ft. drawdown when drilled. Test hole drilled to 2,510 ft. 1/ 2/
407	Hunt-Wesson Foods, Inc. Well 3	do	1946	782	14 7	455 782	E,CL	53	145.3 253.1	Sept. 3, 1946 Feb. 6, 1968	T,E 50	Ind	115 ft. of screen between 464 and 767 ft. 3/
408	Hunt-Wesson Foods, Inc. Well 4	do	1948	1,022	14 8	655 1,022	E	52	180	Sept. 1948	T,E	Ind	154 ft. of screen between 680 and 1,012 ft. Reported yield 720 gpm with 68 ft. drawdown when drilled.
409	City of Houston Lindale Park Well 4	do	1947	1,152	16 8	546 1,152	E	66	218.8 289.0	June 13, 1956 Feb. 28, 1971	N	N	166 ft. of screen between 732 and 1,140 ft. Reported yield 1,040 gpm with 48 ft. drawdown when drilled. 1/
410	City of Houston	McMasters and Pomeroy	1945	1,100	10 8	878 1,100	E	62	100	May 1945	N	N	126 ft. of screen between 691 and 1,021 ft. Reported yield 560 gpm when drilled. Formerly Texas Water Co. well. Well destroyed.
411	Linder Lake	do	1947	752	6	752	E	64	--	--	N	N	Reported 80 ft. of screen. Formerly supplied swimming pool. Well destroyed.
412	City of Houston Lindale Park Well 3	do	1946	800	8 6 5	400 600 800	E	62	--	--	N	N	Reported 100 ft. of screen. Well destroyed.
• 413	Koppers Company, Inc. Well 1	do	--	666	8 6	622 666	E	64	57.7 271.7	Jan. 9, 1931 Feb. 25, 1970	N	N	Screen from 622 to 666 ft. 1/
• 414	Koppers Company, Inc. Well 2	do	1946	661	8 6	604 661	E	64	121.0 247.3 253.7	Feb. 7, 1946 Feb. 10, 1966 Feb. 9, 1967	N	N	Screen from 619 to 661 ft.

See footnotes at end of table

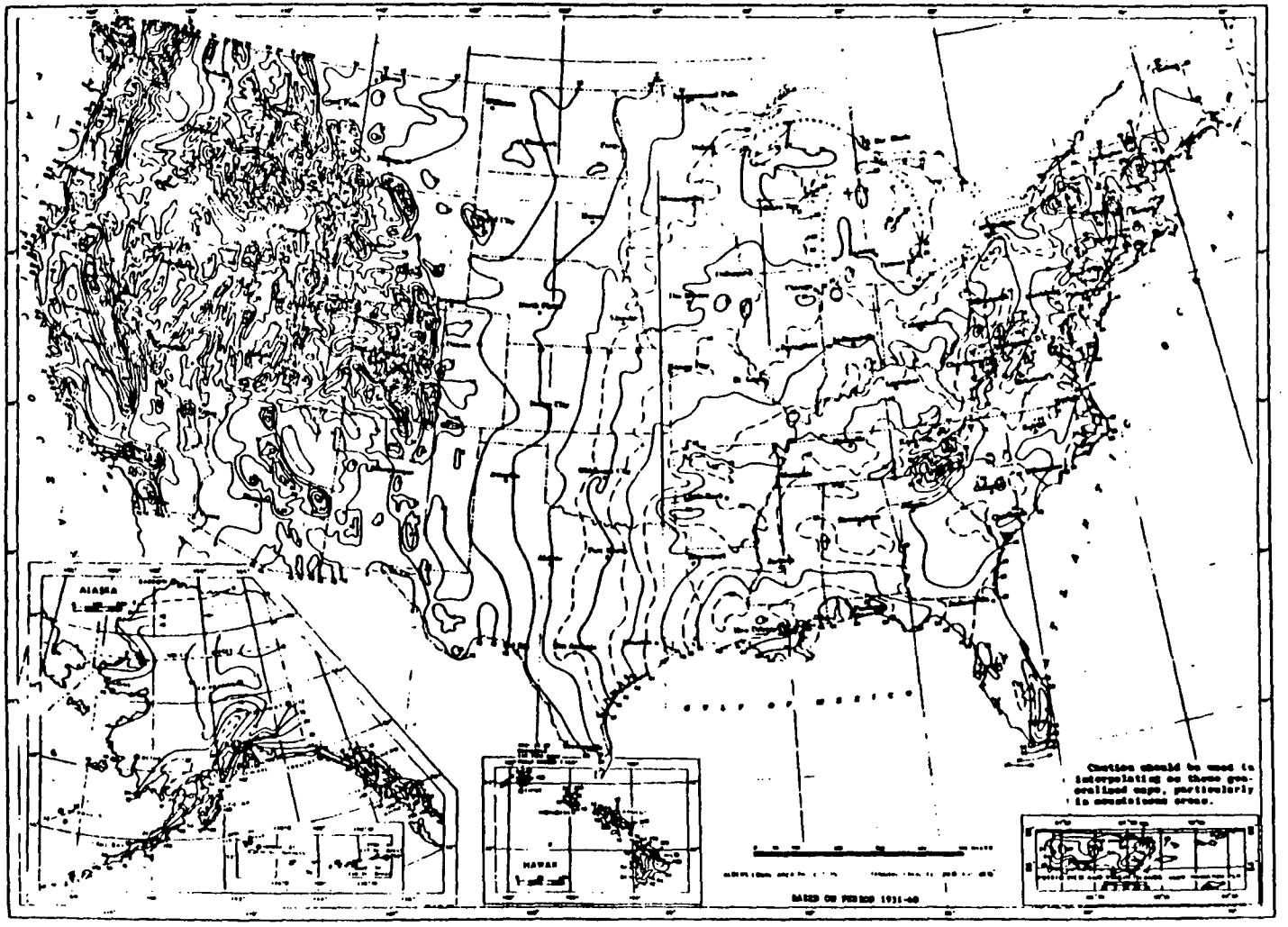


Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

FIGURE 4
MEAN ANNUAL LAKE EVAPORATION
(IN INCHES)

recycled paper

ecology and environment



Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Asheville, N.C., 1979.

FIGURE 5
NORMAL ANNUAL TOTAL PRECIPITATION (INCHES)

REF. 8

RECORD OF COMMUNICATION	[X] Phone Call [ ] Discussion [ ] Field Trip [ ] Conference [ ] Other(Specify) (Record of Item Checked Above)	REF. 9
TO: Robert Devillier Storm Sewer Engineer City of Houston Pub- lic Works, Houston, Texas	FROM: Bradley Morris FIT Geologist	DATE 6/24/87 TIME 4:25 PM

SUBJECT
Uses of Hunting Bayou, Houston, TX.

SUMMARY OF COMMUNICATION

Q. What are the uses for Hunting Bayou in Houston? Is there any use for surface water from the bayou?

A. Mr. Devillier verified that the principal use of the unimproved ditch was to transport rainfall runoff and treated sewage to the Houston ship channel. There are no reported uses of surface water supply intakes along this bayou within the study area.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Jonathan Stewart for BM.

INFORMATION COPIES
TO:

EPA Form 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 Which May Be Used Until Supply is Exhausted.

RECORD OF COMMUNICATION	(Record of Item Checked Below) _X_Phone Call ___Discussion ___Field Trip ___Conference ___Other(Specify)	
TO: Dr. Herbert McKee Occupational Health City of Houston Health Dept/Engineering (713) 640-4399	From: Kelly Bowles, FIT Geologist	Date: 1/9/89 Time: 2:25 pm

SUBJECT: Buffalo Bayou/Houston Ship Channel

SUMMARY OF COMMUNICATION

Q: Do you know what Buffalo Bayou is used for?

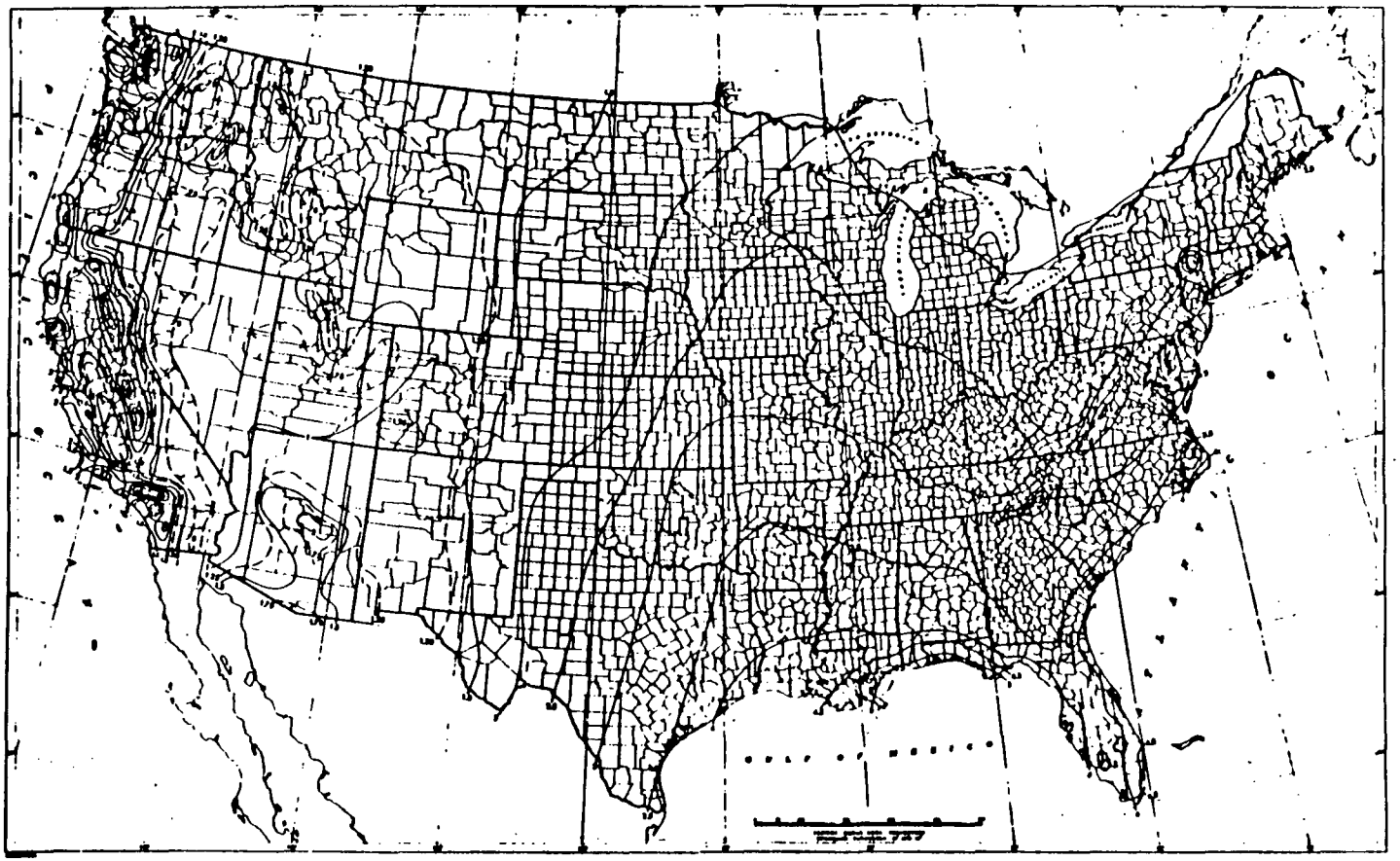
A: Buffalo Bayou is used for navigation and by industries along the channel for once through cooling water. There is no consumptive use and it is not used for drinking water.

Abridged from TXD008080715

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.



Source: Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Department of Commerce, U.S. Government Printing Office, Washington, D.C., 1963.

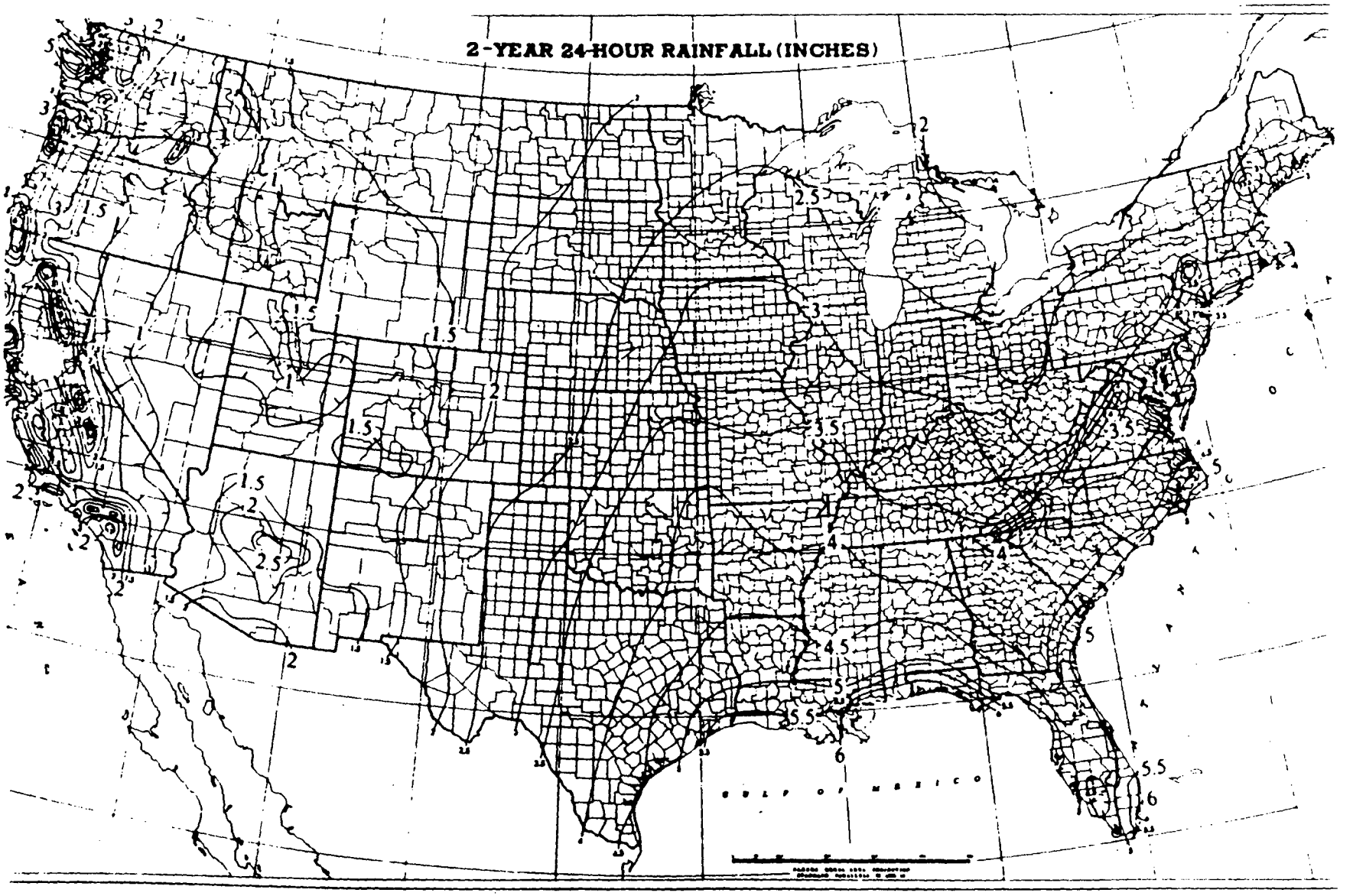
FIGURE 8
1-YEAR 24-HOUR RAINFALL
(INCHES)

REF. 11

recycled paper

ecology and environment

2-YEAR 24-HOUR RAINFALL (INCHES)



RECORD OF COMMUNICATION	(Record of Item Checked Below) _X_Phone Call ___Discussion ___Field Trip ___Conference ___Other(Specify)	
To: Henry Flemming Technician ACOE Galveston District (409) 766-3076	From: Brian Boerner, FIT Chemist	Date: 1/10/89 Time: 1243

SUBJECT: Flood Plains of Houston

SUMMARY OF COMMUNICATION

Area around 800 N. Velasco is in zone C, which is out of the floodplain.

Information from FIRM; Map Panel #480296-0125-6, September 27, 1985.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

RECORD OF COMMUNICATION	(Record of Item Checked Below) _X_Phone Call ___Discussion ___Field Trip ___Conference ___Other(Specify)	
TO: Louis Bowen, Manager Groundwater Section, Public Works Dept. 105 Sabine Houston, Texas (713) 223-1095	From: Bradley Morris GIT Geologist	Date: 7/24/87 Time: 11:00 am

SUBJECT: Jensen Drive - Water Supplies

SUMMARY OF COMMUNICATION

Q. What percentage of the public water supply for the 3-mile area around Jensen Drive and Collingsworth is served by surface water and what percentage is served by groundwater? Which well supplies groundwater for this area? What aquifer is utilized?

A. The 3-mile study radius is served approximately 90% of the time by surface water from Lakes Conroe, Houston and Livingston (all three located outside study area). The 10% water supplies is suplied by the Northeast Water District Water Supply Well Numbers 4, 5, 6, 7. These four wells produce from the Evangeline aquifer at 1,500 to 2,000 foot depths.

Abridged from TXD 981602402

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

REF. 14

RECORD OF COMMUNICATION	(Record of Item Checked Below) _X_Phone Call ___Discussion ___Field Trip ___Conference ___Other(Specify)	
TO: Don MacInnes, Houston Public Works Water Production Office 105 Sabine, Houston, TX (713) 227-6558	From: Kelly Bowles, FIT Geologist Kelly Bowles	Date: 1/5/89 Time: 1:00 pm

SUBJECT: Ground Water and Surface Water Use - City of Houston

SUMMARY OF COMMUNICATION

Q. Where does the public water supply for the study area in the City of Houston come from?

A. Drinking water for that area is a mixture of surface water and ground water. Surface water comes from Lake Houston, 17 miles north. Ground water comes from City of Houston water supply wells, four of which are located within four miles of your area of concern: Central #19, Central #20, Central #21 and Scott Street #6. Approximately 60% comes from surface water and 40% from groundwater (see attachment).

Q: What are the uses of Buffalo Bayou?

A. Buffalo Bayou is primarily a storm sewer outlet with limited recreational uses - such as canoeing. There is no surface water withdrawn from Buffalo Bayou for public water supply use in the City of Houston. It is not used for irrigation either.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

REF. 15

PHC80-2-184

Census Tracts

HOUSTON, TEX.

STANDARD METROPOLITAN STATISTICAL AREA

Section 1 of 2

1980

Census of Population and Housing

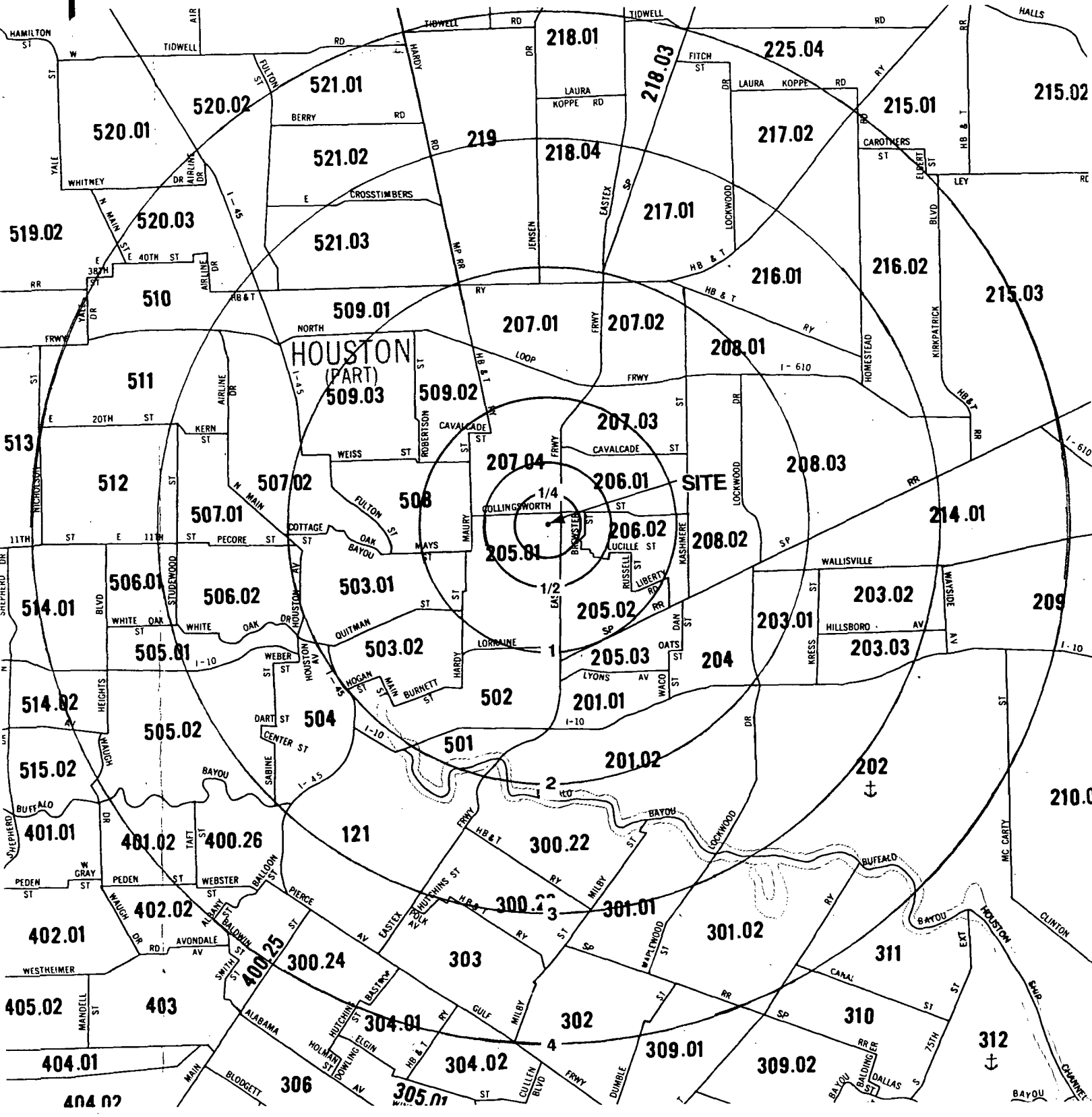
U.S. Department of Commerce
BUREAU OF THE CENSUS

1980 CENSUS TRACTS

REF 15

HOUSTON, TEX.

STANDARD METROPOLITAN STATISTICAL AREA



Jensen Drive Drum Site

Reference 15

Population Served by Ground Water
Computed from the 1980 Census Tracts
of Houston, Texas

Distance Miles	Population	Distance Miles	CUMULATIVE Population
0 - 1/4	1,462	0 - 1/4	1,462
1/4 - 1/2	4,290	0 - 1/2	5,752
1/2 - 1	12,053	0 - 1	17,805
1 - 2	44,524	0 - 2	62,329
2 - 3	74,048	0 - 3	136,377
3 - 4	101,092	0 - 4	237,469

1980 Census of Population and Housing

Census Tracts

HOUSTON, TEX.

STANDARD METROPOLITAN
STATISTICAL AREA

PHC80-2-184

Section 1: Tables P-1—P-17

Issued July 1983

U.S. Department of Commerce
Malcolm Baldrige, Secretary
Robert G. Dederick,
Under Secretary for
Economic Affairs

BUREAU OF THE CENSUS
Bruce Chapman, Director

Table P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0202.99	Tract 0203.01	Tract 0203.02	Tract 0203.03	Tract 0204	Tract 0205.01	Tract 0205.02	Tract 0205.03	Tract 0206.01	Tract 0206.02	Tract 0207.01	Tract 0207.02	Tract 0207.03
AGE													
Total persons	**42**	**3 779**	**5 853**	**2 463**	**3 111**	**4 020**	**5 757**	**2 431**	**3 512**	**3 524**	**2 689**	**2 753**	**2 622**
Under 5 years	–	404	615	281	231	402	532	211	283	317	241	261	207
5 to 9 years	–	379	685	268	259	336	514	187	291	316	263	318	200
10 to 14 years	–	358	683	235	249	337	509	158	325	353	286	331	258
15 to 19 years	12	375	686	285	274	393	553	254	396	385	344	361	290
20 to 24 years	22	322	573	223	236	347	533	220	328	345	271	233	226
25 to 34 years	4	581	870	406	420	584	849	282	497	442	321	368	360
35 to 44 years	2	347	514	219	291	332	534	214	320	314	255	244	211
45 to 54 years	–	341	538	192	364	388	587	268	335	328	348	261	320
55 to 64 years	2	332	384	163	301	403	578	271	384	302	205	201	274
65 to 74 years	–	222	200	115	297	335	377	205	203	272	106	129	163
75 years and over	–	118	105	76	189	163	191	161	150	150	49	46	113
3 and 4 years	–	147	263	103	95	138	229	83	104	123	96	106	90
16 years and over	42	2 567	3 753	1 612	2 310	2 861	4 092	1 820	2 537	2 462	1 838	1 762	1 892
18 years and over	38	2 416	3 479	1 492	2 199	2 699	3 865	1 720	2 381	2 309	1 699	1 615	1 773
21 years and over	25	2 184	3 044	1 341	2 058	2 458	3 532	1 583	2 140	2 078	1 492	1 429	1 611
60 years and over	2	476	466	259	621	674	843	483	520	553	239	258	404
62 years and over	2	404	389	223	573	593	719	425	445	504	200	213	340
Median	21.6	25.7	22.1	23.3	32.0	27.6	27.3	29.9	27.3	25.8	23.6	22.1	28.0
Female	**21**	**1 908**	**2 857**	**1 229**	**1 685**	**2 061**	**3 131**	**1 308**	**1 895**	**1 781**	**1 386**	**1 543**	**1 371**
Under 5 years	–	197	308	138	110	195	264	107	147	137	124	128	101
5 to 9 years	–	189	327	118	131	155	287	94	147	169	145	143	86
10 to 14 years	–	184	338	125	122	184	276	82	163	172	148	160	132
15 to 19 years	6	170	327	134	151	187	311	138	196	194	166	208	140
20 to 24 years	9	155	255	111	135	176	288	109	187	160	123	137	103
25 to 34 years	2	296	415	187	218	292	449	146	260	230	164	239	203
35 to 44 years	2	152	239	106	151	164	286	102	176	170	142	150	120
45 to 54 years	–	173	275	105	187	214	328	143	191	176	195	158	173
55 to 64 years	2	184	187	88	158	217	333	162	211	164	99	110	162
65 to 74 years	–	130	114	69	198	186	203	122	129	143	48	82	83
75 years and over	–	78	72	48	124	91	106	103	88	66	32	28	68
3 and 4 years	–	71	126	47	50	66	113	47	56	47	48	51	43
16 years and over	21	1 298	1 838	817	1 285	1 480	2 245	1 001	1 400	1 273	939	1 069	1 021
18 years and over	19	1 232	1 697	761	1 229	1 399	2 118	942	1 321	1 188	869	977	971
21 years and over	13	1 131	1 494	694	1 146	1 298	1 927	875	1 186	1 078	772	870	890
60 years and over	2	281	261	156	403	376	475	293	307	289	117	159	217
62 years and over	2	246	223	137	374	332	399	259	271	258	97	134	181
Median	21.8	26.8	22.6	24.5	33.6	28.6	27.5	33.0	28.4	27.8	24.3	24.9	30.7
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**42**	**3 779**	**5 853**	**2 463**	**3 111**	**4 020**	**5 757**	**2 431**	**3 512**	**3 524**	**2 689**	**2 753**	**2 622**
In households	–	3 770	5 852	2 463	3 105	4 013	5 757	2 429	3 410	3 524	2 689	2 753	2 542
Householder	–	1 147	1 466	690	1 226	1 440	2 081	939	1 201	1 093	783	790	785
Family householder	–	863	1 260	536	723	903	1 359	585	836	835	623	644	610
Nonfamily householder	–	284	206	154	503	537	722	354	365	258	160	146	175
Living alone	–	233	169	135	449	468	647	304	329	216	139	126	163
Spouse	–	620	1 043	441	343	471	723	268	436	469	403	310	391
Other relatives	–	1 866	3 226	1 278	1 400	1 915	2 740	1 123	1 659	1 821	1 445	1 596	1 325
Nonrelatives	–	137	117	54	136	187	213	99	114	141	58	57	41
Inmate of institution	–	–	–	–	–	–	–	2	40	–	–	–	80
Other, in group quarters	42	9	1	–	6	7	–	–	62	–	–	–	–
Persons per household	–	3.29	3.99	3.57	2.53	2.79	2.77	2.59	2.84	3.22	3.43	3.48	3.24
Persons per family	–	3.88	4.39	4.21	3.41	3.64	3.55	3.38	3.51	3.74	3.97	3.96	3.81
Persons 65 years and over	–	**340**	**305**	**191**	**486**	**498**	**568**	**366**	**353**	**422**	**155**	**175**	**276**
In households	–	340	305	191	486	497	568	365	317	422	155	175	208
Householder	–	233	206	131	359	349	402	295	230	288	111	114	152
Nonfamily householder	–	107	85	67	161	181	177	163	101	94	48	39	63
Living alone	–	101	80	64	151	164	165	148	92	90	46	33	62
Spouse	–	57	53	33	83	63	98	40	43	87	24	31	33
Other relatives	–	44	42	23	38	57	56	17	36	40	19	27	23
Nonrelatives	–	6	4	4	6	28	12	13	8	7	1	3	–
Inmate of institution	–	–	–	–	–	–	–	1	31	–	–	–	68
Other, in group quarters	–	–	–	–	–	1	–	–	5	–	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	–	**863**	**1 260**	**536**	**723**	**903**	**1 359**	**585**	**836**	**835**	**623**	**644**	**610**
With own children under 18 years	–	473	827	342	318	469	706	243	439	416	375	406	329
Number of own children under 18 years	–	1 183	2 109	846	689	1 026	1 509	501	932	958	838	957	669
Married-couple families	–	**620**	**1 043**	**441**	**343**	**471**	**723**	**268**	**436**	**469**	**403**	**310**	**391**
With own children under 18 years	–	355	721	298	138	223	335	95	204	219	233	176	201
Number of own children under 18 years	–	879	1 857	742	308	493	672	193	422	497	538	406	425
Female householder, no husband present	–	**193**	**152**	**66**	**330**	**352**	**552**	**264**	**341**	**290**	**178**	**306**	**188**
With own children under 18 years	–	110	83	35	166	220	336	130	211	173	125	223	119
Number of own children under 18 years	–	285	195	76	355	486	781	273	471	416	270	538	230
MARITAL STATUS													
Male, 15 years and over	**21**	**1 300**	**1 986**	**831**	**1 050**	**1 418**	**1 898**	**850**	**1 175**	**1 235**	**930**	**731**	**905**
Single	21	406	651	269	379	528	691	317	451	443	356	291	328
Now married, except separated	–	740	1 182	484	397	546	783	295	486	537	429	339	440
Separated	–	52	49	23	100	111	149	91	81	95	51	32	37
Widowed	–	29	36	20	54	106	126	74	65	70	34	21	38
Divorced	–	73	68	35	120	127	149	73	92	90	60	48	62
Female, 15 years and over	**21**	**1 338**	**1 884**	**848**	**1 322**	**1 527**	**2 304**	**1 025**	**1 438**	**1 303**	**969**	**1 112**	**1 052**
Single	21	277	398	186	372	451	667	280	413	363	286	384	285
Now married, except separated	–	681	1 143	472	379	512	772	285	486	510	425	337	428
Separated	–	84	67	29	119	137	260	134	124	100	85	106	70
Widowed	–	184	175	103	313	270	346	232	252	213	88	130	155
Divorced	–	112	101	58	139	157	259	94	163	117	85	155	114

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0207.04	Tract 0208.01	Tract 0208.02	Tract 0208.03	Tract 0209	Tract 0210.01	Tract 0210.02	Tract 0211*	Tract 0212*	Tract 0213.01	Tract 0213.02	Tract 0214.01	Tract 0214.02
AGE													
Total persons	**988**	**1 880**	**4 822**	**5 719**	**751**	**5 473**	**3 222**	–	–	**2 951**	**9 136**	**374**	**2 849**
Under 5 years	80	177	449	566	97	336	238	–	–	234	1 027	19	193
5 to 9 years	94	170	467	556	68	383	269	–	–	228	803	38	225
10 to 14 years	76	153	433	459	53	390	309	–	–	266	465	40	239
15 to 19 years	107	240	482	632	74	571	318	–	–	299	583	41	321
20 to 24 years	98	224	531	632	90	593	290	–	–	212	1 480	24	248
25 to 34 years	149	301	751	801	123	569	382	–	–	443	2 519	47	407
35 to 44 years	98	181	475	471	74	436	260	–	–	400	815	11	321
45 to 54 years	121	173	458	651	67	929	288	–	–	385	593	38	289
55 to 64 years	85	149	393	518	59	729	402	–	–	310	421	46	313
65 to 74 years	60	78	238	303	34	383	313	–	–	127	240	38	193
75 years and over	20	34	145	130	12	154	153	–	–	47	190	32	100
3 and 4 years	28	76	161	243	30	123	84	–	–	113	398	6	75
16 years and over	711	1 339	3 373	4 012	522	4 271	2 341	–	–	2 158	6 752	271	2 135
18 years and over	669	1 247	3 178	3 757	491	4 013	2 206	–	–	2 034	6 581	257	2 006
21 years and over	609	1 096	2 879	3 372	440	3 655	2 033	–	–	1 878	6 027	233	1 813
60 years and over	126	174	573	654	62	822	675	–	–	284	598	94	429
62 years and over	105	139	500	550	56	704	585	–	–	228	517	82	360
Median	27.1	24.4	25.4	25.1	24.4	32.5	28.9	–	–	30.3	25.7	29.4	29.9
Female	**489**	**1 006**	**2 545**	**2 998**	**381**	**2 824**	**1 751**	–	–	**1 489**	**4 600**	**206**	**1 440**
Under 5 years	44	88	226	277	47	161	127	–	–	105	504	12	100
5 to 9 years	45	88	227	282	32	179	138	–	–	116	411	18	118
10 to 14 years	39	77	213	246	30	198	146	–	–	123	232	19	132
15 to 19 years	50	112	231	290	31	253	161	–	–	139	322	25	156
20 to 24 years	47	120	284	321	54	296	144	–	–	116	787	11	128
25 to 34 years	74	167	401	436	61	292	219	–	–	226	1 186	29	194
35 to 44 years	46	104	252	287	37	250	155	–	–	205	346	5	157
45 to 54 years	61	104	269	367	42	509	171	–	–	198	315	27	150
55 to 64 years	45	81	207	277	23	360	238	–	–	155	209	29	153
65 to 74 years	27	44	143	154	19	217	169	–	–	74	145	17	103
75 years and over	11	21	92	61	5	109	83	–	–	32	143	14	49
3 and 4 years	15	34	87	118	17	63	48	–	–	56	198	4	39
16 years and over	348	730	1 833	2 132	265	2 252	1 304	–	–	1 118	3 410	154	1 057
18 years and over	331	685	1 739	2 022	257	2 150	1 237	–	–	1 060	3 323	143	993
21 years and over	297	611	1 582	1 846	232	1 965	1 151	–	–	980	3 004	129	899
60 years and over	57	100	330	339	29	470	382	–	–	158	370	47	218
62 years and over	48	83	290	282	28	408	328	–	–	134	330	41	193
Median	26.2	26.1	26.7	26.6	24.4	36.6	31.2	–	–	31.3	25.3	31.0	29.6
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**988**	**1 880**	**4 822**	**5 719**	**751**	**5 473**	**3 222**	–	–	**2 951**	**9 136**	**374**	**2 849**
In households	976	1 880	4 813	5 705	751	5 473	3 222	–	–	2 951	8 994	374	2 756
Householder	320	604	1 610	1 772	220	1 761	1 072	–	–	951	3 629	129	926
Family householder	225	464	1 201	1 428	189	1 373	803	–	–	805	2 404	87	662
Nonfamily householder	95	140	409	344	31	388	269	–	–	146	1 225	42	264
Living alone	83	114	365	306	28	366	247	–	–	138	1 042	39	242
Spouse	148	239	665	918	171	1 057	472	–	–	729	1 943	50	565
Other relatives	476	955	2 420	2 883	343	2 549	1 611	–	–	1 238	3 126	186	1 177
Nonrelatives	32	82	118	132	17	106	67	–	–	33	296	9	88
Inmate of institution	–	–	–	–	–	–	–	–	–	–	142	–	–
Other, in group quarters	12	–	9	14	–	–	–	–	–	–	–	–	93
Persons per household	3.05	3.11	2.99	3.22	3.41	3.11	3.01	–	–	3.10	2.48	2.90	2.98
Persons per family	3.77	3.57	3.57	3.66	3.72	3.63	3.59	–	–	3.44	3.11	3.71	3.63
Persons 65 years and over	**80**	**112**	**383**	**433**	**46**	**537**	**466**	–	–	**174**	**430**	**70**	**293**
In households	79	112	383	433	46	537	466	–	–	174	313	70	293
Householder	54	71	269	286	28	381	333	–	–	104	220	55	200
Nonfamily householder	21	23	100	88	9	180	113	–	–	40	126	23	90
Living alone	19	20	93	84	9	176	108	–	–	39	125	21	86
Spouse	14	22	74	81	11	93	85	–	–	39	49	7	51
Other relatives	9	16	36	55	7	59	39	–	–	30	40	8	34
Nonrelatives	2	3	4	11	–	4	9	–	–	1	4	–	8
Inmate of institution	–	–	–	–	–	–	–	–	–	–	117	–	–
Other, in group quarters	1	–	–	–	–	–	–	–	–	–	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**225**	**464**	**1 201**	**1 428**	**189**	**1 373**	**803**	–	–	**805**	**2 404**	**87**	**662**
With own children under 18 years	127	274	656	784	112	576	344	–	–	430	1 402	39	343
Number of own children under 18 years	255	530	1 334	1 592	235	1 101	747	–	–	838	2 393	90	744
Married-couple families	**148**	**239**	**665**	**918**	**171**	**1 057**	**472**	–	–	**729**	**1 943**	**50**	**565**
With own children under 18 years	76	127	332	476	105	447	183	–	–	390	1 098	19	308
Number of own children under 18 years	161	232	682	960	218	879	394	–	–	772	1 922	41	675
Female householder, no husband present	**62**	**194**	**443**	**427**	**13**	**247**	**277**	–	–	**54**	**345**	**31**	**56**
With own children under 18 years	45	134	289	280	7	108	147	–	–	30	258	16	25
Number of own children under 18 years	82	275	588	573	17	185	335	–	–	49	401	39	52
MARITAL STATUS													
Male, 15 years and over	**377**	**627**	**1 594**	**1 945**	**261**	**2 078**	**1 066**	–	–	**1 078**	**3 388**	**120**	**1 102**
Single	142	272	605	695	66	698	377	–	–	257	876	39	318
Now married, except separated	166	258	729	990	178	1 160	504	–	–	758	2 033	56	633
Separated	22	37	69	92	2	71	62	–	–	9	103	3	25
Widowed	8	16	52	71	6	51	57	–	–	17	61	10	63
Divorced	39	44	139	97	9	98	66	–	–	37	315	12	63
Female, 15 years and over	**361**	**753**	**1 879**	**2 193**	**272**	**2 286**	**1 340**	–	–	**1 145**	**3 453**	**157**	**1 090**
Single	108	256	528	604	56	561	347	–	–	188	627	42	272
Now married, except separated	158	255	723	961	176	1 117	500	–	–	755	2 026	52	600
Separated	26	83	167	162	8	89	90	–	–	20	145	12	27
Widowed	31	74	243	253	17	327	246	–	–	96	307	30	119
Divorced	38	85	218	213	15	192	157	–	–	86	348	21	72

ple P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0215.01	Tract 0215.02	Tract 0215.03	Tract 0216.01	Tract 0216.02	Tract 0217.01	Tract 0217.02	Tract 0218.01	Tract 0218.02	Tract 0218.03	Tract 0218.04	Tract 0219	Tract 0220.01
Total persons	**4 411**	**5 946**	**6 519**	**3 808**	**2 115**	**6 840**	**3 504**	**2 380**	**2 579**	**2 074**	**5 481**	**6 212**	**2 844**
Under 5 years	380	563	512	286	153	754	341	238	242	223	575	708	313
5 to 9 years	403	675	587	346	171	685	310	236	269	170	663	606	245
10 to 14 years	528	756	603	364	243	653	335	186	245	180	683	549	221
15 to 19 years	636	733	798	487	343	744	387	227	298	221	645	614	224
20 to 24 years	402	472	568	363	156	709	372	291	227	282	565	690	267
25 to 34 years	551	879	752	427	230	1 021	392	473	366	309	861	972	471
35 to 44 years	620	782	530	399	347	638	338	264	285	234	503	517	271
45 to 54 years	463	561	714	435	209	555	365	189	249	221	465	579	247
55 to 64 years	260	307	727	314	146	497	280	130	200	144	273	464	279
65 to 74 years	118	158	490	239	83	381	245	110	143	70	179	330	197
75 years and over	50	60	238	148	34	203	139	36	55	20	69	183	109
3 and 4 years	150	255	196	112	63	322	133	101	94	98	235	273	129
18 years and over	2 972	3 780	4 678	2 728	1 470	4 591	2 449	1 680	1 760	1 469	3 428	4 252	2 023
21 years and over	2 691	3 488	4 328	2 532	1 320	4 271	2 264	1 600	1 628	1 379	3 176	3 989	1 941
62 years and over	2 365	3 103	3 884	2 232	1 155	3 864	2 035	1 421	1 472	1 240	2 786	3 603	1 801
65 years and over	273	336	1 060	527	169	814	527	220	271	157	350	731	449
65 years and over	230	274	928	466	155	716	466	186	244	124	300	662	393
Median	22.9	22.5	27.0	26.3	24.6	24.1	25.1	25.2	25.2	24.3	21.4	24.5	27.5
Female	**2 288**	**3 038**	**3 499**	**2 016**	**1 118**	**3 620**	**1 832**	**1 029**	**1 308**	**1 016**	**2 933**	**3 089**	**1 424**
Under 5 years	173	287	275	144	83	370	163	107	141	106	286	359	135
5 to 9 years	194	329	271	165	92	350	173	120	126	89	349	277	121
10 to 14 years	273	357	286	191	120	319	162	82	120	83	345	263	111
15 to 19 years	353	366	422	233	178	394	185	102	153	108	341	283	99
20 to 24 years	190	251	278	184	83	385	185	128	106	134	287	329	137
25 to 34 years	312	466	425	240	133	547	212	156	179	144	501	488	224
35 to 44 years	339	436	308	224	197	351	187	120	154	115	267	248	135
45 to 54 years	255	286	416	250	105	310	207	68	119	110	270	306	130
55 to 64 years	115	137	418	160	66	271	154	71	111	71	142	244	167
65 to 74 years	57	83	274	143	45	208	133	58	67	41	100	181	103
75 years and over	27	40	126	82	16	115	71	17	32	15	45	111	62
3 and 4 years	72	124	103	56	34	146	63	45	49	51	116	137	53
18 years and over	1 578	1 982	2 590	1 468	790	2 507	1 292	700	890	726	1 876	2 148	1 039
21 years and over	1 424	1 830	2 401	1 377	714	2 333	1 209	667	819	681	1 738	2 021	1 002
62 years and over	1 251	1 652	2 186	1 233	615	2 108	1 102	591	747	611	1 540	1 846	933
65 years and over	125	175	593	300	84	449	286	112	136	91	189	406	252
65 years and over	107	147	511	269	76	394	248	93	125	75	164	374	217
Median	23.7	23.8	29.8	28.8	25.1	24.9	26.6	24.2	25.4	24.6	22.5	25.4	28.8
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**4 411**	**5 946**	**6 519**	**3 808**	**2 115**	**6 840**	**3 504**	**2 380**	**2 579**	**2 074**	**5 481**	**6 212**	**2 844**
In households	4 411	5 946	6 519	3 805	2 115	6 765	3 410	2 380	2 579	2 074	5 481	6 132	2 844
Householder	1 149	1 594	2 094	1 143	583	2 057	1 063	758	720	670	1 685	1 843	931
Family householder	1 018	1 380	1 609	908	518	1 641	814	540	604	491	1 308	1 442	743
Nonfamily householder	131	214	485	235	65	416	249	218	116	179	377	401	188
Living alone	118	174	452	219	57	362	227	161	100	147	320	329	169
Spouse	721	1 035	950	595	376	940	479	436	489	361	704	1 097	619
Other relatives	2 476	3 223	3 346	2 002	1 121	3 598	1 788	995	1 313	965	2 901	2 902	1 234
Nonrelatives	65	94	129	65	35	170	80	191	57	78	191	290	60
Inmate of institution	-	-	-	-	-	75	94	-	-	-	-	-	-
Other, in group quarters	-	-	-	3	-	-	-	-	-	-	-	80	-
Persons per household	3.84	3.73	3.11	3.33	3.63	3.29	3.21	3.14	3.58	3.10	3.25	3.33	3.05
Persons per family	4.14	4.09	3.67	3.86	3.89	3.77	3.79	3.65	3.98	3.70	3.76	3.77	3.49
Persons 65 years and over	**168**	**218**	**728**	**387**	**117**	**584**	**384**	**146**	**198**	**90**	**248**	**513**	**306**
In households	168	218	728	387	117	526	326	146	198	90	248	461	306
Householder	101	117	530	267	68	370	236	105	141	64	178	311	211
Nonfamily householder	38	36	221	110	22	122	104	40	53	30	78	121	84
Living alone	35	33	212	104	20	110	96	39	50	29	76	120	79
Spouse	30	52	115	69	29	96	60	33	42	16	38	103	57
Other relatives	31	40	74	48	17	48	23	8	15	10	28	43	31
Nonrelatives	6	9	9	3	3	12	7	-	-	-	4	4	7
Inmate of institution	-	-	-	-	-	58	58	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	52	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 018**	**1 380**	**1 609**	**908**	**518**	**1 641**	**814**	**540**	**604**	**491**	**1 308**	**1 442**	**743**
With own children under 18 years	663	901	786	486	310	990	448	315	352	274	886	848	391
Number of own children under 18 years	1 448	2 145	1 675	1 029	667	2 117	969	690	815	575	1 968	1 871	795
Married-couple families	**721**	**1 035**	**950**	**595**	**376**	**940**	**479**	**436**	**489**	**361**	**704**	**1 097**	**619**
With own children under 18 years	469	678	408	318	220	537	243	263	297	193	429	640	338
Number of own children under 18 years	1 063	1 660	877	686	474	1 098	516	590	696	398	909	1 435	713
Female householder, no husband present	**245**	**288**	**563**	**260**	**110**	**578**	**275**	**57**	**88**	**97**	**509**	**269**	**83**
With own children under 18 years	172	200	338	147	77	410	182	36	46	66	404	176	38
Number of own children under 18 years	344	436	733	311	173	947	407	73	104	154	951	366	58
MARITAL STATUS													
Male, 15 years and over	**1 452**	**1 887**	**2 150**	**1 296**	**725**	**2 167**	**1 184**	**1 000**	**902**	**763**	**1 607**	**2 159**	**1 008**
Single	530	607	759	475	246	754	462	349	271	257	608	724	218
Now married, except separated	766	1 098	1 014	645	394	1 036	506	527	534	397	770	1 211	666
Separated	57	74	120	55	28	138	60	36	21	32	104	45	20
Widowed	34	22	116	50	24	84	82	25	28	20	33	61	24
Divorced	65	86	141	71	33	155	74	63	48	57	92	118	80
Female, 15 years and over	**1 648**	**2 065**	**2 667**	**1 516**	**823**	**2 581**	**1 334**	**720**	**921**	**738**	**1 953**	**2 190**	**1 057**
Single	525	545	741	410	253	746	361	125	206	180	653	478	134
Now married, except separated	769	1 083	1 006	647	400	1 001	503	472	529	391	745	1 150	665
Separated	107	108	208	115	48	228	112	23	36	55	174	107	24
Widowed	116	163	427	213	56	312	225	49	85	61	178	278	147
Divorced	131	166	285	131	66	294	133	51	65	51	203	177	87

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0220.02	Tract 0221	Tract 0222.02*	Tract 0223.01*	Tract 0223.03*	Tract 0224.02*	Tract 0224.03*	Tract 0224.04	Tract 0225.01*	Tract 0225.02	Tract 0225.03	Tract 0225.04	Tract 0226.01*
AGE													
Total persons	**3 786**	**2 139**	-	-	**3**	**2 998**	**7 755**	**3 573**	**4 038**	**3 897**	**3 282**	**4 190**	**3 949**
Under 5 years	397	196	-	-	...	313	778	216	323	265	341	407	441
5 to 9 years	422	195	-	-	...	359	985	335	391	349	375	465	495
10 to 14 years	393	169	-	-	...	318	1 099	475	521	518	361	469	420
15 to 19 years	371	202	-	-	...	304	950	601	526	683	375	553	393
20 to 24 years	349	190	-	-	...	222	514	268	338	299	362	396	303
25 to 34 years	640	325	-	-	...	516	1 457	341	545	415	509	496	893
35 to 44 years	364	209	-	-	...	390	1 057	698	611	641	416	489	477
45 to 54 years	281	310	-	-	...	261	537	413	426	455	259	416	270
55 to 64 years	263	217	-	-	...	172	227	148	217	186	163	289	170
65 to 74 years	183	95	-	-	...	99	104	50	105	61	85	144	59
75 years and over	123	31	-	-	...	44	47	28	35	25	36	66	28
3 and 4 years	166	86	-	-	...	131	320	81	119	115	128	143	186
16 years and over	2 500	1 536	-	-	...	1 937	4 673	2 423	2 684	2 629	2 120	2 729	2 512
18 years and over	2 350	1 450	-	-	...	1 818	4 242	2 164	2 457	2 343	1 962	2 497	2 333
21 years and over	2 147	1 352	-	-	...	1 662	3 807	1 878	2 209	1 998	1 761	2 193	2 145
60 years and over	432	220	-	-	...	207	232	135	215	143	188	329	166
62 years and over	380	180	-	-	...	176	193	108	181	111	158	271	128
Median	24.5	27.8	-	-	...	24.6	20.5	22.4	23.6	21.7	22.6	22.2	23.9
Female	**1 929**	**1 091**	-	-	...	**1 519**	**3 967**	**1 861**	**2 109**	**2 011**	**1 732**	**2 110**	**2 009**
Under 5 years	195	98	-	-	...	152	397	96	149	128	162	203	216
5 to 9 years	219	100	-	-	...	167	479	156	199	171	190	206	250
10 to 14 years	186	83	-	-	...	156	558	234	274	271	178	217	201
15 to 19 years	173	93	-	-	...	150	471	320	251	342	193	257	191
20 to 24 years	193	101	-	-	...	118	263	149	185	138	221	208	182
25 to 34 years	338	150	-	-	...	277	791	201	309	246	279	277	471
35 to 44 years	178	113	-	-	...	191	554	393	334	353	241	277	244
45 to 54 years	148	165	-	-	...	135	264	200	218	227	127	209	129
55 to 64 years	131	110	-	-	...	88	107	75	109	92	82	135	72
65 to 74 years	96	55	-	-	...	54	52	23	62	26	38	78	31
75 years and over	72	23	-	-	...	31	31	14	19	17	21	43	22
3 and 4 years	84	39	-	-	...	65	154	35	57	49	58	73	80
16 years and over	1 293	791	-	-	...	1 014	2 432	1 306	1 431	1 374	1 157	1 427	1 307
18 years and over	1 215	752	-	-	...	957	2 219	1 176	1 312	1 243	1 076	1 323	1 215
21 years and over	1 125	707	-	-	...	870	1 990	1 016	1 206	1 068	959	1 183	1 124
60 years and over	230	128	-	-	...	114	126	66	113	71	94	175	85
62 years and over	201	108	-	-	...	102	107	51	101	56	76	147	69
Median	25.0	29.4	-	-	...	26.5	21.2	23.8	24.9	22.9	22.9	23.9	24.2
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**3 786**	**2 139**	-	-	**3**	**2 998**	**7 755**	**3 573**	**4 038**	**3 897**	**3 282**	**4 190**	**3 949**
In households	3 707	2 139	-	-	...	2 998	7 755	3 573	4 038	3 897	3 282	4 190	3 949
Householder	1 103	667	-	-	...	833	1 901	871	1 091	939	949	1 152	1 123
Family householder	904	575	-	-	...	721	1 759	825	946	869	810	952	988
Nonfamily householder	199	92	-	-	...	112	142	46	145	70	139	200	135
Living alone	177	79	-	-	...	95	126	45	123	61	126	180	119
Spouse	680	502	-	-	...	604	1 357	637	665	637	520	657	791
Other relatives	1 850	929	-	-	...	1 511	4 408	2 045	2 199	2 269	1 744	2 306	1 974
Nonrelatives	74	41	-	-	...	50	89	20	83	52	69	75	61
Inmate of institution	79	-	-	-	...	-	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	...	-	-	-	-	-	-	-	-
Persons per household	3.36	3.21	-	-	...	3.60	4.08	4.10	3.70	4.15	3.46	3.64	3.52
Persons per family	3.80	3.49	-	-	...	3.93	4.28	4.25	4.03	4.34	3.80	4.11	3.80
Persons 65 years and over	**306**	**126**	-	-	...	**143**	**151**	**78**	**140**	**86**	**121**	**210**	**87**
In households	243	126	-	-	...	143	151	78	140	86	121	210	87
Householder	165	73	-	-	...	90	79	38	86	53	75	132	49
Nonfamily householder	70	22	-	-	...	32	19	5	26	13	27	47	23
Living alone	69	22	-	-	...	29	18	5	22	12	26	46	21
Spouse	52	32	-	-	...	32	24	13	28	12	23	44	12
Other relatives	26	18	-	-	...	18	47	22	23	20	22	33	24
Nonrelatives	-	3	-	-	...	3	1	5	3	1	1	1	2
Inmate of institution	63	-	-	-	...	-	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	...	-	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**904**	**575**	-	-	...	**721**	**1 759**	**825**	**946**	**869**	**810**	**952**	**988**
With own children under 18 years	586	295	-	-	...	470	1 354	587	608	581	552	618	724
Number of own children under 18 years	1 281	596	-	-	...	1 043	3 181	1 249	1 322	1 326	1 156	1 429	1 504
Married-couple families	**680**	**502**	-	-	...	**604**	**1 357**	**637**	**665**	**637**	**520**	**657**	**791**
With own children under 18 years	436	268	-	-	...	402	1 050	461	426	429	343	424	569
Number of own children under 18 years	997	538	-	-	...	912	2 523	1 006	943	1 010	728	997	1 223
Female householder, no husband present	**177**	**59**	-	-	...	**92**	**336**	**160**	**241**	**196**	**247**	**248**	**159**
With own children under 18 years	132	22	-	-	...	58	264	111	165	134	190	175	130
Number of own children under 18 years	255	48	-	-	...	117	570	217	346	280	400	397	239
MARITAL STATUS													
Male, 15 years and over	**1 245**	**769**	-	-	...	**964**	**2 360**	**1 172**	**1 316**	**1 324**	**1 003**	**1 365**	**1 251**
Single	347	187	-	-	...	254	762	443	467	536	336	501	316
Now married, except separated	731	530	-	-	...	626	1 413	657	716	671	549	693	818
Separated	37	12	-	-	...	28	69	21	61	32	44	62	42
Widowed	50	7	-	-	...	18	36	14	22	27	18	27	10
Divorced	80	33	-	-	...	38	80	37	50	58	56	82	65
Female, 15 years and over	**1 329**	**810**	-	-	...	**1 044**	**2 533**	**1 375**	**1 487**	**1 441**	**1 202**	**1 484**	**1 342**
Single	265	121	-	-	...	208	630	482	431	489	368	429	298
Now married, except separated	716	529	-	-	...	629	1 409	660	703	665	541	703	816
Separated	65	21	-	-	...	32	134	55	93	71	95	99	58
Widowed	142	82	-	-	...	87	143	64	96	84	92	135	64
Divorced	141	57	-	-	...	88	217	114	164	132	106	118	106

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0226.02*	Tract 0227	Tract 0228.01*	Tract 0228.02*	Tract 0230.01*	Tract 0230.03*	Tract 0230.04*	Tract 0231	Tract 0232*	Tract 0233*	Tract 0233.99	Tract 0234*	Tract 0235*
AGE													
Total persons	**3 723**	**5 257**	-	**1**	-	-	**320**	**5 889**	**5 497**	-	-	-	-
Under 5 years	484	544	-	...	-	-	23	450	564	-	-	-	-
5 to 9 years	476	492	-	...	-	-	29	524	475	-	-	-	-
10 to 14 years	423	454	-	...	-	-	29	483	392	-	-	-	-
15 to 19 years	406	554	-	...	-	-	23	531	494	-	-	-	-
20 to 24 years	399	531	-	...	-	-	32	490	634	-	-	-	-
25 to 34 years	714	875	-	...	-	-	55	990	1 035	-	-	-	-
35 to 44 years	390	518	-	...	-	-	32	649	561	-	-	-	-
45 to 54 years	211	569	-	...	-	-	40	842	561	-	-	-	-
55 to 64 years	145	421	-	...	-	-	40	616	459	-	-	-	-
65 to 74 years	57	204	-	...	-	-	10	241	235	-	-	-	-
75 years and over	18	95	-	...	-	-	7	73	87	-	-	-	-
3 and 4 years	185	212	-	...	-	-	11	187	199	-	-	-	-
16 years and over	2 237	3 656	-	...	-	-	235	4 316	4 005	-	-	-	-
18 years and over	2 080	3 425	-	...	-	-	223	4 095	3 808	-	-	-	-
21 years and over	1 861	3 117	-	...	-	-	213	3 806	3 448	-	-	-	-
60 years and over	125	474	-	...	-	-	33	557	522	-	-	-	-
62 years and over	96	390	-	...	-	-	27	436	432	-	-	-	-
Median	21.0	25.5	-	...	-	-	28.3	29.1	26.3	-	-	-	-
Female	**1 935**	**2 700**	-	...	-	-	**169**	**2 955**	**2 466**	-	-	-	-
Under 5 years	245	298	-	...	-	-	11	216	266	-	-	-	-
5 to 9 years	209	262	-	...	-	-	9	260	234	-	-	-	-
10 to 14 years	222	206	-	...	-	-	20	236	198	-	-	-	-
15 to 19 years	206	276	-	...	-	-	14	239	200	-	-	-	-
20 to 24 years	226	277	-	...	-	-	21	262	253	-	-	-	-
25 to 34 years	405	437	-	...	-	-	27	473	416	-	-	-	-
35 to 44 years	215	271	-	...	-	-	17	355	227	-	-	-	-
45 to 54 years	103	301	-	...	-	-	20	423	275	-	-	-	-
55 to 64 years	70	200	-	...	-	-	20	316	208	-	-	-	-
65 to 74 years	26	108	-	...	-	-	5	131	130	-	-	-	-
75 years and over	8	64	-	...	-	-	5	44	59	-	-	-	-
3 and 4 years	89	112	-	...	-	-	5	87	91	-	-	-	-
16 years and over	1 208	1 881	-	...	-	-	125	2 186	1 742	-	-	-	-
18 years and over	1 129	1 764	-	...	-	-	121	2 093	1 648	-	-	-	-
21 years and over	1 011	1 612	-	...	-	-	114	1 958	1 523	-	-	-	-
60 years and over	61	258	-	...	-	-	17	283	279	-	-	-	-
62 years and over	43	219	-	...	-	-	13	234	237	-	-	-	-
Median	21.9	25.5	-	...	-	-	27.9	29.9	26.4	-	-	-	-
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**3 723**	**5 257**	-	**1**	-	-	**320**	**5 889**	**5 497**	-	-	-	-
In households	3 723	5 257	-	...	-	-	320	5 889	5 459	-	-	-	-
Householder	1 063	1 624	-	...	-	-	111	1 963	1 821	-	-	-	-
Family householder	927	1 363	-	...	-	-	93	1 706	1 337	-	-	-	-
Nonfamily householder	136	261	-	...	-	-	18	257	484	-	-	-	-
Living alone	123	227	-	...	-	-	16	227	379	-	-	-	-
Spouse	626	1 093	-	...	-	-	82	1 489	1 114	-	-	-	-
Other relatives	1 958	2 421	-	...	-	-	122	2 363	2 161	-	-	-	-
Nonrelatives	76	119	-	...	-	-	5	74	363	-	-	-	-
Inmate of institution	-	-	-	...	-	-	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	...	-	-	-	-	38	-	-	-	-
Persons per household	3.50	3.24	-	...	-	-	2.88	3.00	3.00	-	-	-	-
Persons per family	3.79	3.58	-	...	-	-	3.19	3.26	3.45	-	-	-	-
Persons 65 years and over	**75**	**299**	-	...	-	-	**17**	**314**	**322**	-	-	-	-
In households	75	299	-	...	-	-	17	314	321	-	-	-	-
Householder	47	186	-	...	-	-	13	200	204	-	-	-	-
Nonfamily householder	22	77	-	...	-	-	8	71	84	-	-	-	-
Living alone	21	74	-	...	-	-	8	69	79	-	-	-	-
Spouse	12	63	-	...	-	-	3	68	69	-	-	-	-
Other relatives	16	49	-	...	-	-	1	43	41	-	-	-	-
Nonrelatives	-	1	-	...	-	-	-	3	7	-	-	-	-
Inmate of institution	-	-	-	...	-	-	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	...	-	-	-	-	1	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**927**	**1 363**	-	...	-	-	**93**	**1 706**	**1 337**	-	-	-	-
With own children under 18 years	677	798	-	...	-	-	49	897	694	-	-	-	-
Number of own children under 18 years	1 474	1 641	-	...	-	-	84	1 636	1 495	-	-	-	-
Married-couple families	**626**	**1 093**	-	...	-	-	**82**	**1 489**	**1 114**	-	-	-	-
With own children under 18 years	422	624	-	...	-	-	42	775	596	-	-	-	-
Number of own children under 18 years	949	1 291	-	...	-	-	71	1 450	1 302	-	-	-	-
Female householder, no husband present	**265**	**209**	-	...	-	-	**10**	**167**	**140**	-	-	-	-
With own children under 18 years	234	147	-	...	-	-	6	98	75	-	-	-	-
Number of own children under 18 years	490	303	-	...	-	-	10	148	154	-	-	-	-
MARITAL STATUS													
Male, 15 years and over	**1 081**	**1 833**	-	...	-	-	**110**	**2 189**	**2 298**	-	-	-	-
Single	304	473	-	...	-	-	18	476	665	-	-	-	-
Now married, except separated	654	1 146	-	...	-	-	82	1 537	1 342	-	-	-	-
Separated	38	49	-	...	-	-	1	26	65	-	-	-	-
Widowed	21	35	-	...	-	-	2	37	52	-	-	-	-
Divorced	64	130	-	...	-	-	7	113	174	-	-	-	-
Female, 15 years and over	**1 259**	**1 934**	-	...	-	-	**129**	**2 243**	**1 768**	-	-	-	-
Single	313	359	-	...	-	-	19	311	231	-	-	-	-
Now married, except separated	660	1 138	-	...	-	-	83	1 536	1 172	-	-	-	-
Separated	98	79	-	...	-	-	3	21	53	-	-	-	-
Widowed	55	173	-	...	-	-	10	194	164	-	-	-	-
Divorced	133	185	-	...	-	-	14	181	148	-	-	-	-

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0236[p]	Tract 0237[p]	Tract 0238[p]	Tract 0240.02[p]	Tract 0241.01[p]	Tract 0241.02[p]	Tract 0243	Tract 0244.02[p]	Tract 0245.02[p]	Tract 0246[p]	Tract 0247[p]	Tract 0248[p]	Tract 0249.02[p]
AGE													
Total persons	–	**207**	**1 284**	–	**121**	**985**	**1 941**	**67**	**689**	**35**	**117**	**425**	**285**
Under 5 years	–	16	88	–	10	92	175	1	68	–	10	34	24
5 to 9 years	–	6	131	–	8	74	164	5	52	1	7	40	29
10 to 14 years	–	14	142	–	13	99	183	6	79	6	6	44	22
15 to 19 years	–	21	146	–	9	91	188	12	71	8	13	49	20
20 to 24 years	–	24	105	–	10	101	216	5	80	2	8	31	32
25 to 34 years	–	21	224	–	18	153	299	6	107	2	17	61	48
35 to 44 years	–	35	169	–	14	113	254	11	89	9	16	69	29
45 to 54 years	–	34	179	–	20	113	215	12	71	6	16	52	32
55 to 64 years	–	20	76	–	8	82	140	1	40	–	11	21	28
65 to 74 years	–	10	15	–	1	43	78	6	22	1	10	18	12
75 years and over	–	6	9	–	10	24	29	2	10	–	3	6	9
3 and 4 years	–	8	45	–	4	34	78	–	29	–	2	15	4
16 years and over	–	166	898	–	87	697	1 381	51	479	25	91	300	208
18 years and over	–	160	831	–	85	659	1 303	46	451	22	86	283	201
21 years and over	–	146	752	–	79	599	1 185	42	400	19	78	252	177
60 years and over	–	28	50	–	13	101	174	9	52	1	21	36	33
62 years and over	–	23	39	–	13	87	141	9	48	1	17	30	27
Median	–	35.5	26.1	–	29.9	26.8	26.2	29.8	24.7	26.5	32.5	28.6	27.8
Female	–	**92**	**649**	–	**70**	**480**	**973**	**33**	**341**	**17**	**57**	**210**	**150**
Under 5 years	–	8	42	–	5	45	92	1	30	–	4	13	16
5 to 9 years	–	2	60	–	7	37	73	2	22	–	4	20	15
10 to 14 years	–	4	78	–	10	44	88	4	47	4	2	24	10
15 to 19 years	–	7	69	–	6	45	89	3	37	4	8	24	10
20 to 24 years	–	10	46	–	8	49	116	4	38	–	3	16	21
25 to 34 years	–	7	122	–	7	69	156	2	56	–	9	34	22
35 to 44 years	–	23	96	–	9	55	126	8	39	6	9	32	12
45 to 54 years	–	13	87	–	9	59	106	6	29	3	7	22	19
55 to 64 years	–	9	35	–	3	41	73	1	24	–	4	12	12
65 to 74 years	–	6	6	–	1	23	39	2	11	–	6	10	7
75 years and over	–	3	8	–	5	13	15	–	8	–	1	3	6
3 and 4 years	–	3	21	–	2	16	40	–	15	–	1	6	2
16 years and over	–	77	459	–	45	342	704	24	238	11	46	150	109
18 years and over	–	74	419	–	45	326	668	24	222	10	42	141	106
21 years and over	–	70	392	–	40	293	604	22	196	9	38	126	89
60 years and over	–	14	27	–	7	52	82	3	31	–	9	20	20
62 years and over	–	13	21	–	7	47	69	3	29	–	8	17	17
Median	–	40.3	27.1	–	24.0	28.0	26.5	37.5	24.7	35.5	31.8	28.8	26.4
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	–	**207**	**1 284**	–	**121**	**985**	**1 941**	**67**	**689**	**35**	**117**	**425**	**285**
In households	–	207	1 284	–	121	985	1 941	67	689	35	117	425	285
Householder	–	75	376	–	42	313	653	26	224	9	38	125	102
Family householder	–	61	348	–	32	260	487	12	182	9	35	112	78
Nonfamily householder	–	14	28	–	10	53	166	14	42	–	3	13	24
Living alone	–	14	24	–	7	44	141	13	31	–	3	11	19
Spouse	–	53	297	–	30	228	396	7	153	7	29	100	71
Other relatives	–	75	592	–	45	423	841	32	294	19	48	195	92
Nonrelatives	–	4	19	–	4	21	51	2	18	–	2	5	20
Inmate of institution	–	–	–	–	–	–	–	–	–	–	–	–	–
Other, in group quarters	–	–	–	–	–	–	–	–	–	–	–	–	–
Persons per household	–	2.76	3.41	–	2.88	3.15	2.97	2.58	3.08	3.89	3.08	3.40	2.79
Persons per family	–	3.10	3.55	–	3.34	3.50	3.54	4.25	3.46	3.89	3.20	3.63	3.09
Persons 65 years and over	–	**16**	**24**	–	**11**	**67**	**107**	**8**	**32**	**1**	**13**	**24**	**21**
In households	–	16	24	–	11	67	107	8	32	1	13	24	21
Householder	–	7	16	–	6	43	68	6	22	1	6	16	16
Nonfamily householder	–	1	6	–	3	15	30	4	10	–	1	6	8
Living alone	–	1	6	–	3	14	28	4	8	–	1	5	8
Spouse	–	7	2	–	4	17	18	2	5	–	6	5	5
Other relatives	–	2	6	–	1	7	15	–	5	–	1	3	–
Nonrelatives	–	–	–	–	–	–	6	–	–	–	–	–	–
Inmate of institution	–	–	–	–	–	–	–	–	–	–	–	–	–
Other, in group quarters	–	–	–	–	–	–	–	–	–	–	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	–	**61**	**348**	–	**32**	**260**	**487**	**12**	**182**	**9**	**35**	**112**	**78**
With own children under 18 years	–	22	220	–	18	153	290	6	113	5	14	66	35
Number of own children under 18 years	–	41	423	–	33	298	566	16	219	12	25	131	68
Married-couple families	–	**53**	**297**	–	**30**	**228**	**396**	**7**	**153**	**7**	**29**	**100**	**71**
With own children under 18 years	–	18	181	–	16	133	243	3	92	4	10	60	30
Number of own children under 18 years	–	34	348	–	28	267	478	9	178	9	17	119	57
Female householder, no husband present	–	**4**	**42**	–	**2**	**24**	**75**	**5**	**18**	**2**	**5**	**7**	**5**
With own children under 18 years	–	3	33	–	2	18	39	3	16	1	3	2	4
Number of own children under 18 years	–	6	58	–	5	27	74	7	33	3	7	3	10
MARITAL STATUS													
Male, 15 years and over	–	**93**	**454**	–	**42**	**366**	**699**	**29**	**248**	**15**	**47**	**154**	**101**
Single	–	23	121	–	5	84	186	16	65	7	7	34	16
Now married, except separated	–	59	306	–	30	240	425	8	159	7	33	106	73
Separated	–	1	8	–	–	7	17	1	7	–	2	1	1
Widowed	–	1	1	–	3	9	17	1	2	–	1	2	1
Divorced	–	9	18	–	4	26	54	3	15	1	4	11	10
Female, 15 years and over	–	**78**	**469**	–	**48**	**354**	**720**	**26**	**242**	**13**	**47**	**153**	**109**
Single	–	7	92	–	8	44	144	8	41	4	4	28	11
Now married, except separated	–	59	305	–	30	239	422	9	159	7	34	105	73
Separated	–	1	5	–	1	9	21	3	7	1	1	2	2
Widowed	–	6	27	–	4	36	75	3	22	–	3	10	10
Divorced	–	5	40	–	5	26	58	3	13	1	5	8	13

Table P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0249.03*	Tract 0250*	Tract 0251*	Tract 0253*	Tract 0254*	Tract 0263*	Tract 0264*	Tract 0273.99	Tract 0300.22	Tract 0300.23	Tract 0300.24	Tract 0301.01	Tract 0301.02
AGE													
Total persons	**358**	**226**	**2 565**	**182**	–	–	–	**80**	**3 962**	**1 472**	**3 242**	**4 972**	**6 154**
Under 5 years	23	15	209	12	–	–	–	3	446	135	258	544	674
5 to 9 years	20	11	237	14	–	–	–	1	503	138	269	516	690
10 to 14 years	22	20	298	22	–	–	–	–	480	128	222	463	624
15 to 19 years	35	18	239	14	–	–	–	10	491	145	293	483	659
20 to 24 years	31	13	156	20	–	–	–	25	373	110	323	587	618
25 to 34 years	61	30	454	29	–	–	–	19	519	211	591	815	1 010
35 to 44 years	57	22	406	14	–	–	–	9	362	135	340	471	610
45 to 54 years	41	34	271	21	–	–	–	5	312	132	357	422	516
55 to 64 years	42	28	158	25	–	–	–	7	228	103	282	307	390
65 to 74 years	22	25	97	9	–	–	–	1	146	116	201	223	245
75 years and over	4	10	40	2	–	–	–	–	102	119	106	141	118
3 and 4 years	6	7	91	5	–	–	–	1	170	55	104	196	279
16 years and over	286	173	1 764	130	–	–	–	76	2 441	1 048	2 440	3 362	4 044
18 years and over	272	167	1 658	121	–	–	–	74	2 216	987	2 328	3 167	3 776
21 years and over	253	162	1 563	117	–	–	–	60	1 948	909	2 130	2 847	3 357
60 years and over	39	45	200	23	–	–	–	6	342	280	434	495	501
62 years and over	33	41	178	16	–	–	–	2	310	262	376	428	438
Median	32.3	38.7	28.9	28.4	–	–	–	25.5	20.6	28.3	28.7	23.9	23.5
Female	**163**	**107**	**1 281**	**86**	–	–	–	**22**	**1 980**	**730**	**1 586**	**2 379**	**2 878**
Under 5 years	8	7	102	6	–	–	–	1	209	68	138	277	299
5 to 9 years	14	4	126	3	–	–	–	–	256	63	156	247	336
10 to 14 years	8	10	143	10	–	–	–	–	228	68	122	217	305
15 to 19 years	12	6	109	5	–	–	–	5	247	80	140	223	291
20 to 24 years	19	9	75	11	–	–	–	7	168	35	145	249	258
25 to 34 years	24	12	240	14	–	–	–	3	252	99	257	357	451
35 to 44 years	26	13	210	10	–	–	–	3	195	63	151	227	286
45 to 54 years	19	17	121	8	–	–	–	1	179	59	162	199	254
55 to 64 years	20	14	72	14	–	–	–	2	121	47	138	166	184
65 to 74 years	12	11	58	5	–	–	–	–	74	65	112	121	139
75 years and over	1	4	25	–	–	–	–	–	51	83	65	96	75
3 and 4 years	1	3	48	3	–	–	–	1	80	24	46	100	113
16 years and over	131	83	892	67	–	–	–	21	1 239	517	1 141	1 584	1 883
18 years and over	125	82	836	63	–	–	–	20	1 128	481	1 097	1 491	1 767
21 years and over	117	80	791	61	–	–	–	14	997	444	1 000	1 367	1 580
60 years and over	19	21	111	12	–	–	–	1	174	167	231	296	282
62 years and over	16	19	97	9	–	–	–	1	159	160	207	256	251
Median	33.4	38.8	29.5	30.0	–	–	–	22.5	21.2	29.5	28.1	24.4	24.0
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**358**	**226**	**2 565**	**182**	–	–	–	**80**	**3 962**	**1 472**	**3 242**	**4 972**	**6 154**
In households	358	226	2 565	182	–	–	–	21	3 948	1 358	3 145	4 959	6 127
Householder	149	86	797	59	–	–	–	3	996	403	1 245	1 430	1 679
Family householder	106	74	712	54	–	–	–	3	808	296	693	1 085	1 302
Nonfamily householder	43	12	85	5	–	–	–	–	188	107	552	345	377
Living alone	36	12	79	5	–	–	–	–	145	79	447	260	300
Spouse	91	64	643	48	–	–	–	1	467	207	390	856	1 003
Other relatives	103	76	1 108	73	–	–	–	8	2 320	674	1 265	2 403	3 171
Nonrelatives	15	–	17	2	–	–	–	9	165	74	245	270	274
Inmate of institution	–	–	–	–	–	–	–	–	–	103	49	–	–
Other, in group quarters	–	–	–	–	–	–	–	59	14	11	48	13	27
Persons per household	2.40	2.63	3.22	3.08	–	–	–	7.00	3.96	3.37	2.53	3.47	3.65
Persons per family	2.83	2.89	3.46	3.24	–	–	–	4.00	4.45	3.98	3.39	4.00	4.21
Persons 65 years and over	**26**	**35**	**137**	**11**	–	–	–	**1**	**248**	**235**	**307**	**364**	**363**
In households	26	35	137	11	–	–	–	1	248	136	305	363	360
Householder	16	23	71	6	–	–	–	–	162	89	212	241	244
Nonfamily householder	5	7	24	–	–	–	–	–	61	26	124	113	115
Living alone	5	7	23	–	–	–	–	–	56	20	102	104	108
Spouse	9	10	40	4	–	–	–	–	49	24	46	67	70
Other relatives	1	2	24	1	–	–	–	1	22	19	26	43	41
Nonrelatives	–	–	2	–	–	–	–	–	15	4	21	12	5
Inmate of institution	–	–	–	–	–	–	–	–	–	98	–	–	–
Other, in group quarters	–	–	–	–	–	–	–	–	–	1	2	1	3
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**106**	**74**	**712**	**54**	–	–	–	...	**808**	**296**	**693**	**1 085**	**1 302**
With own children under 18 years	45	28	450	30	–	–	–	...	541	176	344	679	811
Number of own children under 18 years	71	46	853	56	–	–	–	4	1 504	411	713	1 595	2 113
Married-couple families	**91**	**64**	**643**	**48**	–	–	–	...	**467**	**207**	**390**	**856**	**1 003**
With own children under 18 years	37	25	405	26	–	–	–	...	310	135	174	571	663
Number of own children under 18 years	59	43	785	50	–	–	–	4	874	326	361	1 362	1 750
Female householder, no husband present	**12**	**6**	**53**	**5**	–	–	–	...	**285**	**59**	**239**	**150**	**198**
With own children under 18 years	6	2	36	4	–	–	–	...	213	29	146	80	121
Number of own children under 18 years	8	2	56	6	–	–	–	–	588	61	305	166	305
MARITAL STATUS													
Male, 15 years and over	**160**	**94**	**911**	**67**	–	–	–	**55**	**1 246**	**540**	**1 323**	**1 811**	**2 228**
Single	39	14	195	13	–	–	–	16	532	183	535	592	777
Now married, except separated	92	69	665	49	–	–	–	31	548	251	443	1 043	1 225
Separated	4	1	11	1	–	–	–	1	67	22	122	68	65
Widowed	2	2	9	–	–	–	–	–	45	34	70	37	56
Divorced	23	8	31	4	–	–	–	7	54	50	153	71	105
Female, 15 years and over	**133**	**86**	**910**	**67**	–	–	–	**21**	**1 287**	**531**	**1 170**	**1 638**	**1 938**
Single	10	7	133	8	–	–	–	16	413	117	318	359	441
Now married, except separated	92	67	656	48	–	–	–	1	528	236	422	935	1 101
Separated	4	1	14	3	–	–	–	–	119	19	110	63	87
Widowed	8	9	58	6	–	–	–	–	128	117	194	186	183
Divorced	19	2	49	2	–	–	–	4	99	42	126	95	126

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0302	Tract 0303	Tract 0304.01	Tract 0304.02	Tract 0305.01	Tract 0305.02	Tract 0306	Tract 0307.01	Tract 0307.02	Tract 0308	Tract 0309.01	Tract 0309.02	Tract 0309.03
AGE													
Total persons	**6 654**	**2 127**	**4 642**	**5 206**	**4 250**	**4 251**	**5 119**	**5 780**	**4 900**	**7 431**	**6 049**	**3 086**	**3 110**
Under 5 years	692	197	337	507	364	323	333	579	351	406	655	286	301
5 to 9 years	606	184	419	464	361	356	356	523	358	376	524	166	220
10 to 14 years	489	184	415	486	364	372	390	469	321	294	436	127	153
15 to 19 years	571	227	438	495	314	788	429	478	352	916	505	262	189
20 to 24 years	814	195	391	417	363	761	504	639	577	2 002	649	611	307
25 to 34 years	1 351	264	612	754	667	490	880	1 129	927	1 372	1 123	773	533
35 to 44 years	643	199	405	483	378	305	543	606	422	536	544	265	270
45 to 54 years	488	216	472	456	437	253	545	486	478	506	449	164	233
55 to 64 years	431	193	434	499	400	298	491	397	487	389	475	175	330
65 to 74 years	285	176	426	384	356	178	440	322	360	397	407	164	351
75 years and over	284	92	293	261	246	127	208	152	267	237	282	93	223
3 and 4 years	261	74	144	193	139	119	140	228	139	149	244	84	116
16 years and over	4 760	1 510	3 385	3 639	3 098	3 122	3 947	4 096	3 808	6 299	4 343	2 486	2 399
18 years and over	4 537	1 427	3 199	3 451	2 973	2 963	3 776	3 922	3 662	6 162	4 159	2 397	2 334
21 years and over	4 139	1 293	2 938	3 182	2 779	2 134	3 541	3 633	3 424	4 980	3 800	2 144	2 197
60 years and over	747	355	925	866	798	439	870	653	859	814	921	354	740
62 years and over	674	317	832	767	704	374	789	573	767	752	835	308	687
Median	26.0	27.3	29.8	27.8	30.1	21.0	30.4	26.3	29.6	24.1	26.8	25.7	31.5
Female	**3 245**	**1 091**	**2 538**	**2 765**	**2 240**	**2 326**	**2 663**	**3 013**	**2 716**	**3 576**	**3 073**	**1 427**	**1 616**
Under 5 years	320	99	179	255	157	158	169	286	173	233	335	141	154
5 to 9 years	280	81	218	215	188	176	193	262	164	196	288	92	105
10 to 14 years	248	89	199	258	182	192	173	225	171	145	203	62	64
15 to 19 years	293	114	194	250	156	358	221	259	192	502	248	133	95
20 to 24 years	374	106	228	230	191	404	219	312	301	890	320	282	144
25 to 34 years	579	127	334	402	350	286	430	566	505	494	501	279	249
35 to 44 years	301	106	227	262	167	213	291	312	231	246	251	109	133
45 to 54 years	247	117	236	242	231	154	291	268	300	273	244	78	128
55 to 64 years	227	96	260	254	237	194	272	234	280	220	257	102	183
65 to 74 years	177	97	271	228	208	110	267	180	212	229	244	96	214
75 years and over	199	59	192	169	173	81	137	109	187	148	182	53	147
3 and 4 years	136	32	71	92	61	56	72	128	65	78	119	47	63
16 years and over	2 332	807	1 896	1 983	1 681	1 765	2 081	2 179	2 178	2 976	2 202	1 126	1 274
18 years and over	2 210	761	1 814	1 886	1 624	1 694	1 994	2 092	2 108	2 904	2 112	1 070	1 245
21 years and over	2 028	689	1 688	1 745	1 528	1 292	1 877	1 933	1 960	2 286	1 931	948	1 171
60 years and over	471	198	595	515	496	281	538	404	539	481	552	213	464
62 years and over	436	183	530	465	447	235	486	353	489	448	509	186	433
Median	26.6	28.4	31.7	28.8	31.8	22.4	32.5	27.3	31.2	23.7	27.1	25.1	34.8
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**6 654**	**2 127**	**4 642**	**5 206**	**4 250**	**4 251**	**5 119**	**5 780**	**4 900**	**7 431**	**6 049**	**3 086**	**3 110**
In households	6 608	2 122	4 624	5 206	4 250	3 365	5 119	5 680	4 665	5 751	6 049	3 086	3 034
Householder	2 243	791	1 852	1 941	1 758	1 289	2 076	2 053	1 781	2 381	2 112	1 315	1 199
Family householder	1 485	496	1 075	1 232	1 000	803	1 210	1 345	1 247	1 319	1 408	731	785
Nonfamily householder	758	295	777	709	758	486	866	708	534	1 062	704	584	414
Living alone	609	263	687	613	699	448	737	569	438	854	589	468	357
Spouse	1 134	245	419	567	442	244	650	640	733	974	1 120	551	651
Other relatives	2 828	1 007	2 165	2 465	1 899	1 727	2 064	2 630	1 954	1 847	2 570	961	1 034
Nonrelatives	403	79	188	233	151	105	329	357	197	549	247	259	150
Inmate of institution	-	-	-	-	-	-	-	97	235	-	-	-	18
Other, in group quarters	46	5	18	-	-	886	-	3	-	1 680	-	-	58
Persons per household	2.95	2.68	2.50	2.68	2.42	2.61	2.47	2.77	2.62	2.42	2.86	2.35	2.53
Persons per family	3.67	3.52	3.40	3.46	3.34	3.45	3.24	3.43	3.15	3.14	3.62	3.07	3.15
Persons 65 years and over	**569**	**268**	**719**	**645**	**602**	**305**	**648**	**474**	**627**	**634**	**689**	**257**	**574**
In households	569	267	719	645	602	305	648	407	426	633	689	257	541
Householder	387	207	555	458	457	256	445	274	258	449	475	156	378
Nonfamily householder	218	134	348	231	253	161	211	104	83	251	247	59	172
Living alone	198	124	320	215	241	156	184	96	73	245	232	57	164
Spouse	90	33	67	107	79	28	108	65	92	128	127	66	130
Other relatives	73	20	75	63	56	21	70	59	65	49	77	29	30
Nonrelatives	19	7	22	17	10	-	25	9	11	7	10	6	3
Inmate of institution	-	-	-	-	-	-	-	67	201	-	-	-	18
Other, in group quarters	-	1	-	-	-	-	-	-	-	1	-	-	15
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 485**	**496**	**1 075**	**1 232**	**1 000**	**803**	**1 210**	**1 345**	**1 247**	**1 319**	**1 408**	**731**	**785**
With own children under 18 years	828	265	525	661	473	477	536	759	575	586	759	332	346
Number of own children under 18 years	1 828	577	1 135	1 443	1 011	1 043	1 052	1 566	1 022	1 095	1 669	583	709
Married-couple families	**1 134**	**245**	**419**	**567**	**442**	**244**	**650**	**640**	**733**	**974**	**1 120**	**551**	**651**
With own children under 18 years	677	109	182	258	213	102	265	351	278	427	633	252	289
Number of own children under 18 years	1 547	242	358	559	448	208	519	709	481	827	1 418	464	600
Female householder, no husband present	**240**	**216**	**555**	**549**	**453**	**505**	**459**	**599**	**437**	**245**	**202**	**106**	**94**
With own children under 18 years	128	140	311	366	240	357	248	381	268	140	107	63	42
Number of own children under 18 years	244	303	717	827	523	790	496	813	499	243	213	99	81
MARITAL STATUS													
Male, 15 years and over	**2 470**	**740**	**1 529**	**1 712**	**1 448**	**1 400**	**1 912**	**1 969**	**1 662**	**3 353**	**2 187**	**1 375**	**1 143**
Single	870	274	630	627	563	912	738	845	550	1 940	676	541	305
Now married, except separated	1 312	268	480	605	494	290	725	721	795	1 083	1 247	636	707
Separated	57	66	142	179	118	76	148	147	92	99	54	69	29
Widowed	57	57	116	103	113	48	82	62	65	45	59	16	39
Divorced	174	75	161	198	160	74	219	194	160	186	151	113	63
Female, 15 years and over	**2 397**	**822**	**1 942**	**2 037**	**1 713**	**1 800**	**2 128**	**2 240**	**2 208**	**3 002**	**2 247**	**1 132**	**1 293**
Single	554	235	545	594	449	880	555	683	629	1 411	474	285	256
Now married, except separated	1 236	267	469	618	480	275	717	714	800	1 025	1 191	592	677
Separated	74	80	225	205	178	190	169	234	178	84	83	52	34
Widowed	329	151	465	365	387	231	342	290	334	267	303	108	227
Divorced	204	89	238	255	219	224	345	319	267	215	196	95	99

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0310	Tract 0311	Tract 0311.99	Tract 0312	Tract 0312.99	Tract 0313.01	Tract 0313.02	Tract 0314.01	Tract 0314.02	Tract 0315	Tract 0316.01	Tract 0316.02	Tract 0317.01
AGE													
Total persons	**7 131**	**10 079**	-	**7 792**	**33**	**5 359**	**5 432**	**4 320**	**3 664**	**6 102**	**3 221**	**1 493**	**1 719**
Under 5 years	812	1 127	-	809	-	571	534	418	441	433	212	23	110
5 to 9 years	687	1 089	-	827	-	431	470	392	329	477	169	20	42
10 to 14 years	654	988	-	748	-	362	437	452	203	460	156	37	27
15 to 19 years	758	1 098	-	771	12	462	394	471	283	526	208	53	24
20 to 24 years	876	970	-	838	13	649	518	398	397	616	428	492	320
25 to 34 years	1 164	1 568	-	1 265	4	1 028	988	687	786	1 057	928	380	663
35 to 44 years	630	966	-	772	2	491	468	551	317	664	350	119	157
45 to 54 years	649	916	-	678	-	351	416	447	303	722	311	95	90
55 to 64 years	461	661	-	533	2	392	481	278	318	486	218	85	112
65 to 74 years	274	454	-	342	-	398	456	152	188	344	148	99	101
75 years and over	166	242	-	209	-	224	270	74	99	317	93	90	73
3 and 4 years	309	468	-	337	-	204	213	171	168	171	73	6	26
16 years and over	4 837	6 657	-	5 272	33	3 931	3 922	2 959	2 651	4 633	2 646	1 409	1 538
18 years and over	4 554	6 212	-	4 951	29	3 746	3 781	2 773	2 547	4 413	2 572	1 385	1 529
21 years and over	4 036	5 590	-	4 461	18	3 421	3 515	2 504	2 332	4 089	2 422	1 311	1 498
60 years and over	625	975	-	787	2	825	995	331	432	850	331	227	233
62 years and over	553	840	-	681	2	749	891	278	366	762	294	209	199
Median	23.8	23.7	-	24.3	21.4	26.6	28.0	25.4	26.7	29.5	29.0	26.9	28.6
Female	**3 362**	**4 880**	-	**3 647**	**17**	**2 684**	**2 828**	**2 246**	**1 739**	**3 249**	**1 456**	**868**	**743**
Under 5 years	397	584	-	373	-	284	246	211	208	205	104	10	43
5 to 9 years	330	541	-	385	-	211	236	175	153	240	73	9	22
10 to 14 years	324	495	-	378	-	189	209	215	96	233	87	17	15
15 to 19 years	363	530	-	357	6	224	175	244	139	253	100	26	11
20 to 24 years	383	404	-	348	5	312	262	215	177	314	200	348	146
25 to 34 years	500	716	-	547	2	453	478	374	334	542	367	188	270
35 to 44 years	299	442	-	351	2	231	241	307	132	355	134	54	61
45 to 54 years	294	464	-	308	-	173	213	231	164	399	144	45	43
55 to 64 years	209	309	-	293	2	224	301	145	162	253	101	53	55
65 to 74 years	159	260	-	183	-	230	274	81	106	215	83	64	45
75 years and over	104	135	-	124	-	153	193	48	68	240	63	54	32
3 and 4 years	143	249	-	154	-	96	95	74	74	86	37	2	11
16 years and over	2 243	3 144	-	2 442	17	1 968	2 116	1 593	1 261	2 520	1 168	830	663
18 years and over	2 102	2 928	-	2 297	15	1 877	2 052	1 493	1 214	2 422	1 138	822	658
21 years and over	1 863	2 648	-	2 074	9	1 715	1 921	1 356	1 104	2 252	1 067	764	643
60 years and over	343	519	-	436	2	497	654	185	243	555	182	143	103
62 years and over	309	454	-	377	2	452	573	158	215	508	169	133	87
Median	23.5	23.5	-	24.7	21.5	27.4	30.5	26.4	27.3	31.4	28.9	25.6	28.4
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**7 131**	**10 079**	-	**7 792**	**33**	**5 359**	**5 432**	**4 320**	**3 664**	**6 102**	**3 221**	**1 493**	**1 719**
In households	7 125	10 065	-	7 780	-	5 258	5 432	4 320	3 650	5 818	2 998	639	1 611
Householder	2 057	2 718	-	2 152	-	1 894	1 847	1 376	1 314	2 111	1 414	389	898
Family householder	1 514	2 173	-	1 716	-	1 262	1 366	1 095	903	1 443	642	130	360
Nonfamily householder	543	545	-	436	-	632	481	281	411	668	772	259	538
Living alone	425	471	-	349	-	508	386	236	339	548	642	214	428
Spouse	1 188	1 714	-	1 349	-	1 040	1 003	705	737	913	371	112	304
Other relatives	3 511	5 318	-	3 919	-	2 090	2 265	2 120	1 440	2 541	970	59	263
Nonrelatives	369	315	-	360	-	234	317	119	159	253	243	79	146
Inmate of institution	-	-	-	-	-	-	-	-	-	127	131	233	74
Other, in group quarters	6	14	-	12	33	101	-	-	14	157	92	621	34
Persons per household	3.46	3.70	-	3.62	-	2.78	2.94	3.14	2.78	2.76	2.12	1.64	1.79
Persons per family	4.10	4.24	-	4.07	-	3.48	3.39	3.58	3.41	3.39	3.09	2.32	2.58
Persons 65 years and over	**440**	**696**	-	**551**	-	**622**	**726**	**226**	**287**	**661**	**241**	**189**	**174**
In households	440	696	-	551	-	621	726	226	287	455	166	147	131
Householder	294	455	-	369	-	417	484	139	197	307	120	107	95
Nonfamily householder	148	188	-	136	-	207	204	49	93	161	71	62	55
Living alone	141	179	-	128	-	197	183	45	87	154	63	61	52
Spouse	87	131	-	102	-	142	151	48	61	75	18	33	26
Other relatives	50	96	-	71	-	49	73	35	27	65	21	3	9
Nonrelatives	9	14	-	9	-	13	18	4	2	8	7	4	1
Inmate of institution	-	-	-	-	-	-	-	-	-	115	75	26	43
Other, in group quarters	-	-	-	-	-	1	-	-	-	91	-	16	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 514**	**2 173**	-	**1 716**	-	**1 262**	**1 366**	**1 095**	**903**	**1 443**	**642**	**130**	**360**
With own children under 18 years	969	1 375	-	1 036	-	650	679	667	479	757	314	22	128
Number of own children under 18 years	2 276	3 341	-	2 501	-	1 429	1 429	1 317	1 002	1 411	547	32	180
Married-couple families	**1 188**	**1 714**	-	**1 349**	-	**1 040**	**1 003**	**705**	**737**	**913**	**371**	**112**	**304**
With own children under 18 years	800	1 161	-	901	-	549	522	426	402	443	173	17	112
Number of own children under 18 years	1 916	2 858	-	2 205	-	1 216	1 159	859	830	801	321	25	161
Female householder, no husband present	**227**	**295**	-	**241**	-	**162**	**292**	**308**	**122**	**443**	**200**	**11**	**33**
With own children under 18 years	144	166	-	116	-	89	134	202	65	288	127	5	13
Number of own children under 18 years	302	360	-	262	-	184	236	394	147	564	208	7	16
MARITAL STATUS													
Male, 15 years and over	**2 667**	**3 615**	-	**2 897**	**16**	**1 995**	**1 854**	**1 413**	**1 409**	**2 161**	**1 492**	**581**	**877**
Single	893	1 165	-	977	16	627	546	483	450	825	693	335	384
Now married, except separated	1 515	2 025	-	1 699	-	1 150	1 097	738	811	1 011	467	154	389
Separated	94	154	-	53	-	41	50	65	38	101	102	23	20
Widowed	56	109	-	61	-	42	37	28	26	69	63	16	20
Divorced	109	162	-	107	-	135	124	99	84	155	167	53	64
Female, 15 years and over	**2 311**	**3 260**	-	**2 511**	**17**	**2 000**	**2 137**	**1 645**	**1 282**	**2 571**	**1 192**	**832**	**663**
Single	518	742	-	552	17	411	387	440	214	791	380	517	207
Now married, except separated	1 313	1 885	-	1 467	-	1 106	1 070	740	782	988	399	170	334
Separated	105	110	-	85	-	45	84	93	32	166	100	13	14
Widowed	241	340	-	274	-	276	388	119	141	354	156	70	41
Divorced	134	183	-	133	-	162	208	253	113	272	157	62	67

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0317.02	Tract 0317.03	Tract 0317.04	Tract 0318.01	Tract 0318.02	Tract 0318.03	Tract 0318.04	Tract 0319.01	Tract 0319.02	Tract 0320.01	Tract 0320.02	Tract 0320.03	Tract 0320.04
AGE													
Total persons	**389**	**3 633**	**6 189**	**3 726**	**6 273**	**3 567**	**3 912**	**3 768**	**3 253**	**4 497**	**2 379**	**5 231**	**2 652**
Under 5 years	27	249	485	330	551	330	372	437	327	488	291	409	225
5 to 9 years	19	323	573	364	638	352	339	262	251	372	201	305	155
10 to 14 years	28	379	653	331	762	456	390	185	199	307	137	252	125
15 to 19 years	31	505	743	403	857	435	477	276	201	325	195	369	161
20 to 24 years	30	337	583	363	543	285	443	529	415	469	404	720	261
25 to 34 years	68	431	924	646	864	500	613	843	720	872	499	1 205	539
35 to 44 years	47	484	772	460	875	444	549	373	263	359	235	492	197
45 to 54 years	51	503	693	354	608	349	372	257	257	322	145	485	209
55 to 64 years	39	249	432	252	332	279	223	303	259	451	118	448	323
65 to 74 years	42	131	228	164	175	95	94	208	211	333	100	367	314
75 years and over	7	42	103	59	68	42	40	95	150	199	54	179	140
3 and 4 years	10	87	196	133	211	118	139	161	123	181	105	120	81
16 years and over	308	2 582	4 329	2 633	4 116	2 328	2 723	2 855	2 450	3 271	1 709	4 212	2 120
18 years and over	294	2 375	4 022	2 464	3 759	2 147	2 525	2 759	2 383	3 126	1 636	4 092	2 058
21 years and over	279	2 103	3 609	2 232	3 311	1 935	2 246	2 529	2 196	2 928	1 512	3 778	1 934
60 years and over	64	282	505	348	374	281	231	455	477	773	197	754	630
62 years and over	56	238	440	293	317	209	182	385	425	663	177	665	566
Median	34.1	25.4	25.6	25.8	22.7	23.8	24.3	26.7	27.6	27.8	24.6	28.3	31.6
Female	**186**	**1 873**	**3 247**	**1 940**	**3 312**	**1 868**	**2 044**	**1 856**	**1 629**	**2 276**	**1 155**	**2 578**	**1 377**
Under 5 years	13	110	246	155	268	162	174	216	157	212	132	185	113
5 to 9 years	6	161	264	176	314	187	164	143	131	175	107	158	74
10 to 14 years	11	186	329	172	389	234	200	97	95	159	70	138	66
15 to 19 years	20	240	377	210	429	196	257	156	108	155	101	199	75
20 to 24 years	14	179	307	188	302	146	238	236	208	245	196	349	136
25 to 34 years	29	250	517	351	484	274	314	359	323	403	211	518	242
35 to 44 years	17	269	451	249	486	252	305	167	117	164	99	217	103
45 to 54 years	27	257	352	188	325	193	200	121	123	174	77	240	113
55 to 64 years	21	121	218	126	177	149	106	174	144	271	65	249	184
65 to 74 years	25	75	123	92	96	53	57	109	117	181	63	209	180
75 years and over	3	25	63	33	42	22	29	78	106	137	34	116	91
3 and 4 years	7	34	90	59	101	58	63	78	60	75	45	48	38
16 years and over	153	1 360	2 329	1 412	2 247	1 237	1 453	1 388	1 234	1 702	825	2 064	1 112
18 years and over	142	1 262	2 182	1 322	2 068	1 154	1 347	1 319	1 199	1 632	789	1 990	1 084
21 years and over	133	1 141	1 972	1 190	1 821	1 053	1 205	1 206	1 088	1 532	719	1 846	1 026
60 years and over	32	154	273	188	205	150	118	279	284	464	118	443	373
62 years and over	31	135	242	154	172	117	102	239	260	397	110	392	342
Median	35.5	27.0	27.3	26.5	24.0	25.3	24.8	26.4	28.0	29.2	24.2	28.7	33.5
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**389**	**3 633**	**6 189**	**3 726**	**6 273**	**3 567**	**3 912**	**3 768**	**3 253**	**4 497**	**2 379**	**5 231**	**2 652**
In households	380	3 630	6 184	3 726	6 273	3 567	3 909	3 768	3 137	4 389	2 379	5 230	2 652
Householder	158	1 060	1 963	1 268	1 643	998	1 232	1 561	1 267	1 641	903	2 343	1 128
Family householder	100	872	1 488	927	1 416	823	931	991	821	1 119	604	1 325	755
Nonfamily householder	58	188	475	341	227	175	301	570	446	522	299	1 018	373
Living alone	53	167	408	282	193	149	262	492	384	463	254	836	316
Spouse	73	568	923	564	945	529	579	799	635	896	457	1 039	621
Other relatives	135	1 926	3 109	1 762	3 543	1 951	1 956	1 251	1 121	1 737	929	1 515	799
Nonrelatives	14	76	189	132	142	89	142	157	114	115	90	333	104
Inmate of institution	-	-	-	-	-	-	-	-	116	108	-	-	-
Other, in group quarters	9	3	5	-	-	-	3	-	-	-	-	1	-
Persons per household	2.41	3.42	3.15	2.94	3.82	3.57	3.17	2.41	2.48	2.67	2.63	2.23	2.35
Persons per family	3.08	3.86	3.71	3.51	4.17	4.01	3.72	3.07	3.14	3.35	3.29	2.93	2.88
Persons 65 years and over	**49**	**173**	**331**	**223**	**243**	**137**	**134**	**303**	**361**	**532**	**154**	**546**	**454**
In households	49	173	331	223	243	137	134	303	271	437	154	546	454
Householder	29	99	206	137	141	83	85	236	177	312	115	367	310
Nonfamily householder	9	23	74	44	47	27	39	126	68	146	62	165	139
Living alone	9	20	72	40	42	24	37	117	65	146	57	163	135
Spouse	18	35	62	57	29	22	24	42	62	85	29	141	113
Other relatives	2	36	53	26	64	32	21	17	30	40	9	34	31
Nonrelatives	-	3	10	3	9	-	4	8	2	-	1	4	-
Inmate of institution	-	-	-	-	-	-	-	-	90	95	-	-	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**100**	**872**	**1 488**	**927**	**1 416**	**823**	**931**	**991**	**821**	**1 119**	**604**	**1 325**	**755**
With own children under 18 years	42	522	883	552	930	509	590	495	426	607	358	569	300
Number of own children under 18 years	70	1 062	1 835	1 077	2 156	1 192	1 180	870	784	1 238	660	1 009	532
Married-couple families	**73**	**568**	**923**	**564**	**945**	**529**	**579**	**799**	**635**	**896**	**457**	**1 039**	**621**
With own children under 18 years	28	329	520	307	634	328	344	403	319	485	273	419	239
Number of own children under 18 years	47	650	1 073	627	1 484	793	688	715	603	1 006	516	775	445
Female householder, no husband present	**18**	**251**	**466**	**310**	**388**	**250**	**294**	**118**	**144**	**172**	**92**	**205**	**107**
With own children under 18 years	8	170	323	229	257	157	220	66	87	107	64	121	54
Number of own children under 18 years	16	374	687	422	583	351	451	114	148	211	116	192	77
MARITAL STATUS													
Male, 15 years and over	**159**	**1 266**	**2 070**	**1 264**	**1 981**	**1 144**	**1 305**	**1 484**	**1 230**	**1 600**	**904**	**2 168**	**1 020**
Single	55	500	758	463	727	431	503	435	352	433	290	652	242
Now married, except separated	76	601	984	616	1 028	563	621	848	671	966	494	1 135	648
Separated	12	57	112	68	75	56	73	45	49	31	20	71	18
Widowed	3	32	66	26	36	24	22	33	42	53	12	46	26
Divorced	13	76	150	91	115	70	86	123	116	117	88	264	86
Female, 15 years and over	**156**	**1 416**	**2 408**	**1 437**	**2 341**	**1 285**	**1 506**	**1 400**	**1 246**	**1 730**	**846**	**2 097**	**1 124**
Single	43	456	708	419	708	359	507	209	216	263	166	448	155
Now married, except separated	77	593	991	602	1 018	564	615	823	667	952	476	1 078	641
Separated	11	92	186	129	168	107	136	30	52	54	32	85	22
Widowed	14	131	235	111	183	116	111	185	174	289	82	236	183
Divorced	11	144	288	176	264	139	137	153	137	172	90	250	123

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0321.01	Tract 0321.02	Tract 0321.03	Tract 0321.99	Tract 0322.01*	Tract 0322.02	Tract 0322.03	Tract 0322.04	Tract 0323.01	Tract 0323.02	Tract 0324.01	Tract 0324.02	Tract 0324.03
AGE													
Total persons	**8 846**	**2 170**	**2 294**	**108**	**4**	**4 220**	**3 215**	**2 704**	**5 109**	**3 993**	**3 314**	**9 170**	**53**
Under 5 years	856	258	261	–	...	404	259	129	484	413	196	557	2
5 to 9 years	703	226	241	–	...	394	260	163	417	274	119	403	3
10 to 14 years	571	179	246	–	...	356	279	160	309	231	92	335	2
15 to 19 years	738	217	268	8	...	319	271	331	392	337	191	547	4
20 to 24 years	1 634	220	206	34	...	409	279	217	540	677	543	1 975	3
25 to 34 years	2 021	302	343	26	...	815	575	345	968	882	684	2 522	7
35 to 44 years	740	198	210	10	...	463	305	250	468	436	246	838	7
45 to 54 years	533	205	212	20	...	412	359	516	451	385	341	780	3
55 to 64 years	526	182	151	9	...	409	366	388	546	244	435	724	12
65 to 74 years	360	112	112	1	...	176	172	137	377	87	235	374	8
75 years and over	164	71	44	–	...	63	90	68	157	27	232	115	2
3 and 4 years	300	106	102	–	...	156	99	61	190	151	50	162	2
16 years and over	6 589	1 461	1 496	108	...	2 995	2 354	2 200	3 825	3 037	2 885	7 804	46
18 years and over	6 326	1 370	1 391	106	...	2 853	2 251	2 062	3 663	2 916	2 830	7 625	45
21 years and over	5 722	1 245	1 229	93	...	2 681	2 089	1 865	3 425	2 631	2 614	7 045	42
60 years and over	775	262	214	4	...	409	411	338	783	214	673	800	20
62 years and over	662	234	189	3	...	322	340	280	672	166	583	653	18
Median	24.8	24.7	22.8	29.5	...	27.2	28.6	35.4	28.7	25.5	31.4	26.9	37.8
Female	**4 144**	**1 033**	**1 083**	**18**	...	**2 124**	**1 638**	**1 333**	**2 589**	**1 924**	**1 746**	**4 467**	**18**
Under 5 years	419	124	122	–	...	204	131	59	242	207	98	293	1
5 to 9 years	360	106	119	–	...	182	120	85	219	147	65	212	1
10 to 14 years	269	76	118	–	...	173	131	78	150	120	46	161	–
15 to 19 years	388	104	115	4	...	155	130	148	179	177	104	321	1
20 to 24 years	723	111	83	8	...	225	159	89	286	313	259	1 004	–
25 to 34 years	810	132	158	3	...	396	266	156	432	374	310	1 078	4
35 to 44 years	298	99	108	1	...	216	150	138	223	206	123	347	3
45 to 54 years	286	102	101	–	...	224	202	281	228	193	193	390	1
55 to 64 years	272	81	77	2	...	209	183	180	303	115	239	381	2
65 to 74 years	203	60	50	–	...	97	102	72	221	52	129	209	4
75 years and over	116	38	32	–	...	43	64	47	106	20	180	71	1
3 and 4 years	142	53	49	–	...	78	43	25	99	82	25	89	1
16 years and over	3 040	702	705	18	...	1 528	1 217	1 086	1 940	1 430	1 525	3 765	16
18 years and over	2 894	659	651	16	...	1 460	1 177	1 026	1 877	1 367	1 495	3 658	16
21 years and over	2 588	602	588	12	...	1 376	1 098	943	1 761	1 226	1 369	3 313	15
60 years and over	450	137	111	2	...	225	243	180	455	115	414	440	7
62 years and over	390	121	96	2	...	178	208	155	400	95	362	361	7
Median	24.4	24.8	23.7	22.5	...	27.3	29.7	40.0	29.1	25.0	34.5	26.2	37.0
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**8 846**	**2 170**	**2 294**	**108**	**4**	**4 220**	**3 215**	**2 704**	**5 109**	**3 993**	**3 314**	**9 170**	**53**
In households	8 811	2 170	2 284	–	...	4 220	3 215	2 704	5 109	3 993	3 118	9 170	50
Householder	3 441	703	598	–	...	1 353	1 127	934	1 942	1 584	1 524	4 667	28
Family householder	1 998	460	501	–	...	1 137	875	791	1 339	1 021	846	2 340	11
Nonfamily householder	1 443	243	97	–	...	216	252	143	603	563	678	2 327	17
Living alone	1 137	213	79	–	...	180	229	117	523	416	553	1 937	16
Spouse	1 560	330	407	–	...	998	760	713	1 111	790	660	1 906	8
Other relatives	3 310	1 048	1 167	–	...	1 756	1 268	1 000	1 878	1 345	757	2 073	11
Nonrelatives	500	89	112	–	...	113	60	57	178	274	177	524	3
Inmate of institution	–	–	–	–	...	–	–	–	–	–	196	–	–
Other, in group quarters	35	–	10	108	...	–	–	–	–	–	–	–	3
Persons per household	2.56	3.09	3.82	–	...	3.12	2.85	2.90	2.63	2.52	2.05	1.96	1.79
Persons per family	3.44	4.00	4.14	–	...	3.42	3.32	3.17	3.23	3.09	2.67	2.70	2.73
Persons 65 years and over	**524**	**183**	**156**	**1**	...	**239**	**262**	**205**	**534**	**114**	**467**	**489**	**10**
In households	523	183	156	–	...	239	262	205	534	114	292	489	10
Householder	349	135	101	–	...	159	180	118	372	67	191	318	6
Nonfamily householder	152	75	36	–	...	56	84	32	172	31	78	129	2
Living alone	146	69	32	–	...	55	82	31	170	31	75	123	2
Spouse	102	27	33	–	...	49	61	61	116	24	69	115	4
Other relatives	66	10	15	–	...	27	20	21	45	22	31	48	–
Nonrelatives	6	11	7	–	...	4	1	5	1	1	1	8	–
Inmate of institution	–	–	–	–	...	–	–	–	–	–	175	–	–
Other, in group quarters	1	–	–	1	...	–	–	–	–	–	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 998**	**460**	**501**	**–**	...	**1 137**	**875**	**791**	**1 339**	**1 021**	**846**	**2 340**	**11**
With own children under 18 years	1 046	261	299	–	...	653	431	354	641	572	291	880	3
Number of own children under 18 years	2 249	648	772	–	...	1 239	881	600	1 302	954	442	1 396	7
Married-couple families	**1 560**	**330**	**407**	**–**	...	**998**	**760**	**713**	**1 111**	**790**	**660**	**1 906**	**8**
With own children under 18 years	837	203	254	–	...	574	372	311	539	433	201	638	2
Number of own children under 18 years	1 856	513	664	–	...	1 110	779	522	1 115	744	317	1 039	4
Female householder, no husband present	**296**	**98**	**55**	**–**	...	**105**	**96**	**52**	**165**	**165**	**146**	**316**	**2**
With own children under 18 years	171	48	28	–	...	59	51	31	86	113	81	206	1
Number of own children under 18 years	321	118	76	–	...	98	89	55	166	173	113	302	3
MARITAL STATUS													
Male, 15 years and over	**3 620**	**780**	**822**	**90**	...	**1 501**	**1 161**	**1 141**	**1 921**	**1 625**	**1 370**	**4 074**	**30**
Single	1 378	246	282	38	...	333	246	329	501	521	422	1 425	9
Now married, except separated	1 705	389	470	43	...	1 034	784	732	1 171	846	712	2 034	9
Separated	149	36	17	3	...	22	20	17	44	80	27	134	4
Widowed	53	37	19	–	...	20	20	17	31	10	51	48	1
Divorced	335	72	34	6	...	92	91	46	174	168	158	433	7
Female, 15 years and over	**3 096**	**727**	**724**	**18**	...	**1 565**	**1 256**	**1 111**	**1 978**	**1 450**	**1 537**	**3 801**	**16**
Single	726	151	152	17	...	233	171	219	306	276	307	998	3
Now married, except separated	1 659	357	438	–	...	1 032	785	730	1 153	812	698	1 965	8
Separated	115	51	26	–	...	30	21	20	45	74	48	112	1
Widowed	272	121	73	–	...	149	155	82	269	83	286	250	1
Divorced	324	47	35	1	...	121	124	60	205	205	198	476	3

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0324.04	Tract 0325.01	Tract 0325.02	Tract 0326	Tract 0327.01	Tract 0327.02	Tract 0328.01	Tract 0328.02	Tract 0328.03	Tract 0329.01	Tract 0329.02	Tract 0329.03	Tract 0330.01
AGE													
Total persons	**4 666**	**2 306**	**6 245**	**6 637**	**6 123**	**4 126**	**7 271**	**4 918**	**3 840**	**3**	**4 945**	**4 388**	**20**
Under 5 years	230	204	618	496	474	380	666	393	277	...	366	342	-
5 to 9 years	164	200	646	495	618	422	767	474	374	...	419	404	-
10 to 14 years	113	185	529	587	752	491	930	554	435	...	457	426	-
15 to 19 years	292	201	474	651	920	538	1 042	655	459	...	569	468	1
20 to 24 years	889	241	526	523	520	345	587	424	308	...	420	433	-
25 to 34 years	1 078	412	1 300	1 107	763	618	920	646	536	...	616	532	2
35 to 44 years	429	226	665	727	923	593	892	608	420	...	441	369	1
45 to 54 years	476	253	460	689	660	390	660	480	422	...	504	441	4
55 to 64 years	628	214	460	757	329	227	414	445	356	...	499	493	1
65 to 74 years	264	121	344	421	125	88	246	178	170	...	438	332	-
75 years and over	103	49	223	184	39	34	147	61	83	...	216	148	11
3 and 4 years	74	75	252	182	188	149	259	145	103	...	145	123	-
16 years and over	4 109	1 676	4 340	4 931	4 078	2 710	4 698	3 343	2 662	...	3 587	3 123	20
18 years and over	4 023	1 614	4 144	4 642	3 693	2 479	4 256	3 076	2 484	...	3 353	2 952	20
21 years and over	3 720	1 468	3 880	4 309	3 217	2 209	3 713	2 731	2 232	...	3 034	2 647	19
60 years and over	628	273	774	945	292	191	560	438	394	...	896	702	11
62 years and over	512	228	699	798	245	162	473	346	330	...	785	619	11
Median	29.4	27.3	27.5	30.0	22.5	23.3	21.6	24.4	26.1	...	28.2	26.6	78.0
Female	**2 276**	**1 108**	**3 226**	**3 344**	**3 238**	**2 162**	**3 895**	**2 617**	**2 063**	...	**2 685**	**2 366**	**7**
Under 5 years	105	86	300	241	228	211	319	202	140	...	185	167	-
5 to 9 years	85	91	331	242	310	201	381	250	196	...	204	216	-
10 to 14 years	57	94	261	306	373	242	444	276	234	...	228	203	-
15 to 19 years	167	95	223	312	459	265	521	319	223	...	317	240	1
20 to 24 years	428	109	248	241	266	171	302	214	169	...	220	215	-
25 to 34 years	459	188	662	569	446	349	556	356	302	...	328	300	-
35 to 44 years	195	102	343	346	534	332	541	353	244	...	248	202	-
45 to 54 years	259	137	240	359	369	209	359	273	234	...	287	262	-
55 to 64 years	298	105	238	401	154	106	238	236	185	...	287	273	-
65 to 74 years	148	69	205	208	71	53	136	100	87	...	259	197	-
75 years and over	75	32	175	119	28	23	98	38	49	...	122	91	6
3 and 4 years	32	32	116	90	97	78	117	68	53	...	72	60	-
16 years and over	2 002	819	2 283	2 491	2 225	1 449	2 643	1 813	1 455	...	2 001	1 733	7
18 years and over	1 952	787	2 189	2 347	2 040	1 333	2 418	1 688	1 360	...	1 877	1 640	7
21 years and over	1 778	720	2 059	2 194	1 789	1 202	2 147	1 510	1 241	...	1 698	1 484	6
60 years and over	347	153	490	502	160	104	336	238	206	...	516	406	6
62 years and over	289	132	451	433	139	91	286	189	173	...	456	361	6
Median	29.6	28.5	28.6	30.7	24.6	24.7	24.6	26.3	27.4	...	29.7	29.1	81.2
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**4 666**	**2 306**	**6 245**	**6 637**	**6 123**	**4 126**	**7 271**	**4 918**	**3 840**	**3**	**4 945**	**4 388**	**20**
In households	4 664	2 306	6 148	6 620	6 123	4 126	7 171	4 918	3 840	...	4 945	4 388	20
Householder	2 374	766	2 109	2 169	1 533	1 070	1 946	1 343	1 134	...	1 635	1 428	11
Family householder	1 273	594	1 557	1 773	1 362	947	1 644	1 150	931	...	1 189	1 049	7
Nonfamily householder	1 101	172	552	396	171	123	302	193	203	...	446	379	4
Living alone	932	146	496	333	138	103	265	170	183	...	397	321	3
Spouse	1 054	505	1 276	1 495	929	678	915	746	599	...	656	547	6
Other relatives	1 017	965	2 638	2 816	3 562	2 292	4 179	2 730	2 030	...	2 495	2 246	2
Nonrelatives	219	70	125	140	99	86	131	99	77	...	159	167	1
Inmate of institution	-	-	97	-	-	-	97	-	-	...	-	-	-
Other, in group quarters	2	-	-	17	-	-	3	-	-	...	-	-	-
Persons per household	1.96	3.01	2.92	3.05	3.99	3.86	3.68	3.66	3.39	...	3.02	3.07	1.82
Persons per family	2.63	3.47	3.51	3.43	4.30	4.14	4.10	4.02	3.82	...	3.65	3.66	2.14
Persons 65 years and over	**367**	**170**	**567**	**605**	**164**	**122**	**393**	**239**	**253**	...	**654**	**480**	**11**
In households	367	170	482	602	164	122	319	239	253	...	654	480	11
Householder	231	115	344	375	95	57	199	151	165	...	460	337	5
Nonfamily householder	92	50	202	106	22	16	75	40	63	...	177	126	-
Living alone	89	49	200	98	18	14	70	39	59	...	165	112	-
Spouse	90	37	81	148	25	20	58	39	42	...	117	77	5
Other relatives	44	18	56	74	42	45	54	47	41	...	57	57	1
Nonrelatives	2	-	1	5	2	-	8	2	5	...	20	9	-
Inmate of institution	-	-	85	-	-	-	74	-	-	...	-	-	-
Other, in group quarters	-	-	-	3	-	-	-	-	-	...	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 273**	**594**	**1 557**	**1 773**	**1 362**	**947**	**1 644**	**1 150**	**931**	...	**1 189**	**1 049**	**7**
With own children under 18 years	373	310	948	913	897	616	1 102	652	541	...	543	492	-
Number of own children under 18 years	571	631	1 949	1 810	1 960	1 357	2 570	1 451	1 146	...	1 238	1 088	-
Married-couple families	**1 054**	**505**	**1 276**	**1 495**	**929**	**678**	**915**	**746**	**599**	...	**656**	**547**	**6**
With own children under 18 years	279	273	767	760	624	452	597	415	332	...	283	229	-
Number of own children under 18 years	457	569	1 607	1 526	1 380	1 001	1 357	913	692	...	612	507	-
Female householder, no husband present	**144**	**58**	**226**	**201**	**386**	**225**	**629**	**340**	**284**	...	**441**	**409**	**-**
With own children under 18 years	71	29	153	122	252	144	451	216	187	...	236	225	-
Number of own children under 18 years	89	49	297	223	539	324	1 075	500	407	...	576	515	-
MARITAL STATUS													
Male, 15 years and over	**2 130**	**880**	**2 118**	**2 504**	**1 952**	**1 325**	**2 157**	**1 608**	**1 261**	...	**1 635**	**1 436**	**13**
Single	685	242	543	717	787	473	922	622	441	...	589	544	4
Now married, except separated	1 115	534	1 329	1 550	979	722	978	793	637	...	707	604	6
Separated	71	22	63	52	72	48	88	67	55	...	100	98	1
Widowed	31	20	45	35	20	13	52	31	36	...	83	68	-
Divorced	228	62	138	150	94	69	117	95	92	...	156	122	2
Female, 15 years and over	**2 029**	**837**	**2 334**	**2 555**	**2 327**	**1 508**	**2 751**	**1 889**	**1 493**	...	**2 068**	**1 780**	**7**
Single	473	147	374	517	778	445	922	539	437	...	621	496	-
Now married, except separated	1 101	529	1 315	1 538	975	718	976	788	631	...	719	602	6
Separated	50	16	100	64	142	101	266	141	76	...	193	172	-
Widowed	173	90	336	255	157	98	290	193	144	...	348	294	1
Divorced	232	55	209	181	275	146	297	228	205	...	187	216	-

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0330.02	Tract 0331	Tract 0332	Tract 0333	Tract 0334	Tract 0335.01	Tract 0335.02	Tract 0335.03	Tract 0336	Tract 0338	Tract 0339.01	Tract 0339.02	Tract 0339.03
AGE													
Total persons	**3 987**	**5 594**	**9 009**	**3 496**	**6 499**	**4 499**	**6 095**	**3 907**	**3 770**	**3 137**	–	**6 325**	**2 073**
Under 5 years	346	166	882	356	699	468	640	439	494	364	–	355	271
5 to 9 years	398	79	1 079	399	667	490	794	452	478	327	–	464	297
10 to 14 years	339	36	1 094	385	581	552	659	406	365	256	–	595	260
15 to 19 years	352	238	988	339	596	496	582	360	244	244	–	837	236
20 to 24 years	353	1 748	674	297	696	397	382	267	310	288	–	666	200
25 to 34 years	591	2 285	1 835	694	1 375	858	1 275	890	1 023	715	–	653	284
35 to 44 years	340	441	1 342	505	858	602	854	507	451	341	–	606	178
45 to 54 years	389	249	707	276	547	370	454	290	197	235	–	1 026	131
55 to 64 years	456	131	263	151	320	181	246	179	125	181	–	743	99
65 to 74 years	300	60	115	72	124	56	111	86	61	135	–	278	74
75 years and over	123	161	30	22	36	29	98	31	22	51	–	102	43
3 and 4 years	129	49	344	124	261	183	287	191	206	142	–	138	119
16 years and over	2 829	5 302	5 711	2 281	4 440	2 874	3 891	2 525	2 366	2 130	–	4 743	1 204
18 years and over	2 689	5 261	5 320	2 137	4 200	2 667	3 630	2 364	2 267	2 038	–	4 415	1 098
21 years and over	2 482	4 847	4 839	1 961	3 833	2 432	3 326	2 202	2 147	1 906	–	3 906	966
60 years and over	629	285	237	142	287	155	292	195	132	263	–	651	152
62 years and over	543	250	175	120	221	124	252	153	110	222	–	521	137
Median	28.1	26.4	23.7	24.5	25.1	23.3	24.9	25.4	24.9	26.3	–	27.9	19.4
Female	**2 146**	**2 676**	**4 580**	**1 798**	**3 191**	**2 248**	**3 140**	**1 947**	**1 853**	**1 511**	–	**3 333**	**1 163**
Under 5 years	182	87	409	188	320	209	322	218	212	174	–	177	118
5 to 9 years	194	48	537	197	332	261	401	220	195	160	–	216	139
10 to 14 years	179	15	546	177	277	270	331	204	175	123	–	301	126
15 to 19 years	172	140	461	170	290	225	289	168	135	114	–	407	123
20 to 24 years	197	850	358	158	335	208	205	135	163	135	–	367	117
25 to 34 years	305	1 024	1 021	372	708	445	689	458	544	343	–	346	198
35 to 44 years	199	167	698	271	427	311	428	249	226	153	–	360	122
45 to 54 years	225	97	344	134	279	180	227	134	87	115	–	586	80
55 to 64 years	259	64	128	73	149	87	119	94	71	96	–	365	66
65 to 74 years	162	33	59	39	57	34	67	48	34	69	–	145	42
75 years and over	72	151	19	19	17	18	62	19	11	29	–	63	32
3 and 4 years	70	18	156	69	107	89	141	94	89	63	–	68	54
16 years and over	1 558	2 521	2 977	1 197	2 206	1 457	2 026	1 261	1 230	1 025	–	2 562	761
18 years and over	1 491	2 501	2 795	1 121	2 080	1 368	1 907	1 195	1 183	980	–	2 404	704
21 years and over	1 379	2 277	2 562	1 036	1 922	1 248	1 744	1 114	1 114	926	–	2 139	637
60 years and over	343	215	118	80	134	80	172	101	75	136	–	337	94
62 years and over	296	201	94	72	107	66	152	88	64	113	–	274	83
Median	29.4	26.0	24.8	25.3	25.5	24.2	25.6	25.6	25.8	26.5	–	29.9	23.8
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**3 987**	**5 594**	**9 009**	**3 496**	**6 499**	**4 499**	**6 095**	**3 907**	**3 770**	**3 137**	–	**6 325**	**2 073**
In households	3 987	5 439	9 007	3 496	6 499	4 499	5 925	3 907	3 765	3 124	–	6 325	2 032
Householder	1 385	3 374	2 488	1 036	2 114	1 213	1 629	1 122	1 127	1 022	–	1 776	599
Family householder	1 021	1 070	2 211	876	1 627	1 056	1 479	980	972	796	–	1 572	488
Nonfamily householder	364	2 304	277	160	487	157	150	142	155	226	–	204	111
Living alone	327	1 775	234	132	384	120	109	107	125	178	–	190	103
Spouse	596	790	1 663	661	1 347	855	1 201	842	791	663	–	1 118	136
Other relatives	1 882	607	4 671	1 719	2 802	2 309	2 963	1 850	1 748	1 291	–	3 353	1 265
Nonrelatives	124	668	185	80	236	122	132	93	99	148	–	78	32
Inmate of institution	–	153	–	–	–	–	170	–	–	–	–	–	41
Other, in group quarters	–	2	2	–	–	–	–	–	5	13	–	–	–
Persons per household	2.88	1.61	3.62	3.37	3.07	3.71	3.64	3.48	3.34	3.06	–	3.56	3.39
Persons per family	3.43	2.31	3.86	3.72	3.55	4.00	3.82	3.75	3.61	3.45	–	3.84	3.87
Persons 65 years and over	**423**	**221**	**145**	**94**	**160**	**85**	**209**	**117**	**83**	**186**	–	**380**	**117**
In households	423	66	143	94	160	85	148	117	83	185	–	380	83
Householder	297	46	67	51	104	46	76	60	41	111	–	229	63
Nonfamily householder	114	30	18	20	33	14	24	16	18	33	–	52	27
Living alone	108	28	16	20	30	14	21	15	18	32	–	49	27
Spouse	83	9	23	18	31	18	25	31	11	44	–	75	5
Other relatives	35	8	51	24	23	21	37	23	29	25	–	71	15
Nonrelatives	8	3	2	1	2	–	10	3	2	5	–	5	–
Inmate of institution	–	153	–	–	–	–	61	–	–	–	–	–	34
Other, in group quarters	–	2	2	–	–	–	–	–	–	1	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 021**	**1 070**	**2 211**	**876**	**1 627**	**1 056**	**1 479**	**980**	**972**	**796**	–	**1 572**	**488**
With own children under 18 years	489	211	1 625	636	1 086	767	1 047	690	704	490	–	741	370
Number of own children under 18 years	1 011	279	3 380	1 252	2 089	1 656	2 171	1 431	1 399	989	–	1 462	841
Married-couple families	**596**	**790**	**1 663**	**661**	**1 347**	**855**	**1 201**	**842**	**791**	**663**	–	**1 118**	**136**
With own children under 18 years	253	132	1 222	478	891	617	858	596	579	408	–	520	96
Number of own children under 18 years	524	178	2 581	965	1 748	1 345	1 807	1 265	1 178	845	–	1 017	197
Female householder, no husband present	**367**	**167**	**460**	**175**	**214**	**170**	**216**	**109**	**150**	**90**	–	**365**	**324**
With own children under 18 years	213	62	357	136	161	130	162	77	112	61	–	196	261
Number of own children under 18 years	452	79	718	257	283	270	317	137	201	108	–	402	617
MARITAL STATUS													
Male, 15 years and over	**1 313**	**2 787**	**2 866**	**1 120**	**2 290**	**1 481**	**1 916**	**1 305**	**1 162**	**1 136**	–	**2 272**	**465**
Single	415	1 440	897	329	662	462	512	334	249	290	–	836	220
Now married, except separated	634	903	1 726	683	1 398	890	1 244	871	820	694	–	1 190	149
Separated	70	87	63	23	43	33	40	26	22	33	–	74	39
Widowed	65	20	25	12	41	14	33	10	7	18	–	71	17
Divorced	129	337	155	73	146	82	87	64	64	101	–	101	40
Female, 15 years and over	**1 591**	**2 526**	**3 088**	**1 236**	**2 262**	**1 508**	**2 086**	**1 305**	**1 271**	**1 054**	–	**2 639**	**780**
Single	401	1 228	763	297	506	333	440	232	211	159	–	818	289
Now married, except separated	626	836	1 732	681	1 387	889	1 252	866	828	694	–	1 203	155
Separated	149	76	107	55	86	73	71	42	41	38	–	144	119
Widowed	241	162	128	58	107	71	145	55	63	70	–	242	102
Divorced	174	224	358	145	176	142	178	110	128	93	–	232	115

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0340	Tract 0341*	Tract 0342	Tract 0343.01	Tract 0343.02	Tract 0344	Tract 0345.01	Tract 0345.02	Tract 0346	Tract 0347.01	Tract 0347.02	Tract 0347.03	Tract 0347.04
AGE													
Total persons	**8 100**	**26**	**891**	**5 861**	**12 343**	**2 011**	**5 656**	**2 659**	**4 047**	**5 684**	**4 761**	**2 170**	**6 455**
Under 5 years	505	2	86	484	1 719	218	615	230	349	454	407	174	476
5 to 9 years	665	–	70	636	1 576	134	548	218	256	466	304	213	426
10 to 14 years	894	–	73	729	1 166	141	417	265	206	495	295	215	512
15 to 19 years	1 141	1	60	820	952	140	358	279	345	571	517	184	658
20 to 24 years	740	2	81	500	1 666	241	589	245	761	656	916	189	831
25 to 34 years	927	7	134	753	3 169	435	1 239	489	984	1 019	989	380	1 221
35 to 44 years	1 173	3	77	817	1 230	176	641	365	431	614	480	278	696
45 to 54 years	1 181	2	100	615	539	162	542	322	330	697	499	287	869
55 to 64 years	585	5	117	342	212	193	429	146	199	503	255	164	480
65 to 74 years	203	3	66	118	83	117	213	72	124	151	71	54	209
75 years and over	86	1	27	47	31	54	65	28	62	58	28	32	77
3 and 4 years	184	1	32	204	674	85	236	88	116	181	152	78	174
16 years and over	5 788	24	651	3 842	7 689	1 492	4 014	1 880	3 191	4 154	3 687	1 532	4 934
18 years and over	5 296	23	628	3 492	7 347	1 449	3 864	1 758	3 074	3 918	3 497	1 454	4 676
21 years and over	4 723	23	578	3 087	6 676	1 336	3 617	1 626	2 751	3 585	3 041	1 337	4 209
60 years and over	525	4	151	292	194	244	467	167	276	356	202	148	466
62 years and over	403	4	124	227	158	218	373	138	234	294	153	120	384
Median	25.9	36.0	29.8	22.4	22.6	27.3	27.3	26.6	25.7	26.5	24.6	27.6	27.0
Female	**4 172**	**15**	**442**	**3 110**	**6 443**	**1 003**	**2 875**	**1 361**	**1 940**	**2 807**	**2 316**	**1 079**	**3 217**
Under 5 years	261	1	42	232	841	98	309	108	169	214	196	81	231
5 to 9 years	352	–	32	319	769	59	276	114	129	232	162	98	233
10 to 14 years	456	–	35	362	589	66	206	132	106	247	144	104	257
15 to 19 years	532	1	29	434	548	84	194	151	195	269	275	97	334
20 to 24 years	363	–	43	258	974	131	316	130	373	312	436	94	383
25 to 34 years	498	6	66	449	1 699	196	608	238	400	495	427	186	576
35 to 44 years	674	1	36	490	611	80	302	204	196	315	258	146	357
45 to 54 years	624	1	42	316	254	85	278	145	162	364	238	139	444
55 to 64 years	266	2	63	151	96	103	228	82	102	252	123	84	234
65 to 74 years	95	2	39	63	46	69	116	40	64	70	38	28	114
75 years and over	51	1	15	36	16	32	42	17	44	37	19	22	54
3 and 4 years	94	1	15	111	322	39	124	43	58	79	74	38	83
16 years and over	2 998	14	329	2 099	4 137	762	2 046	971	1 509	2 063	1 777	776	2 436
18 years and over	2 762	13	318	1 917	3 952	739	1 969	908	1 439	1 959	1 679	734	2 311
21 years and over	2 491	13	293	1 711	3 532	676	1 844	836	1 259	1 784	1 436	681	2 076
60 years and over	247	3	83	151	102	139	270	96	158	182	107	82	258
62 years and over	201	3	68	125	83	126	215	87	132	152	86	65	216
Median	27.0	34.5	29.8	24.1	22.7	27.4	27.1	26.6	25.0	27.0	24.3	27.8	26.9
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**8 100**	**26**	**891**	**5 861**	**12 343**	**2 011**	**5 656**	**2 659**	**4 047**	**5 684**	**4 761**	**2 170**	**6 455**
In households	8 100	26	891	5 768	12 343	2 011	5 656	2 659	4 047	5 684	4 761	2 170	6 455
Householder	2 255	13	312	1 541	3 932	733	2 003	824	1 758	1 915	1 935	674	2 339
Family householder	2 013	4	239	1 366	3 227	550	1 590	739	1 035	1 558	1 250	594	1 769
Nonfamily householder	242	9	73	175	705	183	413	85	723	357	685	80	570
Living alone	221	7	61	161	586	153	347	65	569	288	530	61	444
Spouse	1 549	4	206	846	2 074	475	1 344	642	849	1 328	986	508	1 529
Other relatives	4 216	6	351	3 311	5 976	731	2 144	1 142	1 218	2 295	1 590	940	2 391
Nonrelatives	80	3	22	70	361	72	165	51	222	146	250	48	196
Inmate of institution	–	–	–	93	–	–	–	–	–	–	–	–	–
Other, in group quarters	–	–	–	–	–	–	–	–	–	–	–	–	–
Persons per household	3.59	2.00	2.86	3.74	3.14	2.74	2.82	3.23	2.30	2.97	2.46	3.22	2.76
Persons per family	3.86	3.50	3.33	4.04	3.49	3.19	3.19	3.41	3.00	3.33	3.06	3.44	3.22
Persons 65 years and over	**289**	**4**	**93**	**165**	**114**	**171**	**278**	**100**	**186**	**209**	**99**	**86**	**286**
In households	289	4	93	165	114	171	278	100	186	209	99	86	286
Householder	168	4	59	86	51	118	189	55	113	116	61	46	165
Nonfamily householder	38	4	30	23	9	52	90	17	46	34	24	20	52
Living alone	38	4	28	22	7	52	87	13	45	34	23	18	51
Spouse	55	–	18	24	20	38	55	24	44	47	23	16	74
Other relatives	63	–	13	51	38	14	32	20	25	43	14	21	43
Nonrelatives	3	–	3	4	5	1	2	1	4	3	1	3	4
Inmate of institution	–	–	–	–	–	–	–	–	–	–	–	–	–
Other, in group quarters	–	–	–	–	–	–	–	–	–	–	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**2 013**	**4**	**239**	**1 366**	**3 227**	**550**	**1 590**	**739**	**1 035**	**1 558**	**1 250**	**594**	**1 769**
With own children under 18 years	1 237	1	111	926	2 478	273	915	460	497	900	691	349	938
Number of own children under 18 years	2 432	2	227	2 062	4 628	514	1 679	849	881	1 623	1 149	651	1 652
Married-couple families	**1 549**	**4**	**206**	**846**	**2 074**	**475**	**1 344**	**642**	**849**	**1 328**	**986**	**508**	**1 529**
With own children under 18 years	936	1	98	547	1 595	239	735	401	393	745	511	299	791
Number of own children under 18 years	1 864	2	205	1 214	3 063	444	1 359	750	722	1 386	889	571	1 431
Female householder, no husband present	**379**	**–**	**22**	**462**	**904**	**57**	**196**	**68**	**135**	**179**	**191**	**69**	**175**
With own children under 18 years	258	–	11	360	776	29	155	45	88	134	152	44	119
Number of own children under 18 years	488	–	19	808	1 383	59	276	74	139	201	218	72	181
MARITAL STATUS													
Male, 15 years and over	**2 933**	**10**	**329**	**1 815**	**3 638**	**738**	**1 992**	**939**	**1 700**	**2 155**	**1 941**	**772**	**2 545**
Single	1 033	2	69	686	1 063	174	420	227	523	596	641	181	741
Now married, except separated	1 632	5	213	925	2 159	491	1 395	657	892	1 371	1 018	529	1 566
Separated	89	–	6	71	159	16	30	11	36	35	61	14	41
Widowed	60	–	15	24	25	9	29	8	23	23	12	9	18
Divorced	119	3	26	109	232	48	118	36	226	130	209	39	179
Female, 15 years and over	**3 103**	**14**	**333**	**2 197**	**4 244**	**780**	**2 084**	**1 007**	**1 536**	**2 114**	**1 814**	**796**	**2 496**
Single	880	4	48	732	1 170	111	304	194	323	380	423	117	516
Now married, except separated	1 617	6	210	903	2 150	489	1 377	659	874	1 361	1 009	526	1 567
Separated	126	–	9	164	310	20	61	15	45	45	61	20	39
Widowed	225	3	38	127	147	74	157	62	83	112	70	60	153
Divorced	255	1	28	271	467	86	185	77	211	216	251	73	221

Table P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0350.01*	Tract 0351*	Tract 0352*	Tract 0354*	Tract 0359.01*	Tract 0361*	Tract 0361.99*	Tract 0362*	Tract 0370*	Tract 0371.01*	Tract 0371.02*	Tract 0372*	Tract 0373.01*
AGE													
Total persons	-	-	-	-	**1 106**	**4**	**84**	-	**6 696**	**11 576**	**6 607**	-	**5 780**
Under 5 years	-	-	-	-	117	...	-	-	559	829	718	-	446
5 to 9 years	-	-	-	-	82	...	-	-	732	1 107	726	-	635
10 to 14 years	-	-	-	-	68	...	-	-	833	1 298	676	-	671
15 to 19 years	-	-	-	-	88	...	7	-	601	1 375	562	-	528
20 to 24 years	-	-	-	-	141	...	13	-	204	785	587	-	338
25 to 34 years	-	-	-	-	221	...	26	-	1 233	1 816	1 621	-	1 255
35 to 44 years	-	-	-	-	104	...	12	-	1 532	2 213	955	-	1 089
45 to 54 years	-	-	-	-	121	...	11	-	675	1 238	443	-	510
55 to 64 years	-	-	-	-	101	...	14	-	235	614	221	-	211
65 to 74 years	-	-	-	-	39	...	1	-	55	219	75	-	72
75 years and over	-	-	-	-	24	...	-	-	37	82	23	-	25
3 and 4 years	-	-	-	-	33	...	-	-	224	347	291	-	181
16 years and over	-	-	-	-	823	...	84	-	4 430	8 037	4 358	-	3 903
18 years and over	-	-	-	-	791	...	82	-	4 148	7 424	4 113	-	3 652
21 years and over	-	-	-	-	725	...	74	-	3 916	6 799	3 823	-	3 429
60 years and over	-	-	-	-	100	...	5	-	155	514	177	-	156
62 years and over	-	-	-	-	86	...	1	-	127	414	141	-	134
Median	-	-	-	-	26.6	...	32.0	-	29.9	27.9	25.2	-	27.6
Female	-	-	-	-	**530**	...	-	-	**3 285**	**5 846**	**3 163**	-	**2 904**
Under 5 years	-	-	-	-	56	...	-	-	280	389	343	-	217
5 to 9 years	-	-	-	-	38	...	-	-	340	556	334	-	319
10 to 14 years	-	-	-	-	32	...	-	-	403	662	309	-	341
15 to 19 years	-	-	-	-	41	...	-	-	291	656	270	-	263
20 to 24 years	-	-	-	-	62	...	-	-	99	409	296	-	187
25 to 34 years	-	-	-	-	104	...	-	-	708	972	784	-	649
35 to 44 years	-	-	-	-	54	...	-	-	708	1 144	466	-	545
45 to 54 years	-	-	-	-	60	...	-	-	297	569	195	-	227
55 to 64 years	-	-	-	-	44	...	-	-	102	297	111	-	95
65 to 74 years	-	-	-	-	23	...	-	-	31	131	38	-	43
75 years and over	-	-	-	-	16	...	-	-	26	61	17	-	18
3 and 4 years	-	-	-	-	17	...	-	-	120	167	147	-	92
16 years and over	-	-	-	-	399	...	-	-	2 187	4 080	2 113	-	1 965
18 years and over	-	-	-	-	380	...	-	-	2 045	3 806	1 996	-	1 841
21 years and over	-	-	-	-	351	...	-	-	1 946	3 502	1 863	-	1 728
60 years and over	-	-	-	-	54	...	-	-	88	296	94	-	91
62 years and over	-	-	-	-	49	...	-	-	75	243	74	-	75
Median	-	-	-	-	27.0	...	-	-	29.8	28.5	25.3	-	27.2
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	-	-	-	-	**1 106**	**4**	**84**	-	**6 696**	**11 576**	**6 607**	-	**5 780**
In households	-	-	-	-	1 106	...	-	-	6 696	11 576	6 607	-	5 780
Householder	-	-	-	-	394	...	-	-	1 970	3 496	1 984	-	1 823
Family householder	-	-	-	-	313	...	-	-	1 811	3 108	1 725	-	1 587
Nonfamily householder	-	-	-	-	81	...	-	-	159	388	259	-	236
Living alone	-	-	-	-	64	...	-	-	126	324	198	-	192
Spouse	-	-	-	-	262	...	-	-	1 707	2 734	1 508	-	1 387
Other relatives	-	-	-	-	419	...	-	-	2 936	5 193	2 968	-	2 452
Nonrelatives	-	-	-	-	31	...	-	-	83	153	147	-	118
Inmate of institution	-	-	-	-	-	...	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	...	84	-	-	-	-	-	-
Persons per household	-	-	-	-	2.81	...	-	-	3.40	3.31	3.33	-	3.17
Persons per family	-	-	-	-	3.18	...	-	-	3.56	3.55	3.59	-	3.42
Persons 65 years and over	-	-	-	-	**63**	...	**1**	-	**92**	**301**	**98**	-	**97**
In households	-	-	-	-	63	...	-	-	92	301	98	-	97
Householder	-	-	-	-	40	...	-	-	34	166	43	-	48
Nonfamily householder	-	-	-	-	14	...	-	-	11	66	11	-	20
Living alone	-	-	-	-	14	...	-	-	11	64	10	-	20
Spouse	-	-	-	-	15	...	-	-	16	52	13	-	12
Other relatives	-	-	-	-	8	...	-	-	42	83	40	-	32
Nonrelatives	-	-	-	-	-	...	-	-	-	-	2	-	5
Inmate of institution	-	-	-	-	-	...	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	...	1	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	-	-	-	-	**313**	...	-	-	**1 811**	**3 108**	**1 725**	-	**1 587**
With own children under 18 years	-	-	-	-	164	...	-	-	1 304	2 109	1 218	-	1 103
Number of own children under 18 years	-	-	-	-	287	...	-	-	2 488	4 001	2 341	-	2 021
Married-couple families	-	-	-	-	**262**	...	-	-	**1 707**	**2 734**	**1 508**	-	**1 387**
With own children under 18 years	-	-	-	-	135	...	-	-	1 230	1 846	1 060	-	937
Number of own children under 18 years	-	-	-	-	246	...	-	-	2 365	3 569	2 061	-	1 754
Female householder, no husband present	-	-	-	-	**36**	...	-	-	**77**	**298**	**158**	-	**138**
With own children under 18 years	-	-	-	-	20	...	-	-	60	222	132	-	119
Number of own children under 18 years	-	-	-	-	30	...	-	-	105	370	239	-	200
MARITAL STATUS													
Male, 15 years and over	-	-	-	-	**435**	...	**84**	-	**2 310**	**4 103**	**2 310**	-	**2 001**
Single	-	-	-	-	103	...	26	-	469	1 080	571	-	443
Now married, except separated	-	-	-	-	276	...	51	-	1 734	2 795	1 557	-	1 417
Separated	-	-	-	-	10	...	1	-	16	32	35	-	21
Widowed	-	-	-	-	5	...	-	-	9	30	15	-	9
Divorced	-	-	-	-	41	...	6	-	82	166	132	-	111
Female, 15 years and over	-	-	-	-	**404**	...	-	-	**2 262**	**4 239**	**2 177**	-	**2 027**
Single	-	-	-	-	54	...	-	-	363	885	358	-	359
Now married, except separated	-	-	-	-	273	...	-	-	1 743	2 800	1 548	-	1 413
Separated	-	-	-	-	7	...	-	-	19	56	57	-	27
Widowed	-	-	-	-	32	...	-	-	60	214	67	-	58
Divorced	-	-	-	-	38	...	-	-	77	284	147	-	170

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0373.02	Tract 0373.03[p]	Tract 0373.04[p]	Tract 0400.25	Tract 0400.26	Tract 0401.01	Tract 0401.02	Tract 0402.01	Tract 0402.02	Tract 0403	Tract 0404.01	Tract 0404.02	Tract 0405.01
AGE													
Total persons	**9 444**	**3 332**	**1**	**1 150**	**6 874**	**2 324**	**3 472**	**5 829**	**4 076**	**6 757**	**2 699**	**3 675**	**4 141**
Under 5 years	459	170	...	76	732	39	261	170	193	145	73	116	221
5 to 9 years	682	174	...	69	766	21	204	140	118	104	46	135	152
10 to 14 years	1 033	145	...	43	677	52	168	118	87	86	39	131	100
15 to 19 years	1 125	187	...	43	748	116	215	257	259	294	102	160	214
20 to 24 years	919	750	...	100	545	297	499	731	585	1 180	481	470	547
25 to 34 years	1 607	1 123	...	237	893	746	1 043	2 068	1 494	2 563	1 042	1 126	1 221
35 to 44 years	1 829	394	...	101	614	262	367	743	449	959	347	494	428
45 to 54 years	1 092	214	...	107	587	299	219	431	315	507	186	302	288
55 to 64 years	485	122	...	138	561	281	203	409	254	429	155	307	312
65 to 74 years	134	37	...	120	464	137	169	430	191	286	115	220	330
75 years and over	79	16	...	116	287	74	124	332	131	204	113	214	328
3 and 4 years	211	63	...	24	276	16	96	63	60	45	21	35	72
16 years and over	7 008	2 806	...	952	4 531	2 181	2 811	5 376	3 659	6 409	2 536	3 266	3 635
18 years and over	6 558	2 752	...	940	4 239	2 126	2 722	5 282	3 575	6 347	2 506	3 209	3 569
21 years and over	5 986	2 562	...	903	3 840	2 079	2 542	5 044	3 335	5 966	2 387	3 089	3 369
60 years and over	390	95	...	292	1 015	334	381	957	445	664	292	571	800
62 years and over	299	74	...	265	898	278	335	886	390	590	260	515	741
Median	28.0	26.4	...	35.6	24.7	32.3	28.0	31.4	29.6	30.2	29.5	31.6	30.8
Female	**4 597**	**1 556**	...	**472**	**3 591**	**1 139**	**1 545**	**2 635**	**1 631**	**2 620**	**1 181**	**1 786**	**1 883**
Under 5 years	236	84	...	30	334	18	125	86	113	70	39	53	111
5 to 9 years	321	95	...	24	372	5	101	74	55	52	19	76	65
10 to 14 years	493	68	...	22	344	18	91	63	39	35	19	66	44
15 to 19 years	518	99	...	23	370	42	101	101	121	159	45	70	98
20 to 24 years	448	370	...	35	283	160	207	312	211	506	231	247	242
25 to 34 years	797	485	...	82	460	335	383	815	505	820	411	496	418
35 to 44 years	918	167	...	27	338	111	133	237	136	261	115	202	151
45 to 54 years	504	93	...	33	311	162	93	202	120	196	75	119	125
55 to 64 years	221	57	...	61	313	164	106	241	122	203	79	157	175
65 to 74 years	87	27	...	59	259	77	115	280	121	174	65	153	216
75 years and over	54	11	...	76	207	47	90	224	88	144	83	147	238
3 and 4 years	113	38	...	10	113	6	56	40	39	27	10	15	33
16 years and over	3 426	1 291	...	391	2 462	1 091	1 220	2 404	1 414	2 459	1 102	1 579	1 648
18 years and over	3 218	1 258	...	381	2 305	1 075	1 179	2 368	1 380	2 426	1 089	1 559	1 615
21 years and over	2 947	1 157	...	367	2 119	1 047	1 090	2 268	1 275	2 226	1 025	1 497	1 530
60 years and over	217	61	...	163	616	198	257	627	275	406	185	375	540
62 years and over	173	54	...	151	552	164	232	587	241	366	167	347	513
Median	28.9	25.8	...	41.3	26.8	33.9	28.2	32.3	29.4	29.8	29.3	31.9	33.4
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**9 444**	**3 332**	**1**	**1 150**	**6 874**	**2 324**	**3 472**	**5 829**	**4 076**	**6 757**	**2 699**	**3 675**	**4 141**
In households	9 444	3 332	...	1 005	6 734	2 052	3 464	5 819	4 028	6 547	2 699	3 584	4 141
Householder	3 469	1 827	...	513	2 231	1 406	1 489	3 457	2 170	4 130	1 684	1 983	2 343
Family householder	2 382	763	...	182	1 393	374	639	1 044	650	932	429	731	810
Nonfamily householder	1 087	1 064	...	331	838	1 032	850	2 413	1 520	3 198	1 255	1 252	1 533
Living alone	879	878	...	286	749	918	596	1 870	1 083	2 447	932	1 021	1 279
Spouse	2 125	577	...	138	627	305	456	769	440	692	307	593	607
Other relatives	3 554	684	...	280	3 580	211	1 078	868	761	678	296	657	787
Nonrelatives	296	244	...	74	296	130	441	725	657	1 047	412	351	404
Inmate of institution	-	-	...	110	138	272	-	-	-	2	-	-	-
Other, in group quarters	-	-	...	35	2	-	8	10	48	208	-	91	-
Persons per household	2.72	1.82	...	1.96	3.02	1.46	2.33	1.68	1.86	1.59	1.60	1.81	1.77
Persons per family	3.38	2.65	...	3.30	4.02	2.38	3.40	2.57	2.85	2.47	2.41	2.71	2.72
Persons 65 years and over	**213**	**53**	...	**236**	**751**	**211**	**293**	**762**	**322**	**490**	**228**	**434**	**658**
In households	213	53	...	145	733	210	293	762	320	486	228	434	658
Householder	117	36	...	108	580	158	212	569	235	346	166	306	504
Nonfamily householder	61	24	...	71	383	105	133	353	140	220	108	176	335
Living alone	59	24	...	69	356	103	123	335	127	204	102	164	326
Spouse	37	8	...	24	66	31	41	140	46	76	35	86	112
Other relatives	55	9	...	10	63	19	34	38	25	51	21	33	34
Nonrelatives	4	-	...	3	24	2	6	15	14	13	6	9	8
Inmate of institution	-	-	...	90	18	1	-	-	-	-	-	-	-
Other, in group quarters	-	-	...	1	-	-	-	-	2	4	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**2 382**	**763**	...	**182**	**1 393**	**374**	**639**	**1 044**	**650**	**932**	**429**	**731**	**810**
With own children under 18 years	1 489	359	...	72	857	54	317	324	233	227	125	245	288
Number of own children under 18 years	2 791	526	...	183	2 201	96	667	469	392	349	167	418	500
Married-couple families	**2 125**	**577**	...	**138**	**627**	**305**	**456**	**769**	**440**	**692**	**307**	**593**	**607**
With own children under 18 years	1 318	224	...	59	378	39	236	222	151	157	79	193	200
Number of own children under 18 years	2 525	331	...	152	1 062	72	527	335	258	253	111	343	354
Female householder, no husband present	**187**	**130**	...	**29**	**648**	**48**	**120**	**189**	**134**	**153**	**83**	**95**	**141**
With own children under 18 years	141	110	...	11	431	14	59	86	60	60	38	39	72
Number of own children under 18 years	219	158	...	26	1 037	23	102	117	101	85	48	58	122
MARITAL STATUS													
Male, 15 years and over	**3 723**	**1 534**	...	**566**	**2 158**	**1 114**	**1 611**	**2 989**	**2 254**	**3 959**	**1 437**	**1 702**	**2 005**
Single	1 243	619	...	237	875	580	780	1 653	1 299	2 512	834	813	957
Now married, except separated	2 175	604	...	181	755	326	568	851	513	782	347	631	676
Separated	56	58	...	30	204	38	56	89	76	88	42	33	66
Widowed	21	6	...	46	149	20	27	53	44	60	17	28	44
Divorced	228	247	...	72	175	150	180	343	322	517	197	197	262
Female, 15 years and over	**3 547**	**1 309**	...	**396**	**2 541**	**1 098**	**1 228**	**2 412**	**1 424**	**2 463**	**1 104**	**1 591**	**1 663**
Single	873	375	...	81	780	443	340	784	472	1 042	433	529	416
Now married, except separated	2 161	596	...	156	731	311	509	808	486	739	325	629	639
Separated	66	33	...	16	260	29	32	77	67	54	21	36	48
Widowed	140	46	...	96	525	94	171	332	165	228	117	184	326
Divorced	307	259	...	47	245	221	176	411	234	400	208	213	234

Table P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0405.02	Tract 0406	Tract 0407.01	Tract 0407.02	Tract 0412.01	Tract 0412.02	Tract 0413.01	Tract 0413.02	Tract 0413.03	Tract 0414.01	Tract 0414.02	Tract 0415.01	Tract 0415.02
AGE													
Total persons	**4 024**	**5 674**	**4 723**	**3 223**	**4 716**	**4 651**	**4 283**	**2 846**	**2 826**	**5 930**	**4 595**	**2 650**	**2 586**
Under 5 years	122	215	134	113	148	215	270	104	33	271	477	77	227
5 to 9 years	65	286	104	93	154	234	198	104	28	211	302	59	179
10 to 14 years	67	389	139	80	156	255	188	116	28	261	205	97	144
15 to 19 years	132	367	202	120	913	232	243	147	49	294	290	105	156
20 to 24 years	567	274	651	479	1 161	383	466	178	421	687	1 008	224	189
25 to 34 years	1 484	899	1 310	918	714	970	1 055	506	932	1 432	1 433	413	620
35 to 44 years	436	834	599	346	442	608	490	329	284	643	389	255	309
45 to 54 years	285	721	514	263	251	392	378	311	294	518	242	272	216
55 to 64 years	313	696	453	318	225	446	466	434	329	760	164	432	299
65 to 74 years	294	579	354	294	273	523	374	425	252	603	56	351	170
75 years and over	259	414	263	199	279	393	155	192	176	250	29	365	77
3 and 4 years	35	103	42	28	49	85	95	45	6	99	169	27	80
16 years and over	3 753	4 706	4 318	2 926	4 222	3 895	3 575	2 495	2 729	5 145	3 584	2 395	2 007
18 years and over	3 723	4 518	4 254	2 895	4 147	3 784	3 482	2 435	2 707	5 030	3 506	2 349	1 936
21 years and over	3 588	4 376	4 070	2 765	2 931	3 663	3 307	2 338	2 665	4 811	3 172	2 287	1 850
60 years and over	702	1 292	822	652	641	1 147	728	835	568	1 208	152	904	371
62 years and over	643	1 165	735	580	604	1 057	647	758	520	1 059	125	813	321
Median	31.4	39.7	32.7	32.0	22.8	35.5	31.8	42.4	33.6	33.0	25.1	48.8	30.9
Female	**1 917**	**2 957**	**2 262**	**1 648**	**2 208**	**2 450**	**2 150**	**1 430**	**1 569**	**3 034**	**2 213**	**1 548**	**1 328**
Under 5 years	57	100	66	56	71	107	135	54	22	133	232	44	108
5 to 9 years	31	142	52	54	89	107	83	46	15	105	144	27	88
10 to 14 years	28	186	68	37	65	130	93	67	14	124	93	46	60
15 to 19 years	73	179	103	54	355	125	119	71	21	129	155	57	68
20 to 24 years	255	139	253	242	428	198	216	74	233	360	476	111	104
25 to 34 years	605	439	560	420	374	436	506	233	482	707	686	228	305
35 to 44 years	155	431	250	138	203	294	229	136	139	299	159	124	152
45 to 54 years	136	371	243	124	119	192	201	170	144	276	125	153	127
55 to 64 years	185	366	263	184	135	257	256	235	204	433	87	253	166
65 to 74 years	206	347	221	198	183	333	214	234	169	313	35	223	103
75 years and over	186	257	183	141	186	271	98	110	126	155	21	282	47
3 and 4 years	17	43	20	15	20	45	47	22	4	42	78	15	32
16 years and over	1 792	2 486	2 062	1 494	1 966	2 086	1 809	1 250	1 514	2 658	1 728	1 421	1 055
18 years and over	1 775	2 397	2 030	1 479	1 930	2 018	1 764	1 218	1 505	2 598	1 690	1 394	1 032
21 years and over	1 704	2 331	1 945	1 419	1 474	1 951	1 684	1 177	1 478	2 503	1 528	1 363	987
60 years and over	484	762	529	429	429	746	427	470	381	659	95	610	217
62 years and over	449	697	469	392	404	694	382	422	354	582	76	560	191
Median	32.9	41.5	36.1	33.5	27.3	38.4	33.2	47.3	34.9	34.2	25.1	53.9	31.9
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**4 024**	**5 674**	**4 723**	**3 223**	**4 716**	**4 651**	**4 283**	**2 846**	**2 826**	**5 930**	**4 595**	**2 650**	**2 586**
In households	4 024	5 674	4 693	3 223	3 011	4 640	4 283	2 832	2 826	5 930	4 595	2 398	2 586
Householder	2 607	2 549	2 660	1 993	1 436	2 164	1 902	1 310	1 889	2 794	2 173	1 216	1 008
Family householder	633	1 485	1 024	652	765	1 162	1 099	859	620	1 669	973	678	723
Nonfamily householder	1 974	1 064	1 636	1 341	671	1 002	803	451	1 269	1 125	1 200	538	285
Living alone	1 602	943	1 276	1 158	539	833	616	382	1 140	901	947	468	228
Spouse	452	1 282	783	477	636	984	853	732	539	1 448	629	588	575
Other relatives	499	1 570	780	487	737	1 199	1 167	658	248	1 388	1 360	505	884
Nonrelatives	466	273	470	266	202	293	361	132	150	300	433	89	119
Inmate of institution	-	-	30	-	1	-	-	-	-	-	-	252	-
Other, in group quarters	-	-	-	-	1 704	11	-	14	-	-	-	-	-
Persons per household	1.54	2.23	1.76	1.62	2.10	2.14	2.25	2.16	1.50	2.12	2.11	1.97	2.57
Persons per family	2.50	2.92	2.53	2.48	2.79	2.88	2.84	2.62	2.27	2.70	3.04	2.61	3.02
Persons 65 years and over	**553**	**993**	**617**	**493**	**552**	**916**	**529**	**617**	**428**	**853**	**85**	**716**	**247**
In households	553	993	590	493	551	916	529	614	428	853	85	466	247
Householder	429	685	426	373	366	640	363	389	331	548	59	324	157
Nonfamily householder	298	338	239	252	181	336	160	127	212	165	43	165	72
Living alone	282	322	232	243	170	321	154	120	209	159	43	161	70
Spouse	78	234	115	84	131	187	110	181	76	236	5	103	57
Other relatives	36	51	41	32	41	68	47	41	17	64	21	35	30
Nonrelatives	10	23	8	4	13	21	9	3	4	5	-	4	3
Inmate of institution	-	-	27	-	-	-	-	-	-	-	-	250	-
Other, in group quarters	-	-	-	-	1	-	-	3	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**633**	**1 485**	**1 024**	**652**	**765**	**1 162**	**1 099**	**859**	**620**	**1 669**	**973**	**678**	**723**
With own children under 18 years	181	601	282	207	306	433	435	225	72	503	543	173	361
Number of own children under 18 years	261	1 121	420	302	528	814	710	376	111	846	944	277	609
Married-couple families	**452**	**1 282**	**783**	**477**	**636**	**984**	**853**	**732**	**539**	**1 448**	**629**	**588**	**575**
With own children under 18 years	117	514	189	132	250	373	314	189	60	424	338	156	270
Number of own children under 18 years	175	1 001	292	199	448	712	528	320	95	726	593	255	481
Female householder, no husband present	**140**	**157**	**168**	**137**	**106**	**130**	**186**	**94**	**54**	**172**	**244**	**65**	**125**
With own children under 18 years	58	72	75	64	47	49	103	28	10	66	172	11	82
Number of own children under 18 years	76	102	108	88	64	86	159	41	12	102	308	15	116
MARITAL STATUS													
Male, 15 years and over	**1 969**	**2 255**	**2 270**	**1 436**	**2 275**	**1 841**	**1 788**	**1 259**	**1 219**	**2 515**	**1 867**	**986**	**964**
Single	1 118	690	1 040	618	1 486	618	626	350	479	762	836	252	244
Now married, except separated	502	1 316	851	520	660	1 022	946	767	569	1 487	718	628	588
Separated	38	41	64	47	18	31	41	27	32	44	85	6	27
Widowed	32	72	33	37	25	44	28	38	15	42	23	35	24
Divorced	279	136	282	214	86	126	147	77	124	180	205	65	81
Female, 15 years and over	**1 801**	**2 529**	**2 076**	**1 501**	**1 983**	**2 106**	**1 839**	**1 263**	**1 518**	**2 672**	**1 744**	**1 431**	**1 072**
Single	660	555	560	446	941	522	459	205	501	634	638	296	214
Now married, except separated	477	1 313	831	501	655	1 020	912	747	555	1 484	674	631	593
Separated	59	54	45	37	16	26	45	22	23	33	122	17	25
Widowed	262	371	297	222	215	370	210	191	219	279	83	344	122
Divorced	343	236	343	295	156	168	213	98	220	242	227	143	118

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0415.03	Tract 0415.04	Tract 0416.01	Tract 0416.02	Tract 0416.03	Tract 0416.04	Tract 0416.05	Tract 0417.02*	Tract 0418.02*	Tract 0419.01	Tract 0419.02	Tract 0419.03	Tract 0419.04
AGE													
Total persons	**4 119**	**2 879**	**4 616**	**4 688**	**5 484**	**2 802**	**506**	–	–	**1 034**	**2 299**	**694**	**4 740**
Under 5 years	283	137	393	244	188	106	–	–	–	48	92	4	333
5 to 9 years	248	149	281	245	179	158	–	–	–	43	96	1	170
10 to 14 years	292	182	201	400	141	228	–	–	–	28	101	3	92
15 to 19 years	251	226	286	406	290	248	7	–	–	72	111	16	242
20 to 24 years	308	148	826	387	644	139	32	–	–	204	165	187	1 417
25 to 34 years	830	371	1 433	826	1 081	270	58	–	–	317	497	333	1 810
35 to 44 years	505	339	485	675	451	347	31	–	–	108	303	86	356
45 to 54 years	495	432	316	674	597	501	53	–	–	81	255	34	189
55 to 64 years	554	529	222	529	820	538	116	–	–	69	305	19	85
65 to 74 years	261	274	114	221	671	190	120	–	–	44	237	7	35
75 years and over	92	92	59	81	422	77	89	–	–	20	137	4	11
3 and 4 years	101	61	122	82	68	48	–	–	–	12	32	3	122
16 years and over	3 251	2 367	3 707	3 713	4 937	2 256	506	–	–	908	1 993	684	4 127
18 years and over	3 145	2 253	3 617	3 542	4 814	2 158	503	–	–	885	1 951	679	4 076
21 years and over	2 992	2 150	3 340	3 325	4 606	2 036	496	–	–	799	1 863	650	3 760
60 years and over	609	602	256	500	1 486	486	266	–	–	97	526	18	76
62 years and over	491	488	215	412	1 313	386	241	–	–	79	466	16	60
Median	32.9	41.2	26.6	32.9	39.2	42.2	61.3	–	–	27.9	37.7	28.3	25.3
Female	**2 086**	**1 453**	**2 372**	**2 406**	**3 051**	**1 431**	**322**	–	–	**459**	**1 126**	**284**	**2 183**
Under 5 years	144	59	191	136	87	56	–	–	–	21	50	1	165
5 to 9 years	118	68	145	122	87	84	–	–	–	20	53	1	88
10 to 14 years	160	92	99	193	71	113	–	–	–	10	44	2	47
15 to 19 years	114	109	160	192	144	110	4	–	–	36	44	9	129
20 to 24 years	137	61	445	196	370	60	16	–	–	78	76	82	697
25 to 34 years	402	189	677	411	532	145	33	–	–	123	231	126	778
35 to 44 years	258	165	239	372	240	193	15	–	–	51	126	32	131
45 to 54 years	269	239	172	344	330	271	34	–	–	41	120	15	79
55 to 64 years	293	273	132	258	467	267	80	–	–	39	166	8	40
65 to 74 years	125	138	72	126	452	84	76	–	–	25	129	5	20
75 years and over	66	60	40	56	271	48	64	–	–	15	87	3	9
3 and 4 years	56	29	60	48	29	22	–	–	–	5	12	–	60
16 years and over	1 639	1 214	1 913	1 921	2 794	1 157	322	–	–	403	971	279	1 875
18 years and over	1 598	1 159	1 867	1 841	2 735	1 115	320	–	–	390	957	274	1 843
21 years and over	1 528	1 110	1 721	1 729	2 618	1 060	316	–	–	355	912	266	1 678
60 years and over	320	320	156	273	949	230	181	–	–	60	299	12	43
62 years and over	256	260	132	231	846	182	163	–	–	50	266	10	35
Median	34.2	43.9	26.5	33.8	44.8	43.1	62.3	–	–	28.6	39.4	27.9	24.8
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**4 119**	**2 879**	**4 616**	**4 688**	**5 484**	**2 802**	**506**	–	–	**1 034**	**2 299**	**694**	**4 740**
In households	4 119	2 879	4 606	4 688	5 484	2 802	501	–	–	1 034	2 299	694	4 740
Householder	1 557	1 049	2 171	1 837	2 928	1 003	364	–	–	549	1 085	478	2 683
Family householder	1 240	893	1 128	1 315	1 509	902	118	–	–	237	625	81	957
Nonfamily householder	317	156	1 043	522	1 419	101	246	–	–	312	460	397	1 726
Living alone	246	128	808	419	1 258	90	234	–	–	247	365	305	1 334
Spouse	1 090	808	797	1 130	1 221	816	103	–	–	158	524	66	681
Other relatives	1 330	961	1 306	1 570	1 100	954	21	–	–	236	528	34	848
Nonrelatives	142	61	332	151	235	29	13	–	–	91	162	116	528
Inmate of institution	–	–	–	–	–	–	5	–	–	–	–	–	–
Other, in group quarters	–	–	10	–	–	–	–	–	–	–	–	–	–
Persons per household	2.65	2.74	2.12	2.55	1.87	2.79	1.38	–	–	1.88	2.12	1.45	1.77
Persons per family	2.95	2.98	2.86	3.05	2.54	2.96	2.05	–	–	2.66	2.68	2.23	2.60
Persons 65 years and over	**353**	**366**	**173**	**302**	**1 093**	**267**	**209**	–	–	**64**	**374**	**11**	**46**
In households	353	366	171	302	1 093	267	209	–	–	64	374	11	46
Householder	214	205	115	177	765	160	168	–	–	44	234	7	29
Nonfamily householder	67	54	66	62	411	29	113	–	–	31	80	4	16
Living alone	63	49	62	57	404	29	112	–	–	29	79	4	14
Spouse	89	97	36	77	252	69	36	–	–	11	101	2	7
Other relatives	44	54	17	43	68	34	4	–	–	9	38	2	9
Nonrelatives	6	10	3	5	8	4	1	–	–	–	1	–	1
Inmate of institution	–	–	–	–	–	–	–	–	–	–	–	–	–
Other, in group quarters	–	–	2	–	–	–	–	–	–	–	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 240**	**893**	**1 128**	**1 315**	**1 509**	**902**	**118**	–	–	**237**	**625**	**81**	**957**
With own children under 18 years	549	320	577	635	396	346	3	–	–	84	190	9	421
Number of own children under 18 years	917	594	899	1 099	616	612	3	–	–	122	329	13	582
Married-couple families	**1 090**	**808**	**797**	**1 130**	**1 221**	**816**	**103**	–	–	**158**	**524**	**66**	**681**
With own children under 18 years	463	286	375	531	291	304	1	–	–	50	153	6	270
Number of own children under 18 years	788	532	623	921	460	548	1	–	–	79	272	10	385
Female householder, no husband present	**120**	**67**	**252**	**139**	**221**	**59**	**13**	–	–	**41**	**71**	**11**	**177**
With own children under 18 years	74	30	175	95	80	32	2	–	–	27	29	3	124
Number of own children under 18 years	113	54	245	162	123	47	2	–	–	36	47	3	166
MARITAL STATUS													
Male, 15 years and over	**1 632**	**1 177**	**1 804**	**1 844**	**2 170**	**1 132**	**184**	–	–	**507**	**1 031**	**406**	**2 262**
Single	406	291	666	530	631	254	35	–	–	266	317	273	1 129
Now married, except separated	1 113	830	838	1 158	1 256	826	104	–	–	181	592	70	737
Separated	19	4	48	26	32	6	4	–	–	16	19	6	86
Widowed	23	18	26	22	59	16	14	–	–	8	15	2	9
Divorced	71	34	226	108	192	30	27	–	–	36	88	55	301
Female, 15 years and over	**1 664**	**1 234**	**1 937**	**1 955**	**2 806**	**1 178**	**322**	–	–	**408**	**979**	**280**	**1 883**
Single	248	193	537	416	626	189	48	–	–	131	181	136	743
Now married, except separated	1 109	825	827	1 160	1 245	829	106	–	–	163	539	70	714
Separated	29	7	65	32	54	15	3	–	–	21	13	8	78
Widowed	148	140	121	142	551	78	125	–	–	41	134	6	39
Divorced	130	69	387	205	330	67	40	–	–	52	112	60	309

Table P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0419.05	Tract 0419.06	Tract 0420.01	Tract 0420.02	Tract 0420.03	Tract 0421	Tract 0422.01	Tract 0422.02	Tract 0422.03	Tract 0422.04	Tract 0423.01	Tract 0423.02	Tract 0423.03
AGE													
Total persons	**5 719**	**11 780**	**3 240**	**5 465**	**5 337**	**4 194**	**2 744**	**5 723**	**10 076**	**5 115**	**6 251**	**3 903**	**3 685**
Under 5 years	506	470	103	147	60	104	91	143	237	75	153	216	100
5 to 9 years	375	246	119	146	69	126	124	129	236	51	83	157	83
10 to 14 years	253	179	176	166	70	162	176	171	257	79	55	203	63
15 to 19 years	383	615	220	204	145	245	225	228	380	157	286	266	141
20 to 24 years	1 130	3 575	177	545	692	460	141	686	1 502	801	2 143	478	792
25 to 34 years	1 715	4 691	390	1 358	1 563	981	282	1 675	3 270	1 584	2 729	1 044	1 252
35 to 44 years	518	881	399	703	635	584	385	852	1 317	666	411	501	366
45 to 54 years	326	536	526	607	591	582	490	760	1 037	665	224	434	317
55 to 64 years	264	369	514	617	642	581	487	640	1 014	577	124	354	290
65 to 74 years	180	158	448	550	440	258	260	302	550	303	31	175	136
75 years and over	69	60	168	422	430	111	83	137	276	157	12	75	145
3 and 4 years	171	126	41	51	21	35	56	53	81	23	47	67	36
16 years and over	4 529	10 847	2 798	4 976	5 115	3 772	2 302	5 247	9 286	4 892	5 943	3 272	3 424
18 years and over	4 417	10 708	2 696	4 873	5 066	3 675	2 189	5 160	9 144	4 841	5 892	3 172	3 381
21 years and over	4 050	9 806	2 600	4 757	4 934	3 498	2 101	4 991	8 831	4 690	5 457	3 001	3 219
60 years and over	379	360	848	1 246	1 186	634	531	700	1 270	699	88	389	407
62 years and over	329	295	761	1 143	1 050	524	446	585	1 084	588	66	329	349
Median	25.8	26.0	45.8	36.9	35.9	35.3	43.8	33.7	31.6	33.4	25.8	30.4	28.8
Female	**2 851**	**5 238**	**1 648**	**3 019**	**2 858**	**2 038**	**1 448**	**2 953**	**5 534**	**2 532**	**2 768**	**2 005**	**1 875**
Under 5 years	258	241	47	76	33	54	42	71	103	42	72	105	59
5 to 9 years	185	118	57	68	29	58	64	58	114	22	41	60	43
10 to 14 years	133	102	86	82	34	82	89	83	119	44	39	106	29
15 to 19 years	191	342	95	100	75	109	112	130	215	90	156	133	81
20 to 24 years	575	1 649	85	307	377	229	84	406	884	396	986	251	416
25 to 34 years	782	1 802	212	714	758	438	166	841	1 710	705	1 120	518	599
35 to 44 years	232	371	194	344	285	269	207	398	634	291	159	241	157
45 to 54 years	172	265	280	326	301	300	251	368	583	356	98	240	155
55 to 64 years	163	204	262	366	377	307	259	339	599	295	66	199	142
65 to 74 years	107	100	237	346	275	118	128	163	360	182	20	101	78
75 years and over	53	44	93	290	314	74	46	96	213	109	11	51	116
3 and 4 years	93	69	17	18	11	20	25	23	29	14	31	38	17
16 years and over	2 249	4 762	1 437	2 778	2 748	1 827	1 226	2 719	5 164	2 415	2 609	1 706	1 739
18 years and over	2 195	4 690	1 395	2 727	2 725	1 782	1 171	2 667	5 090	2 386	2 585	1 658	1 711
21 years and over	1 995	4 194	1 349	2 668	2 657	1 708	1 128	2 577	4 905	2 296	2 331	1 557	1 617
60 years and over	246	228	446	806	773	330	278	398	832	413	55	235	254
62 years and over	214	195	406	740	692	278	235	339	721	357	45	202	224
Median	25.7	25.5	47.4	39.2	38.7	37.1	43.2	33.3	32.1	34.2	25.4	31.2	28.4
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**5 719**	**11 780**	**3 240**	**5 465**	**5 337**	**4 194**	**2 744**	**5 723**	**10 076**	**5 115**	**6 251**	**3 903**	**3 685**
In households	5 580	11 714	3 240	5 465	5 337	4 151	2 744	5 723	10 076	5 115	6 251	3 903	3 580
Householder	2 697	7 123	1 431	3 353	3 496	2 187	1 110	3 249	6 161	3 353	4 102	1 875	2 213
Family householder	1 308	2 210	990	1 126	1 056	1 017	826	1 349	2 154	1 067	1 041	952	674
Nonfamily householder	1 389	4 913	441	2 227	2 440	1 170	284	1 900	4 007	2 286	3 061	923	1 539
Living alone	1 068	3 866	378	2 012	2 099	972	250	1 581	3 416	1 970	2 406	787	1 266
Spouse	923	1 673	902	945	882	852	760	1 129	1 702	892	801	774	542
Other relatives	1 500	1 591	766	832	538	784	803	922	1 460	510	559	1 053	505
Nonrelatives	460	1 327	141	335	421	328	71	423	753	360	789	201	320
Inmate of institution	104	33	-	-	-	-	-	-	-	-	-	-	105
Other, in group quarters	35	33	-	-	-	43	-	-	-	-	-	-	-
Persons per household	2.07	1.64	2.26	1.63	1.53	1.90	2.47	1.76	1.64	1.53	1.52	2.08	1.62
Persons per family	2.85	2.48	2.68	2.58	2.34	2.61	2.89	2.52	2.47	2.31	2.31	2.92	2.55
Persons 65 years and over	**249**	**218**	**616**	**972**	**870**	**369**	**343**	**439**	**826**	**460**	**43**	**250**	**281**
In households	247	216	616	972	870	368	343	439	826	460	43	250	182
Householder	185	145	389	718	639	258	223	297	610	330	27	170	117
Nonfamily householder	121	78	113	427	389	114	57	142	377	182	18	78	45
Living alone	115	77	108	413	379	113	55	139	369	180	18	77	43
Spouse	38	40	189	216	163	77	94	98	145	96	4	44	39
Other relatives	22	30	29	29	50	28	22	35	60	31	12	35	22
Nonrelatives	2	1	9	9	18	5	4	9	11	3	-	1	4
Inmate of institution	2	1	-	-	-	-	-	-	-	-	-	-	99
Other, in group quarters	-	1	-	-	-	1	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 308**	**2 210**	**990**	**1 126**	**1 056**	**1 017**	**826**	**1 349**	**2 154**	**1 067**	**1 041**	**952**	**674**
With own children under 18 years	692	652	285	307	154	261	283	344	581	162	245	379	167
Number of own children under 18 years	1 058	933	518	523	248	485	533	523	874	248	302	672	272
Married-couple families	**923**	**1 673**	**902**	**945**	**882**	**852**	**760**	**1 129**	**1 702**	**892**	**801**	**774**	**542**
With own children under 18 years	467	433	250	237	119	202	269	250	398	113	159	305	120
Number of own children under 18 years	739	640	467	418	202	394	513	389	627	187	204	526	193
Female householder, no husband present	**304**	**324**	**59**	**123**	**128**	**96**	**50**	**154**	**338**	**120**	**135**	**143**	**96**
With own children under 18 years	204	171	23	57	25	40	10	69	152	40	67	67	41
Number of own children under 18 years	295	238	34	87	33	65	16	102	208	51	76	134	65
MARITAL STATUS													
Male, 15 years and over	**2 310**	**6 108**	**1 384**	**2 213**	**2 376**	**1 958**	**1 100**	**2 539**	**4 148**	**2 486**	**3 344**	**1 593**	**1 695**
Single	952	3 237	321	801	973	703	231	855	1 617	1 104	1 895	573	795
Now married, except separated	988	1 867	928	1 038	925	907	779	1 176	1 795	946	854	812	575
Separated	60	209	13	48	61	74	4	64	97	60	113	29	59
Widowed	40	30	20	48	51	26	18	37	46	21	10	27	26
Divorced	270	765	102	278	366	248	68	407	593	355	472	152	240
Female, 15 years and over	**2 275**	**4 777**	**1 458**	**2 793**	**2 762**	**1 844**	**1 253**	**2 741**	**5 198**	**2 424**	**2 616**	**1 734**	**1 744**
Single	626	1 962	245	885	892	461	261	835	1 828	761	1 236	490	703
Now married, except separated	957	1 758	916	977	906	875	775	1 155	1 747	907	823	800	558
Separated	98	152	16	50	51	44	6	38	98	35	75	41	44
Widowed	185	178	161	443	433	165	113	225	536	249	47	158	178
Divorced	409	727	120	438	480	299	98	488	989	472	435	245	261

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.											
	Tract 0423.04	Tract 0423.05	Tract 0423.06	Tract 0423.07	Tract 0424.01	Tract 0424.02	Tract 0424.03	Tract 0424.04	Tract 0425.01	Tract 0425.02	Tract 0425.03	Tract 0425.04
AGE												
Total persons	**6 585**	**6 326**	**1 997**	**3 379**	**8 052**	**4 858**	**5 161**	**5 424**	**3 393**	**3 686**	**7 454**	**3 504**
Under 5 years	244	345	81	137	169	344	319	256	149	280	573	180
5 to 9 years	134	274	85	134	113	279	166	343	168	256	515	162
10 to 14 years	140	186	79	131	129	265	117	540	159	247	509	121
15 to 19 years	332	325	165	207	347	317	239	682	288	402	555	136
20 to 24 years	1 592	1 281	337	829	2 593	925	851	330	575	525	680	694
25 to 34 years	2 341	2 321	425	1 130	3 212	1 275	1 401	696	913	698	1 766	1 221
35 to 44 years	699	710	244	322	577	501	463	792	388	417	835	284
45 to 54 years	487	433	235	255	358	448	301	955	335	433	881	189
55 to 64 years	355	268	198	134	213	334	298	592	275	268	705	144
65 to 74 years	174	135	116	71	146	113	352	166	89	115	285	107
75 years and over	87	48	32	29	195	57	654	72	54	45	150	266
3 and 4 years	75	134	31	55	61	123	107	100	59	99	221	89
16 years and over	6 035	5 477	1 715	2 943	7 622	3 922	4 540	4 124	2 870	2 853	5 747	3 026
18 years and over	5 946	5 373	1 657	2 875	7 559	3 816	4 471	3 823	2 774	2 734	5 498	2 986
21 years and over	5 570	5 027	1 550	2 680	6 991	3 516	4 187	3 525	2 528	2 385	5 190	2 856
60 years and over	401	283	232	155	430	292	1 145	437	249	251	716	432
62 years and over	342	233	192	122	402	234	1 097	345	190	209	577	409
Median	27.2	27.3	29.4	26.4	26.1	26.6	30.0	33.2	28.2	26.7	29.5	27.2
Female	**3 167**	**3 028**	**986**	**1 646**	**4 090**	**2 405**	**2 898**	**2 744**	**1 689**	**1 881**	**3 768**	**1 950**
Under 5 years	97	172	38	62	81	167	171	143	73	130	274	97
5 to 9 years	67	133	44	61	54	142	83	162	87	132	242	87
10 to 14 years	78	84	37	67	68	127	56	273	72	118	235	69
15 to 19 years	162	168	80	115	224	182	125	331	146	202	284	68
20 to 24 years	824	651	179	423	1 449	440	452	143	287	263	339	404
25 to 34 years	1 003	1 059	192	508	1 419	600	676	345	419	360	858	607
35 to 44 years	332	296	129	158	216	239	206	436	186	229	446	123
45 to 54 years	252	205	112	127	188	233	144	486	188	222	456	122
55 to 64 years	181	136	97	70	125	168	179	285	140	130	377	81
65 to 74 years	108	88	60	40	102	70	270	87	57	67	157	80
75 years and over	63	36	18	15	164	37	536	53	34	28	100	212
3 and 4 years	29	58	15	24	29	56	52	55	28	49	103	44
16 years and over	2 910	2 619	850	1 439	3 874	1 943	2 577	2 081	1 436	1 471	2 965	1 691
18 years and over	2 872	2 567	824	1 401	3 839	1 886	2 545	1 936	1 386	1 416	2 825	1 676
21 years and over	2 666	2 393	765	1 295	3 462	1 715	2 395	1 811	1 254	1 240	2 680	1 597
60 years and over	248	174	119	84	316	165	893	237	150	140	406	324
62 years and over	217	149	103	65	303	135	862	195	113	123	341	312
Median	27.1	27.0	29.0	26.3	25.6	26.5	31.8	34.3	28.5	27.3	30.3	27.2
HOUSEHOLD TYPE AND RELATIONSHIP												
Total persons	**6 585**	**6 326**	**1 997**	**3 379**	**8 052**	**4 858**	**5 161**	**5 424**	**3 393**	**3 686**	**7 454**	**3 504**
In households	6 585	6 326	1 997	3 379	7 854	4 858	5 025	5 424	3 393	3 507	7 454	3 187
Householder	3 927	3 524	933	1 844	5 080	2 191	2 906	1 719	1 599	1 326	2 706	1 803
Family householder	1 226	1 228	488	679	1 486	1 170	1 032	1 525	843	923	2 122	685
Nonfamily householder	2 701	2 296	445	1 165	3 594	1 021	1 874	194	756	403	584	1 118
Living alone	2 139	1 858	342	964	2 918	798	1 596	151	623	289	399	967
Spouse	917	921	400	536	1 179	940	759	1 351	664	727	1 750	495
Other relatives	1 003	1 270	534	725	808	1 407	965	2 247	925	1 238	2 678	665
Nonrelatives	738	611	130	274	787	320	395	107	205	216	320	224
Inmate of institution	-	-	-	-	169	-	136	-	-	-	-	317
Other, in group quarters	-	-	-	-	29	-	-	-	-	179	-	-
Persons per household	1.68	1.80	2.14	1.83	1.55	2.22	1.73	3.16	2.12	2.64	2.75	1.77
Persons per family	2.57	2.78	2.91	2.86	2.34	3.01	2.67	3.36	2.88	3.13	3.09	2.69
Persons 65 years and over	**261**	**183**	**148**	**100**	**341**	**170**	**1 006**	**238**	**143**	**160**	**435**	**373**
In households	261	183	148	100	170	170	873	238	143	160	435	90
Householder	187	136	95	65	111	99	736	128	91	95	232	64
Nonfamily householder	97	85	34	26	69	42	601	36	38	36	66	39
Living alone	95	82	30	24	67	40	596	36	35	35	59	37
Spouse	46	32	30	16	26	33	88	55	26	34	107	17
Other relatives	26	14	20	14	31	33	44	53	23	26	88	8
Nonrelatives	2	1	3	5	2	5	5	2	3	5	8	1
Inmate of institution	-	-	-	-	164	-	133	-	-	-	-	283
Other, in group quarters	-	-	-	-	7	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN												
Families	**1 226**	**1 228**	**488**	**679**	**1 486**	**1 170**	**1 032**	**1 525**	**843**	**923**	**2 122**	**685**
With own children under 18 years	372	511	173	249	272	541	393	838	326	507	1 085	289
Number of own children under 18 years	557	834	309	423	416	956	612	1 535	560	880	1 839	481
Married-couple families	**917**	**921**	**400**	**536**	**1 179**	**940**	**759**	**1 351**	**664**	**727**	**1 750**	**495**
With own children under 18 years	264	348	144	185	169	424	282	743	240	386	867	182
Number of own children under 18 years	405	581	265	331	271	764	472	1 378	425	696	1 502	311
Female householder, no husband present	**205**	**198**	**61**	**101**	**200**	**161**	**200**	**133**	**124**	**143**	**301**	**148**
With own children under 18 years	89	126	27	53	84	101	94	77	73	99	190	93
Number of own children under 18 years	126	201	42	79	123	173	119	127	116	150	294	150
MARITAL STATUS												
Male, 15 years and over	**3 142**	**2 882**	**885**	**1 521**	**3 754**	**2 001**	**1 971**	**2 119**	**1 460**	**1 402**	**2 840**	**1 344**
Single	1 545	1 364	351	738	1 812	771	756	631	566	503	768	545
Now married, except separated	1 027	1 012	424	576	1 254	991	836	1 380	686	763	1 796	544
Separated	101	96	25	43	123	44	74	18	36	26	53	37
Widowed	34	22	13	14	32	11	63	16	9	12	35	43
Divorced	435	388	72	150	533	184	242	74	163	98	188	175
Female, 15 years and over	**2 925**	**2 639**	**867**	**1 456**	**3 887**	**1 969**	**2 588**	**2 166**	**1 457**	**1 501**	**3 017**	**1 697**
Single	1 164	1 018	276	541	1 671	582	770	490	425	454	575	535
Now married, except separated	956	972	407	562	1 228	983	791	1 386	689	755	1 794	534
Separated	114	62	28	44	111	61	85	22	34	40	54	66
Widowed	158	123	57	76	256	113	560	124	109	92	222	273
Divorced	533	464	99	233	621	230	382	144	200	160	372	289

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0426.02	Tract 0427.01	Tract 0427.02	Tract 0428.01	Tract 0428.02	Tract 0429	Tract 0430.01	Tract 0430.02	Tract 0431	Tract 0432	Tract 0433*	Tract 0434.01*	Tract 0434.02*
AGE													
Total persons	**6 048**	**6 610**	**8 864**	**3 381**	**3 053**	**3 621**	**2 592**	**3 989**	**5 478**	**4 791**	**10 951**	**9 169**	**4 722**
Under 5 years	440	486	755	145	123	152	176	420	353	524	932	940	552
5 to 9 years	377	485	591	220	181	197	150	312	371	480	853	546	563
10 to 14 years	362	492	442	285	230	313	158	219	407	375	806	408	421
15 to 19 years	410	539	560	353	267	338	216	269	470	404	786	521	280
20 to 24 years	598	929	1 357	176	210	142	178	781	365	531	1 144	1 891	124
25 to 34 years	1 438	1 590	2 390	328	384	353	567	1 295	1 129	1 238	2 597	2 916	1 206
35 to 44 years	669	760	942	451	453	493	303	339	697	498	1 710	1 016	937
45 to 54 years	677	778	742	652	488	669	332	136	803	380	1 145	524	383
55 to 64 years	559	363	534	576	500	641	346	103	591	229	677	280	194
65 to 74 years	247	121	374	143	157	227	131	40	211	92	219	103	42
75 years and over	271	67	177	52	60	96	35	75	81	40	82	24	20
3 and 4 years	156	165	281	64	58	70	57	136	136	199	345	317	227
16 years and over	4 805	5 059	6 975	2 657	2 471	2 893	2 060	3 003	4 258	3 337	8 207	7 211	3 122
18 years and over	4 637	4 826	6 770	2 492	2 340	2 709	1 973	2 902	4 059	3 185	7 884	7 055	2 997
21 years and over	4 371	4 488	6 346	2 334	2 208	2 591	1 856	2 671	3 797	2 911	7 386	6 522	2 885
60 years and over	743	307	755	399	423	586	301	158	500	238	526	234	121
62 years and over	636	249	666	307	317	462	241	141	396	189	416	197	89
Median	30.4	26.7	27.2	39.1	37.7	41.2	31.7	25.0	31.7	25.6	28.7	25.6	30.3
Female	**3 165**	**3 478**	**4 682**	**1 717**	**1 568**	**1 810**	**1 328**	**2 038**	**2 747**	**2 446**	**5 523**	**4 498**	**2 375**
Under 5 years	202	231	357	72	58	70	102	201	171	259	458	472	281
5 to 9 years	197	251	276	103	89	87	72	153	173	269	432	281	274
10 to 14 years	168	257	226	147	106	155	71	111	193	185	396	184	220
15 to 19 years	210	271	287	177	138	163	112	146	222	204	401	295	129
20 to 24 years	314	538	784	68	99	57	77	428	182	268	605	956	66
25 to 34 years	726	845	1 256	185	200	185	309	640	558	634	1 364	1 391	682
35 to 44 years	345	397	463	238	244	274	151	155	368	245	811	463	415
45 to 54 years	370	406	402	346	275	358	180	71	437	197	574	240	174
55 to 64 years	298	160	280	277	244	306	169	55	276	110	297	137	92
65 to 74 years	127	76	238	70	75	104	63	25	112	50	129	63	28
75 years and over	208	46	113	34	40	51	22	53	55	25	56	16	14
3 and 4 years	70	76	148	37	26	33	32	66	57	102	158	157	109
16 years and over	2 565	2 697	3 775	1 356	1 291	1 462	1 055	1 548	2 174	1 693	4 162	3 524	1 562
18 years and over	2 482	2 581	3 677	1 271	1 216	1 365	1 011	1 495	2 072	1 622	4 005	3 445	1 515
21 years and over	2 342	2 398	3 427	1 201	1 160	1 320	956	1 376	1 959	1 480	3 734	3 127	1 460
60 years and over	459	178	462	186	215	275	151	104	257	129	297	136	68
62 years and over	402	154	417	151	164	215	117	97	217	102	240	116	55
Median	31.4	26.7	27.3	39.3	38.2	41.8	31.8	24.8	32.6	25.7	28.4	25.3	29.7
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**6 048**	**6 610**	**8 864**	**3 381**	**3 053**	**3 621**	**2 592**	**3 989**	**5 478**	**4 791**	**10 951**	**9 169**	**4 722**
In households	5 837	6 610	8 864	3 381	3 053	3 621	2 592	3 921	5 478	4 791	10 951	9 169	4 722
Householder	2 427	2 709	4 011	1 111	1 083	1 252	1 011	1 725	1 948	1 630	4 189	4 258	1 437
Family householder	1 654	1 787	2 344	1 042	934	1 140	790	972	1 638	1 317	2 961	2 280	1 335
Nonfamily householder	773	922	1 667	69	149	112	221	753	310	313	1 228	1 978	102
Living alone	639	764	1 395	59	117	86	185	585	236	232	1 016	1 615	76
Spouse	1 369	1 368	1 819	955	843	1 053	664	668	1 416	993	2 617	1 880	1 260
Other relatives	1 845	2 271	2 625	1 284	1 056	1 262	841	1 266	1 966	1 973	3 816	2 526	1 961
Nonrelatives	196	262	409	31	71	54	76	262	148	195	329	505	64
Inmate of institution	211	-	-	-	-	-	-	68	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
Persons per household	2.41	2.44	2.21	3.04	2.82	2.89	2.56	2.27	2.81	2.94	2.61	2.15	3.29
Persons per family	2.94	3.04	2.90	3.15	3.03	3.03	2.91	2.99	3.06	3.25	3.17	2.93	3.41
Persons 65 years and over	**518**	**188**	**551**	**195**	**217**	**323**	**166**	**115**	**292**	**132**	**301**	**127**	**62**
In households	315	188	551	195	217	323	166	52	292	132	301	127	62
Householder	199	107	377	105	128	176	102	33	164	73	154	68	18
Nonfamily householder	66	56	229	17	36	25	28	18	38	25	49	21	1
Living alone	64	54	227	17	34	25	26	16	37	24	49	20	1
Spouse	72	29	107	50	46	85	46	4	76	27	61	25	12
Other relatives	42	47	62	40	37	62	18	15	52	29	82	31	31
Nonrelatives	2	5	5	-	6	-	-	-	-	3	4	3	1
Inmate of institution	203	-	-	-	-	-	-	63	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 654**	**1 787**	**2 344**	**1 042**	**934**	**1 140**	**790**	**972**	**1 638**	**1 317**	**2 961**	**2 280**	**1 335**
With own children under 18 years	827	1 075	1 238	482	382	494	352	632	763	809	1 636	1 290	915
Number of own children under 18 years	1 335	1 675	1 987	867	685	881	575	969	1 336	1 481	2 958	2 003	1 682
Married-couple families	**1 369**	**1 368**	**1 819**	**955**	**843**	**1 053**	**664**	**668**	**1 416**	**993**	**2 617**	**1 880**	**1 260**
With own children under 18 years	653	756	877	434	337	443	273	406	638	566	1 453	1 026	862
Number of own children under 18 years	1 098	1 239	1 462	793	614	790	435	631	1 120	1 028	2 684	1 657	1 602
Female householder, no husband present	**231**	**348**	**428**	**74**	**77**	**65**	**92**	**239**	**182**	**248**	**243**	**313**	**50**
With own children under 18 years	151	281	315	42	40	45	64	196	105	200	146	235	42
Number of own children under 18 years	209	384	467	64	63	83	112	286	181	358	217	303	62
MARITAL STATUS													
Male, 15 years and over	**2 271**	**2 408**	**3 253**	**1 336**	**1 204**	**1 461**	**1 025**	**1 465**	**2 137**	**1 679**	**4 123**	**3 714**	**1 586**
Single	616	731	969	329	282	321	271	505	560	472	1 108	1 319	240
Now married, except separated	1 422	1 419	1 888	966	856	1 072	679	708	1 439	1 057	2 682	1 936	1 272
Separated	28	48	107	2	8	10	11	54	24	45	67	117	14
Widowed	37	21	51	14	14	30	17	26	20	14	22	14	7
Divorced	168	189	238	25	44	28	47	172	94	91	244	328	53
Female, 15 years and over	**2 598**	**2 739**	**3 823**	**1 395**	**1 315**	**1 498**	**1 083**	**1 573**	**2 210**	**1 733**	**4 237**	**3 561**	**1 600**
Single	513	746	1 010	265	266	247	220	452	398	384	944	989	193
Now married, except separated	1 404	1 415	1 868	966	855	1 069	678	704	1 445	1 028	2 685	1 919	1 280
Separated	54	68	129	13	13	18	23	88	40	69	78	110	18
Widowed	305	129	309	87	101	102	69	98	138	93	185	93	51
Divorced	322	381	507	64	80	62	93	231	189	159	345	450	58

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0435.01*	Tract 0435.02*	Tract 0436.01*	Tract 0436.02*	Tract 0436.03*	Tract 0437.02*	Tract 0438.01*	Tract 0438.02	Tract 0438.03	Tract 0438.04*	Tract 0438.05*	Tract 0438.06*	Tract 0439.01
AGE													
Total persons	**7 266**	**9 282**	**11 088**	**7 808**	**17 202**	**8 811**	**1 006**	**17 785**	**11 428**	**1 168**	**8 504**	–	**6 129**
Under 5 years	566	384	1 004	767	1 595	827	88	1 840	1 052	73	743	–	348
5 to 9 years	599	229	1 162	793	1 637	878	114	1 442	1 043	28	729	–	409
10 to 14 years	694	183	1 230	725	1 614	825	81	1 091	927	23	650	–	449
15 to 19 years	755	575	1 038	566	1 138	579	54	965	830	46	579	–	406
20 to 24 years	603	3 020	801	752	2 124	651	54	2 186	1 159	321	748	–	339
25 to 34 years	1 223	3 355	2 444	2 206	4 742	2 785	256	5 138	2 515	443	2 709	–	999
35 to 44 years	1 168	765	1 973	1 141	2 656	1 331	198	2 614	1 667	114	1 239	–	1 096
45 to 54 years	999	423	869	476	1 031	545	88	1 482	1 188	62	633	–	1 008
55 to 64 years	472	233	377	252	454	251	51	762	700	33	330	–	729
65 to 74 years	129	88	125	96	148	112	19	184	249	20	111	–	249
75 years and over	58	27	65	34	63	27	3	81	98	5	33	–	97
3 and 4 years	222	116	385	271	657	287	31	725	400	16	280	–	149
16 years and over	5 250	8 451	7 442	5 396	12 108	6 137	716	13 223	8 223	1 035	6 267	–	4 845
18 years and over	4 928	8 314	6 972	5 162	11 636	5 873	686	12 884	7 882	1 029	5 995	–	4 651
21 years and over	4 543	7 531	6 499	4 846	10 934	5 629	655	12 143	7 394	964	5 702	–	4 464
60 years and over	350	204	333	209	378	221	40	540	600	37	273	–	627
62 years and over	274	163	281	173	302	185	28	399	481	30	205	–	506
Median	28.5	25.4	26.4	26.3	26.0	27.6	30.3	27.7	27.7	26.1	28.1	–	35.9
Female	**3 681**	**4 358**	**5 543**	**3 954**	**8 540**	**4 419**	**507**	**8 750**	**5 777**	**524**	**4 257**	–	**3 081**
Under 5 years	274	184	482	353	738	417	47	880	552	41	352	–	169
5 to 9 years	304	116	542	356	789	413	55	732	499	13	374	–	213
10 to 14 years	362	83	597	363	768	394	41	534	460	13	300	–	201
15 to 19 years	370	334	505	276	554	304	27	520	401	25	301	–	214
20 to 24 years	300	1 577	443	424	1 167	351	29	1 110	616	149	413	–	160
25 to 34 years	650	1 335	1 296	1 157	2 447	1 433	132	2 593	1 296	189	1 399	–	544
35 to 44 years	611	331	984	587	1 242	644	99	1 148	781	46	576	–	558
45 to 54 years	483	214	379	221	462	243	37	698	618	20	289	–	487
55 to 64 years	211	119	190	138	237	130	26	364	342	13	171	–	339
65 to 74 years	77	47	80	57	96	70	12	110	137	13	62	–	136
75 years and over	39	18	45	22	40	20	2	61	75	2	20	–	60
3 and 4 years	93	55	185	126	297	137	15	345	216	9	129	–	68
16 years and over	2 663	3 956	3 798	2 825	6 135	3 116	360	6 505	4 180	452	3 171	–	2 453
18 years and over	2 500	3 888	3 567	2 707	5 905	2 978	342	6 331	4 018	449	3 033	–	2 349
21 years and over	2 317	3 417	3 338	2 538	5 525	2 856	332	5 919	3 776	413	2 871	–	2 259
60 years and over	191	120	199	124	225	138	23	295	347	21	150	–	326
62 years and over	153	94	175	103	181	119	18	230	284	18	108	–	263
Median	28.6	24.7	26.7	26.7	26.1	27.5	30.1	27.4	27.6	25.5	27.7	–	35.6
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**7 266**	**9 282**	**11 088**	**7 808**	**17 202**	**8 811**	**1 006**	**17 785**	**11 428**	**1 168**	**8 504**	–	**6 129**
In households	7 266	9 282	11 046	7 808	17 202	8 811	1 006	17 785	11 428	1 168	8 504	–	6 129
Householder	2 342	5 762	3 458	2 769	6 359	3 078	332	7 115	4 200	731	3 197	–	2 412
Family householder	1 954	1 799	2 921	2 141	4 491	2 446	300	4 816	3 081	244	2 405	–	1 818
Nonfamily householder	388	3 963	537	628	1 868	632	32	2 299	1 119	487	792	–	594
Living alone	278	3 247	415	485	1 500	484	21	1 779	899	436	604	–	477
Spouse	1 656	1 414	2 460	1 673	3 850	2 044	276	4 249	2 566	212	1 959	–	1 659
Other relatives	3 005	1 236	4 859	3 066	6 453	3 415	379	5 685	4 246	162	3 006	–	1 884
Nonrelatives	263	870	269	300	540	274	19	736	416	63	342	–	174
Inmate of institution	–	–	42	–	–	–	–	–	–	–	–	–	–
Other, in group quarters	–	–	–	–	–	–	–	–	–	–	–	–	–
Persons per household	3.10	1.61	3.19	2.82	2.71	2.86	3.03	2.50	2.72	1.60	2.66	–	2.54
Persons per family	3.39	2.47	3.51	3.21	3.29	3.23	3.18	3.06	3.21	2.53	3.06	–	2.95
Persons 65 years and over	**187**	**115**	**190**	**130**	**211**	**139**	**22**	**265**	**347**	**25**	**144**	–	**346**
In households	187	115	188	130	211	139	22	265	347	25	144	–	346
Householder	88	77	79	66	87	45	13	117	188	18	80	–	200
Nonfamily householder	27	43	36	31	32	18	5	35	60	10	33	–	59
Living alone	25	40	36	29	31	18	5	35	59	10	31	–	54
Spouse	38	21	26	21	35	19	4	56	73	7	22	–	102
Other relatives	57	15	83	40	84	70	5	90	78	–	40	–	40
Nonrelatives	4	2	–	3	5	5	–	2	8	–	2	–	4
Inmate of institution	–	–	2	–	–	–	–	–	–	–	–	–	–
Other, in group quarters	–	–	–	–	–	–	–	–	–	–	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 954**	**1 799**	**2 921**	**2 141**	**4 491**	**2 446**	**300**	**4 816**	**3 081**	**244**	**2 405**	–	**1 818**
With own children under 18 years	1 213	583	2 116	1 476	2 970	1 615	178	2 758	1 821	92	1 426	–	820
Number of own children under 18 years	2 211	865	3 907	2 500	5 319	2 803	311	4 705	3 353	126	2 357	–	1 442
Married-couple families	**1 656**	**1 414**	**2 460**	**1 673**	**3 850**	**2 044**	**276**	**4 249**	**2 566**	**212**	**1 959**	–	**1 659**
With own children under 18 years	998	389	1 748	1 079	2 496	1 286	158	2 362	1 456	75	1 096	–	732
Number of own children under 18 years	1 862	607	3 300	1 916	4 580	2 281	278	4 136	2 762	104	1 858	–	1 309
Female householder, no husband present	**231**	**264**	**358**	**381**	**502**	**337**	**17**	**436**	**395**	**21**	**353**	–	**120**
With own children under 18 years	176	151	304	341	404	290	15	340	314	14	283	–	73
Number of own children under 18 years	286	207	495	505	627	462	28	496	500	18	420	–	113
MARITAL STATUS													
Male, 15 years and over	**2 666**	**4 511**	**3 770**	**2 641**	**6 111**	**3 086**	**359**	**6 808**	**4 140**	**587**	**3 151**	–	**2 425**
Single	787	2 200	969	660	1 627	722	62	1 811	1 105	259	749	–	516
Now married, except separated	1 702	1 490	2 520	1 711	3 938	2 108	278	4 342	2 644	218	2 023	–	1 704
Separated	35	166	43	50	106	28	2	103	84	20	43	–	23
Widowed	20	27	26	18	37	20	2	30	28	4	24	–	18
Divorced	122	628	212	202	403	208	15	522	279	86	312	–	164
Female, 15 years and over	**2 741**	**3 975**	**3 922**	**2 882**	**6 245**	**3 195**	**364**	**6 604**	**4 266**	**457**	**3 231**	–	**2 498**
Single	609	1 677	766	528	1 281	512	42	1 292	792	123	593	–	449
Now married, except separated	1 700	1 456	2 522	1 715	3 939	2 111	278	4 321	2 616	218	2 026	–	1 681
Separated	63	144	63	73	143	69	4	145	115	17	71	–	33
Widowed	122	95	174	117	175	110	16	182	210	14	117	–	135
Divorced	247	603	397	449	707	393	24	664	533	85	424	–	200

Table P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0439.02	Tract 0440.01	Tract 0440.05	Tract 0442.01	Tract 0442.02	Tract 0442.03	Tract 0442.04	Tract 0443.01	Tract 0443.02	Tract 0443.03	Tract 0443.04	Tract 0443.05	Tract 0443.06
AGE													
Total persons	**5 046**	**1 433**	**2 990**	**3 061**	**1 613**	**5 182**	**4 918**	**10 352**	**3 247**	**4 702**	**5 518**	**3 416**	**3 920**
Under 5 years	142	33	108	305	112	497	485	907	422	483	575	197	300
5 to 9 years	129	32	161	229	113	488	404	941	295	451	381	204	284
10 to 14 years	98	58	229	177	110	470	321	881	196	364	288	164	375
15 to 19 years	145	107	237	319	127	435	368	995	262	372	429	258	463
20 to 24 years	711	233	251	523	145	580	708	1 142	537	623	839	667	419
25 to 34 years	1 741	375	422	631	299	1 127	1 108	2 188	742	1 121	1 161	800	690
35 to 44 years	641	198	383	302	185	574	502	1 239	321	453	557	360	558
45 to 54 years	497	173	400	263	163	424	384	1 080	220	373	469	262	446
55 to 64 years	313	111	419	179	217	401	398	659	158	303	454	208	220
65 to 74 years	221	91	198	91	96	134	180	213	73	118	212	127	104
75 years and over	408	22	182	42	46	52	60	107	21	41	153	169	61
3 and 4 years	54	6	37	109	38	190	179	363	166	181	219	57	106
16 years and over	4 657	1 291	2 443	2 312	1 259	3 639	3 637	7 429	2 301	3 348	4 224	2 820	2 868
18 years and over	4 601	1 239	2 339	2 192	1 205	3 467	3 509	7 035	2 214	3 192	4 076	2 742	2 652
21 years and over	4 463	1 170	2 209	1 904	1 127	3 193	3 219	6 423	1 989	2 943	3 711	2 456	2 425
60 years and over	758	156	543	212	224	340	397	577	166	274	550	374	254
62 years and over	685	144	469	177	191	263	324	457	134	219	464	345	218
Median	31.7	30.4	37.2	24.8	31.4	26.1	26.2	26.2	24.4	25.4	26.5	26.8	26.6
Female	**2 668**	**708**	**1 634**	**1 384**	**790**	**2 630**	**2 318**	**5 153**	**1 588**	**2 294**	**2 788**	**1 746**	**1 912**
Under 5 years	76	15	56	151	53	239	215	443	203	233	295	110	135
5 to 9 years	57	19	85	109	50	231	196	487	133	204	180	95	128
10 to 14 years	49	29	115	85	45	252	131	452	86	168	150	79	187
15 to 19 years	91	64	126	146	51	208	171	510	117	179	224	144	208
20 to 24 years	405	113	117	217	74	278	349	561	284	295	412	311	207
25 to 34 years	855	157	212	257	136	576	490	1 023	359	542	532	387	320
35 to 44 years	266	105	209	127	99	308	229	642	157	229	261	168	300
45 to 54 years	243	88	225	131	87	230	192	523	115	195	250	139	218
55 to 64 years	159	59	208	89	115	212	204	325	80	153	246	107	110
65 to 74 years	150	42	135	46	48	65	98	115	40	71	115	80	64
75 years and over	317	17	146	26	32	31	43	72	14	25	123	126	35
3 and 4 years	32	2	19	43	21	92	67	161	73	99	117	29	49
16 years and over	2 476	632	1 350	1 021	636	1 863	1 742	3 664	1 152	1 664	2 135	1 445	1 417
18 years and over	2 439	599	1 295	967	608	1 779	1 685	3 467	1 118	1 594	2 065	1 401	1 324
21 years and over	2 356	561	1 228	838	576	1 650	1 539	3 170	1 006	1 456	1 865	1 242	1 220
60 years and over	537	80	347	108	123	162	220	313	96	150	341	245	142
62 years and over	495	74	312	96	105	125	181	253	76	121	291	233	126
Median	31.7	31.4	39.9	24.6	34.1	26.9	26.5	25.9	24.6	26.0	26.8	27.1	28.0
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**5 046**	**1 433**	**2 990**	**3 061**	**1 613**	**5 182**	**4 918**	**10 352**	**3 247**	**4 702**	**5 518**	**3 416**	**3 920**
In households	4 934	1 433	2 990	3 061	1 613	5 182	4 918	10 352	3 247	4 702	5 421	3 254	3 920
Householder	3 044	748	1 317	1 073	591	1 805	1 940	3 547	1 173	1 672	2 232	1 484	1 293
Family householder	1 036	356	837	781	461	1 392	1 270	2 754	901	1 260	1 414	847	1 037
Nonfamily householder	2 008	392	480	292	130	413	670	793	272	412	818	637	256
Living alone	1 692	305	419	201	109	305	542	648	202	323	677	494	195
Spouse	840	281	686	615	404	1 043	988	2 274	674	1 019	1 105	678	863
Other relatives	629	279	876	1 114	584	2 091	1 736	4 156	1 236	1 832	1 823	862	1 630
Nonrelatives	421	125	111	259	34	243	254	375	164	179	261	230	134
Inmate of institution	112	-	-	-	-	-	-	-	-	-	97	162	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
Persons per household	1.62	1.92	2.27	2.85	2.73	2.87	2.54	2.92	2.77	2.81	2.43	2.19	3.03
Persons per family	2.42	2.57	2.87	3.21	3.14	3.25	3.14	3.33	3.12	3.26	3.07	2.82	3.40
Persons 65 years and over	**629**	**113**	**380**	**133**	**142**	**186**	**240**	**320**	**94**	**159**	**365**	**296**	**165**
In households	523	113	380	133	142	186	240	320	94	159	282	145	165
Householder	435	70	280	81	95	105	147	191	61	96	179	97	96
Nonfamily householder	343	22	184	26	35	30	60	64	22	33	80	35	33
Living alone	339	19	184	25	34	30	56	62	19	33	77	35	30
Spouse	66	31	70	32	29	46	66	65	26	38	60	32	33
Other relatives	20	6	29	16	16	35	23	62	5	24	40	15	30
Nonrelatives	2	6	1	4	2	-	4	2	2	1	3	1	6
Inmate of institution	106	-	-	-	-	-	-	-	-	-	83	151	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 036**	**356**	**837**	**781**	**461**	**1 392**	**1 270**	**2 754**	**901**	**1 260**	**1 414**	**847**	**1 037**
With own children under 18 years	299	122	369	421	217	869	697	1 683	580	785	778	391	651
Number of own children under 18 years	411	184	618	765	382	1 599	1 261	3 064	966	1 401	1 329	612	1 162
Married-couple families	**840**	**281**	**686**	**615**	**404**	**1 043**	**988**	**2 274**	**674**	**1 019**	**1 105**	**678**	**863**
With own children under 18 years	195	82	278	329	190	589	515	1 355	402	618	565	294	531
Number of own children under 18 years	282	140	496	633	342	1 115	963	2 503	686	1 121	998	485	969
Female householder, no husband present	**147**	**49**	**117**	**112**	**42**	**280**	**191**	**361**	**170**	**184**	**244**	**119**	**116**
With own children under 18 years	90	33	75	73	23	238	141	273	143	140	178	80	89
Number of own children under 18 years	112	37	100	109	33	408	229	476	225	233	274	106	147
MARITAL STATUS													
Male, 15 years and over	**2 191**	**665**	**1 114**	**1 311**	**636**	**1 819**	**1 932**	**3 852**	**1 168**	**1 715**	**2 111**	**1 389**	**1 499**
Single	747	258	312	494	160	544	609	1 060	318	507	645	487	486
Now married, except separated	900	290	699	676	417	1 092	1 064	2 401	710	1 058	1 197	709	894
Separated	72	20	24	40	7	46	44	96	46	41	41	38	20
Widowed	59	3	19	14	6	19	19	38	15	14	37	28	14
Divorced	413	94	60	87	46	118	196	257	79	95	191	127	85
Female, 15 years and over	**2 486**	**645**	**1 378**	**1 039**	**642**	**1 908**	**1 776**	**3 771**	**1 166**	**1 689**	**2 163**	**1 462**	**1 462**
Single	684	204	279	178	91	342	322	751	182	282	424	344	311
Now married, except separated	881	287	698	641	414	1 078	1 026	2 346	699	1 054	1 162	702	889
Separated	54	19	31	41	11	67	65	99	63	70	89	38	33
Widowed	409	33	219	72	70	88	113	194	63	94	226	177	89
Divorced	458	102	151	107	56	333	250	381	159	189	262	201	140

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.											
	Tract 0444.01	Tract 0444.02	Tract 0444.03	Tract 0444.04	Tract 0445.01	Tract 0445.02	Tract 0446.01	Tract 0446.02	Tract 0446.03	Tract 0447.01	Tract 0447.02	Tract 0447.03*
AGE												
Total persons	**3 824**	**6 819**	**8 731**	**8 757**	**5 981**	**5 800**	**8 476**	**12 859**	**6 839**	**6 937**	**9 557**	**4 419**
Under 5 years	248	371	717	775	217	168	384	698	228	390	578	310
5 to 9 years	311	530	691	657	382	275	671	1 075	461	544	750	371
10 to 14 years	392	719	706	557	596	440	1 010	1 331	871	802	910	448
15 to 19 years	402	865	873	815	702	492	1 085	1 537	903	860	933	496
20 to 24 years	427	661	1 026	1 166	240	332	500	818	296	640	816	420
25 to 34 years	665	1 028	1 698	1 900	544	917	1 257	1 754	386	1 142	1 733	806
35 to 44 years	624	1 109	1 077	1 063	976	1 002	1 497	2 099	1 234	1 178	1 359	626
45 to 54 years	450	962	984	730	1 155	1 032	1 298	2 104	1 491	893	1 363	535
55 to 64 years	196	395	600	598	830	730	545	1 066	740	355	790	278
65 to 74 years	67	102	249	276	240	216	146	254	165	93	226	87
75 years and over	42	77	110	220	99	196	83	123	64	40	99	42
3 and 4 years	114	155	270	255	76	73	166	317	112	153	216	132
16 years and over	2 796	5 027	6 486	6 635	4 627	4 806	6 149	9 392	5 089	5 016	7 116	3 189
18 years and over	2 608	4 613	6 131	6 334	4 272	4 562	5 621	8 691	4 625	4 632	6 718	2 966
21 years and over	2 375	4 204	5 541	5 729	4 031	4 365	5 215	8 034	4 307	4 222	6 234	2 705
60 years and over	188	312	583	737	613	663	399	713	436	235	587	224
62 years and over	148	242	477	642	493	549	320	559	323	179	457	184
Median	26.7	27.5	26.6	26.7	37.9	37.4	30.4	31.1	37.8	26.9	29.5	26.7
Female	**1 922**	**3 451**	**4 424**	**4 332**	**3 160**	**2 981**	**4 422**	**6 618**	**3 476**	**3 451**	**4 789**	**2 193**
Under 5 years	119	187	343	374	101	92	169	339	114	179	267	151
5 to 9 years	151	251	330	310	211	128	326	494	237	256	368	181
10 to 14 years	173	360	346	262	323	213	527	660	432	367	407	211
15 to 19 years	224	431	450	390	339	212	540	768	434	448	468	219
20 to 24 years	204	322	486	519	121	165	243	401	122	295	401	194
25 to 34 years	344	525	872	930	308	501	716	981	242	577	862	419
35 to 44 years	326	629	554	538	556	521	862	1 176	698	656	731	342
45 to 54 years	217	452	520	372	611	539	648	1 093	749	425	705	273
55 to 64 years	93	174	309	315	394	351	238	477	312	162	377	127
65 to 74 years	42	70	144	170	124	107	93	140	92	55	131	46
75 years and over	29	50	70	152	72	152	60	89	44	31	72	30
3 and 4 years	58	75	134	139	31	37	78	151	55	73	104	63
16 years and over	1 436	2 558	3 344	3 329	2 449	2 509	3 281	4 935	2 590	2 557	3 645	1 610
18 years and over	1 329	2 368	3 146	3 184	2 276	2 389	3 014	4 585	2 367	2 346	3 439	1 513
21 years and over	1 209	2 170	2 872	2 897	2 158	2 310	2 809	4 270	2 224	2 135	3 200	1 390
60 years and over	110	176	324	440	320	391	225	387	216	135	328	126
62 years and over	87	148	276	389	271	333	192	320	181	110	266	103
Median	27.6	28.7	27.3	27.9	37.8	37.8	31.5	32.0	37.8	28.2	30.8	28.1
HOUSEHOLD TYPE AND RELATIONSHIP												
Total persons	**3 824**	**6 819**	**8 731**	**8 757**	**5 981**	**5 800**	**8 476**	**12 859**	**6 839**	**6 937**	**9 557**	**4 419**
In households	3 824	6 819	8 731	8 573	5 971	5 667	8 476	12 857	6 828	6 937	9 557	4 419
Householder	1 419	2 335	3 166	3 326	2 115	2 441	2 954	4 351	2 075	2 273	3 375	1 522
Family householder	1 003	1 853	2 418	2 268	1 782	1 698	2 359	3 703	1 966	1 835	2 728	1 184
Nonfamily householder	416	482	748	1 058	333	743	595	648	109	438	647	338
Living alone	363	373	588	811	307	659	493	545	94	341	520	265
Spouse	824	1 509	1 875	1 711	1 583	1 456	1 857	2 978	1 838	1 520	2 223	956
Other relatives	1 476	2 777	3 365	3 039	2 218	1 648	3 477	5 272	2 873	2 960	3 688	1 788
Nonrelatives	105	198	325	497	55	122	188	256	42	184	271	153
Inmate of institution	-	-	-	184	10	132	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	1	-	2	11	-	-	-
Persons per household	2.69	2.92	2.76	2.58	2.82	2.32	2.87	2.95	3.29	3.05	2.83	2.90
Persons per family	3.29	3.31	3.17	3.09	3.13	2.83	3.26	3.23	3.40	3.44	3.17	3.32
Persons 65 years and over	**109**	**179**	**359**	**496**	**339**	**412**	**229**	**377**	**229**	**133**	**325**	**129**
In households	109	179	359	329	336	280	229	377	226	133	325	129
Householder	61	86	219	210	203	178	135	199	109	56	201	73
Nonfamily householder	27	42	91	102	70	49	59	69	23	18	84	28
Living alone	27	42	91	99	68	47	59	66	21	18	79	28
Spouse	26	35	71	59	79	68	40	70	61	21	58	26
Other relatives	20	57	65	52	49	33	52	106	53	54	59	30
Nonrelatives	2	1	4	8	5	1	2	2	3	2	7	-
Inmate of institution	-	-	-	167	3	131	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	1	-	-	3	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN												
Families	**1 003**	**1 853**	**2 418**	**2 268**	**1 782**	**1 698**	**2 359**	**3 703**	**1 966**	**1 835**	**2 728**	**1 184**
With own children under 18 years	639	1 218	1 424	1 305	943	746	1 560	2 308	1 142	1 188	1 563	757
Number of own children under 18 years	1 153	2 094	2 441	2 181	1 667	1 192	2 746	3 973	2 156	2 207	2 692	1 373
Married-couple families	**824**	**1 509**	**1 875**	**1 711**	**1 583**	**1 456**	**1 857**	**2 978**	**1 838**	**1 520**	**2 223**	**956**
With own children under 18 years	497	942	1 058	931	813	583	1 159	1 748	1 047	958	1 214	589
Number of own children under 18 years	925	1 679	1 891	1 624	1 477	968	2 128	3 124	1 992	1 822	2 138	1 101
Female householder, no husband present	**147**	**270**	**408**	**431**	**166**	**197**	**431**	**583**	**111**	**248**	**387**	**176**
With own children under 18 years	121	228	298	322	112	137	352	468	83	192	292	137
Number of own children under 18 years	196	348	442	484	162	188	543	711	144	325	471	225
MARITAL STATUS												
Male, 15 years and over	**1 394**	**2 546**	**3 212**	**3 382**	**2 261**	**2 369**	**3 011**	**4 630**	**2 586**	**2 552**	**3 572**	**1 640**
Single	423	784	974	1 087	554	663	909	1 242	681	787	1 018	518
Now married, except separated	838	1 547	1 940	1 845	1 602	1 476	1 892	3 044	1 856	1 561	2 288	985
Separated	22	33	50	89	14	31	31	64	5	37	35	21
Widowed	8	22	34	48	24	36	20	47	20	15	27	17
Divorced	103	160	214	313	67	163	159	233	24	152	204	99
Female, 15 years and over	**1 479**	**2 653**	**3 405**	**3 386**	**2 525**	**2 548**	**3 400**	**5 125**	**2 693**	**2 649**	**3 747**	**1 650**
Single	339	629	725	642	513	497	789	1 104	601	640	753	330
Now married, except separated	841	1 539	1 941	1 780	1 605	1 475	1 884	3 039	1 863	1 560	2 280	979
Separated	33	54	73	137	28	42	74	78	21	55	59	29
Widowed	71	130	216	321	154	249	163	244	101	110	204	76
Divorced	195	301	450	506	225	285	490	660	107	284	451	236

Table P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0449*	Tract 0450*	Tract 0451.02*	Tract 0501	Tract 0502	Tract 0503.01	Tract 0503.02	Tract 0504	Tract 0505.01	Tract 0505.02	Tract 0506.01	Tract 0506.02	Tract 0507.01
AGE													
Total persons	–	**13**	–	**27**	**2 074**	**7 046**	**6 509**	**3 230**	**1 337**	**4 219**	**3 588**	**5 943**	**4 201**
Under 5 years	–	...	–	1	206	736	649	323	129	356	352	395	326
5 to 9 years	–	...	–	–	227	719	653	342	86	377	204	372	300
10 to 14 years	–	...	–	–	220	735	588	280	79	344	157	292	315
15 to 19 years	–	...	–	2	202	739	718	283	96	449	293	411	278
20 to 24 years	–	...	–	3	191	674	713	359	163	448	488	649	341
25 to 34 years	–	...	–	2	249	1 120	932	522	352	605	835	1 454	831
35 to 44 years	–	...	–	5	159	622	629	297	122	431	353	563	394
45 to 54 years	–	...	–	6	198	548	645	277	88	419	245	457	359
55 to 64 years	–	...	–	1	179	542	502	280	90	357	246	450	365
65 to 74 years	–	...	–	6	164	357	305	165	79	283	245	443	383
75 years and over	–	...	–	1	79	254	175	102	53	150	170	457	309
3 and 4 years	–	...	–	–	76	290	241	138	42	144	118	129	114
16 years and over	–	...	–	26	1 371	4 728	4 489	2 234	1 030	3 061	2 840	4 810	3 202
18 years and over	–	...	–	26	1 306	4 436	4 211	2 120	991	2 889	2 742	4 670	3 089
21 years and over	–	...	–	24	1 182	3 974	3 743	1 924	919	2 599	2 501	4 371	2 915
60 years and over	–	...	–	8	335	869	693	404	174	603	537	1 118	882
62 years and over	–	...	–	8	292	751	594	344	162	521	488	1 010	821
Median	–	...	–	45.5	24.7	24.4	24.5	25.5	28.1	26.9	27.9	30.1	31.0
Female	–	...	–	**15**	**1 071**	**3 528**	**3 071**	**1 484**	**660**	**1 943**	**1 771**	**3 035**	**2 173**
Under 5 years	–	...	–	1	106	343	279	159	69	172	182	183	173
5 to 9 years	–	...	–	–	92	352	292	169	47	181	95	167	145
10 to 14 years	–	...	–	–	101	368	316	147	37	165	71	148	162
15 to 19 years	–	...	–	1	102	348	313	118	47	211	141	210	130
20 to 24 years	–	...	–	–	85	293	319	153	82	194	230	314	172
25 to 34 years	–	...	–	1	148	535	383	207	138	268	356	638	382
35 to 44 years	–	...	–	2	80	313	306	117	61	186	148	278	176
45 to 54 years	–	...	–	3	104	278	306	129	40	178	121	227	174
55 to 64 years	–	...	–	1	107	305	262	126	53	142	158	256	218
65 to 74 years	–	...	–	5	85	234	191	93	49	149	150	291	246
75 years and over	–	...	–	1	61	159	104	66	37	97	119	323	195
3 and 4 years	–	...	–	–	36	146	105	72	23	67	65	63	59
16 years and over	–	...	–	14	746	2 407	2 124	987	503	1 378	1 407	2 504	1 668
18 years and over	–	...	–	14	714	2 271	2 004	940	483	1 307	1 360	2 428	1 614
21 years and over	–	...	–	13	652	2 060	1 805	858	445	1 168	1 245	2 270	1 532
60 years and over	–	...	–	7	214	538	406	216	111	315	350	746	555
62 years and over	–	...	–	7	182	475	350	198	106	283	314	678	521
Median	–	...	–	54.8	27.7	25.8	25.3	24.8	27.6	26.7	28.7	31.9	32.6
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	–	**13**	–	**27**	**2 074**	**7 046**	**6 509**	**3 230**	**1 337**	**4 219**	**3 588**	**5 943**	**4 201**
In households	–	...	–	27	2 055	7 018	6 427	3 051	1 337	4 007	3 588	5 858	4 193
Householder	–	...	–	9	697	2 060	1 703	905	502	1 220	1 508	2 557	1 650
Family householder	–	...	–	7	428	1 526	1 337	624	308	837	851	1 413	1 051
Nonfamily householder	–	...	–	2	269	534	366	281	194	383	657	1 144	599
Living alone	–	...	–	2	235	438	263	223	140	298	528	921	506
Spouse	–	...	–	1	183	1 065	963	409	240	548	635	1 107	841
Other relatives	–	...	–	17	1 074	3 582	3 334	1 544	483	1 982	1 176	1 820	1 535
Nonrelatives	–	...	–	–	101	311	427	193	112	257	269	374	167
Inmate of institution	–	...	–	–	–	–	51	179	–	–	–	62	–
Other, in group quarters	–	...	–	–	19	28	31	–	–	212	–	23	8
Persons per household	–	...	–	3.00	2.95	3.41	3.77	3.37	2.66	3.28	2.38	2.29	2.54
Persons per family	–	...	–	3.57	3.94	4.05	4.21	4.13	3.35	4.02	3.13	3.07	3.26
Persons 65 years and over	–	...	–	7	**243**	**611**	**480**	**267**	**132**	**433**	**415**	**900**	**692**
In households	–	...	–	7	235	611	463	266	132	410	415	853	692
Householder	–	...	–	5	174	433	303	195	89	290	306	629	490
Nonfamily householder	–	...	–	2	123	230	126	98	45	138	174	368	240
Living alone	–	...	–	2	112	220	109	90	41	127	166	350	234
Spouse	–	...	–	–	17	97	83	36	23	57	72	152	153
Other relatives	–	...	–	2	26	72	67	24	16	52	30	63	40
Nonrelatives	–	...	–	–	18	9	10	11	4	11	7	9	9
Inmate of institution	–	...	–	–	–	–	16	1	–	–	–	47	–
Other, in group quarters	–	...	–	–	8	–	1	–	–	23	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	–	**5**	–	**7**	**428**	**1 526**	**1 337**	**624**	**308**	**837**	**851**	**1 413**	**1 051**
With own children under 18 years	–	2	–	–	243	933	790	368	146	435	389	593	470
Number of own children under 18 years	–	...	–	–	621	2 240	1 908	924	298	1 061	711	1 110	963
Married-couple families	–	**5**	–	**1**	**183**	**1 065**	**963**	**409**	**240**	**548**	**635**	**1 107**	**841**
With own children under 18 years	–	2	–	–	110	681	619	261	123	320	293	455	387
Number of own children under 18 years	–	...	–	–	265	1 739	1 546	684	253	793	545	872	810
Female householder, no husband present	–	–	–	**5**	**215**	**358**	**267**	**153**	**49**	**215**	**154**	**232**	**157**
With own children under 18 years	–	–	–	–	129	216	143	88	22	103	81	110	68
Number of own children under 18 years	–	...	–	–	348	441	306	205	43	244	138	199	124
MARITAL STATUS													
Male, 15 years and over	–	...	–	**12**	**649**	**2 391**	**2 435**	**1 276**	**536**	**1 717**	**1 452**	**2 347**	**1 567**
Single	–	...	–	8	273	876	959	460	182	601	487	817	448
Now married, except separated	–	...	–	3	223	1 248	1 217	556	284	707	733	1 198	919
Separated	–	...	–	–	52	62	106	93	9	139	46	54	40
Widowed	–	...	–	1	52	62	62	56	11	78	40	60	46
Divorced	–	...	–	–	49	143	91	111	50	192	146	218	114
Female, 15 years and over	–	...	–	**14**	**772**	**2 465**	**2 184**	**1 009**	**507**	**1 425**	**1 423**	**2 537**	**1 693**
Single	–	...	–	4	227	588	548	242	98	394	288	574	316
Now married, except separated	–	...	–	2	211	1 165	1 106	453	259	626	679	1 168	879
Separated	–	...	–	–	88	138	115	79	25	78	49	67	31
Widowed	–	...	–	6	179	334	278	155	78	207	209	439	320
Divorced	–	...	–	2	67	240	137	80	47	120	198	289	147

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0507.02	Tract 0508	Tract 0509.01	Tract 0509.02	Tract 0509.03	Tract 0510	Tract 0511	Tract 0512	Tract 0513	Tract 0514.01	Tract 0514.02	Tract 0515.01	Tract 0515.02
AGE													
Total persons	**5 187**	**5 539**	**3 118**	**3 155**	**6 079**	**4 776**	**6 810**	**7 581**	**3 402**	**3 776**	**2 192**	**4 913**	**2 785**
Under 5 years	474	568	279	277	490	405	570	608	265	360	206	355	200
5 to 9 years	413	504	277	256	439	404	503	462	306	281	190	328	139
10 to 14 years	379	477	230	277	406	388	450	413	212	280	184	273	142
15 to 19 years	433	585	287	364	512	435	538	536	327	286	218	323	184
20 to 24 years	542	616	299	341	507	455	731	806	409	460	268	573	416
25 to 34 years	881	943	552	447	983	603	1 273	1 635	577	686	340	940	841
35 to 44 years	489	487	281	279	530	352	677	686	295	350	187	502	280
45 to 54 years	481	498	271	310	575	447	498	586	243	301	191	419	238
55 to 64 years	502	411	284	280	705	518	618	621	278	297	183	475	190
65 to 74 years	343	287	207	215	641	474	609	649	268	277	156	491	103
75 years and over	250	163	151	109	291	295	343	579	222	198	69	234	52
3 and 4 years	175	216	101	103	181	158	207	230	114	131	61	104	73
16 years and over	3 834	3 883	2 272	2 273	4 670	3 500	5 197	6 001	2 569	2 800	1 573	3 909	2 271
18 years and over	3 666	3 643	2 173	2 115	4 467	3 313	4 972	5 808	2 479	2 698	1 486	3 787	2 198
21 years and over	3 371	3 256	1 993	1 923	4 138	3 043	4 590	5 425	2 199	2 471	1 339	3 539	2 075
60 years and over	825	638	484	444	1 305	1 022	1 262	1 542	627	625	298	976	242
62 years and over	742	564	429	400	1 175	910	1 142	1 419	569	562	262	872	211
Median	28.2	25.2	28.0	26.1	31.3	29.4	29.0	30.0	27.5	28.0	25.7	30.6	28.0
Female	**2 556**	**2 694**	**1 567**	**1 562**	**3 176**	**2 540**	**3 361**	**3 944**	**1 721**	**1 887**	**1 104**	**2 414**	**1 265**
Under 5 years	231	270	133	139	244	198	262	317	144	168	115	160	103
5 to 9 years	199	263	144	116	209	183	231	219	122	124	89	174	65
10 to 14 years	187	228	110	144	214	197	218	222	96	131	92	122	77
15 to 19 years	212	270	130	168	264	208	246	279	166	157	110	162	89
20 to 24 years	238	275	145	150	250	235	352	389	183	218	117	276	209
25 to 34 years	380	403	245	199	462	321	563	723	273	306	155	377	309
35 to 44 years	221	231	134	147	264	199	310	305	148	168	93	221	103
45 to 54 years	246	276	148	171	288	276	252	289	116	158	102	216	129
55 to 64 years	277	234	162	156	403	285	339	358	157	168	100	258	88
65 to 74 years	195	148	129	111	382	253	358	419	159	174	90	283	57
75 years and over	170	96	87	61	196	185	230	424	157	115	41	165	36
3 and 4 years	83	104	48	50	78	81	93	118	64	65	30	46	37
16 years and over	1 895	1 883	1 149	1 131	2 469	1 921	2 608	3 134	1 336	1 430	791	1 933	1 004
18 years and over	1 817	1 763	1 107	1 060	2 367	1 835	2 495	3 031	1 295	1 377	742	1 874	965
21 years and over	1 677	1 602	1 021	966	2 198	1 707	2 335	2 846	1 144	1 261	670	1 748	906
60 years and over	504	348	288	247	800	577	755	1 036	401	380	169	591	136
62 years and over	460	307	259	220	721	512	693	958	367	341	152	533	123
Median	29.5	25.9	29.0	27.9	33.3	32.3	30.3	31.8	29.4	29.3	26.5	32.6	27.2
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**5 187**	**5 539**	**3 118**	**3 155**	**6 079**	**4 776**	**6 810**	**7 581**	**3 402**	**3 776**	**2 192**	**4 913**	**2 785**
In households	5 187	5 536	3 118	3 155	6 079	4 776	6 810	7 581	3 008	3 776	2 192	4 858	2 756
Householder	1 848	1 684	1 072	969	2 181	1 722	2 512	3 351	1 083	1 384	739	2 072	1 358
Family householder	1 210	1 306	785	737	1 633	1 142	1 706	1 748	734	889	498	1 173	513
Nonfamily householder	638	378	287	232	548	580	806	1 603	349	495	241	899	845
Living alone	505	324	252	200	489	535	650	1 354	292	411	196	739	705
Spouse	967	948	632	489	1 360	628	1 347	1 378	578	638	303	898	402
Other relatives	2 069	2 695	1 331	1 611	2 393	2 293	2 613	2 383	1 221	1 557	1 018	1 604	779
Nonrelatives	303	209	83	86	145	133	338	469	126	197	132	284	217
Inmate of institution	–	–	–	–	–	–	–	–	115	–	–	45	22
Other, in group quarters	–	3	–	–	–	–	–	–	279	–	–	10	7
Persons per household	2.81	3.29	2.91	3.26	2.79	2.77	2.71	2.26	2.78	2.73	2.97	2.34	2.03
Persons per family	3.51	3.79	3.50	3.85	3.30	3.56	3.32	3.15	3.45	3.47	3.65	3.13	3.30
Persons 65 years and over	**593**	**450**	**358**	**324**	**932**	**769**	**952**	**1 228**	**490**	**475**	**225**	**725**	**155**
In households	593	450	358	324	932	769	952	1 228	393	475	225	724	150
Householder	417	310	248	216	600	556	663	948	287	333	164	493	110
Nonfamily householder	213	120	115	71	245	245	304	635	151	164	69	223	59
Living alone	203	115	112	67	237	231	292	608	140	154	67	206	57
Spouse	113	85	72	69	238	132	200	187	69	94	37	166	27
Other relatives	51	49	35	34	85	67	71	68	28	31	21	57	11
Nonrelatives	12	6	3	5	9	14	18	25	9	17	3	8	2
Inmate of institution	–	–	–	–	–	–	–	–	97	–	–	1	5
Other, in group quarters	–	–	–	–	–	–	–	–	–	–	–	–	–
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 210**	**1 306**	**785**	**737**	**1 633**	**1 142**	**1 706**	**1 748**	**734**	**889**	**498**	**1 173**	**513**
With own children under 18 years	591	746	400	368	715	498	792	771	344	422	254	451	231
Number of own children under 18 years	1 326	1 654	829	804	1 430	1 070	1 595	1 526	795	932	527	967	516
Married-couple families	**967**	**948**	**632**	**489**	**1 360**	**628**	**1 347**	**1 378**	**578**	**638**	**303**	**898**	**402**
With own children under 18 years	481	566	338	255	610	255	639	615	280	312	151	348	185
Number of own children under 18 years	1 082	1 284	703	566	1 269	541	1 318	1 249	668	716	333	770	426
Female householder, no husband present	**182**	**262**	**111**	**197**	**208**	**431**	**261**	**274**	**117**	**196**	**152**	**194**	**72**
With own children under 18 years	95	150	50	104	87	216	127	131	54	93	95	88	33
Number of own children under 18 years	217	317	102	220	137	477	236	236	108	187	183	176	70
MARITAL STATUS													
Male, 15 years and over	**1 982**	**2 057**	**1 152**	**1 182**	**2 235**	**1 617**	**2 637**	**2 912**	**1 260**	**1 391**	**804**	**1 999**	**1 284**
Single	650	750	325	469	568	576	819	957	459	472	287	663	566
Now married, except separated	1 104	1 090	692	540	1 437	685	1 486	1 506	626	697	377	1 019	456
Separated	50	71	30	59	43	107	92	83	33	56	40	66	62
Widowed	47	60	32	40	42	104	65	97	60	45	32	47	21
Divorced	131	86	73	74	145	145	175	269	82	121	68	204	179
Female, 15 years and over	**1 939**	**1 933**	**1 180**	**1 163**	**2 509**	**1 962**	**2 650**	**3 186**	**1 359**	**1 464**	**808**	**1 958**	**1 020**
Single	346	429	207	314	455	492	470	640	336	326	202	439	307
Now married, except separated	1 027	1 022	666	535	1 420	678	1 432	1 463	630	685	338	947	424
Separated	80	101	28	76	64	167	76	97	35	91	60	53	43
Widowed	285	241	183	149	398	395	430	668	250	207	123	313	96
Divorced	201	140	96	89	172	230	242	318	108	155	85	206	150

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0516.01	Tract 0516.02	Tract 0517.01	Tract 0517.02	Tract 0517.03	Tract 0517.04	Tract 0517.05	Tract 0518.01	Tract 0518.02	Tract 0518.03	Tract 0519.01	Tract 0519.02	Tract 0519.03
AGE													
Total persons	**4 589**	**2 745**	**1 376**	**4 348**	**5 548**	**6 540**	**571**	**4 153**	**2 729**	**3 721**	**4 958**	**4 212**	**3 882**
Under 5 years	498	297	144	169	428	210	51	275	248	259	306	446	236
5 to 9 years	379	239	97	147	224	220	53	251	182	254	301	361	217
10 to 14 years	313	235	80	175	169	318	44	266	148	240	351	260	197
15 to 19 years	360	258	111	335	445	459	54	344	190	256	471	310	250
20 to 24 years	441	262	158	1 008	1 228	781	70	356	358	299	430	440	319
25 to 34 years	800	438	237	1 263	1 530	1 079	109	710	517	605	581	789	670
35 to 44 years	371	271	174	471	579	685	53	476	238	379	612	356	388
45 to 54 years	383	237	153	406	451	1 038	44	502	218	343	830	351	372
55 to 64 years	476	226	122	246	287	959	45	454	248	459	689	389	578
65 to 74 years	357	178	67	91	148	560	31	372	154	421	277	296	461
75 years and over	211	104	33	37	59	231	17	147	228	206	110	214	194
3 and 4 years	187	114	53	63	144	79	15	108	86	100	126	171	96
16 years and over	3 331	1 931	1 036	3 813	4 680	5 730	409	3 312	2 126	2 918	3 913	3 086	3 187
18 years and over	3 182	1 823	995	3 700	4 556	5 546	388	3 162	2 051	2 816	3 708	2 979	3 091
21 years and over	2 970	1 669	905	3 384	4 074	5 207	360	2 958	1 909	2 664	3 431	2 760	2 917
60 years and over	798	374	154	223	316	1 217	66	755	499	852	657	699	960
62 years and over	691	333	129	176	271	1 046	60	648	435	754	523	626	838
Median	28.6	26.5	28.2	26.9	26.0	37.7	25.8	33.1	28.6	34.0	35.7	27.8	36.0
Female	**2 262**	**1 308**	**679**	**2 155**	**2 668**	**3 407**	**284**	**2 107**	**1 419**	**1 871**	**2 505**	**2 210**	**2 023**
Under 5 years	243	139	74	90	212	97	22	137	122	131	150	209	106
5 to 9 years	197	108	48	77	110	103	24	116	90	113	150	169	105
10 to 14 years	144	121	43	83	79	170	28	119	78	114	168	134	97
15 to 19 years	151	117	54	191	240	231	27	170	88	132	222	180	123
20 to 24 years	204	131	78	503	600	411	33	181	169	145	220	243	159
25 to 34 years	359	182	108	571	655	523	44	341	235	265	276	369	318
35 to 44 years	156	111	74	233	272	362	29	233	119	183	338	174	190
45 to 54 years	199	107	78	203	225	568	22	269	121	182	422	192	185
55 to 64 years	255	123	62	130	152	477	25	257	126	250	345	222	349
65 to 74 years	215	97	35	50	86	327	16	205	99	242	144	170	263
75 years and over	139	72	25	24	37	138	14	79	172	114	70	148	128
3 and 4 years	90	55	29	35	71	36	7	52	42	52	64	84	43
16 years and over	1 648	920	507	1 882	2 247	3 007	204	1 707	1 118	1 488	1 996	1 665	1 693
18 years and over	1 580	870	484	1 823	2 178	2 909	192	1 626	1 084	1 435	1 896	1 604	1 640
21 years and over	1 496	797	439	1 633	1 904	2 742	179	1 534	1 017	1 353	1 762	1 480	1 559
60 years and over	485	215	93	127	186	665	38	431	326	480	347	433	569
62 years and over	422	195	75	102	159	589	35	363	293	426	279	394	492
Median	30.3	26.7	28.3	26.8	25.7	40.0	26.1	34.7	30.6	36.9	37.4	28.4	40.4
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**4 589**	**2 745**	**1 376**	**4 348**	**5 548**	**6 540**	**571**	**4 153**	**2 729**	**3 721**	**4 958**	**4 212**	**3 882**
In households	4 589	2 728	1 376	4 348	5 546	6 540	571	4 153	2 531	3 721	4 958	4 094	3 882
Householder	1 576	870	540	2 356	2 720	2 970	209	1 639	1 003	1 501	1 793	1 511	1 613
Family householder	1 152	627	361	1 027	1 320	1 914	142	1 203	647	1 019	1 470	1 059	1 141
Nonfamily householder	424	243	179	1 329	1 400	1 056	67	436	356	482	323	452	472
Living alone	364	198	156	1 105	1 044	888	61	369	280	410	288	395	410
Spouse	942	470	298	818	1 009	1 699	107	962	462	828	1 284	728	966
Other relatives	1 875	1 241	487	896	1 312	1 660	233	1 425	918	1 267	1 814	1 714	1 192
Nonrelatives	196	147	51	278	505	211	22	127	148	125	67	141	111
Inmate of institution	-	-	-	-	-	-	-	-	198	-	-	118	-
Other, in group quarters	-	17	-	-	2	-	-	-	-	-	-	-	-
Persons per household	2.91	3.14	2.55	1.85	2.04	2.20	2.73	2.53	2.52	2.48	2.77	2.71	2.41
Persons per family	3.45	3.73	3.17	2.67	2.76	2.75	3.39	2.98	3.13	3.06	3.11	3.31	2.89
Persons 65 years and over	**568**	**282**	**100**	**128**	**207**	**791**	**48**	**519**	**382**	**627**	**387**	**510**	**655**
In households	568	282	100	128	207	791	48	519	193	627	387	401	655
Householder	386	217	77	76	138	488	32	339	140	437	232	273	446
Nonfamily householder	175	106	47	32	59	164	14	117	78	185	80	131	176
Living alone	171	102	46	32	54	161	14	113	75	176	76	123	166
Spouse	131	43	14	26	43	217	10	138	29	154	91	78	161
Other relatives	47	12	8	26	22	81	6	40	20	27	61	45	40
Nonrelatives	4	10	1	-	4	5	-	2	4	9	3	5	8
Inmate of institution	-	-	-	-	-	-	-	-	189	-	-	109	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 152**	**627**	**361**	**1 027**	**1 320**	**1 914**	**142**	**1 203**	**647**	**1 019**	**1 470**	**1 059**	**1 141**
With own children under 18 years	554	356	209	393	578	564	69	503	336	385	649	531	426
Number of own children under 18 years	1 238	799	359	576	888	919	152	883	602	801	1 177	1 052	725
Married-couple families	**942**	**470**	**298**	**818**	**1 009**	**1 699**	**107**	**962**	**462**	**828**	**1 284**	**728**	**966**
With own children under 18 years	466	290	170	268	419	495	50	375	229	300	551	349	345
Number of own children under 18 years	1 081	661	304	407	663	817	109	668	425	629	1 018	697	597
Female householder, no husband present	**132**	**106**	**42**	**160**	**223**	**160**	**24**	**184**	**128**	**155**	**151**	**260**	**131**
With own children under 18 years	61	47	31	106	137	57	13	105	85	73	87	149	66
Number of own children under 18 years	123	100	46	141	191	83	31	188	144	156	145	294	106
MARITAL STATUS													
Male, 15 years and over	**1 721**	**1 034**	**541**	**1 952**	**2 460**	**2 755**	**213**	**1 626**	**1 022**	**1 455**	**1 963**	**1 447**	**1 517**
Single	469	290	129	761	934	730	62	439	321	367	504	390	349
Now married, except separated	1 084	620	328	842	1 084	1 729	115	988	525	868	1 329	776	997
Separated	39	24	20	47	100	53	5	29	19	27	25	90	28
Widowed	37	38	18	20	19	38	5	37	46	51	24	60	44
Divorced	92	62	46	282	323	205	26	133	111	142	81	131	99
Female, 15 years and over	**1 678**	**940**	**514**	**1 905**	**2 267**	**3 037**	**210**	**1 735**	**1 129**	**1 513**	**2 037**	**1 698**	**1 715**
Single	263	175	70	592	660	683	36	291	202	235	364	357	245
Now married, except separated	992	510	306	833	1 045	1 729	115	991	497	855	1 303	753	995
Separated	33	39	11	61	90	48	11	48	37	44	33	106	34
Widowed	264	149	69	79	109	297	26	209	264	239	182	308	277
Divorced	126	67	58	340	363	280	22	196	129	140	155	174	164

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0520.01	Tract 0520.02	Tract 0520.03	Tract 0521.01	Tract 0521.02	Tract 0521.03	Tract 0522.01	Tract 0522.02	Tract 0523.01	Tract 0523.02	Tract 0523.03	Tract 0524	Tract 0525.01
AGE													
Total persons	**7 028**	**3 832**	**3 784**	**2 799**	**3 780**	**3 870**	**4 314**	**6 220**	**5 193**	**5 251**	**4 910**	**1 890**	**2 783**
Under 5 years	740	318	278	265	389	383	330	567	527	557	414	95	180
5 to 9 years	745	192	326	275	369	335	348	518	540	437	347	109	174
10 to 14 years	675	142	344	273	289	288	343	425	492	390	260	176	217
15 to 19 years	709	237	444	245	261	291	351	483	449	442	488	207	282
20 to 24 years	836	456	406	244	376	382	412	636	535	663	775	163	386
25 to 34 years	1 327	601	459	414	633	669	667	1 018	954	1 004	951	201	604
35 to 44 years	784	322	364	264	352	377	391	577	481	470	466	177	416
45 to 54 years	574	367	489	274	314	330	604	693	475	504	524	194	302
55 to 64 years	329	396	345	299	398	381	549	708	356	414	402	210	153
65 to 74 years	179	449	232	171	268	278	234	429	190	194	215	220	52
75 years and over	130	352	97	75	131	156	85	166	194	176	68	138	17
3 and 4 years	321	111	99	96	142	132	143	225	218	234	145	41	65
16 years and over	4 733	3 146	2 748	1 936	2 690	2 807	3 231	4 617	3 542	3 790	3 832	1 463	2 154
18 years and over	4 438	3 064	2 579	1 838	2 592	2 690	3 087	4 421	3 364	3 615	3 675	1 355	2 046
21 years and over	3 998	2 848	2 312	1 689	2 396	2 501	2 863	4 120	3 099	3 312	3 233	1 272	1 849
60 years and over	450	1 008	477	374	581	607	527	894	545	529	432	457	133
62 years and over	388	934	406	317	501	538	435	754	471	464	358	420	97
Median	23.8	34.0	26.8	26.8	27.8	28.2	30.2	28.8	25.4	26.0	26.3	34.7	27.2
Female	**3 699**	**2 102**	**2 031**	**1 434**	**1 899**	**1 989**	**2 171**	**3 173**	**2 700**	**2 725**	**2 432**	**959**	**1 371**
Under 5 years	367	156	144	132	179	203	162	266	255	264	196	53	72
5 to 9 years	387	105	168	148	167	166	159	261	265	218	176	51	86
10 to 14 years	321	70	176	146	154	156	155	208	250	196	140	84	116
15 to 19 years	381	116	223	104	128	159	166	253	233	229	246	100	149
20 to 24 years	445	223	206	127	179	188	204	320	269	333	379	73	190
25 to 34 years	735	266	272	195	305	308	330	476	504	504	429	92	298
35 to 44 years	408	153	212	132	157	161	198	287	261	243	214	86	197
45 to 54 years	307	199	257	159	163	172	343	372	226	269	274	111	142
55 to 64 years	173	220	177	144	231	195	273	369	190	211	212	112	81
65 to 74 years	91	312	133	98	164	172	131	249	106	118	123	129	28
75 years and over	84	282	63	49	72	109	50	112	141	140	43	68	12
3 and 4 years	154	47	50	43	67	67	77	112	101	107	60	22	27
16 years and over	2 552	1 752	1 497	986	1 379	1 431	1 662	2 394	1 884	2 008	1 894	747	1 072
18 years and over	2 400	1 711	1 419	942	1 331	1 363	1 595	2 292	1 795	1 918	1 810	697	1 017
21 years and over	2 165	1 605	1 286	872	1 229	1 264	1 489	2 132	1 654	1 750	1 578	658	908
60 years and over	237	722	272	201	345	368	288	516	331	335	249	254	76
62 years and over	205	677	240	178	296	330	245	447	291	301	206	227	55
Median	24.4	42.2	28.4	27.3	29.3	28.4	32.0	29.9	26.3	26.8	26.4	37.9	27.1
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**7 028**	**3 832**	**3 784**	**2 799**	**3 780**	**3 870**	**4 314**	**6 220**	**5 193**	**5 251**	**4 910**	**1 890**	**2 783**
In households	6 856	3 832	3 784	2 799	3 780	3 870	4 314	6 220	5 043	5 061	4 910	1 890	2 783
Householder	2 163	1 899	1 192	892	1 319	1 424	1 472	2 187	1 682	1 778	1 984	672	1 087
Family householder	1 708	907	924	703	961	980	1 242	1 737	1 314	1 372	1 334	448	729
Nonfamily householder	455	992	268	189	358	444	230	450	368	406	650	224	358
Living alone	391	908	252	160	317	394	197	386	311	340	541	208	307
Spouse	1 144	706	606	560	764	798	1 061	1 477	927	1 061	1 101	292	636
Other relatives	3 377	1 074	1 918	1 259	1 578	1 529	1 689	2 411	2 276	2 079	1 621	856	976
Nonrelatives	172	153	68	88	119	119	92	145	158	143	204	70	84
Inmate of institution	159	-	-	-	-	-	-	-	150	190	-	-	-
Other, in group quarters	13	-	-	-	-	-	-	-	-	-	-	-	-
Persons per household	3.17	2.02	3.17	3.14	2.87	2.72	2.93	2.84	3.00	2.85	2.47	2.81	2.56
Persons per family	3.65	2.96	3.73	3.59	3.44	3.37	3.21	3.24	3.44	3.29	3.04	3.56	3.21
Persons 65 years and over	**309**	**801**	**329**	**246**	**399**	**434**	**319**	**595**	**384**	**370**	**283**	**358**	**69**
In households	194	801	329	246	399	434	319	595	239	211	283	358	69
Householder	120	665	236	168	282	298	205	385	153	121	186	264	29
Nonfamily householder	46	512	88	78	130	140	68	144	61	40	77	119	12
Living alone	45	507	86	74	126	134	63	136	58	38	75	115	12
Spouse	34	93	56	62	65	102	63	137	46	49	66	65	12
Other relatives	37	39	36	13	51	30	45	66	38	40	29	22	24
Nonrelatives	3	4	1	3	1	4	6	7	2	1	2	7	4
Inmate of institution	115	-	-	-	-	-	-	-	145	159	-	-	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 708**	**907**	**924**	**703**	**961**	**980**	**1 242**	**1 737**	**1 314**	**1 372**	**1 334**	**448**	**729**
With own children under 18 years	1 110	376	452	362	483	508	612	831	793	781	633	186	401
Number of own children under 18 years	2 247	686	896	813	999	1 058	1 107	1 591	1 645	1 475	1 066	390	689
Married-couple families	**1 144**	**706**	**606**	**560**	**764**	**798**	**1 061**	**1 477**	**927**	**1 061**	**1 101**	**292**	**636**
With own children under 18 years	705	304	283	269	394	421	523	710	507	582	500	125	333
Number of own children under 18 years	1 422	569	561	593	837	894	954	1 390	1 040	1 115	842	278	590
Female householder, no husband present	**470**	**141**	**268**	**111**	**141**	**129**	**152**	**187**	**331**	**246**	**161**	**123**	**74**
With own children under 18 years	365	61	149	78	71	61	82	93	266	174	99	51	57
Number of own children under 18 years	748	101	297	195	140	119	140	166	569	323	169	96	80
MARITAL STATUS													
Male, 15 years and over	**2 244**	**1 409**	**1 293**	**978**	**1 334**	**1 400**	**1 598**	**2 272**	**1 704**	**1 820**	**1 969**	**739**	**1 115**
Single	710	406	448	277	309	344	359	490	468	485	539	259	340
Now married, except separated	1 217	755	641	599	821	866	1 100	1 540	993	1 118	1 145	331	657
Separated	108	50	63	20	40	43	31	38	70	40	54	53	32
Widowed	58	56	59	16	54	36	24	48	43	42	22	50	9
Divorced	151	142	82	66	110	111	84	156	130	135	209	46	77
Female, 15 years and over	**2 624**	**1 771**	**1 343**	**1 008**	**1 399**	**1 464**	**1 695**	**2 438**	**1 930**	**2 047**	**1 920**	**771**	**1 097**
Single	738	245	438	169	189	235	234	337	373	377	339	185	250
Now married, except separated	1 199	741	644	598	813	846	1 093	1 536	972	1 107	1 134	316	662
Separated	209	76	114	47	48	40	33	64	128	83	70	38	33
Widowed	216	475	217	117	211	217	189	292	238	262	154	175	53
Divorced	262	234	130	77	138	126	146	209	219	218	223	57	99

Table P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0525.02	Tract 0525.03	Tract 0525.04	Tract 0526.01	Tract 0526.02	Tract 0526.03	Tract 0526.04	Tract 0527.01	Tract 0527.02	Tract 0527.03	Tract 0528	Tract 0529.01	Tract 0529.02*
AGE													
Total persons	**4 436**	**2 775**	**3 850**	**3 310**	**3 405**	**3 390**	**3 929**	**5 226**	**3 223**	**2 769**	**2 106**	**3 710**	**10 005**
Under 5 years	376	222	325	235	211	230	273	452	256	159	177	162	801
5 to 9 years	474	264	323	188	159	199	256	391	219	162	180	96	686
10 to 14 years	510	306	328	211	174	199	216	357	204	222	212	118	577
15 to 19 years	548	325	425	285	238	247	299	474	279	309	243	260	804
20 to 24 years	337	237	361	304	301	309	419	706	325	215	167	1 040	1 856
25 to 34 years	706	342	609	479	593	702	835	1 245	702	438	297	1 159	2 791
35 to 44 years	504	276	489	360	331	360	395	621	444	433	212	376	1 300
45 to 54 years	436	321	359	507	462	340	436	482	377	407	271	254	636
55 to 64 years	287	249	283	455	577	439	479	320	265	300	203	153	354
65 to 74 years	167	145	221	216	254	271	223	112	110	82	105	70	138
75 years and over	91	88	127	70	105	94	98	66	42	42	39	22	62
3 and 4 years	173	94	120	84	71	84	102	171	108	56	67	35	291
16 years and over	2 972	1 908	2 777	2 628	2 814	2 716	3 125	3 952	2 497	2 170	1 502	3 311	7 825
18 years and over	2 727	1 768	2 593	2 496	2 711	2 608	3 005	3 780	2 372	2 036	1 401	3 235	7 529
21 years and over	2 443	1 609	2 373	2 326	2 568	2 459	2 817	3 454	2 210	1 870	1 250	2 931	6 840
60 years and over	374	336	468	480	606	589	530	293	256	240	219	154	338
62 years and over	321	286	414	389	498	490	428	247	216	185	180	126	266
Median	24.6	25.7	27.8	33.6	35.7	31.3	30.1	26.3	29.4	32.5	27.3	25.7	25.7
Female	**2 264**	**1 425**	**2 031**	**1 703**	**1 742**	**1 744**	**2 010**	**2 528**	**1 610**	**1 447**	**1 071**	**1 674**	**4 950**
Under 5 years	193	102	172	105	93	119	131	206	124	85	80	74	398
5 to 9 years	225	130	146	96	69	87	113	192	101	87	93	48	339
10 to 14 years	242	147	152	107	89	102	96	167	94	102	116	60	266
15 to 19 years	297	160	242	141	119	129	149	217	142	171	112	147	413
20 to 24 years	165	111	183	148	147	151	227	354	156	103	73	508	971
25 to 34 years	356	194	329	239	277	320	397	561	365	220	158	416	1 311
35 to 44 years	265	158	266	192	170	175	208	325	223	232	106	165	626
45 to 54 years	239	169	195	271	261	191	247	236	188	220	150	130	318
55 to 64 years	142	130	153	232	294	257	257	169	139	155	106	68	175
65 to 74 years	88	82	122	121	154	160	123	54	54	43	54	42	92
75 years and over	52	42	71	51	69	53	62	47	24	29	23	16	41
3 and 4 years	81	40	60	33	36	47	46	81	52	30	30	16	134
16 years and over	1 548	1 007	1 505	1 377	1 465	1 416	1 643	1 927	1 270	1 148	767	1 478	3 901
18 years and over	1 426	936	1 401	1 314	1 420	1 360	1 584	1 853	1 201	1 069	722	1 436	3 753
21 years and over	1 270	868	1 277	1 219	1 342	1 280	1 481	1 692	1 130	983	655	1 263	3 384
60 years and over	202	175	252	266	339	345	291	156	132	132	115	83	206
62 years and over	178	153	225	224	285	287	247	138	112	101	99	71	161
Median	25.3	28.3	28.8	36.0	39.7	33.3	31.0	26.6	29.8	33.2	28.6	25.0	25.5
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**4 436**	**2 775**	**3 850**	**3 310**	**3 405**	**3 390**	**3 929**	**5 226**	**3 223**	**2 769**	**2 106**	**3 710**	**10 005**
In households	4 436	2 775	3 850	3 310	3 405	3 390	3 929	5 226	3 223	2 769	2 106	3 710	10 005
Householder	1 216	810	1 283	1 217	1 314	1 337	1 566	2 007	1 150	1 022	614	2 077	4 362
Family householder	1 040	662	993	980	1 052	1 002	1 159	1 378	933	783	516	872	2 576
Nonfamily householder	176	148	290	237	262	335	407	629	217	239	98	1 205	1 786
Living alone	159	131	265	192	223	269	336	485	158	195	83	995	1 357
Spouse	761	439	727	852	933	858	940	1 142	811	677	401	733	2 041
Other relatives	2 377	1 461	1 759	1 139	1 090	1 078	1 290	1 842	1 161	995	1 042	633	2 967
Nonrelatives	82	65	81	102	68	117	133	235	101	75	49	267	635
Inmate of institution	-	-	-	-	-	-	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
Persons per household	3.65	3.43	3.00	2.72	2.59	2.54	2.51	2.60	2.80	2.71	3.43	1.79	2.29
Persons per family	4.02	3.87	3.50	3.03	2.92	2.93	2.92	3.17	3.11	3.14	3.80	2.57	2.94
Persons 65 years and over	**258**	**233**	**348**	**286**	**359**	**365**	**321**	**178**	**152**	**124**	**144**	**92**	**200**
In households	258	233	348	286	359	365	321	178	152	124	144	92	200
Householder	178	169	234	179	216	241	204	121	87	74	97	59	104
Nonfamily householder	72	60	88	73	82	96	73	44	20	26	33	24	38
Living alone	64	58	85	71	79	93	72	42	17	26	31	24	38
Spouse	34	30	74	65	88	90	78	32	41	26	25	22	45
Other relatives	36	32	34	38	51	30	37	24	21	23	21	10	50
Nonrelatives	10	2	6	4	4	4	2	1	3	1	1	1	1
Inmate of institution	-	-	-	-	-	-	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**1 040**	**662**	**993**	**980**	**1 052**	**1 002**	**1 159**	**1 378**	**933**	**783**	**516**	**872**	**2 576**
With own children under 18 years	674	356	551	435	396	430	530	746	485	377	266	264	1 454
Number of own children under 18 years	1 461	803	1 032	753	631	719	850	1 330	809	686	591	412	2 303
Married-couple families	**761**	**439**	**727**	**852**	**933**	**858**	**940**	**1 142**	**811**	**677**	**401**	**733**	**2 041**
With own children under 18 years	508	233	406	362	344	366	395	594	422	318	215	200	1 073
Number of own children under 18 years	1 126	547	719	639	554	620	663	1 091	717	590	491	322	1 783
Female householder, no husband present	**223**	**178**	**216**	**109**	**90**	**113**	**192**	**173**	**92**	**88**	**85**	**82**	**417**
With own children under 18 years	143	106	121	67	42	53	124	122	53	50	44	48	332
Number of own children under 18 years	297	219	266	107	61	84	171	193	80	80	91	69	453
MARITAL STATUS													
Male, 15 years and over	**1 472**	**937**	**1 313**	**1 281**	**1 370**	**1 326**	**1 514**	**2 063**	**1 253**	**1 053**	**755**	**1 842**	**3 994**
Single	481	328	392	316	311	323	400	639	326	276	250	743	1 307
Now married, except separated	809	472	762	865	950	871	968	1 183	828	687	429	759	2 112
Separated	71	55	45	20	22	19	20	49	21	9	19	64	122
Widowed	41	33	46	18	24	19	22	14	8	8	23	8	14
Divorced	70	49	68	62	63	94	104	178	70	73	34	268	439
Female, 15 years and over	**1 604**	**1 046**	**1 561**	**1 395**	**1 491**	**1 436**	**1 670**	**1 963**	**1 291**	**1 173**	**782**	**1 492**	**3 947**
Single	444	287	423	226	219	228	297	377	244	246	187	384	963
Now married, except separated	797	467	767	865	953	876	960	1 173	832	690	426	753	2 096
Separated	77	61	86	26	21	17	40	54	27	23	24	50	125
Widowed	159	128	153	161	184	177	173	113	69	86	81	45	142
Divorced	127	103	132	117	114	138	200	246	119	128	64	260	621

Table P-1. **General Characteristics of Persons: 1980**—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.												
	Tract 0530.01*	Tract 0530.02*	Tract 0530.03*	Tract 0531.01*	Tract 0531.02*	Tract 0531.03	Tract 0532.01*	Tract 0532.02*	Tract 0533.01*	Tract 0533.02*	Tract 0533.03*	Tract 0534.01*	Tract 0534.02*
AGE													
Total persons	–	**7 266**	**5 267**	**4 311**	**4 295**	**7 612**	**1 977**	**1 111**	**4 012**	**10 318**	**509**	**812**	**3**
Under 5 years	–	750	402	393	325	745	162	98	280	929	57	83	...
5 to 9 years	–	751	421	429	417	788	189	85	99	958	48	40	...
10 to 14 years	–	712	506	459	451	845	174	87	67	880	34	30	...
15 to 19 years	–	749	505	483	413	987	219	107	393	1 054	43	88	...
20 to 24 years	–	527	231	347	217	738	143	109	1 420	1 302	65	205	...
25 to 34 years	–	1 417	1 097	745	749	1 122	290	169	1 202	2 170	83	223	...
35 to 44 years	–	919	990	479	747	745	264	115	294	1 497	63	65	...
45 to 54 years	–	622	649	375	483	583	241	127	158	845	44	51	...
55 to 64 years	–	456	338	264	314	471	168	142	72	457	40	25	...
65 to 74 years	–	248	95	221	123	382	87	51	17	165	25	1	...
75 years and over	–	115	33	116	56	206	40	21	10	61	7	1	...
3 and 4 years	–	291	171	144	145	285	65	35	67	362	12	29	...
16 years and over	–	4 904	3 835	2 934	3 012	5 021	1 404	813	3 553	7 349	363	652	...
18 years and over	–	4 565	3 611	2 737	2 832	4 615	1 307	769	3 491	6 954	346	628	...
21 years and over	–	4 186	3 384	2 479	2 651	4 086	1 189	708	2 918	6 241	314	545	...
60 years and over	–	544	241	464	296	789	191	127	50	389	51	13	...
62 years and over	–	459	180	408	244	712	164	108	41	318	41	9	...
Median	–	26.2	31.1	25.5	30.0	22.9	28.3	28.7	24.0	25.1	26.0	24.3	...
Female	–	**3 736**	**2 588**	**2 183**	**2 160**	**4 034**	**985**	**544**	**1 831**	**5 153**	**247**	**361**	...
Under 5 years	–	366	185	196	145	360	79	48	140	438	31	42	...
5 to 9 years	–	367	205	230	209	381	98	39	53	489	29	19	...
10 to 14 years	–	335	248	199	234	428	82	42	41	446	14	14	...
15 to 19 years	–	351	252	226	199	493	101	47	231	544	24	38	...
20 to 24 years	–	283	101	178	108	404	76	57	696	636	31	97	...
25 to 34 years	–	773	591	381	405	635	144	76	451	1 092	36	94	...
35 to 44 years	–	476	481	252	369	402	140	52	102	741	24	26	...
45 to 54 years	–	340	296	190	246	342	114	75	67	396	22	21	...
55 to 64 years	–	230	158	137	144	268	82	70	34	239	24	8	...
65 to 74 years	–	146	50	131	71	208	42	28	9	91	11	1	...
75 years and over	–	69	21	63	30	113	27	10	7	41	1	1	...
3 and 4 years	–	144	63	72	69	129	32	22	42	171	4	15	...
16 years and over	–	2 598	1 902	1 507	1 530	2 765	700	403	1 588	3 690	169	284	...
18 years and over	–	2 452	1 780	1 413	1 444	2 561	654	382	1 555	3 479	157	275	...
21 years and over	–	2 257	1 684	1 295	1 356	2 287	606	356	1 229	3 118	144	238	...
60 years and over	–	308	125	259	157	433	109	65	28	216	25	6	...
62 years and over	–	267	98	233	128	392	96	55	24	181	17	5	...
Median	–	27.2	30.9	26.3	30.3	24.4	28.9	29.7	23.1	25.2	23.5	23.8	...
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	–	**7 266**	**5 267**	**4 311**	**4 295**	**7 612**	**1 977**	**1 111**	**4 012**	**10 318**	**509**	**812**	**3**
In households	–	7 266	5 267	4 311	4 295	7 608	1 977	1 100	4 012	10 318	509	812	...
Householder	–	2 142	1 702	1 268	1 273	2 154	583	366	2 318	3 673	165	394	...
Family householder	–	1 840	1 504	1 048	1 170	1 754	511	308	876	2 767	136	176	...
Nonfamily householder	–	302	198	220	103	400	72	58	1 442	906	29	218	...
Living alone	–	260	151	199	81	347	55	50	1 131	727	23	176	...
Spouse	–	1 377	1 370	794	1 055	1 049	462	262	688	2 255	122	135	...
Other relatives	–	3 635	2 101	2 168	1 910	4 221	880	449	614	4 056	211	205	...
Nonrelatives	–	112	94	81	57	184	52	23	392	334	11	78	...
Inmate of institution	–	–	–	–	–	–	–	–	–	–	–	–	...
Other, in group quarters	–	–	–	–	–	4	–	11	–	–	–	–	...
Persons per household	–	3.39	3.09	3.40	3.37	3.53	3.39	3.01	1.73	2.81	3.08	2.06	...
Persons per family	–	3.72	3.31	3.83	3.53	4.00	3.63	3.31	2.49	3.28	3.45	2.93	...
Persons 65 years and over	–	**363**	**128**	**337**	**179**	**588**	**127**	**72**	**27**	**226**	**32**	**2**	...
In households	–	363	128	337	179	588	127	67	27	226	32	2	...
Householder	–	241	55	221	81	400	77	41	18	120	23	1	...
Nonfamily householder	–	99	5	88	18	142	23	16	12	34	5	1	...
Living alone	–	93	5	84	17	134	23	16	12	30	5	1	...
Spouse	–	60	30	70	44	108	29	16	1	37	7	1	...
Other relatives	–	56	40	39	52	69	20	10	7	64	2	–	...
Nonrelatives	–	6	3	7	2	11	1	–	1	5	–	–	...
Inmate of institution	–	–	–	–	–	–	–	–	–	–	–	–	...
Other, in group quarters	–	–	–	–	–	–	–	5	–	–	–	–	...
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	–	**1 840**	**1 504**	**1 048**	**1 170**	**1 754**	**511**	**308**	**876**	**2 767**	**136**	**176**	...
With own children under 18 years	–	1 149	865	640	727	1 099	299	165	353	1 767	70	97	...
Number of own children under 18 years	–	2 333	1 564	1 353	1 393	2 426	626	305	464	3 133	145	160	...
Married-couple families	–	**1 377**	**1 370**	**794**	**1 055**	**1 049**	**462**	**262**	**688**	**2 255**	**122**	**135**	...
With own children under 18 years	–	844	773	512	662	660	271	143	236	1 387	67	71	...
Number of own children under 18 years	–	1 650	1 402	1 068	1 281	1 441	578	269	310	2 533	136	116	...
Female householder, no husband present	–	**404**	**98**	**210**	**87**	**593**	**38**	**33**	**126**	**390**	**11**	**25**	...
With own children under 18 years	–	279	72	112	50	390	23	19	90	312	2	20	...
Number of own children under 18 years	–	624	125	248	91	887	40	31	126	503	5	38	...
MARITAL STATUS													
Male, 15 years and over	–	**2 385**	**1 988**	**1 472**	**1 530**	**2 369**	**726**	**426**	**1 969**	**3 771**	**197**	**373**	...
Single	–	744	463	474	351	924	188	100	824	1 025	47	149	...
Now married, except separated	–	1 426	1 392	824	1 080	1 108	481	280	751	2 325	130	168	...
Separated	–	61	9	51	18	118	17	5	92	73	4	12	...
Widowed	–	49	10	47	16	104	7	16	12	28	4	2	...
Divorced	–	105	114	76	65	115	33	25	290	320	12	42	...
Female, 15 years and over	–	**2 668**	**1 950**	**1 558**	**1 572**	**2 865**	**726**	**415**	**1 597**	**3 780**	**173**	**286**	...
Single	–	660	351	373	287	888	151	53	559	715	24	81	...
Now married, except separated	–	1 427	1 393	826	1 088	1 128	475	277	703	2 313	127	141	...
Separated	–	139	19	67	18	206	5	10	57	105	2	17	...
Widowed	–	233	61	184	76	322	66	42	38	188	9	8	...
Divorced	–	209	126	108	103	321	29	33	240	459	11	39	...

Table P-1. General Characteristics of Persons: 1980—Con.

[For meaning of symbols, see Introduction. For definitions of terms, see appendixes A and B]

Census Tracts	Houston city (pt.), Harris County—Con.						Kingwood (CDP) (pt.), Harris County			La Porte city, Harris County			
	Tract 0535*	Tract 0540.01*	Tract 0540.02*	Tract 0541*	Tract 0542.01*	Tract 0542.02*	Tract 0249.01*	Tract 0249.02*	Tract 0249.03*	Tract 0362*	Tract 0363*	Tract 0364*	Tract 0365.01
AGE													
Total persons	**2 946**	-	**7 365**	-	-	-	**4 857**	**8 030**	**3 207**	-	**795**	**207**	**1 585**
Under 5 years	218	-	863	-	-	-	503	811	166	-	92	17	217
5 to 9 years	83	-	841	-	-	-	589	918	331	-	96	15	138
10 to 14 years	42	-	698	-	-	-	569	1 015	426	-	61	19	125
15 to 19 years	312	-	523	-	-	-	343	647	379	-	48	21	146
20 to 24 years	1 080	-	601	-	-	-	169	293	119	-	76	20	201
25 to 34 years	847	-	2 055	-	-	-	1 248	1 745	336	-	246	39	243
35 to 44 years	206	-	1 041	-	-	-	856	1 580	750	-	98	28	160
45 to 54 years	103	-	409	-	-	-	382	685	441	-	49	14	168
55 to 64 years	51	-	224	-	-	-	149	250	175	-	16	18	108
65 to 74 years	3	-	76	-	-	-	31	60	50	-	8	12	56
75 years and over	1	-	34	-	-	-	18	26	34	-	5	4	23
3 and 4 years	54	-	329	-	-	-	199	340	77	-	32	7	81
16 years and over	2 590	-	4 856	-	-	-	3 100	5 113	2 195	-	539	153	1 077
18 years and over	2 539	-	4 605	-	-	-	2 944	4 803	2 001	-	522	144	1 006
21 years and over	2 104	-	4 351	-	-	-	2 813	4 583	1 873	-	486	129	923
60 years and over	17	-	179	-	-	-	102	166	131	-	19	21	128
62 years and over	11	-	134	-	-	-	77	124	107	-	17	21	108
Median	23.8	-	25.9	-	-	-	28.5	28.0	32.5	-	26.0	27.7	24.1
Female	**1 358**	-	**3 624**	-	-	-	**2 413**	**4 022**	**1 582**	-	**402**	**103**	**830**
Under 5 years	100	-	417	-	-	-	234	405	85	-	44	12	112
5 to 9 years	41	-	410	-	-	-	299	471	164	-	55	13	69
10 to 14 years	23	-	353	-	-	-	286	499	189	-	28	10	71
15 to 19 years	187	-	242	-	-	-	153	323	172	-	28	6	84
20 to 24 years	531	-	308	-	-	-	89	153	58	-	45	8	108
25 to 34 years	329	-	1 049	-	-	-	690	954	201	-	115	18	118
35 to 44 years	77	-	480	-	-	-	399	757	377	-	47	14	75
45 to 54 years	46	-	197	-	-	-	157	286	203	-	24	6	92
55 to 64 years	20	-	104	-	-	-	72	118	80	-	8	7	56
65 to 74 years	3	-	40	-	-	-	22	39	27	-	5	7	30
75 years and over	1	-	24	-	-	-	12	17	26	-	3	2	15
3 and 4 years	22	-	162	-	-	-	95	179	46	-	15	3	42
16 years and over	1 187	-	2 391	-	-	-	1 545	2 562	1 101	-	270	67	562
18 years and over	1 151	-	2 278	-	-	-	1 477	2 405	1 013	-	262	65	517
21 years and over	902	-	2 162	-	-	-	1 425	2 297	956	-	241	58	479
60 years and over	9	-	97	-	-	-	58	93	75	-	12	11	69
62 years and over	6	-	73	-	-	-	47	76	63	-	11	11	62
Median	22.9	-	25.9	-	-	-	28.4	27.5	32.8	-	25.1	27.2	23.5
HOUSEHOLD TYPE AND RELATIONSHIP													
Total persons	**2 946**	-	**7 365**	-	-	-	**4 857**	**8 030**	**3 207**	-	**795**	**207**	**1 585**
In households	2 946	-	7 365	-	-	-	4 857	8 030	3 207	-	795	207	1 585
Householder	1 691	-	2 226	-	-	-	1 444	2 310	944	-	241	69	525
Family householder	660	-	2 021	-	-	-	1 324	2 183	858	-	224	56	400
Nonfamily householder	1 031	-	205	-	-	-	120	127	86	-	17	13	125
Living alone	801	-	150	-	-	-	100	99	74	-	11	9	106
Spouse	493	-	1 821	-	-	-	1 233	2 099	808	-	216	51	307
Other relatives	468	-	3 179	-	-	-	2 117	3 563	1 427	-	320	81	705
Nonrelatives	294	-	139	-	-	-	63	58	28	-	18	6	48
Inmate of institution	-	-	-	-	-	-	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
Persons per household	1.74	-	3.31	-	-	-	3.36	3.48	3.40	-	3.30	3.00	3.02
Persons per family	2.46	-	3.47	-	-	-	3.53	3.59	3.60	-	3.39	3.36	3.53
Persons 65 years and over	**4**	-	**110**	-	-	-	**49**	**86**	**84**	-	**13**	**16**	**79**
In households	4	-	110	-	-	-	49	86	84	-	13	16	79
Householder	2	-	51	-	-	-	22	30	41	-	5	12	60
Nonfamily householder	2	-	16	-	-	-	8	6	19	-	2	6	27
Living alone	2	-	16	-	-	-	8	6	19	-	2	6	26
Spouse	-	-	13	-	-	-	11	19	14	-	1	4	12
Other relatives	2	-	45	-	-	-	16	37	27	-	6	-	7
Nonrelatives	-	-	1	-	-	-	-	-	2	-	1	-	-
Inmate of institution	-	-	-	-	-	-	-	-	-	-	-	-	-
Other, in group quarters	-	-	-	-	-	-	-	-	-	-	-	-	-
FAMILY TYPE BY PRESENCE OF OWN CHILDREN													
Families	**660**	-	**2 021**	-	-	-	**1 324**	**2 183**	**858**	-	**224**	**56**	**400**
With own children under 18 years	275	-	1 393	-	-	-	989	1 615	606	-	140	35	243
Number of own children under 18 years	354	-	2 634	-	-	-	1 873	3 148	1 175	-	258	57	499
Married-couple families	**493**	-	**1 821**	-	-	-	**1 233**	**2 099**	**808**	-	**216**	**51**	**307**
With own children under 18 years	173	-	1 253	-	-	-	908	1 548	567	-	136	33	178
Number of own children under 18 years	231	-	2 394	-	-	-	1 735	3 039	1 117	-	250	54	365
Female householder, no husband present	**120**	-	**145**	-	-	-	**69**	**63**	**36**	-	**6**	**3**	**78**
With own children under 18 years	87	-	108	-	-	-	65	56	30	-	3	2	57
Number of own children under 18 years	107	-	194	-	-	-	115	92	44	-	6	3	116
MARITAL STATUS													
Male, 15 years and over	**1 409**	-	**2 519**	-	-	-	**1 602**	**2 639**	**1 140**	-	**271**	**88**	**527**
Single	589	-	513	-	-	-	282	444	282	-	45	25	128
Now married, except separated	537	-	1 848	-	-	-	1 249	2 123	817	-	218	52	332
Separated	49	-	33	-	-	-	17	17	9	-	1	3	16
Widowed	2	-	8	-	-	-	5	7	8	-	2	3	9
Divorced	232	-	117	-	-	-	49	48	24	-	5	5	42
Female, 15 years and over	**1 194**	-	**2 444**	-	-	-	**1 594**	**2 647**	**1 144**	-	**275**	**68**	**578**
Single	405	-	321	-	-	-	205	383	231	-	37	7	120
Now married, except separated	508	-	1 850	-	-	-	1 251	2 122	815	-	217	52	324
Separated	54	-	40	-	-	-	15	20	10	-	2	2	22
Widowed	21	-	75	-	-	-	36	51	45	-	10	6	53
Divorced	206	-	158	-	-	-	87	71	43	-	9	1	59

REF. 16

RECORD OF COMMUNICATION	(Record of Item Checked Below) _X_ Phone Call ___ Discussion ___ Field Trip ___ Conference ___ Other(Specify)	
TO: Julie Massey, Ecological Services U.S. Fish & Wildlife Service.	From: Kelly Bowles, FIT Geologist Kelly Bowles	Date: 1/9/89 Time: 2:10 pm

SUBJECT: Sensitive Environments along Buffalo Bayou

SUMMARY OF COMMUNICATION

Q: Are there any critical habitats of Endangered Species or other sensitive environments along Buffalo Bayou in the City of Houston?

A: No. There are no federally designated critical habaitats for endangered species along Buffalo Bayou. The edges of the bayou are fairly industrialized, so there are no federally designated sensitive environments along the banks.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

REF. 17

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual

(HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

United States
Environmental Protection
Agency

1984

REF 18

Dangerous Properties of Industrial Materials

Sixth Edition

N. IRVING SAX

Assisted by:

Benjamin Feiner/Joseph J. Fitzgerald/Thomas J. Haley/Elizabeth K. Weisburger

VNR VAN NOSTRAND REINHOLD COMPANY
NEW YORK CINCINNATI TORONTO LONDON MELBOURNE

CADMIUM COMPOUNDS

NIOSH #: EV 0260000

TOXICITY DATA: 3 CODEN:
ihl-hmn TCLo:1500 ug/m3/14Y-I:CARC ANYAA9 271,273,76

Toxicology Review: STEVA8 2(4),341,74. Occupational Exposure to Cadmium recm std: Air: TWA 40 ug/m3; CL 200 ug/m3/15M NTIS**.

THR: An exper CARC. The oral toxicity of Cd and its compounds is HIGH. However, when these materials are ingested, the irr and emetic action is so violent that little of the Cd is absorbed and fatal poisoning does not as a rule ensue. Cases of human Cd poisoning have been reported from ingestion of food or beverages prepared or stored in Cd-plated containers. The inhal of fumes or dusts of Cd primarily affects the respiratory tract; the kidneys may also be affected. Even brief exposure to high conc may result in pulmonary edema and death. Usually the edema is not massive, with little pleural effusion. In fatal cases, fatty degeneration of the liver and acute inflammatory changes in the kidneys have been noted. Ingestion of Cd results in a gastrointestinal type of poisoning resembling food poisoning in its symptoms. Inhal of dust or fumes may cause dryness of the throat, cough, headache, a sense of constriction in the chest, shortness of breath (dyspnea) and vomiting. More severe exposure results in marked lung changes, with persistent cough, pain in the chest, severe dyspnea and prostration which may terminate fatally. X-ray changes are usually similar to those seen in broncho-pneumonia. The urine is frequently dark. These symptoms are usually delayed for some hours after exposure, and fatal conc may be breathed without sufficient discomfort to warn the workman to leave the exposure. There is some evidence of teratogenicity. Ingestion of Cd results in sudden nausea, salivation, vomiting and diarrhea and abdominal pain and discomfort. Symptoms begin almost immediately after ingestion. A yellow discoloration of the teeth has been reported in workers exposed to Cd. Cadmium oxide fumes can cause metal fume fever resembling that caused by zinc oxide fumes.

CADMIUM DIAMIDE

mf: CdH_4N_2; mw: 144.45

Incomp: Self-explodes (water).

CADMIUM DIAZIDE

mf: CdN_6; mw: 196.44

Incomp: Explodes violently.

CADMIUM DICYANIDE

mf: C_2CdN_2; mw: 164.44

Incomp: Magnesium.

CADMIUM (II) EDTA COMPLEX

CAS RN: 15954913 NIOSH #: AH 4060000

SYN: (ETHYLENEDINITRILO)TETRAACETIC ACID CADMIUM (II) COMPLEX

TOXICITY DATA: 3 CODEN:
ipr-mus LD50:7800 ug(Cd)/kg PABIAQ 11,853,63

Occupational Exposure to Cadmium recm std: Air: TWA 40 ug/m3; CL 200 ug/m3/15M NTIS**.

THR: HIGH ipr. See also cadmium compounds.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x and Cd.

CADMIUM FLUOBORATE

CAS RN: 14486192 NIOSH #: EV 0525000
mf: B_2CdF_8; mw: 286.02

SYN: FLUOROBORATE

TOXICITY DATA: 3 CODEN:
orl-rat LDLo:250 mg/kg NCNSA6 5,27,53
ihl-mus LCLo:650 mg/m3/10M NDRC** No.9-4-1-19,44

Occupational Exposure to Cadmium recm std: Air: TWA 40 ug/m3; CL 200 ug/m3/15M NTIS**. Reported in EPA TSCA Inventory, 1980.

THR: HIGH orl. MOD ihl. See fluoborates.

Disaster Hazard: When heated to decomp it emits very tox fumes of Cd and F^-.

For further information see Fluoroborate Vol. 2, No. 3 of *DPIM Report.*

CADMIUM FLUORIDE

CAS RN: 7790796 NIOSH #: EV 0700000
mf: CdF_2; mw: 150.40

Cubic white crystals. mp: 1100°, bp: 1758°, d: 6.64, vap. press: 1 mm @ 1112°.

SYN: CADMIUM FLUORURE (FRENCH)

TOXICITY DATA: 3 CODEN:
scu-frg LDLo:280 mg/kg CRSBAW 124,133,37

Toxicology Review: AMSSAQ 400,5,63. OSHA Standard: Air: TWA 200 ug(Cd)/m3; CL 600 (SCP-W) FEREAC 39,23540,74. Occupational Exposure to Cadmium recm std: Air: TWA 40 ug/m3; CL 200 ug/m3/15M NTIS**. Reported in EPA TSCA Inventory, 1980.

THR: HIGH via scu route. Violent reaction with K. See fluorides and cadmium compounds.

Disaster Hazard: When heated to decomp it emits very tox fumes of Cd and F^-.

CADMIUM FLUOSILICATE

CAS RN: 17010218 NIOSH #: EV 0875000
mf: CdF_6Si; mw: 254.49

Hexagonal, colorless crystals.

SYN: TL 1070

TOXICITY DATA: 3 CODEN:
orl-rat LDLo:100 mg/kg NCNSA6 5,27,53
ihl-mus LCLo:670 mg/m3/10M NDRC** No.9-4-1-19,44

Occupational Exposure to Cadmium recm std: Air: TWA 40 ug/m3; CL 200 ug/m3/15M NTIS**.

CHROMIC ACID (MIXTURE)

NIOSH #: GB 2650000

mf: CrO_3; mw: 100.01

mp: 196°; d: 2.70; dark red cryst; decomp @ 250° to $Cr_2O_3 + O_2$; a powerful oxidizer. Water sol.

SYNS:
CHROMIUM TRIOXIDE
CHROMIC ANHYDRIDE

TOXICITY DATA: CODEN:

DOT: Oxidizer, Label: Oxidizer FEREAC 41,57018,76. Occupational Exposure to Cr(VI) recm std: Air: TWA 25 ug(Cr(VI))/m3;CL 50 ug/m3/15M NTIS**.

THR: A poison. See also chromium compounds and chromates. A powerful irr of skn, eyes and mu mem; can cause a dermatitis, bronchoasthma, "chrome holes," damage to the eyes.

Disaster Hazard: May explode in a fire.

Incomp: Acetic acid; acetic anhydride; tetrahydronaphthalene; acetone; alcohols; alkali metals; ammonia; arsenic; bromine penta fluoride; butyric acid; n,n-dimethylformamide; hydrogen sulfide; peroxyformic acid; phosphorus; potassium hexacyanoferrate; pyridine; selenium; sodium; sulfur.

CHROMIC ACID (SOLUTION)

NIOSH #: GB 2670000

SYN: CHROMIC ACID SOLUTION (DOT)

TOXICITY DATA: 3 CODEN:

DOT: Corrosive Material, Label: Corrosive FEREAC 41,57018,76. Occupational Exposure to Cr(VI) recm std: Air: TWA 25 ug(Cr(VI))/m3;CL 50 ug/m3/15M NTIS**.

THR: See chromic acid, dry. See also chromium compounds.

CHROMIC CHLORIDE STEARATE

CAS RN: 15242963 NIOSH #: GB 7280000

mf: $C_{18}H_{36}Cl_4Cr_2O_3$; mw: 546.34

SYNS:
TETRACHLORO-MU-HYDROXY-(MU-OCTADECANOATO-O:O') DI-CHROMIUM
TETRACHLORO-MU-HYDROXY-(MU-STEARATO)DI-CHROMIUM
NCI-C60800
STEARATO-CHROMIC CHLORIDE COMPLEX

TOXICITY DATA: 3 CODEN:

ivn-mus LD50:180 mg/kg CSLNX* NX#03305

Reported in EPA TSCA Inventory, 1980.

THR: HIGH ivn. See also chromium compounds.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

CHROMIC CHROMATE

CAS RN: 24613896 NIOSH #: GB 2850000

mf: $Cr_3O_{12}\cdot 2Cr$; mw: 452.00

SYNS:
CHROMIC ACID, CHROMIUM (3+) SALT (3:2)
CHROMIUM CHROMATE

TOXICITY DATA: 3 CODEN:

imp-rat TDLo:112 mg/kg:NEO AIHAAP 20,274,59

Carcinogenic Determination: Animal Positive IARC** 2,100,73. Occupational Exposure to Chromium(VI) recm std: Air: CL 1 ug(Cr(VI))/m3 NTIS**. Reported in EPA TSCA Inventory, 1980.

THR: An exper NEO, CARC. See also chromium compounds. Very powerful oxidizer.

CHROMITE (MINERAL)

CAS RN: 1308312 NIOSH #: GB 4000000

mf: Cr_2FeO_4; mw: 223.85

SYNS:
CHROME ORE
CHROMITE ORE
IRON CHROMITE

TOXICITY DATA: 3 CODEN:

Carcinogenic Determination: Indefinite IARC** 23,-205,80.

THR: See also chromium compounds and iron. An exper ± CARC.

CHROMIUM

CAS RN: 7440473 NIOSH #: GB 4200000

Af: Cr; Aw: 52.0

SYN: CHROME

TOXICITY DATA: CODEN:

ivn-rat TDLo:2160 ug/kg/6W-I TFX:ETA JNCIAM 16,447,55
imp-rat TDLo:1200 ug/kg/6W-I TFX:ETA JNCIAM 16,447,55
imp-rbt TDLo:75 mg/kg:ETA ZEKBAI 52,425,42

Carcinogenic Determination: Animal Suspected IARC** 2,100,73; Animal Indefinite IARC** 23,205,80. TLV-TWA 500 ug/m3 DTLVS* 4,98,80. *Toxicology Review:* 85CVA2 5,63,70; KOTTAM 11(11),1300,75; FOREAE 7,313,42; MIBUBI 9(4),321,75; FCTXAV 9,105,71; PEXTAR 12,102,69; 85DHAX Cr,22,74; BNYMAM 54,413,78; NTIS** Conf-691001. OSHA Standard: Air: TWA 1 mg/m3 (SCP-0) FEREAC 39,23540,74. "NIOSH Manual of Analytical Methods" VOL 1 152,182, VOL 3; S323,352, VOL 5 173#. NIOSH Current Intelligence Bulletin 4, 1975. Reported in EPA TSCA Inventory, 1980. Proposed OSHA Medical Records Rules FEREAC 47,30420,82.

THR: An exper ETA, CARC.

Disaster Hazard: Powder will explode spont in air.

Incomp: Oxidants.

For further information see Vol. 3, No. 3 of *DPIM Report.*

CHROMIUM ACETATE HYDRATE

CAS RN: 628524 NIOSH #: AG 3000000

mf: $C_4H_6CrO_4\cdot H_2O$; mw: 188.12

Red crystals.

SYNS:
1-DODECANETHIOL
M-DODECYL MERCAPTAN
1-DODECYL MERCAPTAN
M-LAURYL MERCAPTAN
1-MERCAPTODODECANE
NCI-C60935

TOXICITY DATA: CODEN:
cyt-rat-ihl 5020 ug/m3/16W BZARAZ 27,102,74

Reported in EPA TSCA Inventory, 1980.
THR: See mercaptans. MUT data.
Fire Hazard: Low.
To Fight Fire: Alcohol foam.
Disaster Hazard: When heated to decomp it emits tox fumes of SO_x.

LAURYLPYRIDINIUM LAURYLXANTHATE

CAS RN: 14917965 NIOSH #: UU 5775000
mf: $C_{17}H_{30}N \cdot C_{13}H_{25}OS_2$; mw: 509.98

TOXICITY DATA: 2 CODEN:
skn-rbt 500 mg/24H MOD 28ZPAK -,174,72
eye-rbt 20 mg/24H SEV 28ZPAK -,174,72
orl-rat LD50:802 mg/kg 28ZPAK -,174,72

THR: MOD orl. A skn, eye irr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

LAURYL SULFATE, SODIUM SALT, CONDENSED WITH 3 MOLES OF ETHYLENE OXIDE

NIOSH #: OF 5725000

SYNS:
SODIUM SALT OF SULFATED BROAD-CUT COCONUT ETHOXY(3EO) ALCOHOL
SODIUM SALT OF SULFATED ETHOXYLATE OF BROAD-CUT LAURYL ALCOHOL

TOXICITY DATA: 2 CODEN:
skn-rbt 10 mg MLD JSCCA5 22,411,71
skn-rbt 230 mg/5W open MLD JSCCA5 22,411,71
skn-gpg 115 mg/5W open MLD JSCCA5 22,411,71

THR: A skn irr.
Disaster Hazard: When heated to decomp it emits tox fumes of SO_x.

LAVANDIN OIL

CAS RN: 8022159 NIOSH #: OF 6097500

Main constituent is Linalool; found in plant Lavanoula Hybrida Reverchon; prepared by steam distillation of the flowering stalks of the plant.

SYN: OIL OF LAVANDIN

TOXICITY DATA: 2 CODEN:
skn-rbt 500 mg/24H MLD FCTXAV 14,443,76

Reported in EPA TSCA Inventory, 1980.
THR: A skn irr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

LAVATAR

NIOSH #: OF 6097840

Coal tar distillates in a shampoo base.

TOXICITY DATA: CODEN:
mma-sat 25 ug/plate TOLED5 3,325,79

THR: MUT data.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

LAVENDER ABSOLUTE

NIOSH #: OF 6100000

Found in the flowers of Lavandula Officinalis chaix. The main constituent is Linalyl Acetate; prepared from alcoholic extract of a residue, which is extracted from plant material using an organic solvent; a dark green liquid.

TOXICITY DATA: 1 CODEN:
skn-rbt 500 mg/24H MLD FCTXAV 14,443,76
orl-rat LD50:4250 mg/kg FCTXAV 14(5),443,76

THR: LOW orl; A skn irr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

LAVENDER OIL

CAS RN: 8000280 NIOSH #: OF 6110000

Main constituent is linalyl acetate. Found in the plant Lavandulaofficinalif choix (Fam. Labiate). Prepared by steam distillation of the flowering stalks of the plant.

SYNS:
LAVENDEL OEL (GERMAN)
OIL OF LAVENDER

TOXICITY DATA: 1 CODEN:
skn-rbt 500 mg/24H MLD FCTXAV 14,443,76
orl-rat LD50:9040 mg/kg PHARAT 14,435,59

Reported in EPA TSCA Inventory, 1980.
THR: LOW orl. A skn irr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

LD-813

CAS RN: 64083052 NIOSH #: OF 6730000

Commercial mixture of aromatic amines containing approx. 40% MOCA

TOXICITY DATA: 3 CODEN:
orl-rat TDLo:37 gm/kg/2Y-C:CARC TXAPA9 31,159,75

THR: An exper CARC. See also aromatic amines.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

LEAD

CAS RN: 7439921 NIOSH #: OF 7525000
mf: Pb; mw: 207.19

Bluish-gray, soft metal. mp: 327.43°, bp: 1740°, d: 11.
@ 20°/4°. vap. press: 1 mm @ 973°.

SYNS:
C.I. 77575
LEAD FLAKE
LEAD S2
OLOW (POLISH)

TOXICITY DATA: 3	CODEN:
orl-rat TDLo:790 mg/kg (MGN)	AEHLAU 23,102,71
orl-rat TDLo:1140 mg/kg (14D pre-21D post)	PHMCAA 20,201,78
orl-mus TDLo:1120 mg/kg (MGN)	AEHLAU 23,102,71
orl-mus TDLo:6300 mg/kg (1-21D preg)	EXPEAM 31,1312,75
orl-mus TDLo:12600 mg/kg (1-21D preg)	EXPEAM 31,1312,75
orl-mus TDLo:4800 mg/kg (1-16D preg)	BECTA6 18,271,77
ivn-ham TDLo:50 mg/kg/(8D preg):TER	EXPEAM 25,56,69
orl-dom TDLo:662 mg/kg (1-21W preg)	TXAPA9 25,466,73
ivn-ham TDLo:50 mg/kg/(8D preg):TER	EXPEAM 25,56,69
orl-wmn TDLo:450 mg/kg/6Y:CNS	JAMAAP 237,2627,77
ipr-rat LDLo:1000 mg/kg	EQSSDX 1,1,75
orl-pgn LDLo:160 mg/kg	HBAMAK 4,1289,35

Carcinogenic Determination: Indefinite IARC** 23, 325,80.

TLV: AIR: 0.15 mg/m3 DTLVS* 4,243,80; *Toxicology Review:* TRBMAV 33(1),85,75; PGMJAO 51(601),783,75; JDSCAE 58(12),1767,75; IRXPAT 12,1,73; CTPHBG 55,147,71; CTOXAO 6(3),377,73; QURBAW 7(1),75,74; RREVAH 54,55,75; JAVMA4 164(3),277,74; AEMBAP 40,239,73; CTOXAO 5(2),151,72; FOREAE 7,313,42; KOTTAM 11(11),1300,75; GEIGAI 20(3),291,73; STEVA8 2(4),341,74; CLCHAU 19,361,73; AJMEAZ 38,409,65; 85DHAX PB,254,72; PDTNBH 6,204,77; AMTODM 3,209,77. OSHA Standard: Air: TWA 200 ug/m3 (SCP-O) FEREAC 39,23540,74. Occupational Exposure to Inorganic Lead recm std: Air: TWA 0.10 mg(Pb)/m3 NTIS**. "NIOSH Manual of Analytical Methods" VOL 1 102,191,195,200,208,214,262, VOL 3 S341. Reported in EPA TSCA Inventory, 1980.

THR: See lead compounds. A hmn CNS. HIGH orl; MOD irr. A common air contaminant. It is a ± CAR of the lungs and kidney and an exper TER.

Fire Hazard: Mod, in the form of dust when exposed to heat or flame. See also powdered metals.

Explosion Hazard: Mod, in the form of dust when exposed to heat or flame.

Incomp: NH_4NO_3, ClF_3, H_2O_2, NaN_3, Na_2C_2, Zr. disodium acetylide; oxidants.

Disaster Hazard: Dangerous; when heated, emits highly tox fumes; can react vigorously with oxidizing materials.

For further information see Vol. 1, No. 1 of *DPIM Report.*

LEAD ACETATE

CAS RN: 301042 NIOSH #: AI 5250000
mf: $C_4H_6O_4 \cdot Pb$; mw: 325.29

Trihydrate, colorless crystals or white granules or powder. Slightly acetic odor; slowly effloresces; d: 2.55; mp: 75° when rapidly heated. Decomp above 200°; very sol in glycerol. Keep well closed.

SYNS:

ACETIC ACID LEAD (2+) SALT	LEAD DIBASIC ACETATE
ACETATE DE PLOMB (FRENCH)	NORMAL LEAD ACETATE
BLEIACETAT (GERMAN)	PLUMBOUS ACETATE
LEAD (2+) ACETATE	SALT OF SATURN
LEAD(II) ACETATE	SUGAR OF LEAD
LEAD DIACETATE	

TOXICITY DATA: 3	CODEN:
dns-rat-ipr 50 ug/kg	PSEBAA 143,446,73
spm-mus-par 1 gm/kg	ARTODN 46,159,80
orl-rat TDLo:7854 mg/kg (6-16D preg)	FCTXAV 13,629,75
orl-rat TDLo:1800 mg/kg (1-22D preg/14D post)	TOLED5 7,373,80
orl-rat TDLo:113 gm/kg (70D pre-21D post)	PBBHAU 8,347,78
orl-mus TDLo:3150 mg/kg (1-21D preg)	CRSBAW 170,1319,76
orl-mus TDLo:4800 mg/kg (1-8D preg)	CRSBAW 172,1037,78
orl-mus TDLo:9 gm/kg (7-21D preg)	CRSBAW 170,1319,76
ipr-mus TDLo:35 mg/kg (8D preg)	BIMDB3 30,223,79
ivn-ham TDLo:50 mg/kg/(8D preg):TER	EXMPA6 7,208,67
ivn-ham TDLo:50 mg/kg (8D preg)	EXPEAM 25,56,69
ipr-pgn LDLo:150 mg/kg	ARTODN 46,265,80
cyt-hmn:lym 1 mmol/L/24H	TXCYAC 10,67,78
cyt-mus-orl 16800 mg/kg/4W	JTEHD6 2,619,77
cyt-mky-orl 5760 mg/kg/64W	MUREAV 45,77,77
ipr-mus TDLo:15 mg/kg/(8D preg):TER	BIMDB3 30,223,79
ivn-ham TDLo:50 mg/kg/(8D preg):TER	EXMPA6 7,208,67
orl-rat TDLo:250 gm/kg/47W-C:ETA	BJCAAI 16,283,62
ipr-rat LDLo:204 mg/kg	JPETAB 38,161,30
ipr-mus LD50:120 mg/kg	COREAF 256,1043,63
orl-dog LDLo:300 mg/kg	HBAMAK 4,1289,35
scu-dog LDLo:80 mg/kg	HBAMAK 4,1289,35
ivn-dog LDLo:300 mg/kg	EQSSDX 1,1,75
scu-cat LDLo:100 mg/kg	HBAMAK 4,1289,35
scu-rbt LDLo:300 mg/kg	HBAMAK 4,1289,35
ivn-rbt LDLo:50 mg/kg	EQSSDX 1,1,75
scu-frg LDLo:1600 mg/kg	HBAMAK 4,1289,35

Carcinogenic Determination: Animal Positive IARC** 23,325,80; Human Suspected IARC** 23,325,80. *Toxicology Review:* ADTEAS 5,51,72; ENVRAL 13,36,77; 85DHAX Pb,256,72. OSHA Standard: Air: TWA 200 ug(Pb)/m3 (SCP-O) FEREAC 29,23540,74. Occupational Exposure to Inorganic Lead recm std: Air: TWA 0.10 mg(Pb)/m3 NTIS**. Reported in EPA TSCA Inventory, 1980.

THR: MUT data. An exper + CARC, TER, ETA. A susp hmn CARC; HIGH ipr, orl, scu, ivn. See also lead compounds. A poison. An insecticide.

Disaster Hazard: When heated to decomp it emits tox fumes of Pb.

Incomp: $KBrO_3$; acids, sol sulfates, citrates, tartrates, chlorides, carbonates, alkalies, tannin phosphates, resorcinol, salicylic acid, phenol, chloral hydrate, sulfites, vegetable infusions, tinctures.

For further information see Vol. 1, No. 4 of *DPIM Report.*

LEAD ACETATE, BASIC

CAS RN: 1335326 NIOSH #: OF 8750000
mf: $C_4H_{10}O_8Pb_3$; mw: 807.71

Disaster Hazard: Dangerous; shock will explode it; when heated, burns and emits acrid fumes; can react on contact with oxidizing materials.

NAPHTHA, COAL TAR

CAS RN: 8030306 NIOSH #: QI 9450000

Dark straw-colored to colorless liquid. Sol in benzene, toluene, xylene, etc. bp: 149°-216°, flash p: 107°F (CC), d: 0.862-0.892, autoign. temp.: 531°F.

SYNS:

BENZIN
160 DEGREE BENZOL
COAL TAR NAPHTHA DISTILLATE
LIGHT LIGROIN
NAFTA (POLISH)
NAPHTHA
NAPHTHA, PETROLEUM
PETROLEUM BENZIN
PETROLEUM NAPHTHA

TOXICITY DATA: 2	CODEN:
ihl-rat LCLo:1600 ppm/6H	CHINAG 17,1078,39

TLV: Air: 300 ppm DTLVS* 4,433,80. OSHA Standard: Air: TWA 100 ppm (SCP-G) FEREAC 39,23540,74. "NIOSH Manual of Analytical Methods" VOL 2 S86. Reported in EPA TSCA Inventory, 1980.

THR: MOD via inhal route. Can cause unconsciousness which may go to coma, stentorious breathing and bluish tint to the skin. Recovery follows removal from exposure. In mild form, intoxication resembles drunkenness. On a chronic basis no true poisoning; sometimes headache, lack of appetite, dizziness, sleeplessness, indigestion and nausea. A common air contaminant. See oils, mineral.

Fire Hazard: Mod, when exposed to heat or flame; can react with oxidizing materials. Keep containers tightly closed.

Explosion Hazard: Slight.

To Fight Fire: Foam, CO_2, dry chemical.

alpha-NAPHTHAL

CAS RN: 66773 NIOSH #: QJ 0175000

TOXICITY DATA: 3	CODEN:
scu-dog LDLo:330 mg/kg	ZMWIAJ 19,545,1881

Reported in EPA TSCA Inventory, 1980.

THR: HIGH scu.

NAPHTHALENE

CAS RN: 91203 NIOSH #: QJ 0525000

mf: $C_{10}H_8$; mw: 128.18

Aromatic odor, white, crystalline, volatile flakes. mp: 80.1°, bp: 217.9°, flash p: 174°F (OC), d: 1.162, lel = 0.9%, uel = 5.9%, vap. press: 1 mm @ 52.6°, vap. d: 4.42. Autoign temp: 1053°F (567°C); sol in alc, benzene. Insol in water; very sol in ether, CCl_4, CS_2 hydronaphthalenes, in fixed and volatile oils.

SYNS:

CAMPHOR TAR
MOTH BALLS
MOTH FLAKES
NAFTALEN (POLISH)
NAPHTHALINE
NAPHTHENE
NCI-C52904
TAR CAMPHOR
WHITE TAR

TOXICITY DATA: 3	CODEN:
ipr-rat TDLo:5925 mg/kg (1-15D preg)	TXAPA9 48,A35,79
skn-rbt 495 mg open MLD	UCDS** 1/11/68
eye-rbt 100 mg MLD	BIOFX* 16-4/70
scu-rat TDLo:3500 mg/kg/12W-I:ETA	APAVAY 329,141,56
orl-chd LDLo:100 mg/kg	28ZRAQ -,228,60
unk-man LDLo:74 mg/kg	85DCAI 2,73,70
orl-rat LD50:1780 mg/kg	BIOFX* 16-4/70
ipr-mus LD50:150 mg/kg	NTIS** AD691-490
scu-mus LD50:969 mg/kg	TOIZAG 20(5/6),772,73
ivn-mus LD50:100 mg/kg	CSLNX* NX#00203
orl-dog LDLo:400 mg/kg	HBAMAK 4,1289,35
orl-cat LDLo:1000 mg/kg	HBAMAK 4,1289,35
orl-rbt LDLo:3 gm/kg	HBAMAK 4,1289,35
orl-mam LD50:1000 mg/kg	FMCHA2 -,D213,80

Aquatic Toxicity Rating: TLm96:10-1 ppm WQCHM* 3,-,74. *TLV:* Air: 10 ppm DTLVS* 4,293,80. *Toxicology Review:* 38ZNAA 1(1),93,71; JOPDAB 59,1,61; 27ZTAP 3,30,69. OSHA Standard: Air: TWA 10 ppm (SCP-T) FEREAC 39,23540,74. DOT-ORM-A, Label: None FEREAC 41,57018,76. Currently Tested by NTR for Carcinogenesis by Standard Bioassay Protocol as of Sept 1980. "NIOSH Manual of Analytical Methods" VOL 3 S292. Reported in EPA TSCA Inventory, 1980.

THR: MOD orl and HIGH ipr, ivn. An exper ETA. May be used as an insecticide. Systemic reactions include nausea, headache, diaphoresis, hematuria, fever, anemia, liver damage, vomiting, convulsions and coma. Poisoning may occur by ing of large doses, inhal or skn absorption.

Fire Hazard: Mod, when exposed to heat or flame; reacts with oxidizing materials. Reacts violently with CrO_3.

Spontaneous Heating: No.

Explosion Hazard: Mod, in the form of dust, when exposed to heat or flame.

To Fight Fire: Water, CO_2, dry chemical.

Incomp: Dinitrogen pentaoxide.

1-NAPHTHALENEACETAMIDE

CAS RN: 86862 NIOSH #: QJ 0590000

mf: $C_{12}H_{11}NO$; mw: 185.24

SYNS:

NAPHTHALENE ACETAMIDE
ALPHA-NAPHTHALENEACETAMIDE
ALPHA-NAPHTHYLACETAMIDE
1-NAPHTHYLACETAMIDE

TOXICITY DATA: 2	CODEN:
orl-mam LD50:1000 mg/kg	FMCHA2 -,D143,75

Reported in EPA TSCA Inventory, 1980.

THR: MOD orl.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

1-NAPTHTALENEACETIC ACID

CAS RN: 86873 NIOSH #: QJ 0875000

mf: $C_{12}H_{10}O_2$; mw: 186.22

SYNS:
ISOAMYL PHENYLAMINOACETATE HYDROCHLORIDE
ISOPENTYL-2-PHENYLGLYCINATE HYDROCHLORIDE
3-METHYLBUTYL ALPHA-AMINOBENZENEACETATE HYDROCHLORIDE (±)-
PHENYLAMINOACETIC ACID ISOAMYL ESTER HYDROCHLORIDE
d,l-2-PHENYLGLYCINISOAMYLESTERHYDROCHLORID (GERMAN)

TOXICITY DATA: 3-2 CODEN:
orl-mus LD50:2600 mg/kg PHARAT 33,749,78
ipr-mus LD50:415 mg/kg PHARAT 30,765,75
ivn-mus LD50:77 mg/kg PHARAT 33,749,78

THR: HIGH ipr, ivn; MOD orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of Cl^- and NO_x.

PHENANTHRA-ACENAPHTHENE

CAS RN: 7258915 NIOSH #: QI 9400000
mf: $C_{24}H_{16}$; mw: 304.40

SYN: 4,5-DIHYDRO-NAPHTHA(1,2-K)ACEPHENANTHRYLENE

TOXICITY DATA: 3 CODEN:
skn-mus TDLo:1250 mg/kg/52W-I:ETA PRLBA4 117,318,35

THR: An exper ETA via skn in mus.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

PHENANTHRENE

CAS RN: 85018 NIOSH #: SF 7175000
mf: $C_{14}H_{10}$; mw: 178.24

Solid or monoclinic crystals. mp: 100°, bp: 339°, d: 1.179 @ 25°, vap. press: 1 mm @ 118.3°, vap. d: 6.14. Insol in water; sol in CS_2 benzene, hot alcohol; very sol in ether.

SYN: PHENANTHREN (GERMAN)

TOXICITY DATA: 3 CODEN:
dnd-sal:spr 3 gm/L BIPMAA 5,477,67
dnd-sal:tes 5 ug/1H-C BIJOAK 110,159,68
dnd-ham:kdy 5 mg/L BCPCA6 20,1297,71
mma-sat 100 ug/plate APSXAS 17,189,80
dnd-ham:fbr 5 mg/L/24H BCPCA6 20,1297,71
cyt-ham:lng 40 mg/L/27H MUREAV 66,277,79
sce-ham-ipr 900 mg/kg/24H MUREAV 66,65,79
sce-ham:fbr 10 umol/L JNCIAM 58,1635,77
skn-mus TDLo:71 mg/kg:NEO JNCIAM 50,1717,73
skn-mus TD:22 gm/kg/10W-I:ETA BJCAAI 10,363,56
orl-mus LD50:700 mg/kg HYSAAV 29,19,64
ivn-mus LD50:56 mg/kg CSLNX* NX#00190

"NIOSH Manual of Analytical Methods" VOL 1 206. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: MUT data. An exper NEO, ETA. HIGH ivn. MOD orl. A hmn skn photosensitizer. A slight fire hazard.
To Fight Fire: water, foam, CO_2, dry chemical.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

PHENANTHRENE-3,4-DIHYDRODIOL

NIOSH #: SF 7353100
mf: $C_{14}H_{12}O_2$; mw: 212.26

SYNS:
3,4-DIHYDROMORPHOL
3,4-DIHYDRO-3,4-PHENANTHRENEDIOL

TOXICITY DATA: 3 CODEN:
skn-mus TDLo:85 mg/kg:ETA CNREA8 39,4069,79

THR: An exper ETA.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

PHENANTHRENE EPOXIDE

NIOSH #: SF 7704500
mf: $C_{14}H_8O$; mw: 192.22

TOXICITY DATA: CODEN:
otr-ham:emb 5 mg/L CNREA8 32,1391,72

THR: MUT data.

9,10-PHENANTHRENE OXIDE

CAS RN: 585080 NIOSH #: SF 7352000
mf: $C_{14}H_{10}O$; mw: 194.24

Colorless needles; mp: 152°-153°; very slightly sol in water; very sol in alc, ether.

SYNS:
9,10-EPOXY-9,10-DIHYDROPHENANTHRENE
PHENANTHRENE-9,10-EPOXIDE
1A,9B-DIHYDROPHENANTHRO-(9,10-B)OXIRENE,(9CI)

TOXICITY DATA: 3 CODEN:
mma-sat 100 ug/plate MUREAV 66,337,79
skn-mus TDLo:40 mg/kg:ETA JNCIAM 39,1217,67

THR: MUT data. An exper ETA.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

PHENANTHRENEQUINONE

CAS RN: 84117 NIOSH #: SF 7875000
mf: $C_{14}H_8O_2$; mw: 208.22

Orange needles; d: 1.405 @ 4°; mp: 206.5°-207.5°; bp: > 300° subl; very slightly sol in water; sol in hot alc, benzene; slightly sol in ether.

SYNS:
9,10-PHENANTHRAQUINONE
9,10-PHENANTHRENEDIONE
9,10-PHENANTHRENEQUINONE

TOXICITY DATA: 3 CODEN:
skn-mus TDLo:800 mg/kg/29W-C:ETA PIATA8 16,309,40
ipr-mus LDLo:165 mg/kg HBTXAC 5,110,59

Reported in EPA TSCA Inventory, 1980.
THR: An exper ETA. HIGH acute ipr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

Ref. 19

RECORD OF COMMUNICATION	(Record of Item Checked Below) _X_ Phone Call ___ Discussion ___ Field Trip ___ Conference ___ Other(Specify)	
TO: Patricia Herrera, Region VI TAT Houston, Texas (713)771-9460	From: Jairo Guevara, FIT Chemical Engineer Region VI	Date: 2/13/89 Time: 11:00 am

SUBJECT: Additional Information on Jensen Drive Drum Site

SUMMARY OF COMMUNICATION

Ms. Herrera stated that during the remedial action about 180 drums with liquids or solids were segregated into different compatible categories, sampled, overpacked and moved to the site warehouse. A total of 80 samples from drums were collected. The samples are being analyzed for volatile and BNA organics, metals and cyanides. There were about 250 drums empty. The quantity of wastes was estimated by Ms. Herrera as 180 drums filled to 75% capacity. A stolen car operation was carried out at the site until the police closed it and a person was living at the site before the TAT inspection of August, 1988. May Cooperage, Inc. was operated on the 3116 Jensen Drive site since 1985.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

RECORD OF COMMUNICATION	(Record of Item Checked Below) ___Phone Call _x_Discussion ___Field Trip ___Conference ___Other(Specify)	
To: (b) (6) [redacted] Site Neighbor (b) (6) [redacted]	From: Jairo Guevara FIT Chemical Engineer	Date: 9/14/89 Time: 10:00 am

SUBJECT: Information on Jensen Drive Drum Site

SUMMARY OF COMMUNICATION

(b) (6) [redacted] stated that a mattress company used to be located on the site until it caught fire in 1974. Before the mattress company, a heavy machinery business was operated on-site.

(b) (6) [redacted] also stated that the site was completely clear after the EPA cleanup action. She specifically said that all the usable and abandoned vehicles were removed from the site.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

REF 21

ecology and environment, inc.
6440 HILLCROFT AVENUE, HOUSTON, TEXAS 77081, TEL. 713/771-9460
International Specialists in the Environment

CERCLIS #: TXD987966900

DRAFT

AFTER ACTION REPORT

FOR

REMOVAL FUNDED ACTION
JENSEN DRIVE DRUM SITE
Houston, Harris County, Texas
Site ID #: K9

Prepared for

EPA - Region VI
Emergency Response Branch

J. Chris Petersen
Deputy Project Officer

By

Ecology and Environment, Inc.
Technical Assistance Team

June 14, 1989

recycled paper

ecology and environment, inc.
6440 HILLCROFT AVENUE, HOUSTON, TEXAS 77081, TEL. 713/771-9460
International Specialists in the Environment

CERCLIS#: TXD987966900

DATE: June 14, 1989

TO: Gary Guerra, OSC
EPA Region VI, Emergency Response Branch

THRU: J. Chris Petersen, DPO
EPA Region VI, Emergency Response Branch

THRU: Kishor Fruitwala, TATL
Region 6, Technical Assistance Team

FROM: Patricia Herrera
Region 6, Technical Assistance Team

SUBJECT: Draft After Action Report for Jensen Drive Drum Site
Houston, Harris County, Texas

TDD #: T06-8812-07
PAN #: TTX0829RFA
SSID#: K9

Attached is a copy of the draft After Action Report for the Jensen Drive Drum site.

List of Attachments:

Copy of TDD #: T06-8812-07 and amendment
Draft After Action Report

recycled paper

AFTER ACTION REPORT

JENSEN DRIVE DRUM SITE
Harris County, Houston, Texas

Site ID# K9

December 13-30, 1988

March 21 - April 21, 1989

I. SUMMARY OF EVENTS

A. Cause of the Incident:

The contamination at the Jensen Drive Drum site resulted from the poor drum handling practices of the May Cooperage Drum Reclamation Company. Approximately 400 drums were abandoned on site, 90 of which were stored inside a warehouse. Several of the drums in the warehouse were bulging. The drums on site that had been left exposed were deteriorated and leaking. Drums containing incompatible materials were stored next to each other, contributing to their subsequent deterioration. Drums were stored with open tops or without bungs. Because of the lax drum management of the drum reclamation company, a large area of soil at the east side of the site had become significantly contaminated. The May Cooperage Company ceased operations at the site during 1987.

B. Initial Situation:

The Jensen Drive Drum site is located at 3116 Jensen Drive in the city of Houston, Harris County, Texas. The area is a light industry and residential area. The site occupies a rectangular lot measuring approximately 400 ft. by 150 ft. There is a warehouse in the center of the site. Over 400 drums of unknown content were present on site in the warehouse and outside on the north and east sides of the site, primarily on the east side.

Historical accounts on this site are limited. However, the site was known to

be the location of the May Cooperage Drum Reclamation Co. owned by Fred Winston. A complaint by an anonymous caller prompted the Texas Water Commission (TWC) and the City of Houston to file complaints against Mr. Winston. Mr. Winston moved his operation to 3116 Jensen Drive from 1705 Davis Street, another site which is currently under EPA evaluation.

Current Harris County deed records indicate the property is owned by LEAS-IT, Inc. of Harris County, Texas. During a site assessment at the nearby Davis Street site, Mr. Winston informed EPA that a Mr. J. D. Gray owned the property. Mr. Gray is a representative for LEAS-IT, Inc.

In August 1988, a site assessment was conducted by Region VI ERB. The analysis of samples taken at that time verified the contamination and potential threat.

C. Efforts To Obtain Response by Responsible Parties:

There are 14 Potentially Responsible Parties (PRPs) currently identified as being involved at the site. Eleven of these are apparently generators, as their names appear on the drums found at the site.

Due to the fire and explosion threat posed at the site, verbal demands were issued. All currently known PRPs were contacted by telephone and extended the opportunity to participate in the cleanup. They were asked to provide notice by telephone to the On Scene Coordinator by 1600 hours on December 13, 1988 if they intended to participate. A follow-up letter was mailed to each PRP to confirm the telephone conversation. Should additional PRP names be revealed as the cleanup action progresses, they will be notified as PRPs.

The May Cooperage Company which operated at this site is no longer in business at this location. They were not listed with the Texas Secretary of State as a corporation. They no longer have a working telephone, nor do they appear in the local telephone directory. Mr. Fred Winston was the operator of the May Cooperage Company. He is now apparently operating another business, Worlds Finest Detergent. The property owner is Mr. R.D. Gray and/or R.J. Gray according to state records.

D. Organization of Response:

The Emergency Response Branch (ERB) was involved in two separate actions at the Jensen Drive Drum site, 3116 Jensen Drive, Houston, Harris County, Texas. The first action memorandum, signed December 12, 1988, was for an emergency stabilization action. The second action memorandum, signed March 15, 1989, was for a removal action.

ERB was requested to sample approximately two hundred drums, conduct hazard categorization of the drum contents to aid in their temporary segregation and the future staging and securing of the drums in the building before their final transportation to disposal, and to build a fence in order to prevent further uncontrolled access and vandalism on site in accordance with the Action Memorandum signed December 12, 1989. The ERB was requested to excavate and dispose of the contaminated soil and dispose of the empty drums and the drummed material in accordance with the Action Memorandum signed on March 15, 1989.

E. Resources Committed:

On December 12, 1989, the Regional Administrator authorized $300,000 for the Emergency Response Cleanup Services Contractor (ERCS) and $489,200 for the entire project. The Technical Assistance Team (TAT) was authorized $32,000.

On March 15, 1989, the Regional Administrator authorized an additional $111,000 for the ERCS and $153,000 for the entire project. The TAT was authorized an additional $32,000 for a total of $64,000. The amount of funds procured through the Delivery Order for the ERCS fund was actually $250,000. The final TAT cost was $37,353.25 or 58% of the projected cost. ERCS final cost was ___ or ___% of the Delivery Order Ceiling.

F. The Location of the Hazardous Substance:

Approximately 400 drums were present on site. The majority of the drums were stored outside on the north and east sides of the site. Many of the drums were empty with a small number containing less than one inch of liquid in the bottom. The warehouse contained 91 drums, 20 fiberboard barrels, 10 compressed gas cylinders and a 500 gallon polypropylene vat that was about half full. The drums were in varying stages of deterioration and some are bulging. There were extensive areas of contaminated soil on the east side of the site where leaking drums had been stored.

During the August 1988 site assessment, TAT personnel collected samples including two soils, six drums and the 500 gallon vat. CERCLA designated hazardous substances were identified in all samples. There were a number of inorganic compounds on site which can be considered toxic. Numerous organic compounds listed as hazardous substances in 40 CFR 302.4 were found. A number

of compounds considered carcinogenic were found.

G. Comments On the Effects On Natural Resources:

The OSC is not qualified to provide comment on the potential or actual effects that this site has on natural resources.

H. Efforts To Replace Or Restore Damaged Natural Resources:

ERB took no efforts to replace or restore any damaged natural resources.

I. Threat Abatement Action:

On December 13, 1989, the emergency stabilization action was initiated when the OSC, TAT and ERCS met at the site to reconfirm the scope of work and team responsibilities.

The OSC determined that a perimeter fence was necessary on site to reduce the potential for direct contact with site contaminants. A field fence as well as two strands of barbed wire was erected around the site perimeter. A ten-foot gate was put in place to secure the single entry access point. The crew combed the site to locate all the drums. Each drum was examined for content. The empty drums were staged in a separate area. Drums with less than 1 inch of material were separated. Later, field hazard categorization was performed and the compatible wastes were bulked for disposal. The OSC directed ERCS to overpack all the drums containing material due to the poor condition of the drums. The 176 drums containing material were sampled and overpacked in a Level "B" operation. TAT provided air monitoring during the operation.

Hazard categorization was performed on the drum samples, compatible drum samples were composited and the composite samples sent to the laboratory for complete analysis. The drums were staged inside the warehouse by hazard class, incompatible wastes were segregated.

A total of twelve warning signs were placed in areas of high visibility. The signs were mounted directly on the fence and the warehouse. The warehouse and the gate were secured with key locks.

On March 27, 1989, the removal action was initiated. The empty drums were prepared for future disposal. They were later transported to the disposal facility with the excavated soil. The fiberboard drums were cut into sections and the metal drums were crushed. The pre-excavation soil sampling was completed on March 9, 1989. A total of 123 tons of soil were excavated from the east side of the site down to the underlying clay layer. After the post excavation sampling was completed, 190 yards of fill dirt were used to level the area.

Hazardous waste profiles were completed upon receipt of the laboratory analysis of the drum sample composites. The contract for disposal of the drums and the soil/empty drums was approved. Personnel onsite demobilized on April 11, 1989. On April 21, 1989, the ERB remobilized to load the drums for transportation to the disposal site. The drums entered the disposal site on April 24, 1989. Final demobilization was completed on April 21, 1989.

J. Public Information:

On December 13, 1989, the TAT prepared a public notice of federal action. The

notices were posted in local businesses and distributed to the residences in the adjoining area.

II. EFFECTIVENESS OF REMOVAL

A. Actions Taken By the Responsible Party:

No actions were taken by the responsible parties.

B. Actions Taken By State and Local Forces:

The TWC and the City of Houston filed complaints against Mr. Winston about his operation of the May Cooperage Company. The TWC requested the EPA investigate the site for imminent and substantial endangerment to the public. The site does not meet requirements for a state funded removal because it does not appear to impact waters of the State of Texas.

C. Actions Taken By Federal Agencies:

The ERB was the only federal agency active in the clean-up activities at Jensen Drive Drum site. Two separate actions were completed at the site. The first was an emergency stabilization, the action memorandum is dated December 12, 1988. The second was a removal action, action memorandum dated March 15, 1989. The two actions are discussed separately below.

The work conducted met the objectives of the project as specified in the December 12, 1988, Action Memorandum. The fence reduces the potential for direct contact with site contaminants. The threat posed by the leaking and

deteriorating drums was stabilized. The drums were sampled and hazard class analysis was performed. The stability of the situation was enhanced by the overpacking of the drums and the staging of the drums by hazard class for storage in the locked warehouse on site. The placement of warning signs along the newly secured fence should prevent unwanted site entry. The signs will also educated the public about the existence of hazardous materials onsite that they previously might not have known about.

The work conducted met the objectives of the project as specified in the March 14, 1989 Action Memorandum. The areas and extent of contamination were determined. The excavation and disposal of the soil and empty drums was done in a time effective manner with minimal manpower and materials cost. The disposal of the drummed waste was managed in a cost and time effective manner. Careful planning of the transportation of the waste to the disposal facility took into consideration space availability; thus insuring no additional cost was incurred from storage of the drums. Loading of the drums was completed with minimal manpower and insured no additional cost from the storage of the drums was incurred. At the completion of the two federal actions all of the drums, drummed waste and contaminates soil on the site had been disposed of in an effective and cost efficient manner.

III. PROBLEMS ENCOUNTERED

IV. RECOMMENDATIONS

REFERENCE 22

ECOLOGY AND ENVIRONMENT, INC.

DALLAS, TEXAS

MEMORANDUM

To: Ed Sierra, Region VI RPO

Thru: K. H. Malone, Jr., FITOM

From: Jairo Guevara, FIT Chemical Engineer

Date: March 14, 1989

Subj: Preliminary Assessment for Jensen Drive Drum Site
Houston, Harris County, TX (TXD987966900)
TDD #F06-8901-333
PAN FTX0829PAA

1. Site Information

The Jensen Drive Drum site is located at 3116 Jensen Drive Northeast, Houston, Texas 77026 (Reference 1, pages 3 and 32). The geographic coordinates are Latitude 29°47'25"N and Longitude 95°20'29"W (Reference 2 and Figure 1). The property is under the name of Leas-It, Inc., which is owned by Ronald J. Gray of Lufkin, Texas (b) (6) [redacted] work phone 409/829-2282). The site is 1.465 acres, approximately 400 feet by 150 feet, and is located in a light industrial and residential area (Reference 2 and Figure 2). Apparently Mr. Gray has leased his land to Mr. Fred Winston, (b) (6) [redacted] (b) (6) [redacted], who was operating a company on the property which is known as May Cooperage, Inc., and also named in some reports as May Cooperidge Drum Reclaiming Company. More than 400 drums were present at the site during the August, 1988 TAT sampling inspection. A small warehouse facility with an office was located at the center of the site. Several vehicles from a neighboring business, Winkman and Doggett Auto Parts (Reference 1, pages 3a and 18), were located on-site.

The site is completely surrounded by a five foot chainlink, locked fence. The side facing Jensen Drive has a gate three feet high and ten feet wide (Reference 1, page 3).

The site vegetation consists of grass and weeds. Stressed vegetation was seen in various areas. Two large areas of discolored soil were sampled by the TAT and found to be contaminated. The areas were located

on the northeast corner of the site next to the fence and on the southeast corner near the fence (Reference 1, pages 3, 4, 15, 23 and 24 and Figure 3).

The FIT was tasked by the EPA to conduct a preliminary assessment on this site to determine whether any imminent environmental hazards exist off and on-site, and to define the seriousness of the problem through the multiple migration routes.

2. Background/Operating History

The site was bought by Leas-It, Inc. from the Texas Bank and Trust Company of Houston on April 28, 1982 (Reference 3). May Cooperage, Inc. has operated at the site location since 1985 or 1986 (Reference 4). The company was moved to the Jensen Drive site from its former location at 1705 Davis Street after the Texas Water Commission and the City of Houston filed complaints against the Davis Street site operation. No information about the history or past operations of the site was available.

Liquid contents were found in 210 of the more than 400 drums during the TAT inspection of August, 1988 (Reference 4). At this point, it is not known if the drums found empty at the site during this inspection were empty when they were brought there (Reference 1). The drums were numbered and their labels were recorded. The drums observed on-site during the inspection were in various stages of deterioration. Several drums were overturned and some were bulging. Incompatible wastes were placed adjacently. The pH values measured in some drums varied from 0 to 13. The site warehouse contained 91 steel drums, 20 fiberboard drums, 10 compressed gas cylinders and a 500-gallon polypropylene vat (half full). A locked office in the warehouse contained ten 5-gallon cans (Reference 1, pages 3, 49-53).

During the TAT inspection, nine samples (six from drums, one from the plastic vat and two from the large contaminated soil areas) were collected and analyzed for metals and base/neutral/acid (BNA) organics. The analyses revealed the presence of several metals and organics: antimony, chromium, cobalt, copper, iron, lead, potassium, sodium, polynuclear aromatics, 2,4-dimethyl phenol, phthalates, benzoic acid and several unknown hydrocarbons (Reference 1, pages 4, 7-10, 15-17 and 60-98). The site was recently resampled in a more comprehensive way as part of an EPA emergency remedial action. The laboratory results of these analyses have not been received (Reference 4).

3. Waste Containment/Hazardous Substance Identification

The hazardous waste constituents found on-site were listed in the previous section. Their quantities are unknown. The companies from which the wastes originated, according to the on-site drum labels, are partially included in Reference 1, pages 49-53. The total quantity of waste was estimated at 180 full drums at 75% capacity, 37.5 gallons/drum or 6,750 gallons (Reference 19).

4. Pathway Characteristics

a. Air Characteristics

During the TAT inspection, HNu readings above background were observed inside the site warehouse (15 to 115 ppm) and on-site outdoors (3-5 ppm)(Reference 1, page 4). These values could be duplicated and specified to serve as an HRS documented evidence by conducting a complete air survey.

b. Ground Water Characteristics

The important aquifers in the area are the Chicot and the Evangeline. The Chicot aquifer is approximately 1,000 feet thick and tops the Evangeline aquifer. The Chicot consists of interbedded sands, silts and clays of Pleistocene age. It is comprised of the Willis sand, the Bentley and Montgomery formations, and the Beaumont clay. The Evangeline aquifer is the most significant source of drinking water in the Houston area. It is approximately 2,000 feet thick in this area and extends from the Chicot aquifer base to the underlying Burkeville confining layer. The Evangeline is formed by the Goliad sand of Pliocene age and the Fleming formation of Miocene age. It is characterized by layers of sand and gravel with interbedded clay and silt layers (Reference 5; Reference 6).

No private wells in the area were located. Five city wells within three miles of the site are used in northeast Houston as a source of drinking water supply (Figure 4). These city wells draw water from the Evangeline aquifer and are screened at depths of approximately 600 to 625 feet. The 1969-1971 water table levels of these wells was between 332 to 367 feet (Reference 7).

A net precipitation of -6 inches per year has been estimated (Reference 8).

c. Surface Water Characteristics

The runoff from the site has two routes. One is to the northeast to Hunting Bayou (0.95 miles from the site) through the city of Houston drainage system. The second one is south to Buffalo Bayou, approximately two miles from the site. Hunting Bayou flows east and then south to discharge into the Houston Ship Channel. Buffalo Bayou flows east and becomes the Houston Ship Channel. The 15-mile downstream water bodies within the area of concern include Hunting Bayou, Buffalo Bayou and the Houston Ship Channel (Reference 2). Surface water along these 15 miles is used for limited recreation (canoeing) and industrial water supply for cooling water. These streams do not provide drinking water or irrigation supplies (Reference 9; Reference 10).

The site is located in a flat area approximately 50 feet above sea level. It does not receive drainage from other areas (Reference 2).

The 2-year, 24-hour rainfall at the site area is five inches (Reference 11). The site is not located in a flood plain and the potential for flooding is minimal (Reference 12).

d. On-Site Pathway Characteristics

Spillage and migration from the site are present in different areas. Two large areas of contamination were located at the northeast and southeast corners of the site. As mentioned in the section on surface water characteristics, drainage from the site can go south to the Buffalo Bayou or northeast to the Hunting Bayou. No liners or runoff diversion systems exist at the site.

Although the site was secured and locked at the end of 1988, it was used by nearby businesses. The presence of vehicles on the site suggest that widespread contamination could exist. In addition, a stripping operation of stolen cars was carried out at the site and a person lived on-site at one time (Reference 1, page 3; Reference 19).

5. Targets

Houston water supply in the northeast area is served by a combination of ground water and surface water. As mentioned in the section on ground water, five city water supply wells are located within 3 miles of the site. Domestic surface water comes from Lakes Houston (17 miles north of downtown Houston), Conroe and Livingston (Reference 13; Reference 14). The population within four miles of the site served by the municipal water supply was estimated at 237,469 (Reference 15).

The site is located in the middle of the city with adjacent residential and industrial areas (Reference 1, pages 3-12 and 13). No environmentally sensitive areas exist within four miles of the site or within 15 miles downstream of the site (Reference 16).

6. Other Regulatory Involvement

As mentioned in the section on background/operating history, an emergency EPA remedial clean up operation is in progress at the site. Sampling by the TAT has been accomplished and the drums have been moved inside the site warehouse, pending receipt of the analytical results (Reference 4). Drums and contaminated soil will be removed from the site and disposed at appropriate facilities.

7. Conclusions and Recommendations

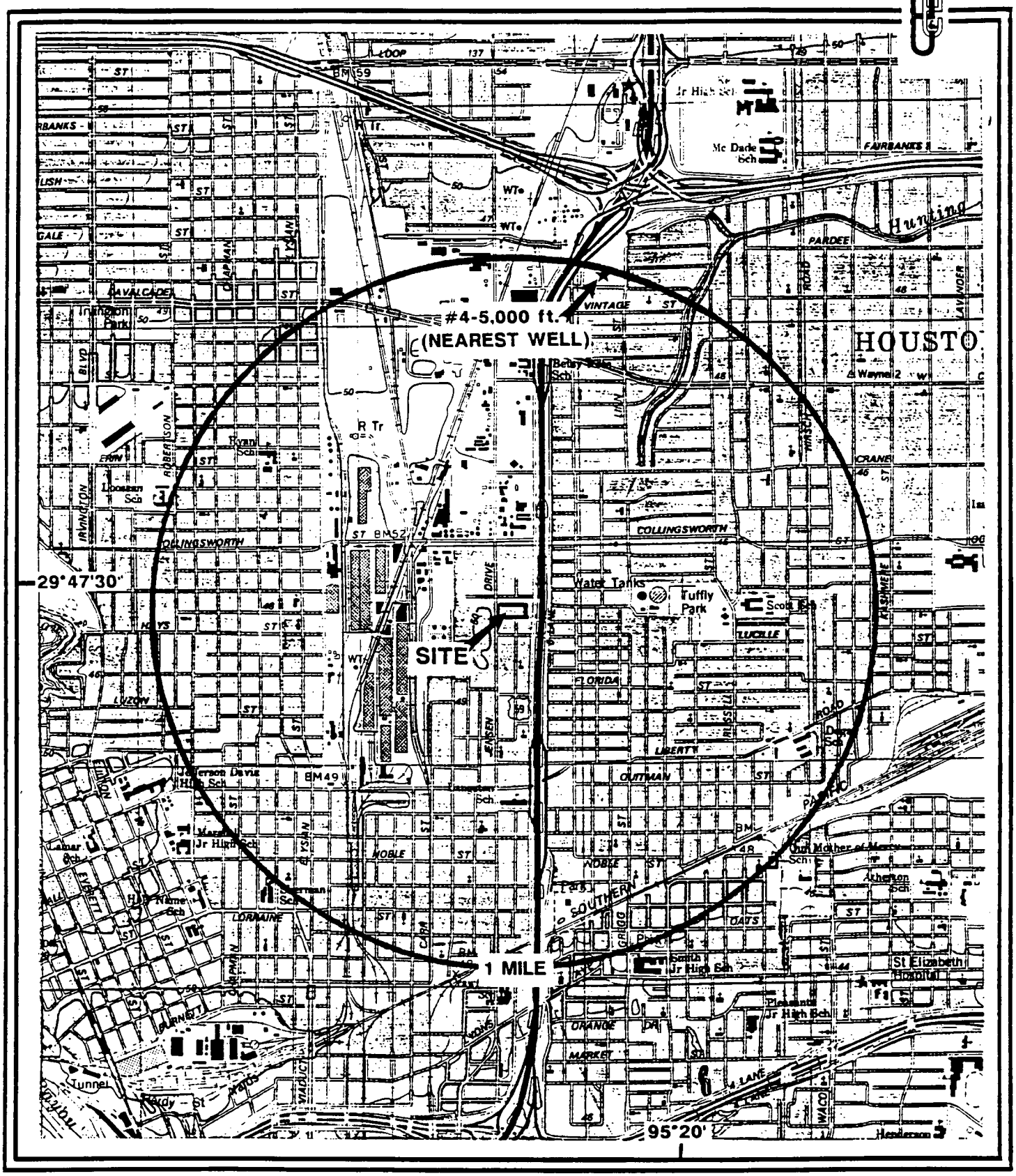
The site apparently received all kinds of wastes in drums. Incompatible wastes were being stored indiscriminately, creating potential reactions and hazardous releases. From the description of the August, 1988 TAT report, operations at the site had been abandoned. Drums were in disarray and had deteriorated. Two large areas of contaminated soil and stressed vegetation in several locations were observed on-site.

During the TAT inspection, heavy metals and BNA organics were identified from drums and soil samples. Several vehicles were found on the site, including some from a neighboring auto parts business. The number of vehicles and people using the site are unknown.

A release of hazardous compounds to the atmosphere should be investigated. Quantitative readings of unidentified compounds (3 to 115 ppm) were recorded with a photoionizer instrument (HNu) by the TAT during the reconnaissance and sampling inspections in August, 1988. The readings were taken to provide general information about the site.

The site is presently undergoing EPA emergency remedial actions. A sample inspection by TAT has been conducted. The drums with wastes have been repacked and moved into a site warehouse. Removal of the drums and the soil is pending the receipt of analytical results from the contracted laboratories. A final report of the EPA remedial action of the site will be prepared when this operation is completed.

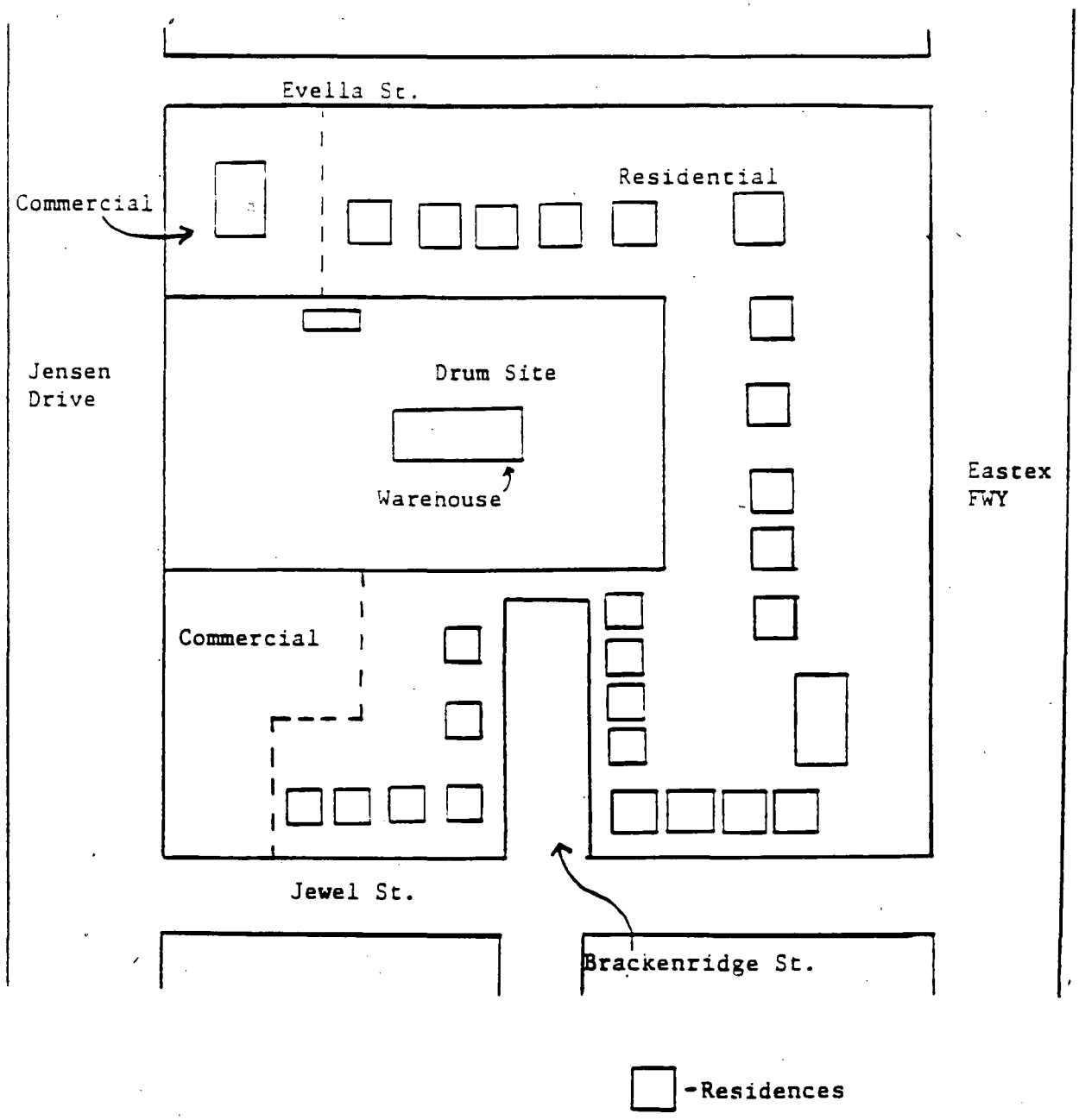
JG/amw



N

0 2000 ft.

FIGURE 1
SITE LOCATION MAP
JENSEN DRIVE DRUM SITE
HOUSTON, TEXAS
TXD987966900



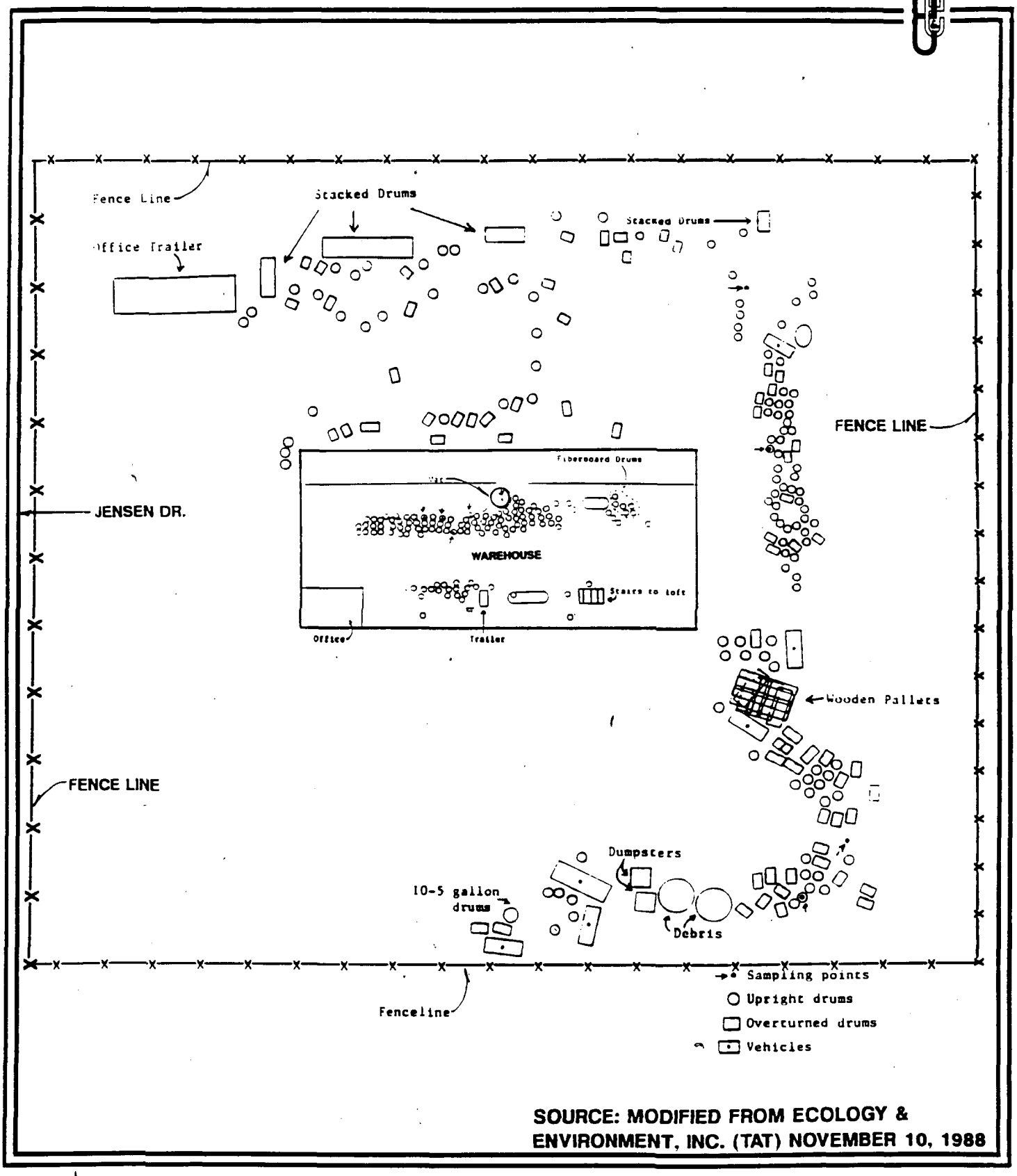
Sketch of location
of Jensen Drive
drum site showing
proximity to residences

SOURCE: ECOLOGY & ENVIRONMENT, INC. (TAT) NOVEMBER 10, 1988

N

NOT TO SCALE

FIGURE 2
SITE AREA SKETCH
JENSEN DRIVE DRUM SITE
HOUSTON, TEXAS
TXD987966900

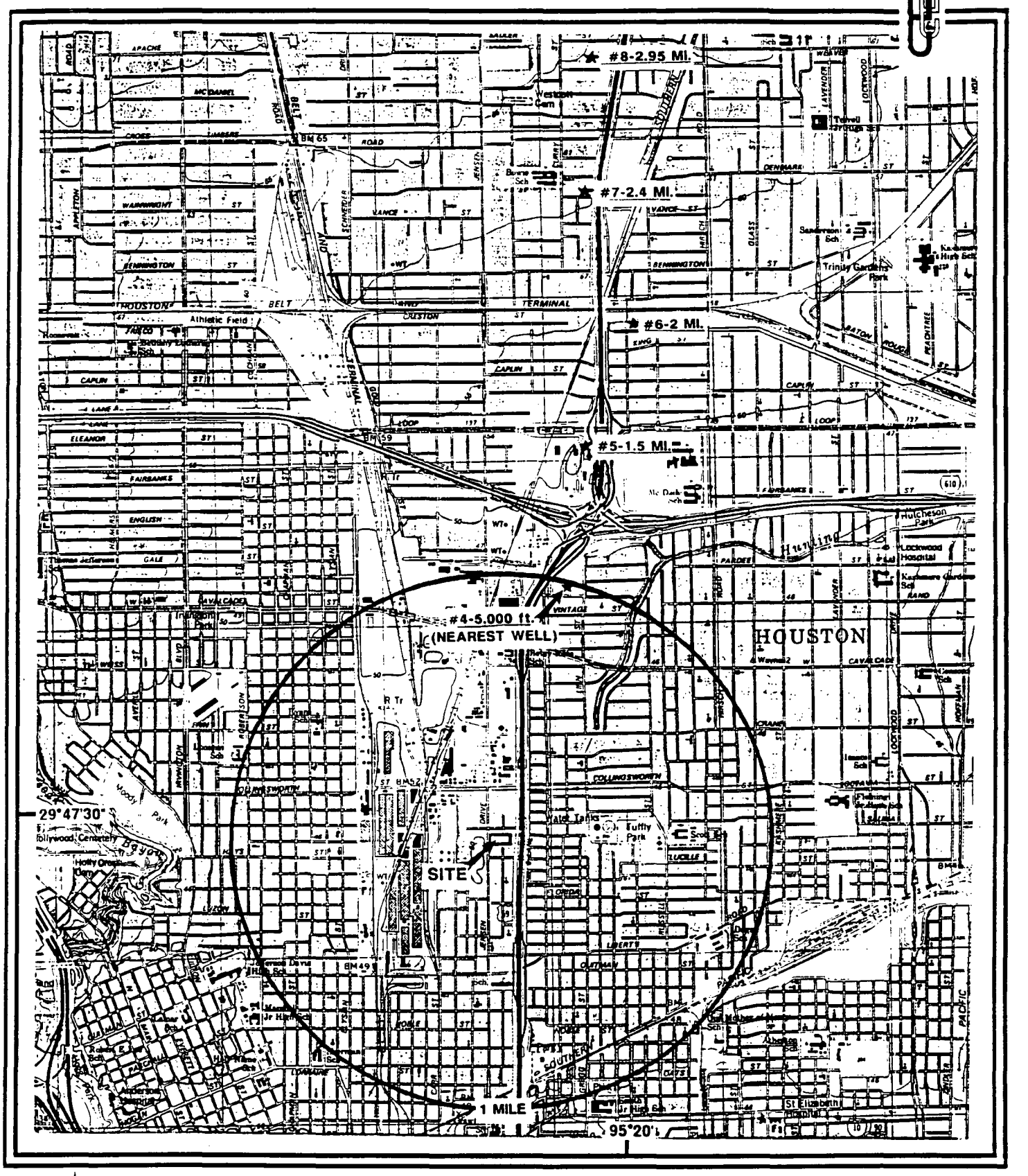


SOURCE: MODIFIED FROM ECOLOGY & ENVIRONMENT, INC. (TAT) NOVEMBER 10, 1988

N

NOT TO SCALE

FIGURE 3
SITE SKETCH
JENSEN DRIVE DRUM SITE
HOUSTON, TEXAS
TXD987966900



0 N 2668 ft.

FIGURE 4
CITY OF HOUSTON NORTHEAST WELLS
JENSEN DRIVE DRUM SITE
HOUSTON, TEXAS
TXD987966900

Preliminary Assessment References
for
Jensen Drive Drum Site
Houston, Harris County, TX (TXD987966900)
TDD #F06-8901-33

Reference Number	Description of the Reference
01	Site Assessment Report for Jensen Drive Drum Site in Houston, Harris County, Texas. Prepared by Patricia Herrera, TAT. EPA Region VI. November 10, 1988.
02	U.S.G.S. 7.5 Minute Series Topographic Maps. Settegast, Texas. 1982. Houston Heights, Texas. 1982. Park Place, Texas. 1982. Pasadena, Texas. 1982.
03	Property Deed on Sale of 3116 Jensen Drive Tract from the Texas Bank and Trust Company of Houston to Leas-It, Inc. of Harris County, Texas. May 3, 1982.
04	Record of Communication. To: Pat Hammack, Emergency Response Group OSC. From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Additional Information for Jensen Drive Drum Site. February 2, 1989.
05	Texas Department of Water Development, D.G. Jorgensen, 1975. Analog-Model Studies of Ground Water Hydrology in the Houston District. Texas Report 190.
06	Texas Department of Water Resources, E.T. Baker, 1979. Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas. Report 236.
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08	U.S. Department of Commerce, National Climatic Center, Ashville, North Carolina. 1979. Climatic Atlas of the United States.
09	Record of Communication. To: Robert Devillier, Storm Sewer Engineer. City of Houston Public Works. From: Bradley Morris, FIT Geologist. EPA Region VI. Re: Uses of Hunting Bayou. Houston, Texas. June 24, 1987.
10	Record of Communication. To: Dr. Herbert McKee, Occupational Health. City of Houston. From: Kelly Bowles, FIT Geologist. EPA Region VI. Re: Lead Products Facility Site and Buffalo/Houston Ship Channel. January 9, 1989.

Preliminary Assessment References
for
Jensen Drive Drum Site
Houston, Harris County, TX (TXD987966900)
TDD #F06-8901-33
Continued

Reference Number	Description of the Reference
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12	Record of Communication. To: Henry Fleming, Technical ACOE. Galveston District. From: Brian Boerner, FIT Chemist. EPA Region VI. January 10, 1989.
13	Record of Communication. To: Louis Bowen, Manager Ground Water Section. Public Works Department. From: Bradley Morris, FIT Geologist. EPA Region VI. July 24, 1987.
14	Record of Communication. To: Don McInnes, Houston Public Works Water Production Office. From: Kelly Bowles, FIT Geologist. EPA Region VI. Re: Ground Water and Surface Use - City of Houston. January 5, 1989.
15	U.S. Department of Commerce. Bureau of Census Tracts. Houston, Texas. 1989. Census of Population and Housing. July, 1983. Publication PHC80-2-184.
16	Record of Communication. To: Julie Massey, Ecological Services. U.S. Fish and Wildlife Service. From: Kelly Bowles, FIT Geologist. EPA Region VI. Re: Sensitive Environments along Buffalo Bayou. January 9, 1989.
17	Uncontrolled Hazardous Waste Site Ranking System: A Users Manual. 47 FR 31219-31243, 16 July 1982 (Appendix A, CERCLA).
18	Sax, N. Irving. 1984. Dangerous Properties of Industrial Materials, Sixth Edition. Van Nostrand Reinhold Co. New York.
19	Record of Communication. To: Patricia Herrera, Region VI TAT. Houston, Texas. From: Jairo Guevara, FIT Chemical Engineer. EPA Region VI. Re: Additional Information on Jensen Drive Drum Site. February 13, 1989.

REFERENCE 23

COMMON NAME	SAMPLE #63	
METALS		
aluminum	3773 mg/kg	
antimony	<1 mg/kg	
arsenic	3.0 mg/kg	
barium	71.4 mg/kg	
beryllium	<1 mg/kg	
cadmium	<1 mg/kg	
calcium	26686 mg/kg	
chromium	8.2 mg/kg	D007
cobalt	<1 mg/kg	
copper	2.8 mg/kg	
iron	6943 mg/kg	
lead	97.9 mg/kg	D008
magnesium	700 mg/kg	
manganese	83.8 mg/kg	
mercury	<0.1 mg/kg	
nickel	<1 mg/kg	
potassium	271 mg/kg	
selenium	<1 mg/kg	
silver	<1 mg/kg	
sodium	2526 mg/kg	
thallium	<1 mg/kg	
tin	<1 mg/kg	
zinc	178 mg/kg	
MISCELLANEOUS		
cyanide		
phenols		
sulfide		

Joe Krem

COMMON NAME	SAMPLE #64	
METALS		
aluminum	8047 mg/kg	
antimony	< 1 mg/kg	
arsenic	6.6 mg/kg	D004
barium	291 mg/kg	D005
beryllium	< 1 mg/kg	
cadmium	< 1 mg/kg	
calcium	71669 mg/kg	
chromium	30.1 mg/kg	D007
cobalt	< 1 mg/kg	
copper	43.7 mg/kg	
iron	20078 mg/kg	
lead	756 mg/kg	D008 CAL
magnesium	2915 mg/kg	
manganese	290 mg/kg	
mercury	< .1 mg/kg	
nickel	25.7 mg/kg	
potassium	941 mg/kg	
selenium	< 1 mg/kg	
silver	< 1 mg/kg	
sodium	794 mg/kg	
thallium	< 1 mg/kg	
tin	< 1 mg/kg	
zinc	554 mg/kg	
MISCELLANEOUS		
cyanide		
phenols		
sulfide		

JoKum

COMMON NAME	SAMPLE #65	
METALS		
aluminum	8979 mg/kg	
antimony	< 1 mg/kg	
arsenic	1.2 mg/kg	
barium	160 mg/kg	D005
beryllium	< 1 mg/kg	
cadmium	< 1 mg/kg	
calcium	68656 mg/kg	
chromium	17.3 mg/kg	D007
cobalt	< 1 mg/kg	
copper	11.2 mg/kg	
iron	19106 mg/kg	
lead	287 mg/kg	D008
magnesium	1956 mg/kg	
manganese	244 mg/kg	
mercury	< .1 mg/kg	
nickel	3.1 mg/kg	
potassium	1172 mg/kg	
selenium	< 1 mg/kg	
silver	< 1 mg/kg	
sodium	396 mg/kg	
thallium	< 1 mg/kg	
tin	< 1 mg/kg	
zinc	282 mg/kg	
MISCELLANEOUS		
cyanide		
phenols		
sulfide		

Joe Krem

M.B.A. LABS

MICROBIOLOGICAL AND BIOCHEMICAL ASSAY LABORATORIES

P.O. BOX 9461 340 S. 66th STREET HOUSTON, TEXAS 77261

TELEPHONE NO. (713) 928-2701

[redacted]

SAMPLE SUBMITTED BY:	Peterson - Riedel
DATE RECEIVED:	3-28-1989
DATE COMPLETED:	3-29-1989
LABORATORY REPORT NUMBER:	J-17970
SAMPLE IDENTIFICATION:	Excavated Soil Sample- Jensen Drive Drum Site Proj. # TFA-K Sta. # 66

RESULTS

TOTAL LEAD on dry wt. basis	253 mg/kg

REPORTED BY Joe Kent

M.B.A. LABS

MICROBIOLOGICAL AND BIOCHEMICAL ASSAY LABORATORIES

P.O. BOX 9461 340 S. 66th STREET HOUSTON, TEXAS 77261

TELEPHONE NO. (713) 928-2701

SAMPLE SUBMITTED BY: Peterson - Riedel

DATE RECEIVED: 3-31-1989

DATE COMPLETED: 4-2-1989

LABORATORY REPORT NUMBER: J-18036-00

SAMPLE IDENTIFICATION: Soil Sample
Jensen Drive Drum Site - Proj. # K-9
Tag # 6-057239
N.E. Corner excavation Sta. # 67

RESULTS

PARAMETER	METHOD #	DATE	TIME	ANALYST	RESULT
Total Lead (as is)	EPA 239.2	4-2-89	8:00 p.m.	Alam	32.2 mg/kg

REPORTED BY _____

M.B.A. LABS

MICROBIOLOGICAL AND BIOCHEMICAL ASSAY LABORATORIES

P.O. BOX 9461 340 S. 66th STREET HOUSTON, TEXAS 77261

TELEPHONE NO. (713) 928-2701

YEARS OF EXCELLENCE

M. B. A. LABS

SAMPLE SUBMITTED BY: Peterson - Riedel

DATE RECEIVED: 4-4-1989

DATE COMPLETED: 4-4-1989

LABORATORY REPORT NUMBER: J-18103-00

SAMPLE IDENTIFICATION: Sample: Center E Site excavation #68
Proj. # TFA-K
Jensen Drive Drum Site

RESULTS

PARAMETER	METHOD #	DATE	TIME	ANALYST	RESULT
Lead	EPA 200.7	4-4-89	6:00	Alam	109 mg/kg

REPORTED BY Joe Kiesel

JENSEN

NVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 6
First International Bldg., 1201 Elm St.
Dallas, Texas 75270

CHAIN OF CUSTODY RECORD

PROJ. NO.: 1781
PROJECT NAME: Jensen Road Drums
SAMPLERS: (Signature) D.W. (Bill) Creacy

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS							REMARKS
#63	3/10/89	8:00	✓		Right back side	1							Same Analysis Done on Jensen before
#64	3/10/89	8:30	✓		middle Area back side	1							
#65	3/10/89	9:00	✓		left corner back side	1							Same Analysis Done on Jensen before

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
D.W. Creacy	3/10/89 10:15	Rogelio Caballero	Rogelio Caballero	3-10-89 10:42	Cynthia Sweeney
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

G-05649

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 6
First International Bldg., 1201 Elm St.
Dallas, Texas 75270

CHAIN OF CUSTODY RECORD

PROJ. NO.: TFA-K

PROJECT NAME: Jensen Drive Drum Site

SAMPLERS: (Signature) Peter E. [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Lead						REMARKS
#66	3/28/89	1730	✓		Excavated Soil composite	1	✓						6-0586662 Southeast Corner Excavation Area

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Peter E. [illegible]	3-28-89 1800	Bruce McClure			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

6-06319

ROONMENTAL PROTECTION AGENCY
Office of Enforcement

CHAIN OF CUSTODY RECORD

REGION 6
First International Bldg. 1201 Elm St.
Dallas, Texas 75270

ROJ. NO.: K-9

PROJECT NAME: Jensen Drive Drum Site

MPLERS: (Signature) Dalton E. Johnson

A. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Lead					REMARKS
67	3/30/89	1700	✓		NE corner excavation	1	✓					6-057239 0-2"

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Dalton E. Johnson	3/30/89 1700	Bruce McClure			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 6
First International Bldg., 1201 Elm St.
Dallas, Texas 75270

CHAIN OF CUSTODY RECORD

PROJ. NO.: TFA-K
PROJECT NAME: Jensen Drive Drum Site
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Lead						REMARKS
#68	4/3/89	10:55	✓		Center E site excavation	1	✓						4-057174 soil composite center excavation

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Patrick E. H[illegible]	4/3/89 1730	Bruce McClure	Bruce McClure	4-4-89 1:03pm	Reza Vaki
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

6-0F808

RECORD OF COMMUNICATION	(Record of Item Checked Below) ___Phone Call _x_Discussion ___Field Trip ___Conference ___Other(Specify)	
To: Patricia Herrera Region VI TAT (214) 742-6601	From: Jairo Guevara FIT Chemical Engineer	Date: 9/27/89 Time: 10:00 am

SUBJECT: Jensen Drive Drum Site Soil Samples

SUMMARY OF COMMUNICATION

Miss Herrera stated that six soil samples were collected on-site during the excavation of the contaminated soil on the east side of the site. The location of these samples were described by Miss Herrera as follows:

Sample 63 Southeast area before excavation

Sample 64 Center east area before excavation

Sample 65 Northeast area before excavation

Sample 66 Southeast area after excavation

Sample 67 Northeast area after excavation

Sample 68 Center east area after excavation

She also stated that all of the abandoned vehicles were crushed and properly disposed.

J Guevara

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

RECORD OF COMMUNICATION	(Record of Item Checked Below) ___Phone Call _x_Discussion ___Field Trip ___Conference ___Other(Specify)	
To: Peter Sam Region VI EPA Superfund Project Manager (214) 655-6740	From: Jairo Guevara FIT Chemical Engineer	Date: 9/20/89 Time: 10:00 am

SUBJECT: Jensen Drive Drum Site

SUMMARY OF COMMUNICATION

After briefing Peter Sam of the results of the reconnaissance inspection of the Jensen Drive Drum site, he decided not to sample the facility.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

RECORD OF COMMUNICATION	(Record of Item Checked Below) ___Phone Call ___Discussion _x_Field Trip ___Conference ___Other(Specify)	
To: File	From: Jairo Guevara FIT Chemical Engineer	Date: 9/12/89 Time: 9:30 am to 10:30 am

SUBJECT: Jensen Drive Drum Site Reconnaissance Inspection

SUMMARY OF COMMUNICATION

The site was surveyed for air release with an HNu photoanalyzer. No readings above background were recorded.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES TO:

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.