ECOLOGY AND ENVIRONMENT, INC.

DALLAS, TEXAS

MEMORANDUM

**To:** David Wineman, Region VI RPO

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

**From:** Brian K. Boerner, FIT Chemist

**Date:** September 21, 1988

SUPERFUND FILE

DEC 03 1992

REORGANIZED

**Subj:** Preliminary Assessment for Barajas Garage, Dallas, TX (TXD987971587)
**TDD** #F-06-8808-38
**PAN** #FTX0826PAA

## 1. Site Information

Barajas Garage is an active automotive repair facility occupying approximately .34 acres in the Oak Cliff section of west Dallas (Figure 1). The geographic coordinates are 32°45'00"N by 96°50'33"W. The Barajas Garage consists of a building containing three (3) auto repair bays, an office area, and an automobile/auto part storage area. The storage area of the facility is completely surrounded by a chain-link fence and is contiguous with the garage area. The garage has been equipped with burglar bars thus completing total site security.

The current owner of the site is Jaime Barajas of Dallas, Texas (1). Barajas Garage is operating without a permit. This facility was reported to the EPA by a citizen's complaint.

## 2. Background/Operating History

An automotive repair facility has been in operation at 608 N. Willomet intermittently for at least ten (10) years. This property has had several owners. Mr. Jaime Barajas, the current owner, has owned this property since mid 1987.

The basic operations of this facility include the general maintenance and repair of automobile engines, drivetrains, and suspension systems. A by-product from this maintenance is spent lubricating oils.

In an offsite reconnaissance inspection conducted on August 17, 1988 by the FIT, it was noted that no obvious waste disposal containers exist onsite. It is believed by FIT, and reported in an EPA site discovery report, that many of the spent waste oils are being poured on the ground and allowed to leach into the topsoil of the auto storage area.

9527403

Reviewed by 6H-ES
Date 3/14/89
DLW

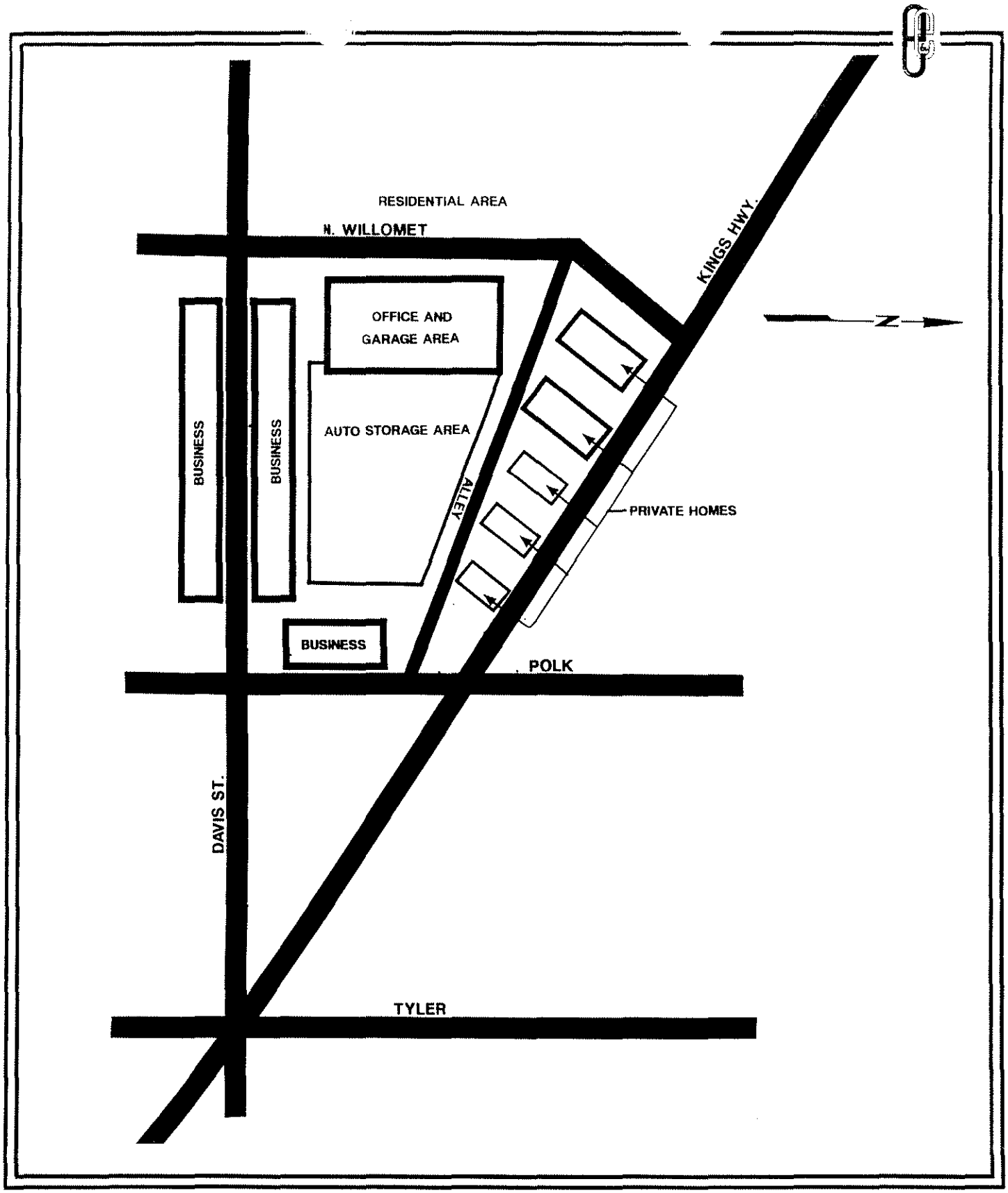


FIGURE 1

SITE LOCATION
BARAJAS GARAGE
DALLAS,TEXAS
TXD987971587

## 3. Waste Containment/Hazardous Substance Identification

Due to the lack of available records and the exact knowledge of the processes and practices of Barajas Garage, the exact amounts and types of waste disposed are unknown. Assuming that disposal of waste oils and solvents take place on site, contamination of the soil by metals such as iron, aluminum, chromium, cadmium and other auto related metals is possible.

Since the exact amount of waste present on site is unknown, an estimate of this quantity must be made. It must be assumed that Barajas Garage has been in operation for at least one year: 365 minus Sundays and eight federal holidays equals 305 days. Assuming at least two oil changes are performed at the garage per day, the collection of approximately two (2) gallons of waste oil is estimated. Assuming that all the waste oil collected on this site is discarded behind the garage, it can be stated that at least 600 gallons of waste exist onsite. Considering that several other garage operations have existed on this property in the past, and that each of these garages have discarded their waste in a similar manner as the Barajas Garage, the actual total waste quantity is probably much greater.

## 4. Pathway Characteristics

### a) Air Characteristics

The gaseous and particulate mobility of the site waste appear to be low. Releases via an air route are unlikely given that most of the wastes are bound to the sand by heavy oils. If this area were to burn, however, an air release is possible.

### b) Groundwater Characteristics

The aquifers in the vicinity of the site are found within the Washita, Fredricksburg and Trinity groups. The depth to the aquifer beneath the site is approximately 200 feet. There are no wells in use within a 4-mile radius of the site boundary.

Indepth hydrologic studies have not been performed in the study area. It is unknown whether a confining layer exists between the ground surface and the aquifers of concern.

The net precipitation of zero (0) inches per year has been estimated in the area.

### c) Surface Water Characteristics

Surface drainage from the site is basically south southeast toward Davis Street. The drainage then travels easterly along Davis Street until it

enters a storm drain at the intersection of Davis and Kings Highway. After entering the storm drain, the drainage follows the inflow of the City of Dallas storm water drainage system (Figure 2). Outfalls of this system are to area rivers and creeks. The materials that enter this system do not undergo treatment before entering a particular outfall area.

d) Onsite Pathway Characteristics

Onsite exposure potential to humans via direct contact to hazardous substances at this site is low due to the 7-foot security fence surrounding the facility. The areas that have been reported as potentially containing waste are all encompassed by this fence.

## 5. Targets

No drinking water wells exist within 4-miles of the site. All surface water intakes are upstream of the site. All the wastewater treatment plants are located downstream and are greater than 4 miles from the site.

The total number of persons served by surface water in the City of Dallas is 1,627,850 customers.

## 6. Other Regulatory Involvement

No city, state or federal regulatory involvement has occurred at the site.

## 7. Conclusions and Recommendations

Barajas Garage is an active automotive repair facility occupying 34 acres in the Oak Cliff section of West Dallas. Waste in the form of spent oils and solvents were reportedly disposed in a secured area behind the repair bays. A residential area exists to the north and west of the garage and private businesses are located to the east and south. Due to the security fence surrounding the site, the potential for direct contact by humans is very low. No groundwater from this area is used for drinking purposes and all surface water intakes are upstream of the site. Therefore, no groundwater or surface water targets exist.

Although the requested sampling is enclosed, FIT recommends that this site receive no further action under SARA.

BKB/amw

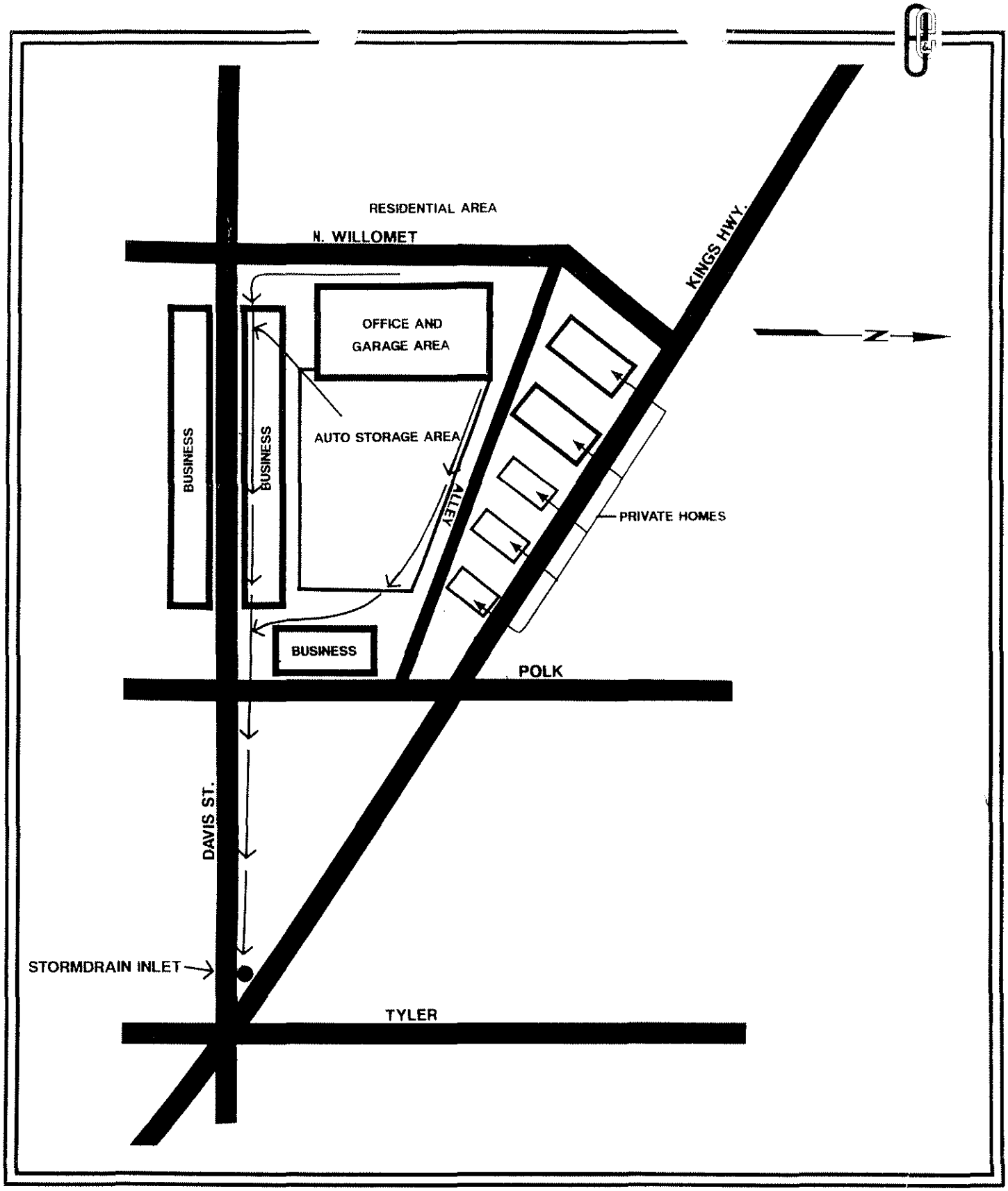


**FIGURE 2**

**DRAINAGE AREA MAP**
**BARAJAS GARAGE**
**DALLAS,TEXAS**
**TXD987971587**

**Barajas Garage**

**REFERENCES**


| Reference Number | Description of the Reference |
|---|---|
| 01 | Record of Communication. To: City of Dallas Tax Assessors Office. From: Brian K. Boerner, FIT Chemist, EPA Region VI. Re: Ownership of Property at 608 N. Willomet. August 16, 1988. |
| 02 | Gonzalez, David, EPA. Potential Hazardous Waste Site Identification of Barajas Garage, Dallas, Texas. TXD98791587. |
| 03 | 1987-88 Coles Directory for Dallas and Suburbs. Cole Publishing. |
| 04 | Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C. 1979. |
| 05 | Gasseline, Robert E., M.D., Hodge, Harold C. DHD, Smith, Roger P. Ph. D., Gleason, Marion N. M Sc. 1977. Clinical Toxicology of Commercial Products. The Williams & Wilkins Co. |
| 06 | Texas Department of Water Resource, 1982. Occurrence, Availability, and Chemical Quality of Ground Water in the Cretaceaus Aquifer of North Central Texas. Volume II, State of Texas. |
| 07 | Record of Communication To: Allen Hendrix, Assistant Engineer, City of Dallas. From: Brian K. Boerner, FIT Chemist, EPA Region VI. Re: Drainage of Stormwater in Dallas. August 31, 1988. |
| 08 | Record of Communication: Brian K. Boerner, FIT Chemist, EPA Region VI. From: Betty Gabbai, Engineer, Dallas Water Utilities. Re: Water Sources, Quality and Treatment Plants in Dallas. August 31, 1988. |
| 09 | U.S.G.S. 7.5 Minute Series Topographic Maps. Irving, 1959 revised 1981, Duncanville 1959 revised 1981, Dallas 1958 revised 1981, Oak Cliff 1958 revised. |

Ref. 01

| RECORD OF COMMUNICATION | (Record of Item Checked Below)<br>___Phone Call ___Discussion ___Field Trip<br>___Conference _X_Other(Specify) Computer Search | |
|---|---|---|
| TO: City of Dallas, Tax Assessor's Office | From:<br>Brian K. Boerner, FIT Chemist | Date: 8-16-88<br>Time: 1010 am |

SUBJECT: Ownership of Property at 608 N. Willomet

SUMMARY OF COMMUNICATION

Ownership of said property at 608 N. Willomet is as follows:

In 1988 - Jaime Barajas Acct # 99870490000026300

1985-86 - Connie Kleckner of Genesis Auto & Wrecker

1982 - Oats Automotive Service.

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.2

TXD987991587

# EPA POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION

REGION: 6 | SITE NUMBER:

**NOTE:** The initial identification of a potential site or incident should not be interpreted as a finding of illegal activity or confirmation that an actual health or environmental threat exists. All identified sites will be assessed under the EPA's Hazardous Waste Site Enforcement and Response System to determine if a hazardous waste problem actually exists.

**A. SITE NAME:** Barajas Garage.

**B. STREET (or other identifier):** 600 Block of Willomet (Near Main Post Office)

**C. CITY:** Dallas (Oak Cliff)

**D. STATE:** TX.

**E. ZIP CODE:** 75208.

**F. COUNTY NAME:** Dallas County. -113-

**G. OWNER/OPERATOR (if known)**

1. NAME: Not Known.
2. TELEPHONE NUMBER:

**H. TYPE OF OWNERSHIP (if known)**

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☑ 5. PRIVATE ☐ 6. UNKNOWN

**I. SITE DESCRIPTION**

The facility is an auto body shop which reportedly disposes of waste oil, solvents, turpentine in a vacant yard behind the body shop. This activity has been reportedly going on for several years. The soil in the area is heavily stained (Black) ~~and~~ with heavy "chemical" odors.

**J. HOW IDENTIFIED (i.e., citizen's complaints, OSHA citations, etc.)**

Citizen Complaint (

**K. DATE IDENTIFIED (mo., day, & yr.)** 8/02/88.

**L. SUMMARY OF POTENTIAL OR KNOWN PROBLEM**

The area is reportedly on city water so there may not be any local groundwater useage threatened. However, this disposal area may present a fire hazard or a direct contact threat. The Site Security status is ~~unknown~~ not currently known.

**M. PREPARER INFORMATION**

1. NAME: David Gonzalez (6N-ES)
2. TELEPHONE NUMBER: (214) 655-6740
3. DATE (mo., day, & yr.): 8/2/88.

EPA Form 2070-8 (5-80)

bcc: 6E-EF (~~Attention Don Smith (6PEC)~~)

REF.3

XL

FASHD

# 1987-88 COLE DIRECTORY FOR DALLAS AND SUBURBS

[illegible]

75206

NP
M Morris .81 823-3308
Pat Cordry .86 827-8993
E Fuentes H 826-5565
NP
James Alvarez .75 826-9799
Frank Herrera Jr .85 826-1139
E Barrientos H 827-0068
A Rodriguez H 827-0068
Elodia Torres .82 827-3637
Patricia Beghin - 823-5768
Greg Carlson .86 826-1226
Chris Clarke - 823-5768
NP
5430 H 824-6031
Glenn Tisdall .68 826-5425
E H McNiel
NP
5434 .85 827-6785
J A Little
NP
Marc J Smith .86 827-3577
S Payne - 823-6161
T A Slaughter H 826-9857
Jack D Lankford .73 824-1163
NP
R M Milligan .81 821-9206
NP
Dr G L Carrington 827-7234
Orvin L Morken .72 823-9466
220 RESIDENCE 20 BUSINESS

**WILLOMET N** 75208
1100 W 10th
Jim Cliff
1- 599 CT 46 $D..B14
600- 1499 CT 44 $C..B14
1500- 2499 CT 43 $E..B14
MAPSCO LOC D 44T
Gary Minnich - 942-9402
John Pratt .80 941-4920
Charlene A Urwin .80 941-4920
General Berry .86 943-7374
A J Bauer .68 946-4086
L Felix George .66 948-9662
L Vest .83 942-5721
Vest Plumbing - 331-1828
111 112 NP
Steven J Derdeyn .85 942-1344
Kevin T Yates H 942-8231
NP
115½ H 942-7428
E Haake
NP
C Osornio .86 942-8710
NP
Barry G Evans .83 946-1592
Tim S Walker .86 946-1592
Patricia Pena .86 942-4452
James David Jones .80 942-0167
Henry Trujillo .78 941-1530
**1100 W 9TH INTS**
NP
David Truly .81 948-7110
Rev W C Strickland .79 941-4419
M Beasley .85 942-2657
NP
B D Collins Jr .84 948-1497
R M Lynch .84 948-1497
Geo T Maultsby Sr .86 946-0991
Homer Rucks .86 948-7007
James Robinson H 946-1114
Marty Cox .81 948-8714
223 NP
James Lay .76 943-9936
E M Murphy .73 942-7172
John A Vasquez .86 946-4306
John Rosales .73 941-9919
Edwardo F Garza .80 946-0977
E E Denninger .60 946-3811
Tom B Steger .73 941-1225
James L Gurley .72 946-9580
Louis L Wood .63 946-1833
J L Lindemann .86 942-8482
Frank M Schindler .79 942-3025
**1100 W 8TH INTS**
NP
Michael Huskisson .85 941-1929
J F Laforge .85 941-1929
NP
David Guinn H 946-4389
Joy White - 946-4389
Jose Luis Aquirre .80 941-1256
Betty Jane Bailey .72 943-8151
Clifton R Bailey .86 943-8151
Wayne Bailey .63 943-8151
C Ruizdevelasco H 942-6631
Juan Ruizdevelasco H 942-6631
411 NP
Peggy M Bailey .85 941-4750
NP
Joseph G Havran H 941-4861
419 NP
**1100 W 7TH INTS**
**1100 W DAVIS INTS**
NP
Sara Avalos H 942-5862
Jose Barajas H 946-7951
Jose H Martinez .86 942-4514
Carla Owings .86 943-7720
NP
**1100 FT WORTH INTS**
Martina Garcia .67 742-2836
NP
Dollie Mae McClure .86 749-4962
Santiago Rodrigues .76 748-9120
NP
Anna Martinez H 698-9514
MAPSCO LOC D 54F
**1100 WALMSLEY INTS**
Joe Paredez .76 748-1722
**1100 STAFFORD INTS**
NP
Isabel S Carrillo .81 744-1572
E L Martin .81 744-1572
Reynaldo Rivera .86 741-9681
NP
**1100 SEALE INTS**

**WILLOMET S** 75208
Fr 1100 W 10th
On
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300- 899 CT 51 $E..C14
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102 Pierre Lessard .80 942-4043
105 M Lonngecker .80 942-8869
106 Leo J Williams .63 941-0721
107 NP
110 R D Perry .63 948-9321
111 Tonya Jaeckle .78 943-9646
Wyatt Jaeckle .78 943-3879
114 NP
115 Alan Weinkrantz .86 943-7140
117 G Scot Gordon H 941-4233
Alton Keaton H 943-6746
David Mittle H 942-3947
Jeannine Owens .84 941-5122
Kenny Scott - 941-4233
118 Coy W McCullough .70 942-3251
120 Mildred White .81 941-0108
122 124 126 NP
201 K K Stinchcombe .86 941-2336
L Stinchcombe .86 941-2336
Sunny Stinchcombe .86 941-2336
202 M D Albridge H 946-5832
R Charley .82 948-7672
G Strain .84 941-9542
203 George G Rick - 946-3104
George G Rick - 946-4514
204 A Westerfeld .63 946-4960
205 NP
206 John E Conway .83 946-7034
Robert R Tauber .83 946-7034
207 David K Parrish .86 946-5307
209 David P Feil .86 948-1373
210 NP
214 S Anderson H 943-4741
J G McCraney H 943-4741
G Singletary H 943-4741
215 David A Keenan .85 941-6789
219 220 NP
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**J Mitchell Paving .86 946-1728**
305 Rev Jno B Dwiggins .77 946-4844
305½ NP
306 Jan Browning .80 946-6733
Orval Browning .80 946-6377
307 307½ NP
309 Kent Trulsson .82 948-1742
310 Sharon Rowley .86 946-2579
313 Kaye Woolery .86 948-3418
314 Mrs H M Beaird .63 943-4109
315 Robert J Sardello H 941-4425
317 NP
318 Mrs Grover Mateson .63 948-9609
319 Ferdinand Henke Jr .84 946-6061
321 NP
325 A S Veach .84 943-4950
400 Will Andrews H 943-5654
E Karrenbrock .84 941-0001
403 Patricia Gibson H 943-3669
406 NP
407 Enrique Silva .77 942-3090
410 NP
411 Martha Torrez H 941-7224
418 NP
**1100 W 12TH INTS**
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506 507 508 509 NP
510 Isabel Ochoa - 941-1725
Simon Ochoa - 941-1725
511 NP
514 Rogelio Jove - 946-7331
515 C Curtis .76 943-9993
517 M L Strickland .84 941-6170
518 519 NP
521 Riley J Kelton .65 941-4572
522 Alice Fay Waide .68 943-9501
525 E Martinez Jr .86 942-7104
526 Levi Edwards .77 946-2640
528 R P Trejo .84 943-5730
603 Thurston E Powell .78 942-2935
604 NP
607 Alvin Rudd .74 943-2180
608 Maria Ramirez H 941-8817
611 NP
612 Concepcion Morales .86 943-3476
Leon Morales H 943-3476
615 Gipson Miears .63 946-0989
616 A David Vasquez H 943-4173
619 Ovidio Moreno .83 942-1663
620 Guadalupe Moreno H 946-4761
Tomas Velasquez H 946-4761
622 NP
623 Lillie M Thompson - 943-8058
626 Patrick Orr .84 943-4564
627 S Marchant .76 946-0817
**1100 W BROOKLYN INTS**
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701 Lorenzo Zamora .82 946-0874
704 Margie F Duran .83 942-6229
707 NP
708 Drumright Smith .63 946-2632
711 NP
712 J A Rosinbaum .83 946-8693
713 Mrs Oda Jones .63 946-7434
716 719 720 721 NP
723 NP
724 Sofia Mesa .79 941-4253
Norma Meza H 942-7769
727 728 729 731 NP
805 806 NP
807 Andrew P Morris .84 946-4565
810 Genaro Guerrero .78 946-2076
811 814 817 NP
818 Jose R Carrillo .83 948-8361
819 Gabriel Martinez .81 941-2939
821 823 NP
824 Antonio Hernandez .84 941-8374
826 827 NP
**1100 BURLINGTON BLVD INTS**
133 RESIDENCE 1 BUSINESS

**WILLOUGHBY BLVD** 75232
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8214 Kay F Hayes .84 224-0475
Glenda F Jackson .95 228-1679
L Jackson 224-0969
8218 Maggie D Bush 224-6558
Selinda Murphy 228-1715
Willie Sanders .80 228-4636
Steven L Wages .85 224-6376
Bridgett Wallace .86 228-4219
8226 O A Goodman H 224-0875
C H Horn H 224-1280
B Mack .85 224-5206
Mike Singleman H 224-0000
Barbara J Williams H 224-6281
R B Williams - 224-6281
8230 Cal Lois Hall H 224-6455
Keshia Hurd H 224-0793
Tammy Pitmon H 224-7147
Vincent Pitmon H 224-7147
Anner Simpson .81 224-0312
8238 Debra Bostic H 228-3415
Katie M Haggerty H 228-4718
C King Jr .82 228-1084
Lois Ann King H 228-4190
Billie Joyce Rudd H 228-2327
L C Thompson H 228-4979
Mark Wallace .86 228-4852
Sandra Wallace H 224-3801
8304 Barbara Dickson .83 228-1439
Angela Donahue - 224-8547
Nelson Garry .86 228-1526
Carolyn Johnson H 224-8547
Sylvia Lacy .86 224-2257
George Lewis H 228-1680
Hannah Lewis .83 228-1540
8312 V R Atkeisson .79 224-4733
Marion Lawson .84 224-5967
Mackie Maynor .86 224-7163
Barbara A Session .76 224-5967
S Wills H 228-0120
8320 Mary L Amie .86 224-1829
Janett R Jordan H 224-8169
Debra A Mosley .83 228-2935
Catherine Natt .85 224-3071
E Williams .86 224-6622
8328 S M Battle .85 228-3010
Debra Dean .85 228-1587
James E McDaniel H 228-2764
**Willoughby Pk Apts .74 224-3744**
8334 Augustine Flores - 228-4269
Joyce Herrin .85 224-5632
Vernetta A Jackson .85 228-2528
R A Mack H 224-8985
Debi E Redwine - 224-8192
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J Weaver .83 224-0984
Mattie Williams .86 224-3647
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T L Gipson .82 228-2031
Shaquieda Hodges H 224-8591
Abdul Johnson .82 224-6742
Elizabeth Kellam .82 224-6277
Sharon Mosley .83 228-2151
8358 Eboni Moore .85 224-2974
Paul Noble .78 224-1015
A K Reeves .83 228-1537
Oletha Smith H 224-1169
Alma Marie Trimble - 224-8343
Derion D Trimble H 224-8343
8362 Everlene Jackson .84 228-1176
Walter Loud .86 228-4767
S Magee .86 228-4348
8370 Lewis Paige H 224-5233
Billy J Wilson .79 224-2678
8382 R Dunbar - 228-4416
V Green H 228-2215
Willie E Hempstead .82 228-3469
Deborah A Miller .85 228-3654
Rodney Nash .85 228-3095
8390 Chas E Allen H 224-8926
R Harper - 224-0468
Linda K Hubbard .85 228-2206
Etta Jackson .84 228-1996
Mitzi Spann H 224-6096
8394 John Lewis Jr H 224-0426
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L Miller .84 224-0854
Rev Glen A Walker .86 224-0077
8408 Linda Conley .85 224-8932
Alice Williams .76 224-6597
8412 NP
8416 Howard E Hardin .80 224-0740
Gary Sims .86 224-4409
Gwendolyn Wilkins .80 224-0740
Ronnie Wilkins .80 224-0740
8420 Barbara Lacy .86 228-2738
D A Summerville .84 224-4612
8421 NP
8424 Steven Brown H 224-1219
Peggy Johnson .86 224-5180
J Parker .81 224-8318
8428 Linda Davis .85 224-8947
B J Taylor .79 224-4242
8432 Andre Chism - 228-3795
Sheryl Chism H 228-3795
Betty Hall H 228-3516
Mrs R J Mitchell .85 224-0852
8436 Linda Brown H 224-0820
Robin Cole - 224-3015
8440 Paula Barnes - 224-6317
Yolanda Jean Dixon .85 228-3608
Ernest Dunbar H 224-2536
8444 Aurelia Brown .76 224-6472
Becky Jackson - 224-5244
C Stribling .82 228-1649
8448 Natasha Palmer H 228-4775
Lawson Tunson H 228-0114
Lugene Tunson H 228-0114
Joyce Williams H 224-8146
8488 NP
**8502 South Port Apts .70 224-1393**
**South Port School .74 224-3535**
8508 Carol Jackson - 224-8717
Daniel Jackson H 224-8717
C Norton H 228-3208
8512 Alice Stewart .85 228-3175
8516 Calvin Jermel H 224-0655
Carolyn Scott .85 224-0798
8520 Denise Milton - 224-8033
Jacqueline Redden H 228-3896
8524 Jas Lewis Roberts H 224-7874
Evelyn Thompson .86 224-3996
8532 Jimmy W Smith .86 228-4751
Winnie Whitlock .82 228-1894
8533 NP
8536 Mary Newsom .85 224-9560
8540 Lora Black .84 228-3055
Pamela Gaines H 224-6836
Chris Lacy .84 228-1017
Keith Payne H 224-7273
Monica Payne .86 224-8102
**8601 Mwems Principal 224-2424**
**M Weiss Elm Sch .78 224-2424**
8602 Latoya Battee H 224-2909
Shante Battee H 224-2909
Joyce O Echols .83 228-2774
Patricia Williams - 224-2909
8606 Melinda Smith .86 224-6583
8610 Wanda Dilworth .85 228-3687
Brenda Williams .85 224-3792
8614 Deborah R Dockery .83 228-2728
8618 Darrell White .86 228-3966
8622 L Coleman H 224-3081
Nedra Garner .86 224-4654
8626 Pamela Birdwell .81 228-3166
Steve Williamson .85 228-3930
L Wortham .77 224-0892
S Wortham .83 224-9094
8630 Brian Oliver Mack .86 228-4522
Todd Pope .85 224-0994
8634 Allan Harris .85 224-2107
Linda Johnson H 228-3509
Mae Lawson H 224-1370
Patricia Smith .84 228-2756
8636 NP
8638 C Henderson .81 224-7489
Ronetha Johnson H 224-4910
Jeanne F Sayers .83 228-1094
8642 Leigh Bradley H 224-7636
Harold Jones .85 224-0759
8646 Cametra Franklin H 224-9017
Marilyn McGill .85 224-4191
8650 Bobby W Love .85 224-3602
Pernela Stewart .81 228-2403
Phillip Stewart .81 228-2435
8654 Peggy Abron .83 224-0746
Barbara Ann Board .81 224-2600
8658 Acie English .85 228-2849
Marie Winn .81 224-8721
8662 Anita Lattimer .86 228-1734
B R Rice H 228-1681
Brenda Tell .84 228-2458
183 RESIDENCE 5 BUSINESS

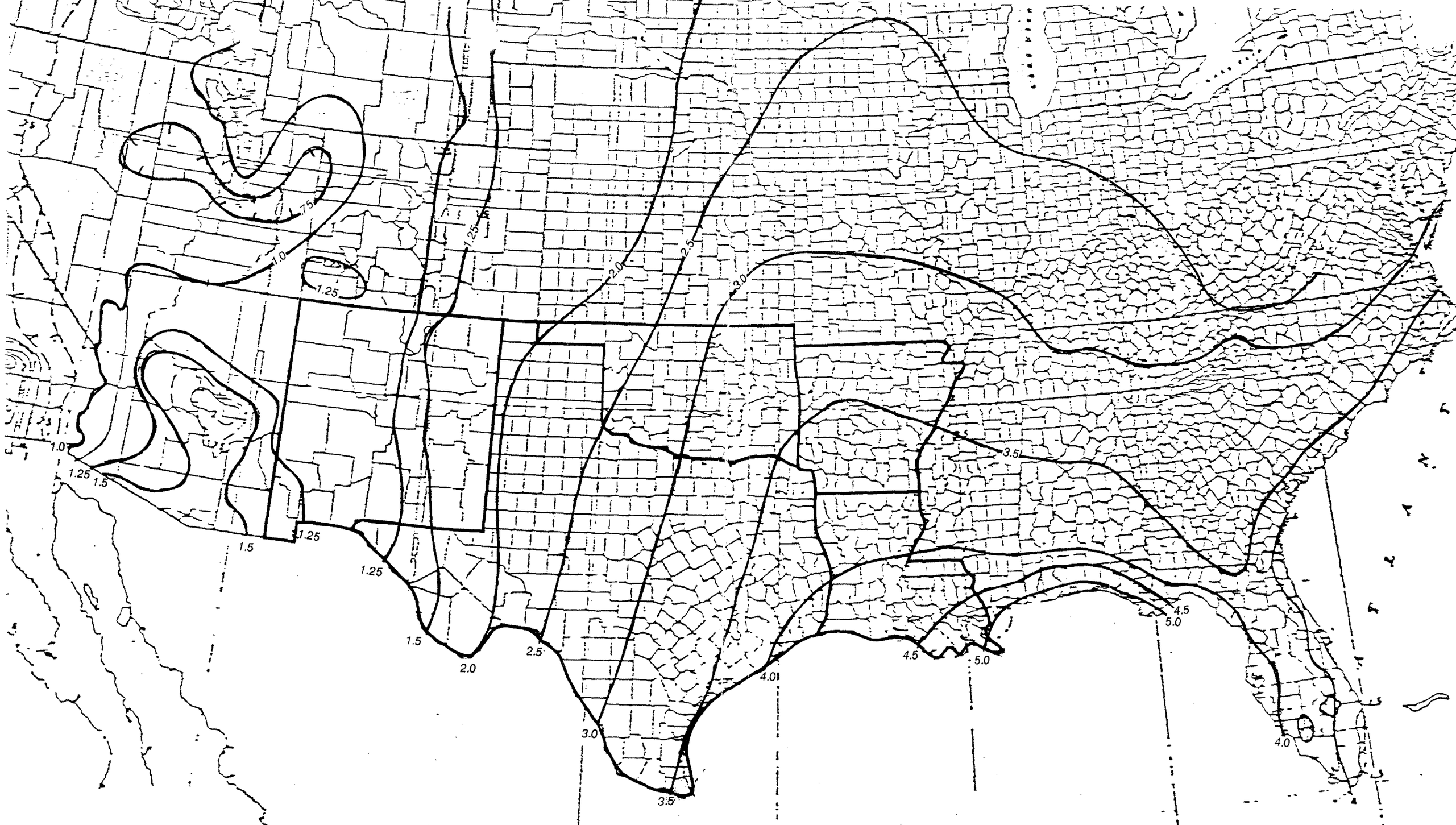
**WILLOW BEND** 75240
Fr 13500 Coit Rd W
13500-13699 CT 136.10 $A..B 5
MAPSCO LOC D 16J
13515 Sam Knight .85 233-1544
13518 NP
13519 Charla Hornsby .66 233-3636
Charles D Hornsby .66 386-4922
13525 NP
13529 C T Stamper .74 661-8799
13530 Stephen J Wade .86 991-6549
13535 NP
13538 Milton R Johnson .70 980-7197
13539 Arthur Hartman .83 458-7764
13544 Matt Riemer .85 991-1097
13545 H Simpson .85 960-2563
13548 Barry D Whitley .77 387-3732
13549 Dixie L Dreher .81 233-2405
Gerald D Dreher .69 239-9011
Jerry D Dreher .73 239-9011
13555 W T Harvey Jr .77 239-7550
13556 Fletcher Allen .86 239-2431
13559 C S Adkins .86 980-1792
13560 M R Craig .86 233-3136
13606 Wayne Alexander .78 233-3366
13607 Frank Conder .72 233-0281
**Conder Inspection .78 661-8679**
13610 C Robert Stevens .86 233-3575
13611 LCol Milton Falk .67 239-3805
13616 Frank G McCormack .75 239-9250
13617 Tom E Johnson Jr .66 239-2140
13620 Roy N McGown .76 233-2114
13621 C S Bivans .86 934-1099
Paul S Oxenreider .83 934-1099
Kenneth Stober .86 934-1099
13625 Robert Weiss .77 233-6505
**13626 Lakeshr Constr Co .73 239-6461**
**Lakeshore Resource .72 239-6461**
13629 T D Johnstone .79 386-9728
13630 B W Bell .76 239-4136
13635 W C Walthall Jr .66 233-9835
13636 A Averre H 490-1057
Ken George H 960-7242
13639 Bill Potter .66 239-5180
Eljean Potter .66 239-5180
13640 Rudolph Eppler Jr .65 239-8706
13643 L T Polly .84 239-1692
13646 R J Bommer .74 239-3002
13647 Paul David Call .71 387-4266
13650 Clifford R King .68 239-9351
13651 H D Mullins .73 233-5664
13656 Todd Owens - 661-8218
L Young .81 661-8218
13657 E V Vachon Jr .68 233-3157
**13660 Action Striping Co .69 239-0286**
13661 NP
48 RESIDENCE 4 BUSINESS

**WILLOWBROOK RD** 75220
Fr 10200 Harry Hines W
Northwest Dallas
2500- 2799 CT 99 $D..C 3
MAPSCO LOC D 23W
**2505 Alpha Ofc Furn Inc .82 350-8987**
**Alpha Off Furnitr .82 350-3507**
**Intr Metro Ind CRP .84 358-5362**
**Intile Designs Inc .85 956-9121**
**Lennox Industries .82 350-0216**
**2515 Art Enterprises .82 350-1300**
**Art Enterprises .82 350-6535**
**George E Echerd .81 638-6590**
**Hal Kobey .81 638-6590**
**Multi-Forms Inc .81 638-6590**
**Olympia Mfg Inc .86 956-7131**
**Reliant Tool Prdt .82 358-2581**
**Reliant Tool Prdct .82 263-0451**
**Zimco Electrc .85 352-5107**
**2521 Beckett Company .74 357-6421**
Polacell Inc

# This Document Contained Material Which Was Not Film/Scanned

**Title** Oversized Map regarding the 1-Year 24-Hour Rainfall

# Please Refer to the File in Superfund Records Center




SOURCE: Rainfall Frequency Atlas of the United States, Technical Paper #40, U.S. Department of Commerce, U.S. Government Printing Office, Washington, D.C., 1963.

## 1-YEAR 24-HOUR RAINFALL (INCHES)

REF.4

REF.5

GOSSELIN

HODGE

SMITH

GLEASON

FOURTH
EDITION

## AUTOMOTIVE PRODUCTS (Cont.)

### AUTOMATIC TRANSMISSION FLUIDS (Cont.)

| | |
|---|---|
| Hydrocarbon wax—naphthalene condensation products | |
| Anti-wear agents | 0–2% |
| Organic borates | |
| Antifoam agents | less than 200 p.p.m. |
| Polysiloxanes | |
| Sealant | 0–5% |
| Triarylphosphate | |
| May contain: | |
| Dyes | 0–200 p.p.m. |

### BRAKE FLUIDS — Toxicity rating 3

| | |
|---|---|
| Lubricant | 20–25% |
| Castor oil | |
| Castor oil soap | |
| Butyl or glyceryl ether of polyoxyethylene propylene glycol | |
| Polypropylene glycol | |
| Solvent | 80–85% |
| Methyl, ethyl and butyl ethers of ethylene glycol* and related glycols | |
| Brake fluids may contain: | |
| Butylene glycol* | |
| Diethylene glycol* | |
| Ethylene glycol* | |
| Hexylene glycol* | |
| Polyethylene glycol* | |
| Inhibitors | |
| Amine soaps | |
| Potash soaps | |
| Borax | |
| Antioxidants | |
| Bisphenol A | |
| Hydroquinone | |
| Dyes | |

### BRAKE SYSTEM FLUSHING FLUIDS — Toxicity rating 3

Methyl, ethyl or isopropyl alcohol*

### CARBURETOR CLEANERS — Toxicity rating 3

| | |
|---|---|
| 1. Tall oil | 5–18% |
| Cresol* | 10–25% |
| Potassium hydroxide | 1–4% |
| Ethylene dichloride* | 15–50% |
| Sodium chromate* | 0.5–5% |
| Ammonium oxalate | 0.3–3% |
| Alcohol | 1–10% |
| Water | 10–40% |
| 2. Ethylene dichloride* (Other chlorinated hydrocarbons may be substituted such as o-dichlorobenzene*, dichloropentane* and methylene dichloride*) | Toxicity rating 3<br>63% |
| Cresol (low boiling cresylic acids may be substituted) | 25% |
| Oleic acid | 7.2% |
| Potassium hydroxide (sodium hydroxide) | 1.4% |
| Water | 3.4% |
| 3. "Odorless" carbon removers | Toxicity rating 3–4 |
| Aliphatic* or aromatic* hydrocarbon solvents with oil soluble wetting agents | |

## AUTOMOTIVE PRODUCTS (Cont.)

### CORROSION INHIBITORS

| | |
|---|---|
| 1. Chromate type: | Toxicity rating 3 |
| Sodium chromate* | 10–20% |
| Borax | 0–4% |
| Phosphates | 0–4% |
| Silicates | 0–1% |
| Water | to 100% |
| Some inhibitors have potassium bichromate* (toxicity rating 4) | |
| 2. Soluble oil type: | Toxicity rating 3 |
| Mineral oil* (see kerosene) | 80–90% |
| Potash rosin soap | 9–16% |
| Mineral oil sulfonates | 0–10% |
| Alkaline salts (borax, phosphates) | 0–2% |
| May contain: | |
| Oxidized petroleum waxes | |
| Organic metallic salts (calcium) | |
| Waxes | |
| 3. Sodium nitrate type: | Toxicity rating 3 |
| Sodium nitrate* | 20–100% |
| Alkaline salts | 0–5% |
| Water | |
| 4. "Straight" alkali type: | Toxicity rating 3 |
| Borax | |
| Borates* | |
| Sodium carbonate | |
| Sodium metasilicates | |
| Sodium phosphates | |
| 5. Organic type: | Toxicity rating 3–4 |
| a. Organic amine nitrites e.g., diisopropyl ammonium nitrite* (see nitrites) dicyclohexyl ammonium nitrite* (See Ammonium salts) | 0–100% |
| Sodium mercaptobenzothiazol* ($LD_{50}$ (rat) 1.6 gm./kg. as 10% aqueous solution) | 0–50% |
| Alkaline salts (borax, phosphates) | 0–5% |
| Water | |
| b. Polyoxyethylene glycol ether of a high molecular weight organic amine | |
| Quaternary ammonium salt | |
| Acetylenic alcohol | |

### DRESSINGS

| | |
|---|---|
| 1. Convertible top dressing | Toxicity rating 3 |
| Petroleum naphtha* or Stoddard solvent* | |
| Dowicide A | 2% |
| Resin | |
| Wax | |
| 2. Leather or rubber coating | Toxicity Rating 3 |
| a. Titanium dioxide | 13% |
| Aluminum stearate | 1% |
| Calcium carbonate | 13% |
| Mineral spirits* | 33% |
| Cobalt (6%) | 0.5% |
| Lead (24%) | 0.5% |
| Wax or resin | |
| b. Acrylic resin | Toxicity rating 4<br>10% |
| Plasticizer | 1% |
| Aromatic ketone solvent* (see aromatic hydrocarbon solvent) | 89% |
| c. Latex polymer acrylic resin | Toxicity rating 2<br>10% |
| Plastic | 1% |
| Water | 89% |

Starred ingredients (*) may be responsible for major toxic effects; consult Section II.

## AUTOMOTIVE PRODUCTS (Cont.)

**ENGINE AND MOTOR CLEANERS** ... Toxicity rating 4

1. Ethylene dichloride* ..... 63%
   (or other chlorinated hydrocarbons such as o-dichlorobenzene*, dichloropentane*, methylene dichloride*, 1,1,1,-trichloroethylene*)
   Cresol* (low boiling cresylic acids* may be substituted) ..... 25%
   Oleic acid ..... 7.2%
   Potassium (or sodium) hydrozide .... 1.4%
   Water ..... 3.0%

   Toxicity rating 3

2. Methylene chloride* ..... 0.25%
   Perchlorethylene* ..... 5–60%
   Stoddard solvent* ..... 40–70%

   Toxicity rating 3

3. Perchlorethylene* ..... 0–60%
   Trichlorethane* ..... 0–60%
   Methylene chloride* ..... 0–25%
   Petroleum solvents* ..... 40–70%
   Chlor-aromatic solvents* (see o-dichlorobenzene, chlorinated naphthalenes ..... 0–100%
   Detergent
   Emulsifier
   May contain:
   Alkali
   Corrison inhibitors
   Essential oils
   Lubricating oils*
   Pine oil
   Versene

**FLUSHES (Radiator)** (see under RADIATOR CLEANERS below)

**FOAM SUPPRESSORS**

Antifoams, defoamers, foam preventive
Alcohols (* if > 10%)
Alkyl lactates
Amyl alcohol*
Calcium acetate
Calcium ricinoleate
Castor oil soap
Dibutyl phthalate
Ethyl oleate
Phenyl stearate
Polyglycols (* if > 50%)
Silicone compounds
Sulfones (* if > 10%)
Surfactants (anionic—* if > 50%; cationic—* if > 20%)
Vegetable oils
Volatile solvents (toxicity rating 3 if > 10% alkyl; toxicity rating 4 if > 10% aryl)

**FROST REMOVER**

1. Spray type: ..... Toxicity rating 3
   Isopropyl alcohol ..... 25%
   Ethylene glycol* ..... 50%
   Water ..... 25%
   Propellant, $CO_2$

   toxicity rating 3

2. Alcohol
   Isopropyl alcohol* ..... 30–100%
   N-propyl alcohol*
   Propylene glycol ..... 15–30%
   Ethylene glycol*
   Water ..... 5–15%

## AUTOMOTIVE PRODUCTS (Cont.)

**FROST REMOVER (Cont.)**

May contain:
Tetrahydrofurfuryl alcohol (see alcohols, higher*)

**FUEL TANK DRIERS** (see DRIERS)

**OILS** (see under OILS)

**POLISH** (see under POLISHES)

**RADIATOR CLEANERS (FLUSHES)**

1. Alkaline ..... Toxicity rating 3–4
   Sodium orthosilicate ..... 9%
   Sodium tripolyphosphate ..... 4%
   Sodium dichromate ..... 2%
   May contain:
   Sodium chromate* ..... 16%
2. Acid ..... Toxicity rating 4
   Oxalic acid* ..... 40%
   Boric acid* ..... 60%
   May contain:
   Hydrochloric acid*
   Sodium bisulfite*
3. Mixed ..... Toxicity rating 4
   a. Oxalic acid* ..... 40–100%
      Boric acid* ..... 60%
      Detergent

      Toxicity rating 3

   b. Sodium carbonate ..... 85%
      Potassium dichromate* ..... 15%
4. Solvent ..... Toxicity rating 3–4
   Mainly petroleum ethers*
   May be chlorinated hydrocarbons* (*e.g.*, o-dichlorobenzenes)
5. Liquid fast flushes may contain: ..... Toxicity rating 3
   n-Butanol*
   Olefins*
   Isopropanol*
6. Heavy duty powders may contain: ... Toxicity rating 4?
   Oxalic acid*
   Sulfamic acid*

1. **RADIATOR STOP LEAK** ..... Toxicity rating 2
   Dextrin ..... 5–10%
   Cellulose gum ..... 0.5%
   Asbestos ..... 5%
   Soda ash ..... 0.8%
   Isopropanol ..... 10–15%
   Water ..... to 100%
   May contain:
   Aluminum oxide
2. Soluble oil type ..... Toxicity rating 3
   Asbestos
   Clays
   Mineral oil* (see kerosene)
   Wood flour
   Sulfonates
   Water

**RUBBING COMPOUND** (see POLISHES)

**SHOCK ABSORBER FLUIDS**

1. Delco type: ..... Toxicity rating 3
   Naphthenic or paraffinic petroleum oil* (see kerosene)

Starred ingredients (*) may be responsible for major toxic effects; consult Section II.

DECORATIONS (Cont.)

CHRISTMAS TREE ORNAMENTS ..... Toxicity rating 3 or 4
Christmas tree ornaments of the "bubble light" variety frequently contain such substances as ethyl alcohol*, methyl chloride*, methylene chloride*, or ethyl ether*.

CHRISTMAS SNOW SPRAY ..... Toxicity rating 3 or 4
Waxes
Fatty acids
Perfume
Chlorinated hydrocarbon solvents*
Petroleum distillates*
Nitrocellulose or hydrocarbon resins
Freon or isobutane propellants

## DEGREASERS

DEGREASERS (see also Cleaners)
Household liquid: ..... Toxicity rating 2
1. Combinations of anionic and nonionic synthetic surfactants, usually about 15 to 20%. Balance water.
   Example:
   Alkyl phenol polyethylene glycol ether) 20%
   Alkyl aryl sodium sulfonate)
   Water softener, Color, Perfume, Water ..... q.s. to 100%
2. Water solutions of coconut fatty acids in combination with the above mentioned surfactants
3. Terpene distillates* (see terpenes) ... Toxicity rating 3
   Petroleum distillates*
   May contain:
   Methyl polysiloxane
   Tall oil fatty acids (see rosin & rosin oil)
   Powder ..... Toxicity rating 3
   Carbon tetrachloride*
   Kaolin
   Naphtha
   Vapor: ..... Toxicity rating 3
   Perchlorethylene (100%)
   Carbon tetrachloride (100%) ..... Toxicity rating 4
   Trichloroethylene (100%) ..... Toxicity rating 4

GREASE REMOVERS ..... Toxicity rating 3
Mineral spirits* ..... 60-70%
Oleic acid ..... 5-10%
Caustic potash (30% solution) ..... 5-10%
Butyl alcohol ..... 5-10%
Butyl cellosolve ..... 5-10%
Methyl chloroform ..... 0-5%
Alkyl aryl sulfonate (10% solution) .... 0-5%
Methyl ethyl ketone
May contain:
Alkaline soap
Alkalis (trisodium phosphate, sodium carbonate)
Isophorone
Isopropanol
Phosphoric acid

DEGREASERS (Cont.)

TAR REMOVERS ..... Toxicity rating 4
Xylene*
Chlorinated hydrocarbons*
May contain:
Isopropyl alcohol*
Mineral spirits*
Surfactants

WAX REMOVERS (see GREASE REMOVERS, above)

## DE-ICERS

DE-ICERS, REFRIGERATORS AND AUTOMOTIVE ..... Toxicity rating 2-3
1. Propylene glycol ..... 0-100%
   Ethylene glycol* ..... 0-50%
   Isopropylalcohol ..... 0-25%
   Water ..... 0-25%
   May contain:
   *n*-Propyl alcohol
2. Methanol ..... 0-50%

DE-ICERS, FUEL SYSTEM ANTI-FREEZE ..... Toxicity rating
1. Isopropanol or propanol* ..... 60% — 4
   Toluene* ..... 30%
   Acetone ..... 10%
2. Isopropanol or propanol* ..... 20% — 3
   Methanol* ..... 80%
3. Methanol* ..... 70% — 4
   Xylene* ..... 30%
4. Methanol ..... 96%
   Trace materials ..... 4%
   Additives are either water-freezing point depressants, such as ethanol, isopropanal, dimethyl formamide, hexylene glycol, dipropylene glycol, or surface-active agents.

FROST REMOVER
1. Spray type: ..... Toxicity rating 3
   Isopropyl alcohol ..... 25%
   Ethylene glycol* ..... 50%
   Water ..... 25%
   Propellant, $CO_2$
2. Alcohol ..... Toxicity rating 3
   Isopropyl alcohol* ..... 30-100%
   *N*-Propyl alcohol*
   Propylene glycol ..... 15-30%
   Ethylene glycol*
   Water ..... 5-15%
   May contain:
   Tetrahydrofurfuryl alcohol (see higher alcohols)

## DEODORIZERS

BATHROOM DEODORANT
1. Naphthalene* ..... Toxicity rating 4
2. Paradichlorobenzene* ..... Toxicity rating 3
3. Sodium bisulfate* ..... Toxicity rating 3
These compounds may or may not contain a trace of perfume

CLEANSER TYPE ..... Toxicity rating 3
1. Pine oil* ..... 60% minimum) — always
   Anhydrous soap .... 30% maximum) — 90%
   Water ..... 10%
2. Quaternary ammonium compound* .. 2.5-10%
   Non-ionic surfactant ..... 0.6-2.5%

Starred ingredients (*) may be responsible for major toxic effects; consult Section II.

OILS (Cont.)

METAL PROTECTIVE OILS (Cont.)

| | |
|---|---|
| Petroleum wax | 0–20% |
| Stoddard solvent* | 0–25% |
| Soaps | 0–3% |
| Fatty oils | 0–5% |

MISCELLANEOUS OILS ..... Toxicity rating 3 or 4

- Mineral oils
- Additives
- Xylene*
- Alkaline salts of organic acids
- Rust inhibitors
- Kerosene
- Silicone
- Propellant

| | |
|---|---|
| Phosphorus | trace |
| Zinc | trace |
| Barium | trace |
| Citronella (home) | trace |

MOTOR OILS ..... Toxicity rating 2

| | |
|---|---|
| Mineral oils | 75–100% |
| Oxidation inhibitors and detergents | 0–20% |
| Zinc dialkyl dithiophosphate | |
| Phosphorus pentasulfide-terpene addition products | |
| Barium and calcium petroleum sulfonate | |
| Barium and calcium phenolates | |
| Ashless detergents | |
| Pour depressants and viscosity improvers | 0–5% |
| Polymethacrylate esters | |
| Polyisobutylenes | |
| Alkyl styrene polymers | |
| Hydrocarbon wax-naphthalene condensation products | |
| Antifoam agents | 0–150 ppm |
| Polysiloxanes | |

PENETRATING OILS ..... Toxicity rating 2 or 3

| | |
|---|---|
| Mineral oils | 40–80% |
| Kerosene* | 20–60% |
| May contain: | |
| Surface active agents | 0–3% |
| Fatty oils and fatty acids | 0–5% |
| Xylene* | 0–10% |
| Tributyl phosphate | 0–3% |
| Butyl alcohol | |
| Chlorinated hydrocarbons* ($CCl_4$) | |

SHOCK ABSORBER OILS (see AUTOMOTIVE PRODUCTS)

TOP CYLINDER LUBRICANTS (see AUTOMOTIVE PRODUCTS)

OINTMENT (see NON-PRESCRIPTION DRUGS)

## PAINT

AEROSOL PAINT PRODUCTS

Aerosol packaged paint products of wide variety are available in almost all of the categories given below. In addition to the listed ingredients for the base paint product there will be

PAINT (Cont.)

AEROSOL PAINT PRODUCTS (Cont.)

present the propellant, usually one of the Freons, or propane or combinations.

ANTIALGAE PAINTS ..... Toxicity rating 4

| | |
|---|---|
| Cuprous oxide* | copper as metal 7% |
| Copper soap | |
| Arsenic oxide* (see Arsenic pentoxide) | arsenic as metal 7% |
| Copper sulfate pentahydrate* | |
| Mercury soap | mercury as metal 0.3% |
| 2,2 Dihydroxy 5,5-dichlorodiphenylmethane* or 2,2-methylenebis (4-chlorophenol)* | |

ANTICORROSION PAINTS ..... Toxicity rating:

| | |
|---|---|
| Pigment: | |
| Zinc chromate* | 4 |
| Lead chromate* | 4 |
| Red lead oxide* | 3 |
| Basic lead carbonate* | 4 |
| Zinc oxide | 2 or 3 |
| Lead monoxide* | 3 |
| Vehicle: | |
| Rosin | 2 |
| Pine oil* | 3 |
| Coal tar* | 4 |
| Petroleum ether* | 3 |
| Anticorrosion paints may contain: | |
| Ammonium hydroxide* | 3 |
| Arsenic* | 5 |
| Cuprous oxide* | 4 |
| Ethyl alcohol | 3 |
| Kerosene* | 3 |
| Mercuric oxides* | 5 |
| Metallic soap | ? |
| Methylene chloride* | 3 |
| Paraffin | |
| Plastic thickener | |
| Rust retardant | |
| bis(Tributyl tin)oxide | |

DRIERS ..... Toxicity rating:

| | |
|---|---|
| Vanadium compounds* | 3 or 4 |
| Manganese compounds* | 3 |
| Zinc compounds* | 4 |
| Iron compounds* | 3 |
| Cobalt compounds* | 4 |
| Potassium hydroxide* | 4 |
| Lead naphthenate* | 3? |
| Lead octoate* (see Lead acetate) | 3? |
| Lead tallate* | 3? |
| Other lead compounds* | 4 |

FINGER PAINTS (see ARTS AND CRAFTS PRODUCTS)

LACQUERS ..... Toxicity rating 2 or 3

- Nitrocellulose
- Ester gum (glyceryl, methyl and ethyl esters of resin acids)
- Cottonseed oil
- Synthetic resins made from cotton and oil
- Synthetics made from soya beans
- Pigments
- Nitric acid
- Lead oxide
- Magnesium oxide

Starred ingredients (*) may be responsible for major toxic effects; consult Section II.

GB
1025.T4
N6
Vol. 2

REF.6

Report 269

# OCCURRENCE, AVAILABILITY, AND CHEMICAL QUALITY OF GROUND WATER IN THE CRETACEOUS AQUIFERS OF NORTH-CENTRAL TEXAS

Volume 2

TEXAS DEPARTMENT OF WATER RESOURCES

July 1982

Ref. 07

| RECORD OF COMMUNICATION | (Record of Item Checked Below)<br>_X_Phone Call ___Discussion ___Field Trip<br>___Conference ___Other(Specify) | |
|---|---|---|
| TO: Allen Hendrix,<br>Engineer's Asst.<br>(214) 948-4230 | From:<br>Brian K. Boerner, FIT Chemist | Date:<br>8/31/88<br>Time:<br>1015 am |

SUBJECT: Drainage of Stormwater in Dallas

SUMMARY OF COMMUNICATION

All stormwater enters the drainage system and is discharged into local creeks and rivers without treatment.

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.8

dallas water utilities
2861-C Municipal St. • Dallas, Texas 75215 • (214) 670-8664

September 19, 1988

Brian K. Boerner
Ecology and Environment, Inc.
1509 Main Street, Suite 814
Dallas, TX 75201

Dear Mr. Boerner:

Attached is the information you requested in the letter dated August 19, 1988. This information includes:

Attachment 1: The locations of all City of Dallas' water intakes in Dallas County. These are for the Elm Fork Water Treatment Plant, Bachman Water Treatment Plant, and Eastside Water Treatment Plant. The City of Dallas also has an intake structure at Lake Tawakoni in Hunt County. This water is treated at the Eastside Plant.

Attachment 2: Area and population served by these intakes.

Attachment 3: Locations of both City of Dallas wastewater facilities: The Central and Southside Wastewater Treatment Plants.

Attachment 4: Water quality reports of samples taken from the raw water intakes.

Attachment 5: Effluent discharge data for all discharging facilities from January 1987 to the present.

Regarding your request for the locations of any public or private wells, the City of Dallas Water Department does not operate any public wells and has no information regarding any private wells that may exist in the area.

If you have any questions concerning this information, please do not hesitate to call Daniela Clary, at 670-7433, or me.

Sincerely,

Betty Gabbai

Batsheba A. Gabbai, P.E.
Engineer
Water and Wastewater Quality

0305j

Enclosures

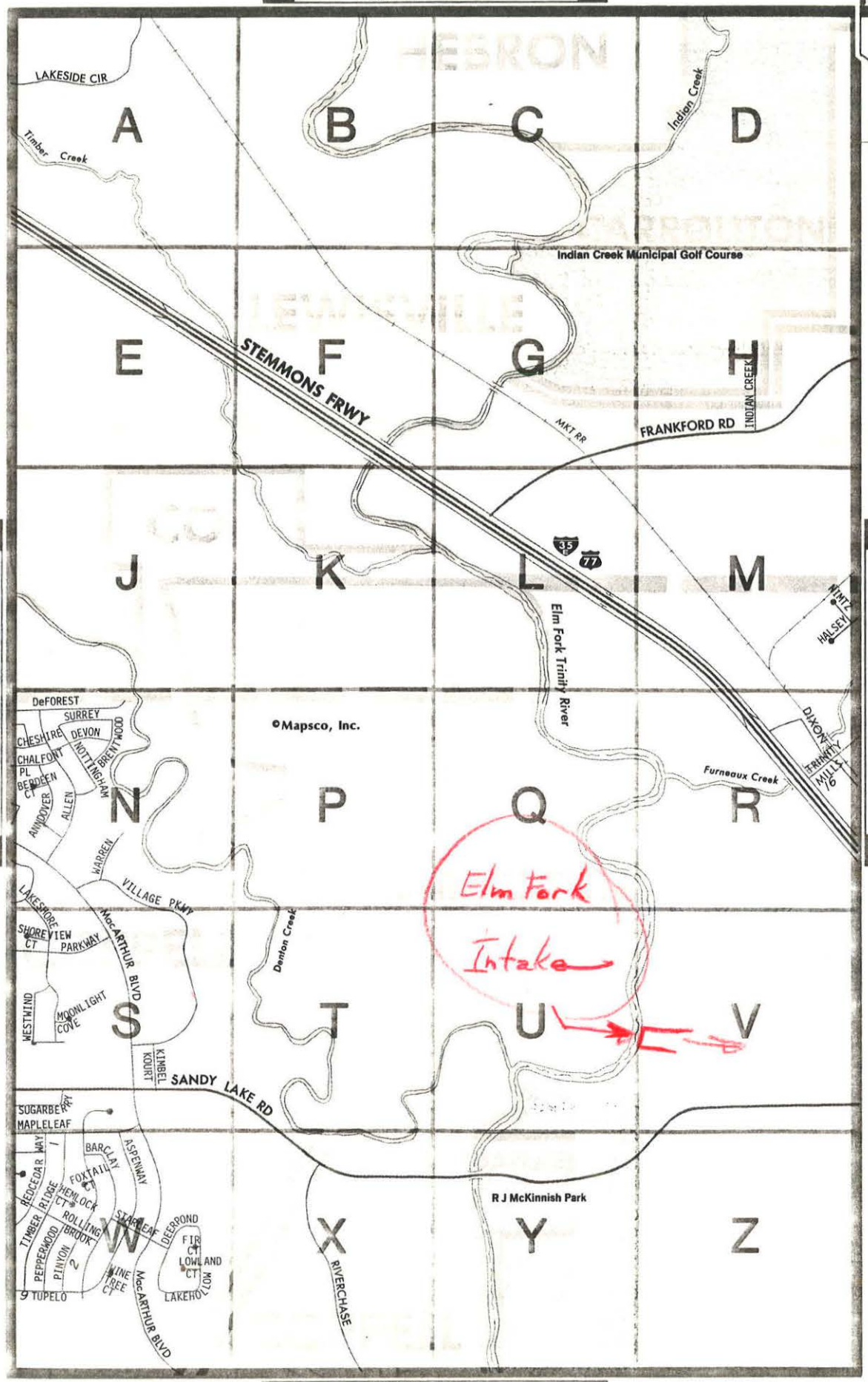


TS97 00012

Index
12A

CONTINUED ON MAP 652

MAP 1B



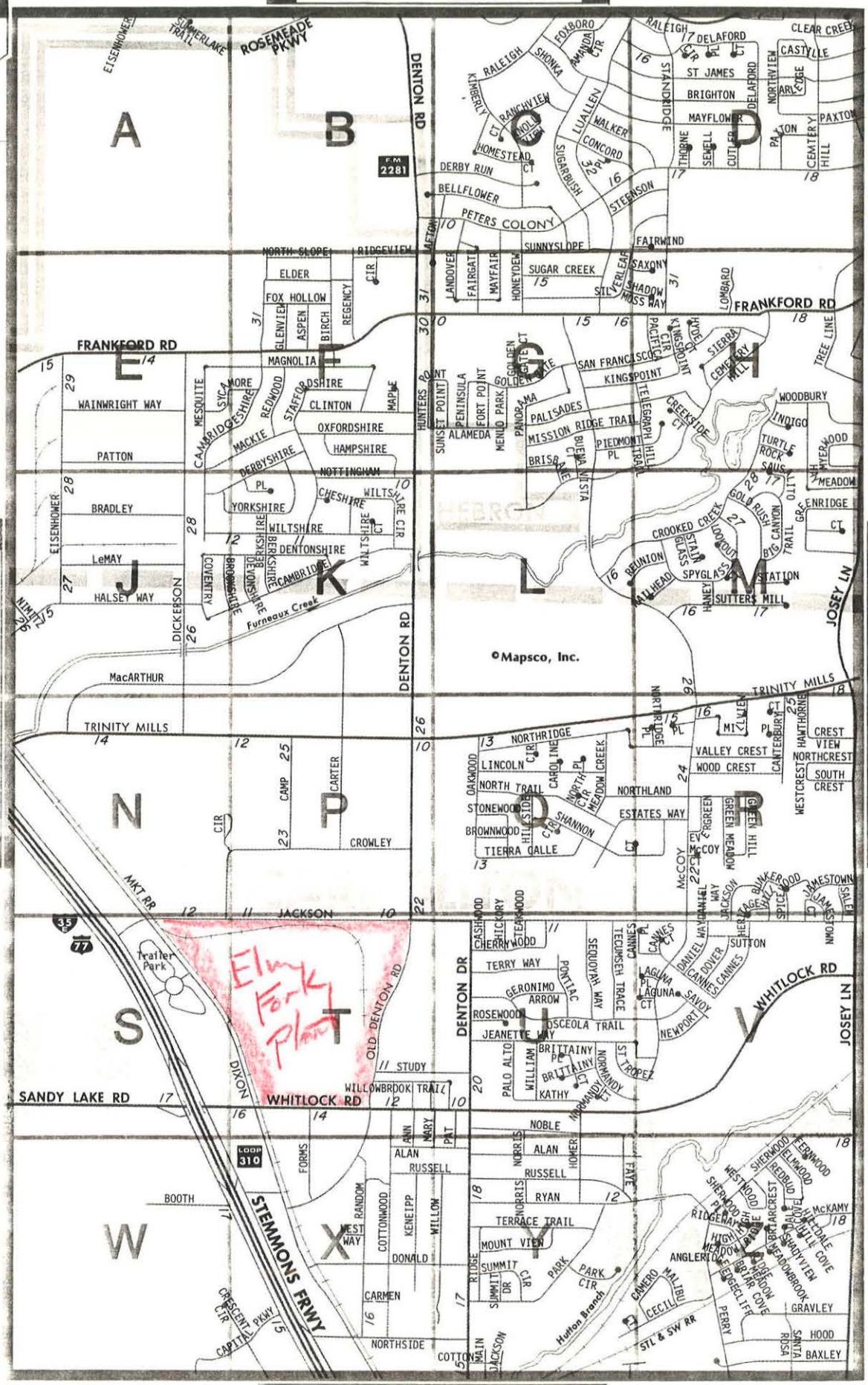

CONTINUED ON MAP 11B

SCALE in METERS 0 200 1000

SCALE in FEET 0 1000 2000 3000

MAP 2

CONTINUED ON MAP 653




CONTINUED ON MAP 1B

CONTINUED ON MAP 3

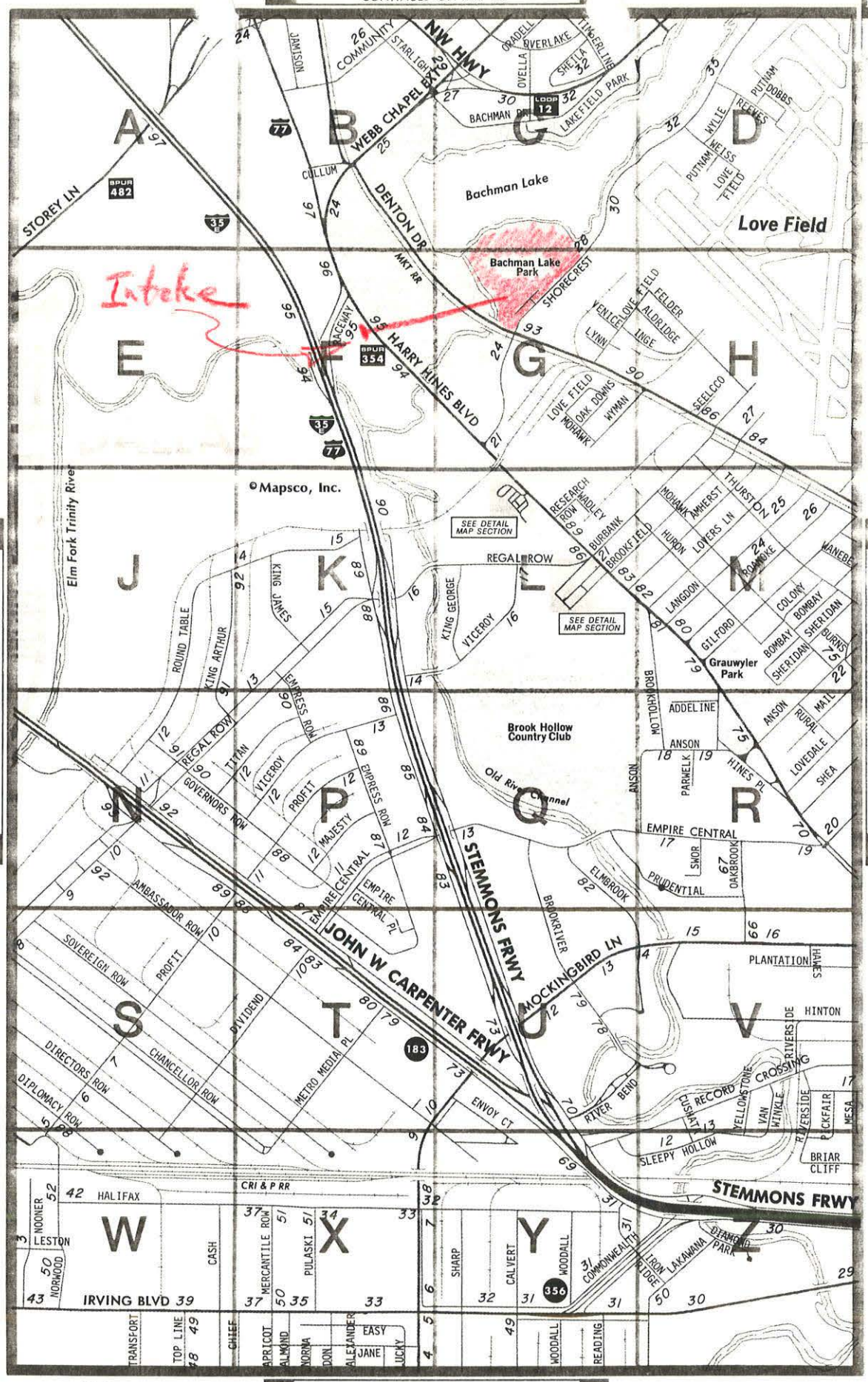
CONTINUED ON MAP 12

SCALE in METERS 0 500 1000

SCALE in FEET 0 1000 2000 3000

CONTINUED ON MAP 23

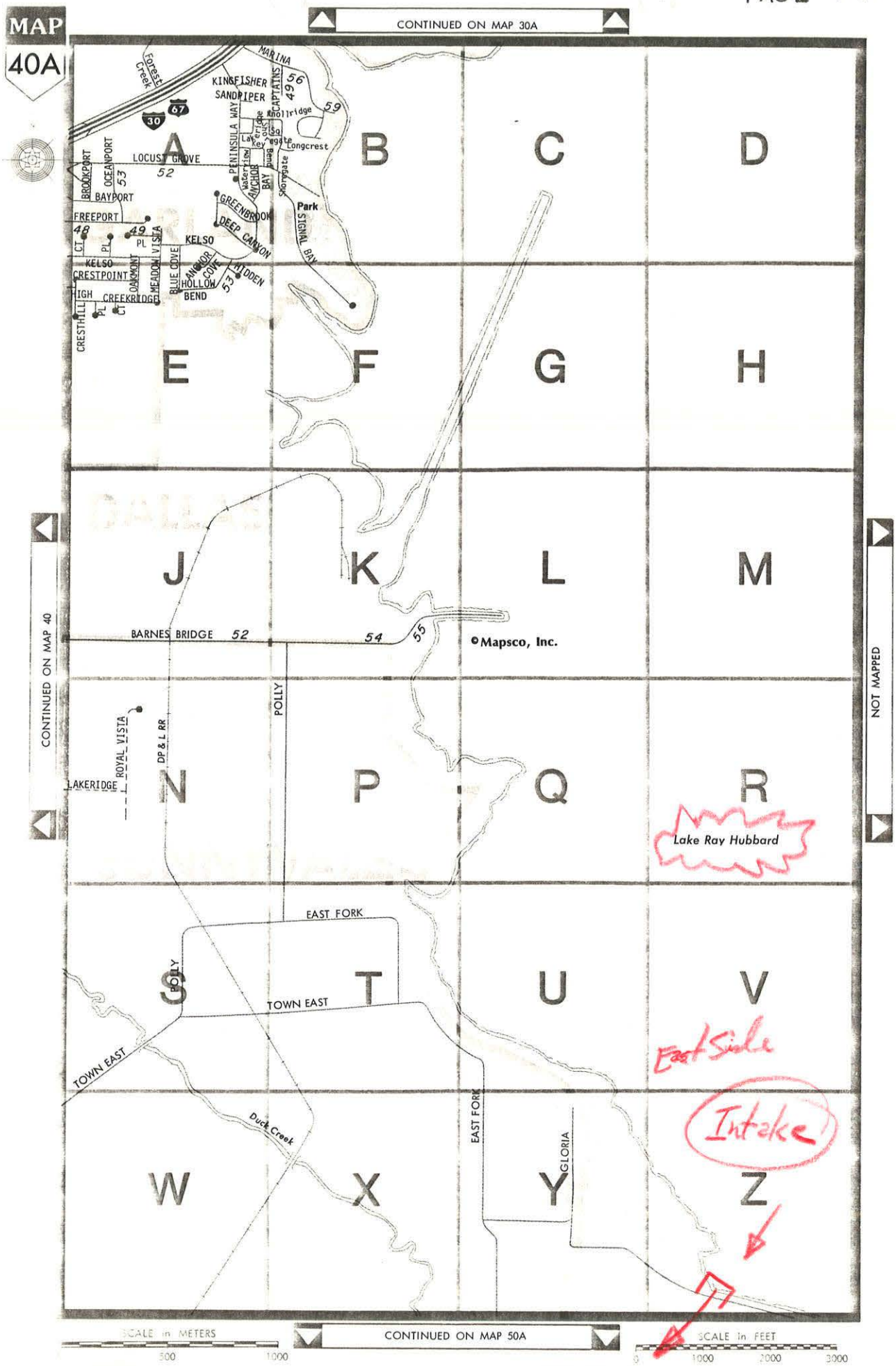
MAP 33




CONTINUED ON MAP 32

CONTINUED ON MAP 34

CONTINUED ON MAP 43


MAP
40A
CONTINUED ON MAP 30A
CONTINUED ON MAP 40
NOT MAPPED
CONTINUED ON MAP 50A
A
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F
G
H
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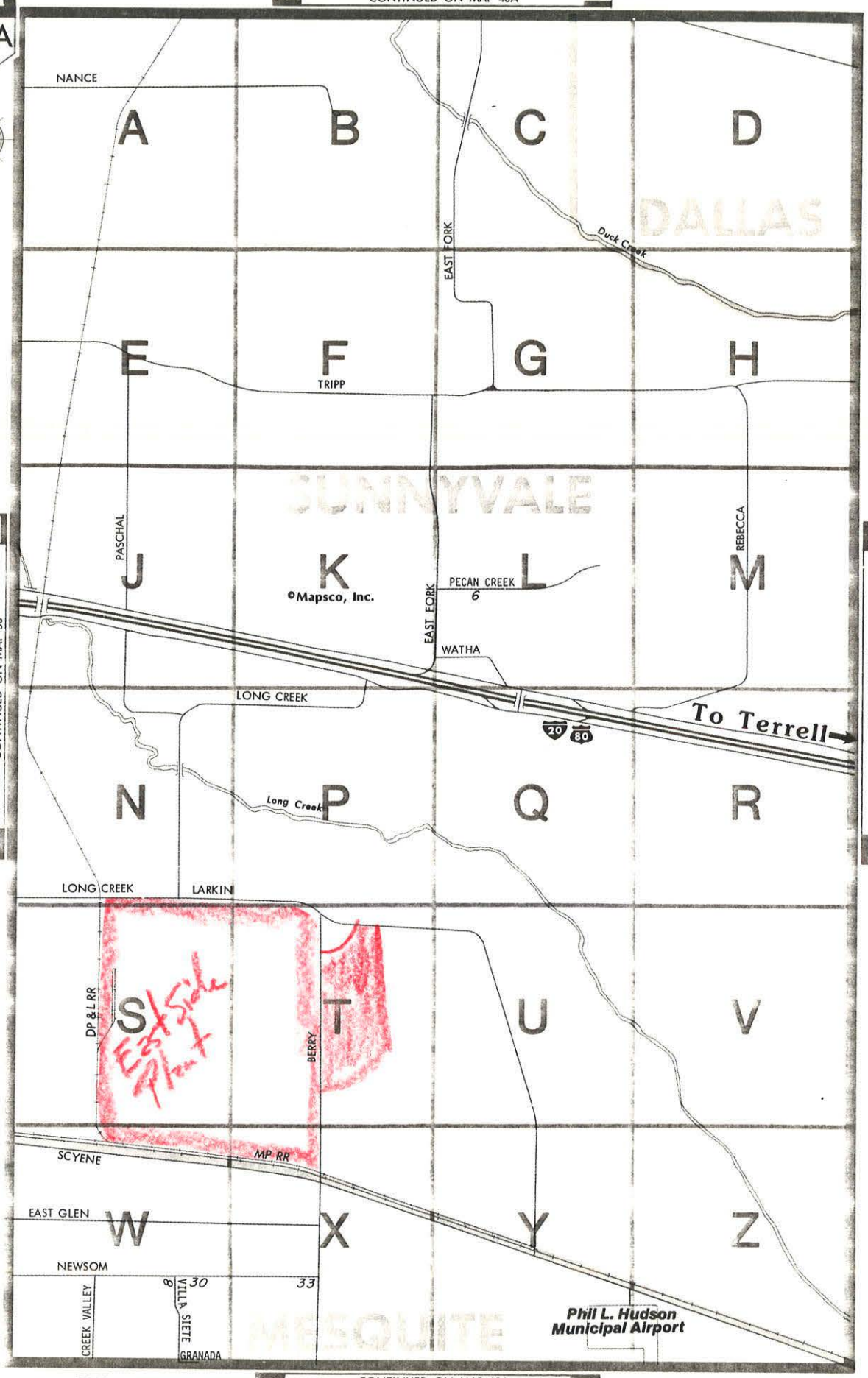
W
X
Y
Z
Forest Creek
MARINA
KINGFISHER
SANDPIPER
CAPTAINS
Knollridge
Longcrest
PENINSULA WAY
Waterview
ANCHOR BAY
Shoregate
Park
SIGNAL BAY
LOCUST GROVE
BROOKPORT
OCEANPORT
BAYPORT
FREEPORT
GREENBROOK
DEEP CANYON
KELSO
CRESTPOINT
CREEKRIDGE
CRESTHILL
OAKMONT
MEADOW VISTA
BLUE COVE
ANCHOR COVE
HOLLOW BEND
HIDDEN
BARNES BRIDGE
POLLY
ROYAL VISTA
DP & L RR
LAKERIDGE
EAST FORK
TOWN EAST
Duck Creek
GLORIA
Mapsco, Inc.
Lake Ray Hubbard
East Side
Intake
SCALE in METERS
500
1000
SCALE in FEET
0
1000
2000
3000

MAP 50A

CONTINUED ON MAP 40A



Index
12B

ATTACHMENT 2

2. a. Area served by water intakes:

| | |
|---|---|
| Dallas Customers: | 333 square miles |
| Wholesale Customers: | 321 square miles |
| Raw Water Customers: | 65 square miles |
| Total: | 719 square miles |

b. Population served by water intakes:

| | |
|---|---|
| Dallas Customers: | 960,850 |
| Wholesale Customers: | 556,000 |
| Raw Water Customers: | 111,000 |
| Total: | 1,627,850 |

(Information obtained from North Texas Council of Governments)

0309j

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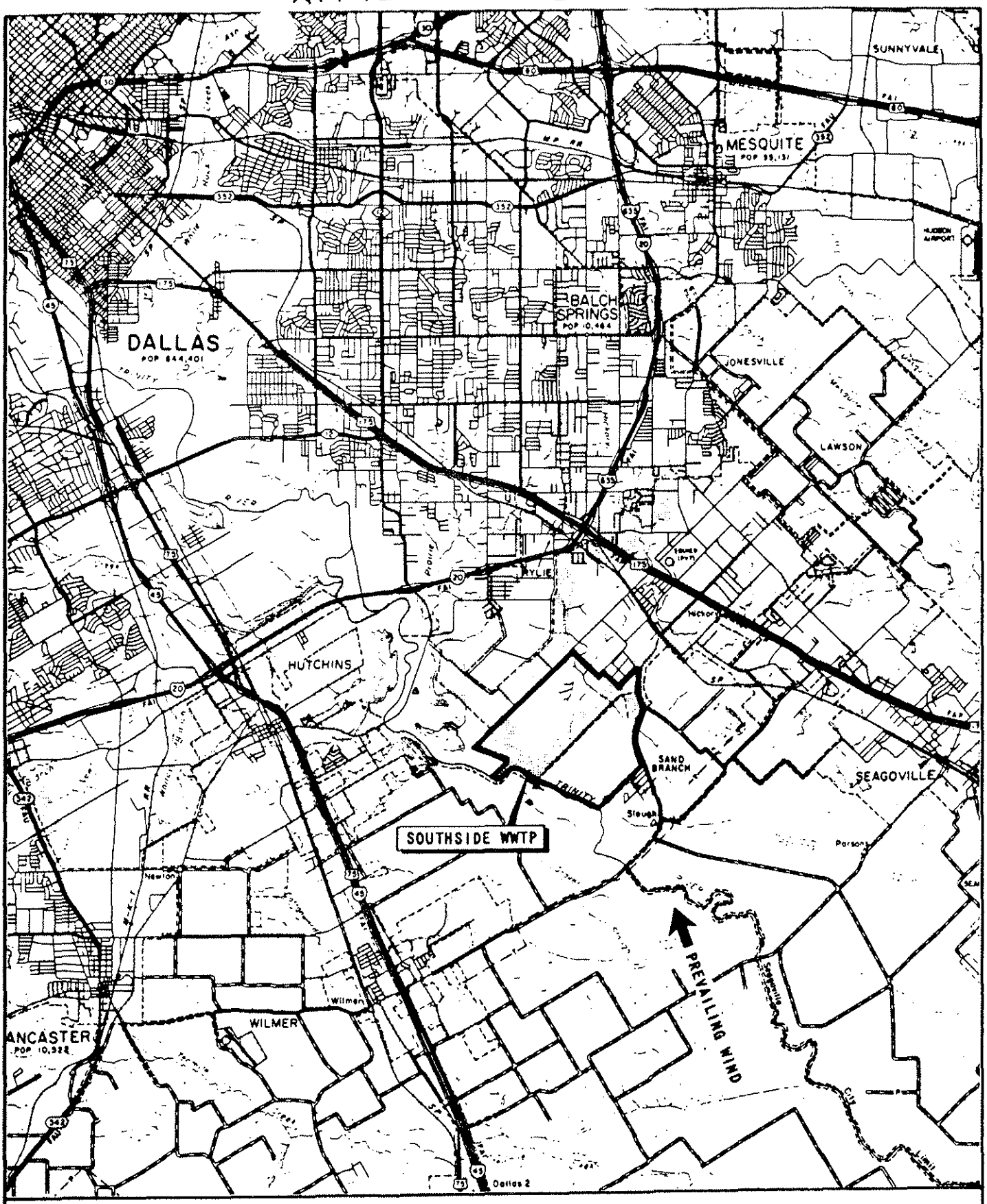
12C




NORTH

SCALE: ½" = 1 MILE

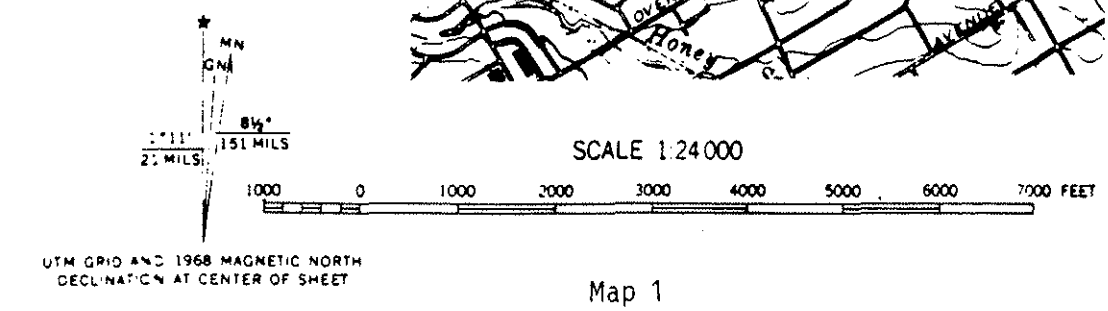
SDHPT 1981

**LOCATION MAP**

**DALLAS, TEXAS**

GEOGRAPHIC COORDINATES
LATITUDE 32°47'03" N
LONGITUDE 96°37'43" W

Map 1




**LOCATION MAP**

from U.S.G.S. maps:
Oak Cliff and Dallas
1:24000 Scale

Central Waste Treatment Plant
Dallas, Texas

January 14, 1988

Map 1

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12 D

TABLE NO. 7

MINERAL ANALYSIS OF RAW WATER
(Results in mg/l)

BACHMAN WATER PURIFICATION PLANT

1986-87

| ITEM | OCT. 16 | NOV. 4 | DEC. 11 | JAN. 6 | FEB. 17 | MAR. 11 | APR. 8 | MAY 13 | JUN. 16 | JUL. 13 | AUG. 3 | SEP. 2 | AVERAGE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| otal Solids | | | | | | | | | | | | | |
| Dissolved (180C) | 246 | 249 | 264 | 225 | 228 | 246 | 234 | 289 | 197 | 225 | 256 | 222 | 240 |
| Fixed Residue (550C) | 206 | 212 | 234 | 200 | 174 | 214 | 198 | 259 | 164 | 171 | 207 | 196 | 203 |
| Conductance (micromhus/cm) | 362 | 347 | 465 | 376 | 379 | 388 | 373 | 424 | 379 | 365 | 387 | 389 | 386 |
| Alkalinity as CaCO3 | | | | | | | | | | | | | |
| Phenolphthalein | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 113 | 117 | 105 | 107 | 110 | 118 | 118 | 114 | 103 | 118 | 110 | 113 | 112 |
| Bicarbonate | 113 | 117 | 105 | 107 | 104 | 118 | 118 | 114 | 103 | 118 | 110 | 113 | 112 |
| Carbonate | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Hydroxide | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pH | 7.8 | 7.8 | 8.1 | 8.0 | 8.4 | 8.1 | 8.1 | 7.8 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| Hardness as CaCO3 | | | | | | | | | | | | | |
| Total Hardness | 113 | 139 | 151 | 143 | 139 | 153 | 141 | 165 | 118 | 137 | 129 | 132 | 138 |
| Noncarbonate Hardness | 20 | 22 | 46 | 36 | 29 | 35 | 23 | 51 | 15 | 19 | 19 | 19 | 28 |
| Langlier Saturation Index* | -0.04 | +0.00 | +0.05 | -0.14 | +0.33 | +0.17 | +0.14 | +0.14 | +0.23 | +0.30 | +0.31 | +0.31 | +0.15 |
| Calcium | 44 | 48 | 48 | 46 | 47 | 57 | 47 | 57 | 44 | 42 | 40 | 44 | 47 |
| agnesium | 6 | 4 | 7 | 7 | 5 | 3 | 6 | 6 | 2 | 7 | 7 | 5 | 5 |
| ron | 0.05 | 0.08 | 0.05 | 0.08 | 0.05 | <0.05 | 0.10 | 0.08 | 0.05 | 0.08 | 0.06 | 0.06 | <0.07 |
| Aluminum | <0.05 | <0.05 | 0.07 | <0.05 | <0.05 | 0.06 | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 | <0.05 | 0.05 |
| Sodium (By difference) | 26 | 34 | 26 | 16 | 23 | 20 | 18 | 20 | 25 | 24 | 21 | 27 | 23 |
| Chloride | 22 | 25 | 24 | 22 | 24 | 23 | 23 | 25 | 19 | 24 | 27 | 25 | 24 |
| Fluoride | 0.30 | 0.38 | 0.44 | 0.40 | 0.47 | 0.32 | 0.27 | 0.38 | 0.28 | 0.29 | 0.36 | 0.36 | 0.35 |
| Silica | 5.0 | 5.7 | 6.2 | 3.8 | 3.4 | 4.8 | 4.5 | 4.0 | 4.6 | 5.4 | 5.9 | 4.9 | 4.9 |
| Nitrate (As N) | 0.69 | 0.73 | 0.62 | 0.77 | 0.66 | 0.62 | 0.69 | 0.52 | 0.52 | 0.58 | 0.45 | 0.65 | 0.63 |
| Phosphate (As P) | 0.05 | 0.07 | 0.11 | 0.09 | 0.09 | 0.06 | 0.06 | 0.04 | 0.06 | 0.07 | 0.04 | 0.09 | 0.07 |
| Sulfate | 43 | 58 | 66 | 37 | 44 | 45 | 28 | 56 | 41 | 37 | 26 | 40 | 43 |
| Color Units | 20 | 20 | 25 | 20 | 15 | 18 | 25 | 25 | 18 | 20 | 20 | 15 | 20 |
| Sample Temperature (F) | 69 | 68 | 53 | 49 | 52 | 54 | 57 | 75 | 79 | 81 | 87 | 83 | 67 |

Spot Samples on Indicated Dates  All constituents mg/l unless otherwise noted.
* Units

TABLE NO. 7

MINERAL ANALYSIS OF RAW WATER
(Results in mg/l)

ELM FORK WATER PURIFICATION PLANT

1986-87

| ITEM | OCT. 10 | NOV. 3 | DEC. 4 | JAN. 5 | FEB. 2 | MAR. 2 | APR. 13 | MAY 11 | JUN. 16 | JUL. 13 | AUG. 4 | SEP. 1 | AVERAGE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| tal Solids | | | | | | | | | | | | | |
| Dissolved (180C) | 237 | 220 | 234 | 208 | 214 | 260 | 243 | 285 | 225 | 200 | 223 | 217 | 231 |
| Fixed Residue (550C) | 176 | 170 | 177 | 182 | 190 | 183 | 201 | 229 | 182 | 150 | 189 | 179 | 184 |
| Conductance (micromhus/cm) | 380 | 360 | 380 | 360 | 320 | 380 | 380 | 400 | 340 | 340 | 340 | 345 | 360 |
| Alkalinity as CaCO3 | | | | | | | | | | | | | |
| Phenolphthalein | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 112 | 106 | 109 | 105 | 110 | 117 | 118 | 116 | 107 | 100 | 115 | 102 | 110 |
| Bicarbonate | 112 | 106 | 109 | 105 | 110 | 117 | 118 | 116 | 107 | 100 | 115 | 102 | 110 |
| Carbonate | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hydroxide | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pH | 7.9 | 7.7 | 7.7 | 8.0 | 7.9 | 8.0 | 8.1 | 8.0 | 7.7 | 7.7 | 7.5 | 7.8 | 7.8 |
| Hardness as CaCO3 | | | | | | | | | | | | | |
| Total Hardness | 132 | 121 | 127 | 124 | 128 | 137 | 134 | 143 | 120 | 112 | 116 | 112 | 126 |
| Noncarbonate Hardness | 20 | 15 | 18 | 19 | 18 | 20 | 16 | 27 | 13 | 12 | 1 | 10 | 16 |
| Langlier Saturation Index* | +0.14 | -0.25 | -0.18 | -0.15 | -0.21 | -0.04 | +0.20 | +0.26 | -0.12 | -0.10 | -0.24 | -0.01 | -0.08 |
| Calcium | 46 | 40 | 45 | 45 | 44 | 49 | 48 | 50 | 42 | 41 | 39 | 38 | 44 |
| gnesium | 4 | 5 | 4 | 3 | 4 | 3 | 4 | 4 | 4 | 2 | 4 | 4 | 4 |
| on | <0.05 | <0.05 | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aluminum | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Sodium (By difference) | 20 | 22 | 29 | 30 | 32 | 29 | 22 | 27 | 26 | 23 | 28 | 25 | 26 |
| Chloride | 22 | 22 | 21 | 20 | 20 | 21 | 22 | 27 | 19 | 22 | 22 | 24 | 22 |
| Fluoride | 0.34 | 0.81 | 0.39 | 0.38 | 0.35 | 0.36 | 0.37 | 0.41 | 0.33 | 0.35 | 0.35 | 0.35 | 0.40 |
| Silica | 4 | 4.4 | 4.8 | 3.1 | 4.2 | 4.3 | 5.8 | 7.2 | 4.3 | 4.9 | 5.2 | 2.8 | 4.6 |
| Nitrate (As N) | 0.4 | 0.62 | 0.6 | 0.65 | 0.64 | 0.90 | 0.12 | 0.53 | 0.36 | 0.21 | 0.14 | 0.04 | 0.43 |
| Phosphate (As P) | 0.05 | 0.10 | 0.24 | 0.09 | 0.08 | 0.07 | 0.05 | 0.06 | <0.02 | 0.14 | 0.16 | 0.06 | <0.09 |
| Sulfate | 30 | 30 | 50 | 54 | 56 | 51 | 32 | 45 | 41 | 30 | 29 | 28 | 40 |
| Color Units | 9 | 9 | 5 | 5 | 6 | 6 | 6 | 8 | 5 | 5 | 5 | 5 | 6 |
| Sample Temperature (F) | 75 | 67 | 52 | 49 | 50 | 50 | 60 | 72 | 75 | 80 | 82 | 82 | 66 |

Spot Samples on Indicated Dates

All constituents mg/l unless otherwise noted.
* Units

TABLE NO. 11

MINERAL ANALYSIS OF RAW WATER
(Results in mg/l)

LAKE RAY HUBBARD AT INTAKE STRUCTURE

1986-87

| ITEM | OCT. 13 | NOV. 3 | DEC. 8 | JAN. 5 | FEB. 10 | MAR. 9 | APR. 14 | MAY 4 | JUN. 8 | JUL. 13 | AUG. 3 | SEP. 1 | AVERAGE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Solids | | | | | | | | | | | | | |
| Dissolved (180C) | 168 | 181 | 170 | 152 | 173 | 224 | 210 | 197 | 207 | 179 | 168 | 164 | 183 |
| Fixed Residue (550C) | 89 | 136 | 108 | 127 | 115 | 154 | 92 | 133 | 124 | 120 | 103 | 113 | 118 |
| Conductance (micromhus/cm) | 265 | 276 | 252 | 283 | 303 | 311 | 309 | 306 | 266 | 250 | 235 | 241 | 275 |
| Alkalinity as CaCO3 | | | | | | | | | | | | | |
| Phenolphthalein | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 1 | 1 |
| Total | 92 | 92 | 98 | 91 | 105 | 108 | 110 | 102 | 95 | 87 | 80 | 85 | 95 |
| Bicarbonate | 90 | 92 | 98 | 89 | 103 | 108 | 108 | 102 | 95 | 81 | 80 | 83 | 94 |
| Carbonate | 2 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 6 | 0 | 2 | 1 |
| Hydroxide | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pH | 8.6 | 8.2 | 8.2 | 8.4 | 8.4 | 8.3 | 8.4 | 8.2 | 8.2 | 8.7 | 8.3 | 8.4 | 8.4 |
| Hardness as CaCO3 | | | | | | | | | | | | | |
| Total Hardness | 110 | 110 | 112 | 110 | 122 | 128 | 128 | 122 | 110 | 102 | 83 | 86 | 110 |
| Noncarbonate Hardness | 18 | 18 | 14 | 19 | 17 | 20 | 18 | 20 | 15 | 15 | 3 | 1 | 15 |
| Langlier Saturation Index* | +0.67 | +0.23 | +0.08 | +0.18 | +0.30 | +0.30 | +0.49 | 0.34 | 0.36 | +0.83 | 0.33 | 0.47 | +0.38 |
| Calcium | 39 | 39 | 41 | 40 | 45 | 46 | 47 | 45 | 40 | 37 | 30 | 31 | 40 |
| Magnesium | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Iron | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aluminum | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Sodium (By difference) | 9 | 9 | 11 | 8 | 12 | 7 | 12 | 9 | 11 | 9 | 19 | 16 | 11 |
| Chloride | 10 | 12 | 10 | 12 | 11 | 11 | 11 | 12 | 11 | 11 | 11 | 12 | 11 |
| Fluoride | 0.39 | 0.43 | 0.43 | 0.44 | 0.41 | 0.41 | 0.40 | 0.39 | 0.40 | 0.41 | 0.39 | 0.41 | 0.41 |
| Silica | 2.8 | 1.2 | 1.4 | 1.5 | 1.2 | 2.2 | 1.4 | 1.8 | 1.5 | 3.4 | 2.5 | 3.9 | 2.1 |
| Nitrate (As N) | 0.12 | 0.18 | 0.24 | 0.35 | 0.28 | 0.3 | 0.17 | 0.09 | 0.02 | 0.02 | 0.06 | 0.04 | 0.16 |
| Phosphate (As P) | 0.02 | 0.02 | 0.03 | 0.02 | <0.02 | <0.02 | <0.02 | 0.03 | <0.02 | <0.02 | 0.03 | <0.02 | <0.02 |
| Sulfate | 22 | 21 | 23 | 20 | 26 | 20 | 27 | 22 | 23 | 19 | 27 | 17 | 22 |
| Color Units | 7 | 6 | 7 | 3 | 5 | 5 | 7 | 11 | 5 | 6 | 8 | 7 | 6 |
| Sample Temperature (F) | 73 | 69 | 56 | 52 | 52 | 58 | 62 | 71 | 79 | 84 | 86 | 86 | 69 |

Spot Samples on Indicated Dates

All constituents mg/l unless otherwise noted.
* Units

TABLE NO. 10

MINERAL ANALYSIS OF RAW WATER
(Results in mg/l)

LAKE TAWAKONI -(INTERIM RESERVOIR)

1986-87

| ITEM | OCT. 13 | NOV. 3 | DEC. 8 | JAN. 5 | FEB. 10 | MAR. 9 | APR. 14 | MAY 4 | JUN. 8 | JUL. 13 | AUG. 3 | SEP. 1 | AVERAGE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| fotal Solids | | | | | | | | | | | | | |
| Dissolved (180C) | 139 | 165 | 124 | 131 | 138 | 147 | 120 | 160 | 161 | 135 | 139 | 143 | 142 |
| Fixed Residue (550C) | 77 | 105 | 74 | 96 | 78 | 99 | 70 | 90 | 86 | 97 | 80 | 85 | 86 |
| Conductance (micromhus/cm) | 211 | 215 | 179 | 205 | 207 | 213 | 219 | 213 | 201 | 195 | 189 | 188 | 203 |
| Alkalinity as CaCO3 | | | | | | | | | | | | | |
| Phenolphthalein | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 5 | 4 | 0 | 1 | 1 |
| Total | 84 | 82 | 82 | 75 | 78 | 78 | 82 | 77 | 82 | 78 | 78 | 73 | 79 |
| Bicarbonate | 78 | 82 | 82 | 75 | 76 | 76 | 82 | 77 | 72 | 70 | 78 | 71 | 77 |
| Carbonate | 6 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 10 | 8 | 0 | 2 | 3 |
| Hydroxide | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pH | 8.8 | 8.2 | 8.2 | 7.9 | 8.4 | 8.6 | 8.1 | 8.3 | 8.8 | 8.9 | 8.2 | 8.5 | 8.4 |
| Hardness as CaCO3 | | | | | | | | | | | | | |
| Total Hardness | 92 | 85 | 84 | 83 | 84 | 84 | 84 | 85 | 86 | 83 | 68 | 73 | 83 |
| Noncarbonate Hardness | 8 | 3 | 2 | 8 | 6 | 6 | 2 | 8 | 4 | 5 | 0 | 0 | 4 |
| Langlier Saturation Index* | +0.74 | +0.06 | -0.14 | -0.53 | -0.01 | +0.26 | -0.14 | +0.14 | +0.78 | +0.89 | +0.15 | +0.40 | +0.22 |
| Calcium | 32 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 31 | 30 | 26 | 24 | 29 |
| lagnesium | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 3 | 2 |
| Iron | <0.05 | 0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aluminum | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Sodium (By difference) | 7 | 10 | 11 | 6 | 10 | 7 | 11 | 8 | 10 | 8 | 17 | 10 | 10 |
| Chloride | 7 | 8 | 7 | 8 | 7 | 8 | 6 | 8 | 8 | 8 | 7 | 8 | 8 |
| Fluoride | 0.27 | 0.27 | 0.3 | 0.29 | 0.3 | 0.27 | 0.26 | 0.29 | 0.28 | 0.29 | 0.28 | 0.29 | 0.28 |
| Silica | 1.3 | 0.6 | 1.4 | 1 | 1.2 | 0.7 | 0.9 | 1.1 | 1.4 | 2.2 | 2.4 | 2.7 | 1.4 |
| Nitrate (As N) | 0.04 | <0.02 | 0.08 | 0.06 | 1 | <0.02 | 0.06 | <0.02 | 0.02 | 0.02 | 0.08 | 0.06 | <0.05 |
| Phosphate (As P) | <0.02 | 0.03 | 0.05 | <0.02 | <0.02 | 0.00 | <0.02 | 0.00 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Sulfate | 13 | 14 | 15 | 10 | 16 | 10 | 17 | 12 | 14 | 10 | 15 | 8 | 13 |
| Color Units | 5 | 7 | 5 | 5 | 7 | 6 | 10 | 12 | 7 | 7 | 10 | 8 | 7 |
| Sample Temperature (F) | 73 | 69 | 56 | 52 | 52 | 58 | 62 | 71 | 79 | 84 | 86 | 86 | 69 |

Spot Samples on Indicated Dates

All constituents mg/l unless otherwise noted.
* Units

DATE: March 8, 1988

TO: Charles Stringer
Manager, Purification Division

SUBJECT: Semi-Annual Water Analysis - January, 1988

Attached you will find the trace elements and pesticides concentrations of Dallas Water Utilities raw and finished waters from our three treatment plants as well as a sample from Casa View Reservoir representing finished water purchased from North Texas Municipal Water District. In addition, one sample from Dallas Water Utilities Distribution System was analysed for trace elements.

It should be noted that samples from our future water sources, Lake Fork and Lake Palestine, are included in the Semi-annual Water Analysis.

As requested, a sample representative of the raw water in Farmer's Branch Creek below Zoecon Industries, above the Elm Fork of the Trinity River, was analysed as a part of the Semi-annual Water Analysis.

Trace elements were analysed following the methods described in the Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1986.

Dallas Water Utilities raw and finished waters are below the maximum contaminant limits for drinking water, as described by Texas State Department of Health, July, 1977, revised November 30, 1977.

Robert Parlin
East Side Laboratory Supervisor
Purification Division

c: Dennis Allen, P.E.
Dennis Cave, P.E.
R. F. Stone, P.E.
J. Hill

RP:jh

atch

DALLAS WATER UTILITIES - PURIFICATION DIVISION
SEMI-ANNUAL RAW WATER QUALITY ANALYSIS (Milligrams per liter)

Location: EAST SIDE PLANT
Date : January, 1988

| Consituent | Method | Lake Hubbard | Lake Tawakoni | Lake Fork | Lake Palestine | Tap | Minimum Detectable Level (MDL) | Texas Dept. of Health MCL for Drinking Water Primary | Secondary |
|---|---|---|---|---|---|---|---|---|---|
| I. Metals | | | | | | | | | |
| Arsenic | G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.005 | 0.05 | |
| Barium | G | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.05 | 1.0 | |
| Boron | F | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.01 | none | |
| Cadmium | F | <0.001 | 0.001 | <0.001 | <0.001 | <0.001 | 0.001 | 0.01 | |
| Chromium | F | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | 0.05 | |
| Copper | F | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | | 1.0 |
| Cyanide | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | none | |
| Iron | F | <0.01 | <0.01 | <0.01 | 0.02 | <0.01 | 0.01 | | 0.03 |
| Lead | F | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.005 | 0.05 | |
| Lithium | F | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.05 | none | |
| Manganese | F | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.005 | | 0.05 |
| Mercury | G | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.001 | 0.002 | |
| Nickel | F | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | none | |
| Potassium | F | 3.6 | 3.0 | 6.0 | 3.5 | 3.1 | 0.05 | none | |
| Selenium | G | 0.002 | 0.003 | 0.003 | 0.002 | 0.001 | 0.001 | 0.01 | |
| Silver | F | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | 0.05 | |
| Sodium | F | 17.0 | 11.0 | 11.0 | 16.0 | 11.0 | 0.05 | none | |
| Strontium | F | 0.40 | 0.19 | 0.11 | <0.05 | 0.15 | 0.05 | none | |
| Vanadium | C | <0.03 | 0.03 | 0.04 | <0.03 | <0.03 | 0.03 | none | |
| Zinc | F | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | | 5.0 |
| II. Organics | | | | | | | | | |
| Foam Agents | C | 0.03 | 0.06 | 0.05 | 0.04 | 0.04 | 0.03 | | 0.05 |
| Phenols | C | 0.001 | 0.001 | <0.001 | 0.001 | <0.001 | 0.001 | none | |
| T.O.C. | T | NA | NA | NA | NA | NA | N/A | none | |

C-Colorimetric F-Spectrophotometry G-Graphite Furnace T-Total Org. Carbon MCL-Maximum Contaminate Level

DALLAS WATER UTILITIES-PURIFICATION DIVISION
SEMI-ANNUAL WATER QUALITY ANALYSIS(milligrams per liter)

Location: ELM FORK PLANT
Date : January 1988

| Consituent | Method | Raw | Tap | Minimum Detectable Level(MDL) | Texas Dept. of Health MCL for Drinking Water Primary | Secondary |
|---|---|---|---|---|---|---|
| I. Metals | | | | | | |
| Arsenic | G | <0.005 | <0.005 | 0.005 | 0.05 | . |
| Barium | G | <0.05 | <0.05 | 0.05 | 1.0 | . |
| Boron | F | <1.0 | <1.0 | 1.0 | none | . |
| Cadmium | F | <0.001 | <0.001 | 0.001 | 0.01 | . |
| Chromium | F | <0.01 | <0.01 | 0.01 | 0.05 | . |
| Copper | F | <0.01 | <0.01 | 0.01 | . | 1.0 |
| Cyanide | C | <0.01 | <0.01 | 0.01 | none | . |
| Iron | F | <0.01 | <0.01 | 0.01 | . | 0.03 |
| Lead | F | <0.005 | <0.005 | 0.005 | 0.05 | . |
| Lithium | F | <0.05 | <0.05 | 0.05 | none | . |
| Manganese | F | <0.005 | <0.005 | 0.005 | . | 0.05 |
| Mercury | G | <0.001 | <0.001 | 0.001 | 0.002 | . |
| Nickel | F | <0.01 | <0.01 | 0.01 | none | . |
| Potassium | F | 4.4 | 4.5 | 0.05 | none | . |
| Selenium | G | 0.002 | 0.003 | 0.001 | 0.01 | . |
| Silver | F | <0.01 | <0.01 | 0.01 | 0.05 | . |
| Sodium | F | 29.0 | 30.0 | 0.05 | none | . |
| Strontium | F | 0.23 | 0.18 | 0.05 | none | . |
| Vanadium | C | 0.03 | 0.03 | 0.03 | none | . |
| Zinc | F | <0.01 | <0.01 | 0.01 | . | 5.0 |
| II.Organics | | | | | | |
| Foam Agents | C | 0.06 | 0.03 | 0.03 | . | 0.05 |
| Phenols | C | <0.001 | <0.001 | 0.001 | none | . |
| T.O.C. | T | NA | NA | N/A | none | . |

C-Colorimetric F-Spectrophotometry G-Graphite Furnace T-Total Org. Carbon MCL-Maximum Contaminate Level

DALLAS WATER UTILITIES - PURIFICATION DIVISION
SEMIANNUAL WATER QUALITY ANALYSIS (Milligrams per liter)

Location: BACHMAN PLANT
Date : January 1988

| Consituent | Method | Raw | Tap | Minimum Detectable Level(MDL) | Texas Dept. of Health MCL for Drinking Water Primary | Secondary |
|---|---|---|---|---|---|---|
| I. Metals | | | | | | |
| Arsenic | G | <0.005 | <0.005 | 0.005 | 0.05 | |
| Barium | G | <0.05 | <0.05 | 0.05 | 1.0 | |
| Boron | F | <1.0 | <1.0 | 1.0 | none | |
| Cadmium | F | 0.001 | <0.001 | 0.001 | 0.01 | |
| Chromium | F | <0.01 | <0.01 | 0.01 | 0.05 | |
| Cooper | F | 0.01 | <0.01 | 0.01 | | 1.0 |
| Cyanide | C | <0.01 | <0.01 | 0.01 | none | |
| Iron | F | 0.09 | <0.01 | 0.01 | | 0.03 |
| Lead | F | <0.005 | <0.005 | 0.005 | 0.05 | |
| Lithium | F | <0.05 | <0.05 | 0.05 | none | |
| Manganese | F | <0.005 | <0.005 | 0.005 | | 0.05 |
| Mercury | G | <0.001 | <0.001 | 0.001 | 0.002 | |
| Nickel | F | <0.01 | <0.01 | 0.01 | none | |
| Potassium | F | 4.0 | 4.0 | 0.05 | none | |
| Selenium | G | 0.002 | 0.001 | 0.001 | 0.01 | |
| Silver | F | <0.01 | <0.01 | 0.01 | 0.05 | |
| Sodium | F | 27.0 | 27.0 | 0.05 | none | |
| Strontium | F | 0.30 | 0.22 | 0.05 | none | |
| Vanadium | C | <0.03 | <0.03 | 0.03 | none | |
| Zinc | F | <0.01 | <0.01 | 0.01 | | 5.0 |
| II.Organics | | | | | | |
| Foam.Agents | C | 0.05 | 0.05 | 0.03 | | 0.05 |
| Phenols | C | <0.001 | <0.001 | 0.001 | none | |
| T.O.C. | T | NA | NA | N/A | none | |

C-Colorimetric F-Spectrophotometry G-Graphite Furnace T-Total Org. Carbon MCL-Maximum Contaminate Level

PLED: 1-4 THRU 1-5-88
ED: 1-4 THRU 1-5-88
REPORTED: 2-17-88

| Compound | Minimum Detectable Limit | MCL | Lake Ray Hubbard | East Side Tap | Bachman Raw | Bachman Tap | Elm Fork Raw | Elm Fork Tap | Lake Fork | Lake Palestine | Lake Tawakoni | Casa View Reservoir | 6045 Belmont |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | 0.01 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| m-Dichlorobenzene | 0.02 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| o-Dichlorobenzene | 0.02 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| p-Dichlorobenzene (pDCB) | 0.03 | 5 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| sec-Butylbenzene | 0.01 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cymene | 0.02 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bis-2-Isopropyl Ether | 0.31 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dibromo-3-chloropropane | 0.73 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| n-Butylbenzene | 0.02 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2,4-Trichlorobenzene | 0.03 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Naphthalene | 0.06 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2,3-Trichlorobenzene | 0.09 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexachlorobutadiene | 0.07 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Total THM's | | 100 | ND | 25.17 | 0.76 | 9.03 | ND | 0.26 | ND | ND | ND | 57.83 | ND |
| Total VOC | | | 0.43 | 25.52 | 1.7 | 9.98 | 0.07 | 0.4 | ND | ND | 2.92 | 57.89 | ND |

NOTES:

ND = not detected (below minimum detectable limit).
NL = No EPA proposed limits.
MCL = maximum contaminant level, ug/L.

Total Organic Carbon — All results in milligrams per Liter

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC | 7.1 | 4.1 | 3.9 | 3.6 | 4.3 | 3.8 | 6.8 | 5.3 | 4.8 | 3.6 | 3.5 |
| NPTOC | 5.2 | 3.8 | 4.7 | 3.4 | 4.1 | 3.1 | 6.1 | 4.4 | 4.2 | 2.9 | 3.5 |

SAMPLED: 1-4 THRU 1-5-88
ANALYZED: 1-4 THRU 1-5-88
REPORTED: 2-17-88

| Compound | Minimum Detectable Limit | MCL | Lake Ray Hubbard | East Side Tap | Bachman Raw | Bachman Tap | Elm Fork Raw | Elm Fork Tap | Lake Fork | Lake Palestine | Lake Tawakoni | Casa View Reservoir | 6045 Belmont |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organic Compounds All results in micrograms per Liter | | | | | | | | | | | | | |
| Chloromethane | 0.19 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Vinyl Chloride | 0.59 | 1 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bromomethane | 0.42 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chloroethane | 0.37 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Trichlorofluoromethane | 0.003 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethylene | 0.04 | 7 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Methylene Chloride | 0.01 | NL | 0.43 | 0.35 | 0.23 | 0.33 | ND | ND | ND | ND | 0.38 | ND | ND |
| trans-1,2-Dichloroethylene | 0.09 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethane | 0.11 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| cis-1,2-Dichloroethylene | 0.05 | NL | ND | ND | 0.71 | 0.62 | ND | ND | ND | ND | ND | ND | ND |
| 2,2-Dichloropropane | 0.04 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chloroform | 0.08 | NL | ND | 13.93 | 0.76 | 5.71 | ND | 0.26 | ND | ND | ND | 20.71 | 22.91 |
| 1,2-Dichloroethane | 0.15 | 5 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1,1-Trichloroethane | 0.14 | 200 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloropropene | 0.06 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzene | 0.04 | 5 | ND | ND | ND | ND | ND | ND | ND | ND | 0.64 | ND | ND |
| Carbon Tetrachloride | 0.13 | 5 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dibromomethane | 0.26 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloropropane | 0.14 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bromodichloromethane | 0.11 | NL | ND | 8.98 | ND | 2.91 | ND | ND | ND | ND | ND | 17.48 | 7.65 |
| Trichloroethylene (TCE) | 0.19 | 5 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-Chlorovinylether | 0.28 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| cis 1,3-Dichloropropene | 0.11 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| trans 1,3-Dichloropropene | 0.18 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1,2-Trichloroethane | 0.17 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Toluene | 0.04 | NL | ND | ND | ND | ND | 0.07 | 0.14 | ND | ND | 0.59 | 0.06 | 0.21 |
| 1,3-Dichloropropane | 0.04 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dibromochloromethane | 0.14 | NL | ND | 2.26 | ND | 0.41 | ND | ND | ND | ND | ND | 17.67 | 1.13 |
| 1,2-Dibromoethane (EDB) | 0.08 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Tetrachloroethylene | 0.12 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chlorobenzene | 0.05 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1,1,2-Tetrachloroethane | 0.09 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethylbenzene | 0.04 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bromoform | 0.23 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1.97 | ND |
| m-Xylene | 0.03 | NL | ND | ND | ND | ND | ND | ND | ND | ND | 0.46 | ND | ND |
| p-Xylene | 0.03 | NL | ND | ND | ND | ND | ND | ND | ND | ND | 0.5 | ND | ND |
| Styrene | 0.03 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| o-Xylene | 0.03 | NL | ND | ND | ND | ND | ND | ND | ND | ND | 0.35 | ND | ND |
| 1,1,2,2-Tetrachloroethane | 0.16 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2,3-Trichloropropane | 0.08 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bromobenzene | 0.04 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cumene | 0.01 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| o-Chlorotoluene | 0.02 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| p-Chlorotoluene | 0.03 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| n-Propylbenzene | 0.01 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Pentachloroethane | 0.13 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,3,5-Trimethylbenzene | 0.02 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| t-Butylbenzene | 0.02 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

AWD CENTRAL LABORATORIES | DALLAS WATER UTILITIES | SEMI ANNUAL PURIFICATION SAMPLES

LED: 1-4 THRU 1-5-88
ED: 1-4 THRU 1-5-88
EPORTED: 2-17-88

| Compound | Minimum Detectable Limit | MCL | Lake Ray Hubbard | East Side Tap | Bachman Raw | Bachman Tap | Elm Fork Raw | Elm Fork Tap | Lake Fork | Lake Palestine | Lake Tawakoni | Casa View Reservoir | 6045 Belmont |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pesticides: | All results in micrograms per Liter | | | | | | | | | | | | |
| Vapona | 0.0210 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Sevin | 0.1090 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alpha-BHC | 0.0240 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Lindane | 0.0240 | 4 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Beta-BHC | 0.5030 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Diazinon | 0.0980 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptachlor | 0.0490 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Aldrin | 0.1150 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptachlor Epoxide | 0.0390 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dieldrin | 0.1490 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| p,p' DDE | 0.2730 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Toxaphene | 1.4750 | 5 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Endrin | 0.2100 | 0.2 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| o,p' DDD | 0.036 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| p,p' DDD | 0.039 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| o,p' DDT | 0.0500 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| p,p' DDT | 0.052 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Methoxychlor | 0.1260 | 100 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Herbicides: | All results in micrograms per Liter | | | | | | | | | | | | |
| 2,4-D | 2.16 | 100 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2,4,5-T | 2.50 | NL | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Silvex | 2.50 | 10 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Total Organic Halide | All results in micrograms per Liter | | | | | | | | | | | | |
| TOX as Cl | | NL | 25 | 218 | 58 | 177 | 18 | 127 | 19 | 27 | 9 | 171 | 204 |
| Inorganic analyses By Ion Chromatography | All results in milligrams per Liter | | | | | | | | | | | | |
| Nitrate as N | 0.01 | 10 | 0.79 | 0.19 | 0.81 | 0.77 | 1.04 | 0.66 | 0.39 | 0.03 | 0.34 | 0.20 | 0.49 |
| Nitrite as N | 0.01 | NL | 0.00 | 0.00 | 0.51 | 0.00 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ortho Phosphate as P | 0.01 | NL | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sulfate | 0.01 | NL | 31 | 23 | 68 | 71 | 49 | 57 | 15 | 24 | 13 | 42 | 59 |
| Chloride as Cl | 0.01 | NL | 10 | 10 | 13 | 13 | 15 | 15 | 11 | 13 | 6.6 | 10 | 12 |

ND = Not detected at detection limits cited.
NL = No EPA proposed limits.
MCL = Maximum Contaminant Level-National Interim Primary Drinking Water Standards.

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12E

A ACHMENT 5.



DALLAS CENTRAL WASTEWATER TREATMENT

| M/YY | FLOW MGD | FLOW MG | BOD Mg/L | CBOD Mg/L | TSS Mg/L | NH3N Mg/L | BOD LB/DAY | TSS LB/DAY | NH3N LB/DAY |
|---|---|---|---|---|---|---|---|---|---|
| JAN 87 | 145.6 | 4,513.7 | 6.5 | 4.3 | 6.4 | 5.4 | 7,847.5 | 7,766.8 | 6,526.1 |
| FEB 87 | 158.2 | 4,430.5 | 9.1 | 6.0 | 10.3 | 5.1 | 12,768.5 | 15,188.8 | 6,615.3 |
| MAR 87 | 164.3 | 5,094.2 | 8.7 | 5.5 | 11.4 | 6.1 | 12,022.6 | 16,131.8 | 8,251.4 |
| APR 87 | 140.9 | 4,227.0 | 6.5 | 4.6 | 5.3 | 3.7 | 7,624.7 | 6,244.8 | 4,308.6 |
| MAY 87 | 156.3 | 4,845.3 | 5.6 | 4.4 | 5.7 | 2.1 | 7,590.0 | 7,988.7 | 2,713.9 |
| JUN 87 | 169.3 | 5,079.0 | 5.5 | 4.5 | 6.2 | 1.9 | 7,879.0 | 8,993.5 | 2,601.5 |
| JUL 87 | 146.2 | 4,532.2 | 4.8 | 3.9 | 4.1 | 2.4 | 5,872.9 | 4,979.6 | 2,973.8 |
| AUG 87 | 148.3 | 4,597.3 | 3.4 | 2.8 | 4.0 | 3.4 | 4,251.8 | 5,007.1 | 4,193.9 |
| SEP 87 | 145.7 | 4,371.0 | 3.9 | 3.3 | 5.0 | 3.2 | 4,693.6 | 5,984.0 | 3,888.3 |
| OCT 87 | 142.6 | 4,420.7 | 4.7 | 3.9 | 6.2 | 2.0 | 5,650.3 | 7,418.3 | 2,458.6 |
| NOV 87 | 149.5 | 4,484.4 | 5.0 | 4.0 | 6.3 | 2.5 | 6,392.2 | 8,027.3 | 3,100.2 |
| DEC 87 | 136.4 | 4,229.3 | 9.1 | 5.0 | 7.1 | 3.7 | 10,771.5 | 8,561.1 | 4,137.2 |
| JAN 88 | 132.3 | 4,101.3 | 6.5 | 5.2 | 7.1 | 6.1 | 7,179.7 | 7,803.3 | 6,706.8 |
| FEB 88 | 139.0 | 4,031.0 | 6.2 | 4.8 | 6.7 | 6.1 | 7,275.8 | 7,878.9 | 7,004.1 |
| MAR 88 | 134.3 | 4,164.3 | 6.6 | 5.0 | 6.1 | 5.3 | 7,378.0 | 6,836.8 | 5,881.7 |
| APR 88 | 135.9 | 4,077.2 | 5.6 | 4.5 | 4.7 | 5.8 | 6,364.3 | 5,369.6 | 6,524.7 |
| MAY 88 | 127.5 | 3,952.5 | 5.5 | 3.9 | 4.4 | 2.3 | 5,847.3 | 4,712.3 | 2,439.7 |
| JUN 88 | 128.1 | 3,843.0 | 4.6 | 3.8 | 4.3 | 1.5 | 4,932.5 | 4,628.1 | 1,618.8 |
| JUL 88 | 132.6 | 4,110.6 | 4.6 | 3.6 | 3.4 | 0.8 | 5,444.4 | 4,218.7 | 880.1 |

# DALLAS SOUTHSIDE WASTEWATER TREATMENT

| M/YY | FLOW MGD | FLOW MG | BOD MG/L | TSS MG/L | NH3N MG/L | BOD LBS/DAY | TSS LBS/DAY | NH3N LBS/DAY |
|---|---|---|---|---|---|---|---|---|
| JAN 87 | 33.3 | 1,032.3 | 5.9 | 5.2 | 3.8 | 1,638.9 | 1,447.9 | 1,079.3 |
| FEB 87 | 36.3 | 1,016.4 | 6.9 | 6.4 | 3.5 | 2,088.2 | 1,980.8 | 1,131.0 |
| MAR 87 | 40.2 | 1,246.2 | 5.3 | 5.4 | 2.7 | 1,768.8 | 1,844.3 | 815.0 |
| APR 87 | 31.1 | 932.0 | 4.8 | 3.3 | 3.9 | 1,243.7 | 860.2 | 1,035.6 |
| MAY 87 | 34.5 | 1,070.2 | 3.9 | 3.4 | 2.6 | 1,122.8 | 1,048.5 | 760.9 |
| JUN 87 | 43.4 | 1,300.7 | 4.8 | 5.9 | 0.4 | 1,735.6 | 2,092.9 | 127.9 |
| JUL 87 | 26.8 | 831.7 | 3.9 | 3.6 | 0.5 | 872.6 | 802.1 | 133.2 |
| AUG 87 | 22.5 | 698.2 | 3.8 | 3.2 | 0.4 | 713.7 | 597.4 | 73.6 |
| SEP 87 | 22.2 | 666.0 | 3.4 | 2.7 | 0.9 | 629.5 | 518.0 | 187.8 |
| OCT 87 | 20.7 | 643.1 | 3.5 | 3.3 | 0.9 | 692.7 | 663.5 | 204.1 |
| NOV 87 | 19.8 | 593.6 | 3.9 | 4.5 | 1.2 | 743.9 | 815.0 | 229.2 |
| DEC 87 | 38.7 | 1,200.8 | 5.0 | 6.2 | 1.5 | 1,503.9 | 2,012.2 | 491.9 |
| JAN 88 | 42.6 | 1,320.6 | 6.1 | 7.1 | 3.6 | 2,112.4 | 2,457.8 | 1,252.9 |
| FEB 88 | 36.7 | 1,064.3 | 5.3 | 7.6 | 12.4 | 1,607.0 | 2,268.2 | 3,559.2 |
| MAR 88 | 41.3 | 1,280.1 | 4.7 | 5.1 | 6.9 | 1,637.0 | 1,755.6 | 2,417.8 |
| APR 88 | 35.7 | 1,071.3 | 3.9 | 5.2 | 6.6 | 1,151.0 | 1,575.8 | 2,082.1 |
| MAY 88 | 33.6 | 1,041.0 | 3.0 | 5.1 | 2.8 | 857.9 | 1,440.6 | 826.4 |
| JUN 88 | 33.9 | 1,017.0 | 2.6 | 4.8 | 0.5 | 735.8 | 1,386.3 | 145.1 |
| JUL 88 | 34.9 | 1,081.6 | 1.8 | 3.0 | 0.1 | 531.1 | 871.1 | 2.1 |

# CITY OF DALLAS
## WATER TREATMENT PLANTS
## SLUDGE LAGOON DISCHARGE SUMMARY

| | | EAST SIDE | | | | ELM FORK * | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | AVERAGE DAILY | | MAXIMUM DAILY | | AVERAGE DAILY | | MAXIMUM DAILY | |
| | | FLOW-MGD | TSS-mg/l | FLOW-MGD | TSS-mg/l | FLOW-MGD | TSS-mg/l | FLOW-MGD | TSS-mg/l |
| JAN | 1987 | 4.085 | 30.0 | 5.079 | 49.0 | --- | --- | --- | --- |
| FEB | 1987 | 3.949 | 26.0 | 5.362 | 40.0 | --- | --- | --- | --- |
| MAR | 1987 | 6.708 | 27.0 | 12.589 | 54.0 | --- | --- | --- | --- |
| APR | 1987 | 4.812 | 34.0 | 8.090 | 116.0 | --- | --- | --- | --- |
| MAY | 1987 | 4.176 | 17.0 | 8.373 | 53.0 | --- | --- | --- | --- |
| JUNE | 1987 | 4.637 | 9.0 | 8.224 | 23.0 | --- | --- | --- | --- |
| JULY | 1987 | 6.472 | 20.0 | 13.783 | 44.0 | --- | --- | --- | --- |
| AUG | 1987 | 0.657 | 15.0 | 2.490 | 30.0 | --- | --- | --- | --- |
| SEPT | 1987 | 2.587 | 21.0 | 9.301 | 38.0 | --- | --- | --- | --- |
| OCT | 1987 | 2.041 | 30.0 | 7.275 | 50.0 | --- | --- | --- | --- |
| NOV | 1987 | 1.913 | 31.0 | 6.031 | 58.0 | --- | --- | --- | --- |
| DEC | 1987 | 0.778 | 22.0 | 3.411 | 53.0 | --- | --- | --- | --- |
| JAN | 1988 | 0.230 | 35.0 | 7.125 | 52.0 | --- | --- | --- | --- |
| FEB | 1988 | 0.394 | 33.0 | 1.975 | 49.0 | --- | --- | --- | --- |
| MAR | 1988 | 0.383 | 19.0 | 1.103 | 31.0 | --- | --- | --- | --- |
| APR | 1988 | 1.138 | 15.0 | 3.651 | 58.0 | --- | --- | --- | --- |
| MAY | 1988 | 0.749 | 9.0 | 3.582 | 20.0 | --- | --- | --- | --- |
| JUNE | 1988 | 1.767 | 19.0 | 4.483 | 46.0 | --- | --- | --- | --- |
| JULY | 1988 | 1.649 | 16.0 | 4.305 | 32.0 | --- | --- | --- | --- |
| AUG | 1988 | 2.830 | 23.0 | 5.941 | 42.0 | --- | --- | --- | --- |

* THE ELM FORK WATER TREATMENT PLANT HAS NOT DISCHARGED TO THE RIVER THROUGHOUT THIS PERIOD.