# Drinking Water Survey Report

## Fannin Texaco
## 2111 Fannin Road
## Houston, Harris County, Texas
## LPST ID No. 121070
## Facility ID No. 70523

DATE: APRIL 6, 2021

ESE PROJECT: 21-0055

DOC NO.: REP-21-0055-001 REV 0

**PREPARED FOR:**

**JK Fannin, LLC**

**20607 Hidden Shore Circle**

**Katy, Texas 77450**


## ESE Partners, LLC

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Suite 140

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www.esepartners.com

| Document Production / Revision Status | | | | | | |
|---|---|---|---|---|---|---|
| **Rev** | **Description** | **Date** | **Contributors** | **Author** | **Technical Review** | **Internal Standards Review** |
| 0 | Final Draft to Client | 4/6/2021 | John Lembcke, P.G. | ☒ | ☒ | ☐ |
| | | | Jason Binford | ☐ | ☒ | ☒ |

# CONTENTS

# Appendix C – Photo Log

# EXECUTIVE SUMMARY

Environmental Science and Engineering Partners, LLC (ESE) has conducted a Drinking Water Survey Report (DWSR) on behalf of J K Fannin, LLC (Client), for the Fannin Texaco located at 2111 Fannin Street, Houston, Harris County, Texas (the Site). This survey was performed in general accordance with the Texas Commission on Environmental Quality (TCEQ) guidance document titled *Preparation of a Drinking Water Survey Report* (TCEQ Guidance Document No. RG-428, revised January 2010). This DWSR was completed in response to petroleum hydrocarbon concentrations being detected in the groundwater underlying the Site above TCEQ Petroleum Storage Tank (PST) Program Action Level.

## Background

The Site, known as Fannin Texaco at 2111 Fannin Street, currently operates as a gasoline service station, maintenance facility and restaurant. On September 24, 2020, both regular gasoline product lines located between the UST tank hold and the closest dispensers, failed a line tightness test. The tank and line tightness testing results were documented in a Release Determination Report (RDR) dated October 13, 2020.

Correspondence from the TCEQ dated November 10, 2020 assigned Leaking Petroleum Storage Tank ID No. 121070 to the Site and requested that a risk-based assessment report (Assessment Report Form (ARF)) be provided. On January 27, 2021, three (3) permanent two-inch monitor wells were installed at the Site. On February 23, 2021, groundwater samples were collected from monitor wells MW-1 through MW-3. Elevated concentrations of benzene, toluene, ethylbenzene, xylene and MTBE above TCEQ PST Action Levels were encountered in the groundwater sample collected from monitor well MW-1.

A water well map illustrating the location of each well within a 0.5-mile radius is included as ***Figure 2***. A site map depicting site features including the monitor well locations is included as ***Figure 3.***

## Conclusions

TCEQ publication RG-428 ("*Preparation of a Drinking Water Survey Report*") defines a potentially affected private drinking water well as "*A private drinking water well located within the known extent of a defined groundwater contaminant plume or within 0.25 miles of groundwater contamination when the full extent of the groundwater contaminant plume has not been defined laterally and vertically*." The full extent of the groundwater plume has not been defined at the subject site. However, there are no water wells located within 0.25 miles of the Site, therefore, there are no affected or potentially affected water wells. This Drinking Water Survey Report has been prepared in general accordance with the requirements of TCEQ Publication RG-428 "*Preparation of a Drinking Water Survey Report*" (January 2010).

Based on the findings of this DWSR, there are no apparent threats or impacts to potential potable water well receptors.

# 1 ON-SITE GROUNDWATER

The following section describes the status of environmental investigations conducted at the Site and the nature and extent of COCs in groundwater beneath the Site. BTEX and TPH were identified as the COCs in groundwater.

## 1.1 Groundwater Characteristics

Based upon a review of site assessments, investigations, and sampling activities conducted at the Site, ESE has made the following conclusions to date:

- Groundwater at the Site was encountered at approximately 15 to 17 feet bgs during drilling activities conducted on January 27, 2021. The groundwater bearing unit is present in a sand unit bounded by sandy clay.
- On February 23, 2021, the monitor wells were gauged, and groundwater was measured to be between 10.92 and 12.44 feet bgs.
- The groundwater gradient at the Site has been measured as flowing to the east-northeast.

A groundwater gradient map is included as ***Figure 4***. Shallow subsurface lithology and GWBU characteristics are described in detail in boring logs presented in ***Appendix B***.

## 1.2 Affected Groundwater

The source of the groundwater contamination is attributed to leaks in the product lines in the vicinity of the tank hold. On February 23, 2021, groundwater samples were collected from monitor wells MW-1 through MW-3. Elevated concentrations of benzene, toluene, ethylbenzene, xylene and MTBE above TCEQ PST Action Levels were encountered in the groundwater sample collected from monitor well MW-1. A summary table of all dissolved phase analytical results is included as ***Table 2.*** A Groundwater Contamination Concentration Map is included as ***Figure 5***.

Based on the relative distance from the Affected Area at the Site as well as the affected GWBU not likely being hydrologically connected to a public water supply or usable GWBU, it does not appear the potential exists for private drinking water or other water wells to be affected by contamination originating at the Site. This DWS provided no data associated with sampling or testing of any public or private water wells.

# 2 PUBLIC WATER SUPPLY AVAILABILITY

The following section discusses the availability of public drinking water within a 0.5-mile radius of the Affected Area.

## 2.1 Public Water Supply

According to the City of Houston's (COH) Public Works and Engineering (PWE) Website, potable water is provided to the Site via the City of Houston municipal water distribution system. The COH currently draws 81% of its drinking water from four surface water treatment plants. Surface water is acquired from the San Jacinto River through Lakes Conroe and Houston and from the Trinity River through Lake Livingston. The remaining 19% of the City's drinking water is drawn from permitted public source wells located within separate groundwater plants pumping water from the Evangeline and Chicot Aquifers.

In order to confirm the availability of public water supply from the COH, ESE reviewed the COH PWE Geographic Information Management System (GIMS) website for the locations of potable water mains within a 0.5-mile radius of the Site. According to GIMS, COH potable water mains are located to the north, east, south and west of the Site and are located throughout the search radius, thus confirming the availability of a public water supply within the vicinity of the Site.

## 2.2 Private Water Supply

ESE conducted a data records review and field reconnaissance of a 0.5-mile and 500-foot radius of the Affected Area, respectively. This investigation found no areas lacking access to public water supply from the City of Houston. Additionally, no private water wells were identified within a 500-foot radius of the Affected Area.

# 3 GROUNDWATER PRODUCTION ZONES

The following provides information regarding the groundwater production zones supplying water to drinking water supply wells in the general area of the Site.

## 3.1 Water Well Records

A water well records search was obtained from Banks, dated February 3, 2021, and is included as ***Appendix A.*** The Banks report identified three (3) water wells located within a 0.5-mile radius of the Site, with one (1) of those wells located within 0.25 mile of the identified groundwater contamination. A full table summary of these water wells is included in ***Table 1***.

The nearest water well identified on the Banks Survey Map is Well Number (No.) 1 which is reportedly located approximately 500 feet northwest (generally upgradient) of the Site boundary. The domestic well, reportedly owned by W.K. Plumbing, was installed to a depth of 413 feet below ground surface (bgs). However, the field survey was unable to locate a water well on this property. Additionally, the cementing data provided on the water well report states that the well is cemented from 200'-400' bgs; therefore, the well would not have been hydraulically connected.

## 3.2 Aquifer Overview

According to the Texas Water Development Board description of major aquifers posted on their official web page, the Site is located over the Gulf Coast Aquifer. The Gulf Coast Aquifer is composed of the Catahoula, Jasper, Evangeline, and Chicot Formations, ranging from most deep to most shallow, with the Burkeville confining system separating the Jasper and Evangeline formations. The aquifer consists of complex interbedded clays, silts, sands, and gravels of Cenozoic Age, which are hydraulically connected to form a large, leaky artesian aquifer system. The Catahoula formation contains ground water near the outcrop in relatively restricted sand layers. The Jasper formation is primarily contained within the Oakville Sandstone. The Burkeville confining system separates the Jasper and overlying Evangeline Aquifer, which is contained within the Fleming and Goliad sands. The Chicot Aquifer, which is the upper component of the Gulf Coast Aquifer system, consists of Lissie, Willis, Bentley, Montgomery, and Beaumont Formations, and overlying alluvial deposits.

The Gulf Coast Aquifer forms a wide belt along the Gulf of Mexico from Florida to Mexico. In Texas, the aquifer provides water to all or parts of 54 counties and extends from the Rio Grande northeastward to the Louisiana-Texas border. The largest municipal user of this aquifer is the Greater Houston metropolitan area, where well yields average approximately 1,600 gallons per minute. It is estimated that about 4 percent of the mean annual rainfall on the outcrop of the aquifer would be necessary to support the estimated annual effective recharge to the aquifer.

# 4 AFFECTED OR POTENTIALLY AFFECTED WATER WELLS

## 4.1 Field Survey

On March 23, 2021, a field survey was conducted to identify any potential unregistered water wells or sensitive receptors within 500-feet of the known extent of groundwater impacts. The field survey was conducted by Mr. John Lembcke of ESE. Mr. Lembcke conducted a visual survey of all properties within 500-feet of the known extent of groundwater impacts by walking along public rights-of-way searching for potential unregistered water wells and sensitive receptors. No unregistered water wells or sensitive receptors were noted in the visual survey. Additionally, water meters were located for all properties within 500-feet of the known extent of the groundwater impacts. This further confirms that properties within 500-feet of the known extent of the groundwater impacts are serviced by a municipal water supply.

The remainder of the surrounding properties located beyond 500-feet from the known extent of the ground water impacts consist of generally commercial property, all of which are provided drinking water by the City of Houston. In conclusion, no unregistered water wells were noted in the visual survey of all properties within 500-feet of the known extent of the groundwater impacts and all sensitive receptors within 500-feet of the known extent of the groundwater impacts are provided water by the City of Houston.

## 4.2 Records Review

TCEQ publication RG-428 ("*Preparation of a Drinking Water Survey Report*") defines a potentially affected private drinking water well as "*A private drinking water well located within the known extent of a defined groundwater contaminant plume or within 0.25 miles of groundwater contamination when the full extent of the groundwater contaminant plume has not been defined laterally and vertically*." The full extent of the groundwater plume has not been defined at the subject site. However, there are no water wells located within 0.25 miles of the Site, therefore, there are no affected or potentially affected water wells. This Drinking Water Survey Report has been prepared in general accordance with the requirements of TCEQ Publication RG-428 "*Preparation of a Drinking Water Survey Report*" (January 2010).

Based on the findings of this DWSR, there are no apparent threats or impacts to potential potable water well receptors.

# 5 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

**DRINKING WATER SURVEY**

**FORMER FANNIN TEXACO**

**2111 FANNIN STREET**

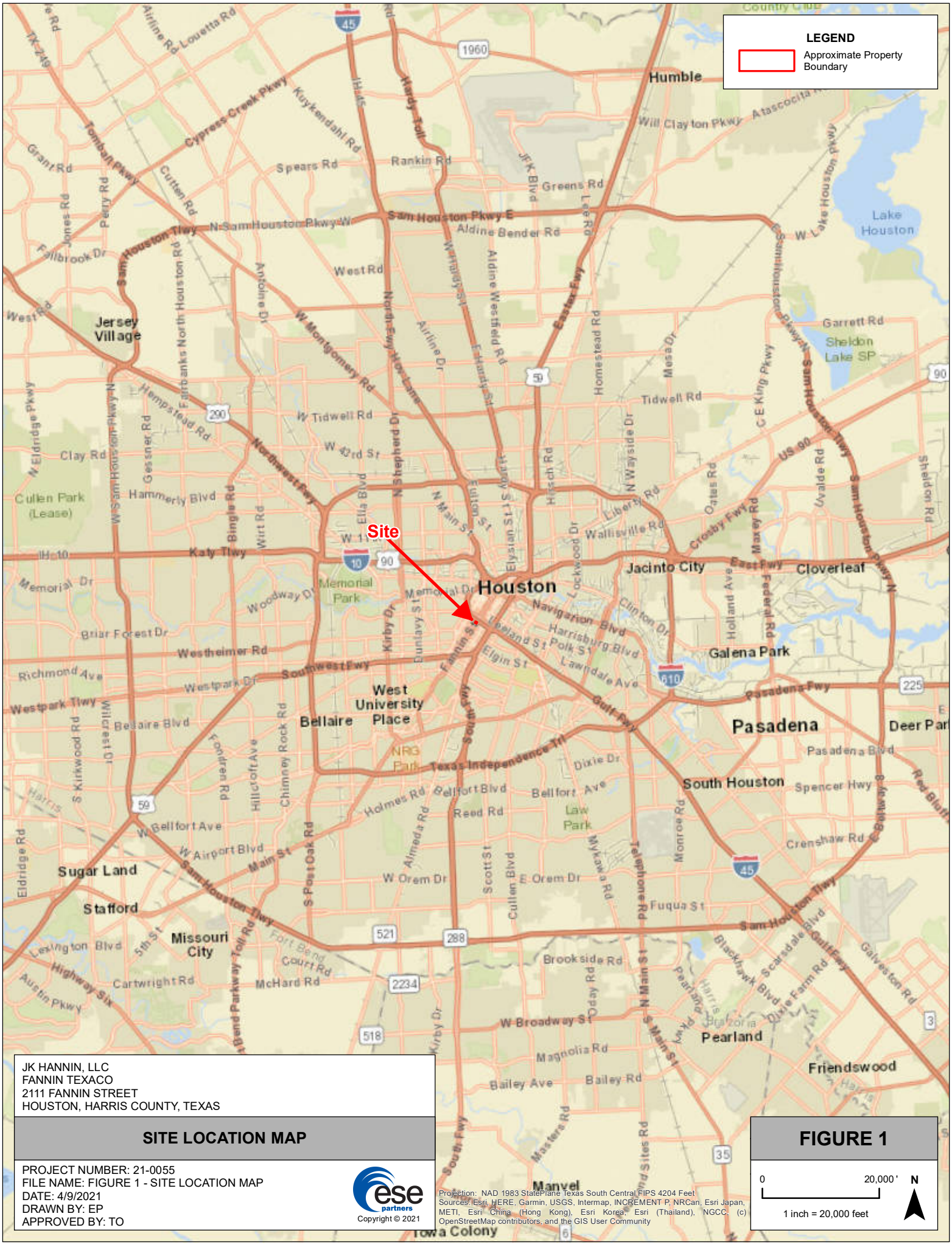
**HOUSTON, HARRIS COUNTY, TEXAS**

**APRIL 6, 2021**

John Lembcke, P.G., CAPM
Senior Geologist

Jason Binford
Principal Consultant

# FIGURES




JK HANNIN, LLC
FANNIN TEXACO
2111 FANNIN STREET
HOUSTON, HARRIS COUNTY, TEXAS

## SITE LOCATION MAP

## FIGURE 1

PROJECT NUMBER: 21-0055
FILE NAME: FIGURE 1 - SITE LOCATION MAP
DATE: 4/9/2021
DRAWN BY: EP
APPROVED BY: TO

ese partners

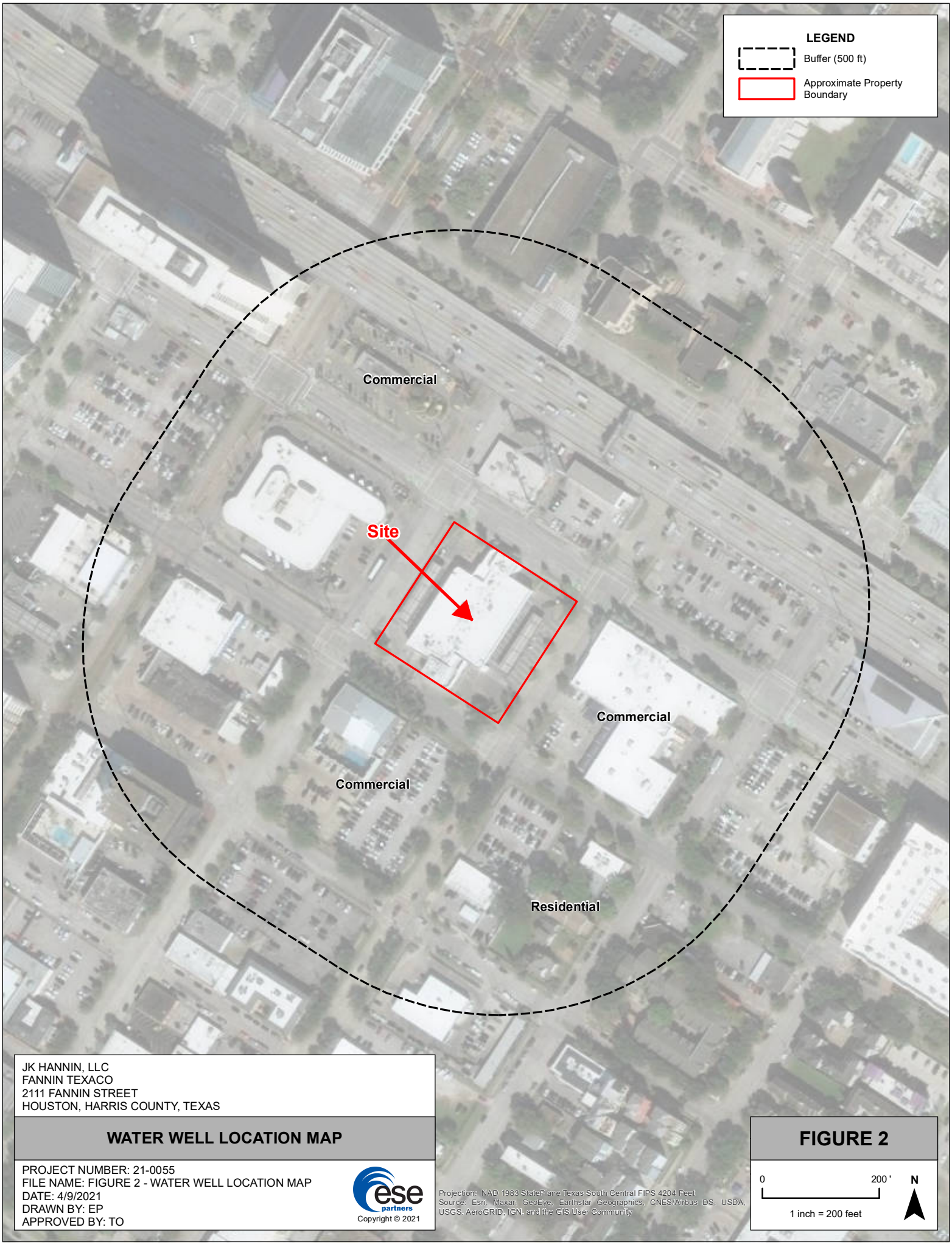


Projection: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

0 20,000 '

1 inch = 20,000 feet

N

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2111 FANNIN STREET
HOUSTON, HARRIS COUNTY, TEXAS

## WATER WELL LOCATION MAP

PROJECT NUMBER: 21-0055
FILE NAME: FIGURE 2 - WATER WELL LOCATION MAP
DATE: 4/9/2021
DRAWN BY: EP
APPROVED BY: TO



Projection: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## FIGURE 2

0 200 '

1 inch = 200 feet

N


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HOUSTON, HARRIS COUNTY, TEXAS

## MONITOR WELL LOCATION MAP

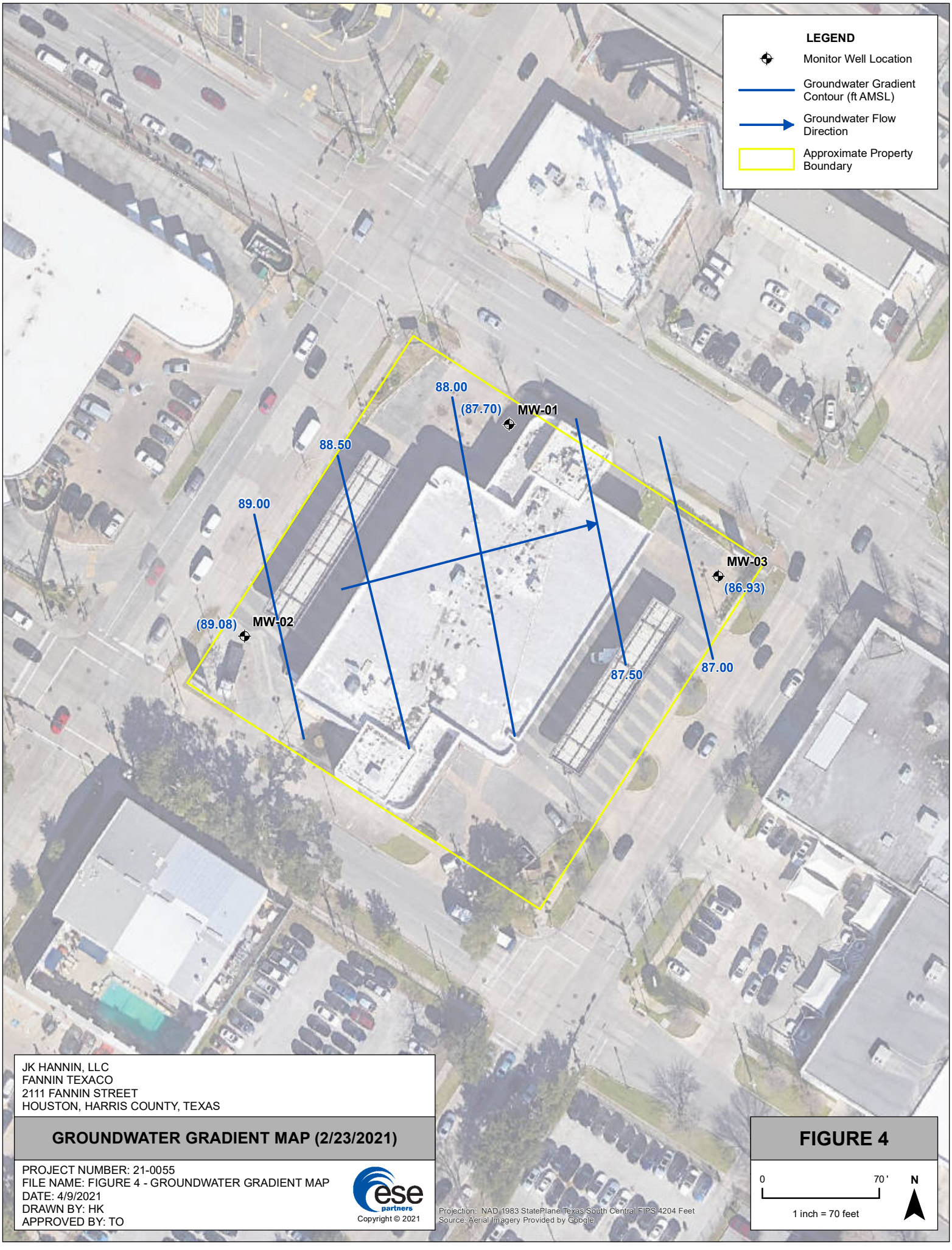
PROJECT NUMBER: 21-0055
FILE NAME: FIGURE 3 - MONITOR WELL LOCATION MAP
DATE: 4/9/2021
DRAWN BY: HK
APPROVED BY: TO



Projection: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Source: Aerial Imagery Provided by Google

## FIGURE 3

0 70'
1 inch = 70 feet
N

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2111 FANNIN STREET
HOUSTON, HARRIS COUNTY, TEXAS

## GROUNDWATER GRADIENT MAP (2/23/2021)

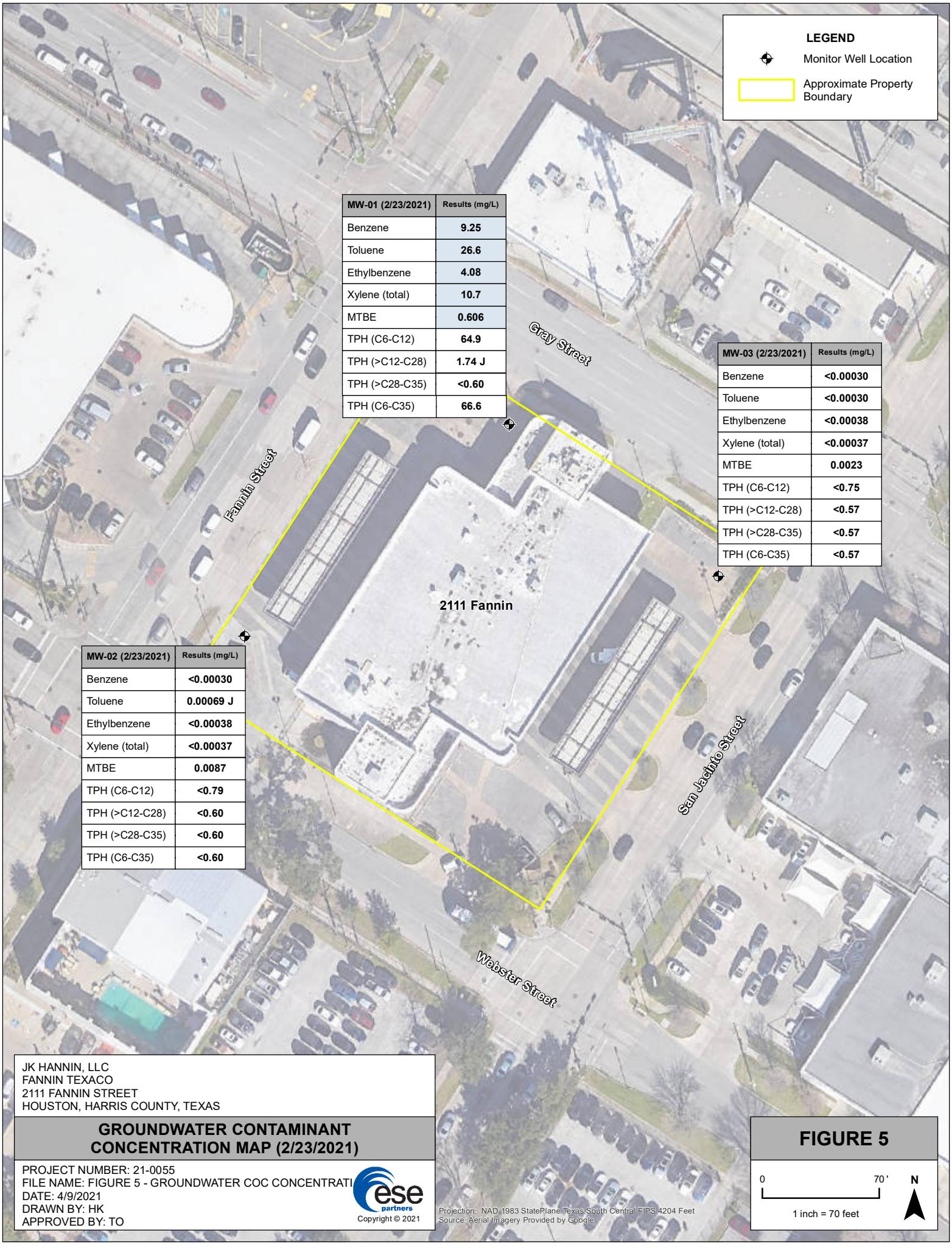
PROJECT NUMBER: 21-0055
FILE NAME: FIGURE 4 - GROUNDWATER GRADIENT MAP
DATE: 4/9/2021
DRAWN BY: HK
APPROVED BY: TO



Projection: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Source: Aerial Imagery Provided by Google

## FIGURE 4

0 70'
1 inch = 70 feet
N




JK HANNIN, LLC
FANNIN TEXACO
2111 FANNIN STREET
HOUSTON, HARRIS COUNTY, TEXAS

## GROUNDWATER CONTAMINANT CONCENTRATION MAP (2/23/2021)

PROJECT NUMBER: 21-0055
FILE NAME: FIGURE 5 - GROUNDWATER COC CONCENTRATI
DATE: 4/9/2021
DRAWN BY: HK
APPROVED BY: TO



Projection: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Source: Aerial Imagery Provided by Google

## FIGURE 5

0 70 '
1 inch = 70 feet
N

# TABLES

**Table 1**
**Water Well Verification Summary**
**Fannin Texaco**
**2111 Fannin Street**
**Houston, Texas**
**LPST ID No. 121070**

| Banks Map ID | Well ID | Owner of Well | Latitude | Longitude | Physical Address | Well Type | Date Drilled | Screened Interval (ft) | Cemented Interval (ft) | Total Depth (ft) | Notes | Well Impacted or Threatened by LPST? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WELLS WITHIN 500FT RADIUS OF SITE | | | | | | | | | | | | |
| 1 | 65-21-3F | W.K. Plumbing | 29.748619 | -95.371803 | Unknown | Domestic | 1/20/1981 | 400-413 | 200-400 | 413 | Could not be located, very possibly a misplotted well | No |
| WELLS WITHIN 0.25 MILE RADIUS OF SITE | | | | | | | | | | | | |
| None | | | | | | | | | | | | |
| WELLS BETWEEN 0.25 MILES AND 0.50 MILE RADIUS OF SITE | | | | | | | | | | | | |
| 2 | 6521315 | Shepard Laundry | 29.746394 | -95.376674 | unknwon | Plugged or detroyed | 1/1/1930 | 1336-1416 | unknown | 1416 | Remarks in log provided lists well as "destroyed" | No |
| 3 | 6514717 | Main Building Corp. | 29.753617 | -95.366396 | unknown | Unused | 1/1/1938 | 767 | unknown | 932 | Listed as "unused" | No |

# APPENDIX A

# BANKS WATER WELL REPORT

**Prepared for:**

ESE PARTNERS LLC Houston
2002 West Grand Parkway North, Ste. 140
Houston, TX 77449

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

# Water Well Report

Fannin Texaco

2111 Fannin

Houston, TX 77002

Harris County

PO #: 21-0055

ES-135654

Wednesday, February 3, 2021


Banks Environmental Data, Inc. - 1601 Rio Grande, Ste. 331 - Austin, TX 78701 - 800.531.5255 P - 512.478.1433 F
www.banksenvdata.com

## Table of Contents





Banks Environmental Data, Inc. - 1601 Rio Grande, Ste. 331 - Austin, TX 78701 - 800.531.5255 P - 512.478.1433 F
www.banksenvdata.com

# Geographic Summary

| Location |
|---|
| Harris County, TX |

| Coordinates | |
|---|---|
| **Longitude & Latitude in Degrees Minutes Seconds** | -95° 22' 14", 29° 44' 52" |
| **Longitude & Latitude in Decimal Degrees** | -95.370565°, 29.747676° |
| **X and Y in UTM** | 270755.58, 3293179.71 (Zone 15) |

| Elevation |
|---|
| Target Property lies 44.63 feet above sea level. |

| Zip Codes Searched | |
|---|---|
| **Search Distance** | **Zip Codes (historical zip codes included)** |
| **Target Property** | 77002, 77201 |
| **0.5 miles** | 77004, 77006, 77002, 77201, 77019, 77003 |

| Topos Searched | |
|---|---|
| **Search Distance** | **Topo Name** |
| **Target Property** | Park Place (1983) |
| **0.5 miles** | Settegast (1983), Park Place (1983), Houston Heights (1983), Bellaire (1983) |



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## Summary Map - 0.5 Mile Radius

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP


### Fannin Texaco

- Well
- Well Cluster
- Target Property
- Search Buffer
- Texas Quad Index

0' 500' 1000'

**1 : 9,000**

**1 inch = 0.142 miles**
**1 inch = 750 feet**
**1 centimeter = 0.090 kilometers**
**1 centimeter = 90 meters**

N

**Lambert Conformal Conic Projection**
1983 North American Datum
First Standard Parallel: 33 0' 00" North
Second Standard Parallel: 45 0' 00" North
Central Meridian: 96 0' 00" West
Latitude of Origin: 39 0' 00" North



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## Topographic Overlay Map - 0.5 Mile Radius


### Fannin Texaco

Well

Well Cluster

Target Property

Search Buffer

**Target Property Quad Name(s)**
Park Place (1983)

0' 500' 1000'

**1 : 9,000**

**1 inch = 0.142 miles**
**1 inch = 750 feet**

**Lambert Conformal Conic Projection**
1983 North American Datum
First Standard Parallel: 33 0' 00" North
Second Standard Parallel: 45 0' 00" North
Central Meridian: 96 0' 00" West
Latitude of Origin: 39 0' 00" North

N

## Current Imagery Overlay Map - 0.5 Mile Radius

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP


### Fannin Texaco

Well
Well Cluster
Target Property
Search Buffer

0' 500' 1000'

**1 : 9,000**

**1 inch = 0.142 miles**
**1 inch = 750 feet**
**1 centimeter = 0.090 kilometers**
**1 centimeter = 90 meters**

N

**Lambert Conformal Conic Projection**
1983 North American Datum
First Standard Parallel: 33 0' 00" North
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Central Meridian: 96 0' 00" West
Latitude of Origin: 39 0' 00" North



Banks Environmental Data, Inc. - 1601 Rio Grande, Ste. 331 - Austin, TX 78701 - 800.531.5255 P - 512.478.1433 F
www.banksenvdata.com

## Water Well Details

| Map ID | Source ID | Dataset | Owner of Well | Type of Well | Depth Drilled | Completion Date | Longitude | Latitude | Elevation | Driller's Logs |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 65-21-3F | TX TCEQ HIST | W.K. Plumbing | Domestic | 413 | 01/20/1981 | -95.371803 | 29.748619 | 46 ft (+1) | View |
| 2 | 6521315 | TX TWDB GW | Shepherd Laundry | Plugged or Destroyed | 1416 | 01/01/1930 | -95.376674 | 29.746394 | 47 ft (+2) | View |
| 3 | 6514717 | TX TWDB GW | Main Building Corp. | Unused | 932 | 01/01/1938 | -95.366396 | 29.753617 | 45 ft (+) | View |

## Well Summary

| Water Well Dataset | # of Wells |
|---|---|
| TX TCEQ HIST | 1 |
| TX TWDB GW | 2 |
| **Total Count** | **3** |



Banks Environmental Data, Inc. - 1601 Rio Grande, Ste. 331 - Austin, TX 78701 - 800.531.5255 P - 512.478.1433 F
www.banksenvdata.com

(4)

Send original copy by certified mail to the Texas Department of Water Resources P. O. Box 13087 Austin, Texas 78711

# State of Texas
# WATER WELL REPORT

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

For TDWR use only
Well No. 65-21-3F
Located on map
Received:

1) OWNER W. K. Plumbing (Name) Address P.O. Box 34844 (Street or RFD) Houston (City) Texas (State) (Zip)

2) LOCATION OF WELL: County Harris 5 miles in N.E. (N.E., S.W., etc.) direction from Bell Aire (Town)

Driller must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ Legal description:
Section No. ____ Block No. ____ Township ____
Abstract No. ____ Survey Name ____
Distance and direction from two intersecting section or survey lines ____
☑ See attached map.

3) TYPE OF WORK (Check): ☑ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☑ Domestic ☐ Industrial ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Other ____

5) DRILLING METHOD (Check): ☑ Mud Rotary ☐ Air Hammer ☐ Driven ☐ Bored ☐ Air Rotary ☐ Cable Tool ☐ Jetted ☐ Other ____

6) WELL LOG:

Date drilled 1/20/81

DIAMETER OF HOLE

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6½ | Surface | 413 |

7) BOREHOLE COMPLETION: ☐ Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☑ Other Cemented
If Gravel Packed give interval . . . from ____ ft. to ____ ft.

| From (ft.) | To (ft.) | Description and color of formation material |
|---|---|---|
| 0 | 3 | top soil |
| 3 | 10 | gray clay |
| 10 | 51 | fine sand |
| 51 | 53 | rock |
| 53 | 85 | fine sand + clay strips |
| 85 | 95 | red + blue clay |
| 95 | 137 | fine sand |
| 137 | 160 | red, gray, & blue clay |
| 160 | 174 | coarse sand |
| 174 | 241 | red + gray clay |
| 241 | 248 | coarse sand |
| 248 | 308 | sand + clay strips |
| 308 | 330 | red + gray clay |
| 330 | 341 | fine sand |
| 341 | 351 | red + gray clay |
| 351 | 361 | fine sand |
| 361 | 402 | blue + gray clay |
| 402 | 413 | coarse sand |

(Use reverse side if necessary)

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

| Dia. (in.) | New or Used | Steel, Plastic, etc. Perf., Slotted, etc. Screen Mgf., if commercial | Setting (ft.) From | Setting (ft.) To | Gage Casing Screen |
|---|---|---|---|---|---|
| 4" | New | Plastic Casing | 0 | 400 | 40 |
| 2½" | New | Plastic Screen | 403 | 413 | 12 |

CEMENTING DATA
Cemented from 400 ft. to 200 ft.
Method used Pressurized
Cemented by Ind. (Company or Individual)

9) WATER LEVEL:
Static level 230 ft. below land surface Date 1/21/81
Artesian flow ____ gpm. Date ____

10) PACKERS: Type: 2½"x4" R+R 3 Ring Depth: 393'

RECEIVED
AUG 2 1982
TWDB

11) TYPE PUMP: ☐ Turbine ☐ Jet ☑ Submersible ☐ Cylinder ☐ Other ____
Depth to pump bowls, cylinder, jet, etc., 294 ft.

12) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

13) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☑ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? Fresh Depth of strata 11'
Was a chemical analysis made? ☐ Yes ☑ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

NAME Bobby Potter (Type or Print) Water Well Drillers Registration No. 1572

ADDRESS 5717 Chippewa (Street or RFD) Houston (City) Texas (State) 77086 (Zip)

(Signed) Bobby Potter (Water Well Driller) Damrell + Potter Drilling Co. (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

TDWR-0392 (Rev. 1-12-79) DEPARTMENT OF WATER RESOURCES COPY

4820117013

# Texas Water Development Board (TWDB)
# Groundwater Database (GWDB)
# Well Information Report for State Well Number 65-21-315

GWDB Reports and Downloads

## Well Basic Details

Scanned Documents

| | |
|---|---|
| **State Well Number** | 6521315 |
| **County** | Harris |
| **River Basin** | San Jacinto |
| **Groundwater Management Area** | 14 |
| **Regional Water Planning Area** | H - Region H |
| **Groundwater Conservation District** | Harris-Galveston Subsidence District |
| **Latitude** (decimal degrees) | 29.746389 |
| **Latitude** (degrees minutes seconds) | 29° 44' 47" N |
| **Longitude** (decimal degrees) | -95.376667 |
| **Longitude** (degrees minutes seconds) | 095° 22' 36" W |
| **Coordinate Source** | +/- 5 Seconds |
| **Aquifer Code** | 121EVGL - Evangeline Aquifer |
| **Aquifer** | Gulf Coast |
| **Aquifer Pick Method** | |
| **Land Surface Elevation** (feet above sea level) | 54 |
| **Land Surface Elevation Method** | Interpolated From Topo Map |
| **Well Depth** (feet below land surface) | 1416 |
| **Well Depth Source** | Unknown |
| **Drilling Start Date** | |
| **Drilling End Date** | 0/0/1930 |
| **Drilling Method** | |
| **Borehole Completion** | |

| | |
|---|---|
| **Well Type** | Withdrawal of Water |
| **Well Use** | Plugged or Destroyed |
| **Water Level Observation** | Miscellaneous Measurements |
| **Water Quality Available** | Yes |
| **Pump** | None |
| **Pump Depth** (feet below land surface) | |
| **Power Type** | |
| **Annular Seal Method** | |
| **Surface Completion** | |
| **Owner** | Shepherd Laundry |
| **Driller** | McMasters and Pomeroy |
| **Other Data Available** | |
| **Well Report Tracking Number** | |
| **Plugging Report Tracking Number** | |
| **U.S. Geological Survey Site Number** | |
| **Texas Commission on Environmental Quality Source Id** | |
| **Groundwater Conservation District Well Number** | |
| **Owner Well Number** | |
| **Other Well Number** | |
| **Previous State Well Number** | |
| **Reporting Agency** | |
| **Created Date** | 5/18/1999 |
| **Last Update Date** | 5/18/1999 |

| | |
|---|---|
| **Remarks** | 62 ft of screen between 1336 and 1416 ft. Well destroyed. |

***Casing - No Data***

***Well Tests - No Data***

***Lithology - No Data***

***Annular Seal Range - No Data***

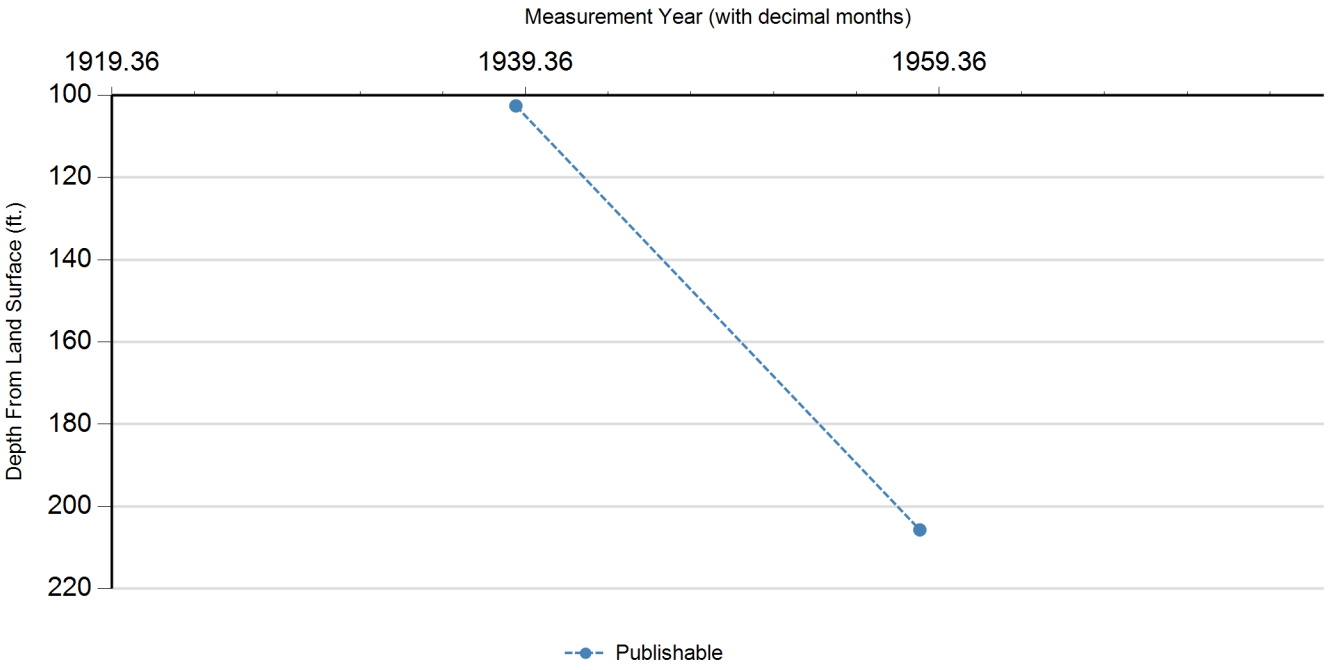
***Borehole - No Data***

***Plugged Back - No Data***

***Filter Pack - No Data***

***Packers - No Data***

## Water Level Measurements




| Status Code | Date | Time | Water Level (ft. below land surface) | Change value in ( ) indicates rise in level | Water Elevation (ft. above sea level) | Meas # | Measuring Agency | Method | Remark ID | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| P | 11/28/1938 | | 102.6 | | -48.6 | 1 | Texas Water Development Board | Steel Tape | | |
| P | 6/9/1958 | | 205.7 | 103.10 | -151.7 | 1 | Texas Water Development Board | Steel Tape | | |

## Code Descriptions

| Status Code | Status Description |
|---|---|
| P | Publishable |

## Water Quality Analysis

**Sample Date:** 7/0/1930 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:**

**Sampled Aquifer:** Evangeline Aquifer

**Analyzed Lab:** **Reliability:** Reliability unknown or not available

**Collection Remarks:** No Data

| Parameter Code | Parameter Description | Flag | Value* | Units | Plus/Minus |
|---|---|---|---|---|---|
| 00445 | CARBONATE ION, CALCULATED (MG/L AS CO3) | | 0 | mg/L | |
| 00940 | CHLORIDE, TOTAL (MG/L AS CL) | | 60 | mg/L | |
| 00900 | HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3) | | 70 | mg/L | |

## Water Quality Analysis

**Sample Date:** 2/2/1939 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:**

**Sampled Aquifer:** Evangeline Aquifer

**Analyzed Lab:** **Reliability:** Reliability unknown or not available

**Collection Remarks:** No Data

| Parameter Code | Parameter Description | Flag | Value* | Units | Plus/Minus |
|---|---|---|---|---|---|
| 00415 | ALKALINITY, PHENOLPHTHALEIN (MG/L) | | 0 | mg/L | |
| 00410 | ALKALINITY, TOTAL (MG/L AS CACO3) | | 244.26 | mg/L | |
| 00440 | BICARBONATE ION, CALCULATED (MG/L AS HCO3) | | 298 | mg/L | |
| 00445 | CARBONATE ION, CALCULATED (MG/L AS CO3) | | 0 | mg/L | |
| 00940 | CHLORIDE, TOTAL (MG/L AS CL) | | 52 | mg/L | |
| 00900 | HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3) | | 62 | mg/L | |
| 71851 | NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3) | | 0 | mg/L | |
| 00929 | SODIUM, TOTAL (MG/L AS NA) | | 118 | mg/L | |
| 00945 | SULFATE, TOTAL (MG/L AS SO4) | | 1 | mg/L | |
| 70301 | TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L) | | 333 | mg/L | |

## Water Quality Analysis

**Sample Date:** 8/5/1939 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:**

**Sampled Aquifer:** Evangeline Aquifer

**Analyzed Lab:** **Reliability:** Reliability unknown or not available

**Collection Remarks:** No Data

| Parameter Code | Parameter Description | Flag | Value* | Units | Plus/Minus |
|---|---|---|---|---|---|
| 00415 | ALKALINITY, PHENOLPHTHALEIN (MG/L) | | 0 | mg/L | |
| 00410 | ALKALINITY, TOTAL (MG/L AS CACO3) | | 247.54 | mg/L | |
| 00440 | BICARBONATE ION, CALCULATED (MG/L AS HCO3) | | 302 | mg/L | |
| 00445 | CARBONATE ION, CALCULATED (MG/L AS CO3) | | 0 | mg/L | |
| 00940 | CHLORIDE, TOTAL (MG/L AS CL) | | 53 | mg/L | |
| 00900 | HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3) | | 60 | mg/L | |
| 00929 | SODIUM, TOTAL (MG/L AS NA) | | 122 | mg/L | |
| 00945 | SULFATE, TOTAL (MG/L AS SO4) | | 1 | mg/L | |
| 70301 | TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L) | | 339 | mg/L | |

## Water Quality Analysis

**Sample Date:** 5/21/1940 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:**

**Sampled Aquifer:** Evangeline Aquifer

**Analyzed Lab:** **Reliability:** Reliability unknown or not available

**Collection Remarks:** No Data

| Parameter Code | Parameter Description | Flag | Value* | Units | Plus/Minus |
|---|---|---|---|---|---|
| 00415 | ALKALINITY, PHENOLPHTHALEIN (MG/L) | | 0 | mg/L | |
| 00410 | ALKALINITY, TOTAL (MG/L AS CACO3) | | 240.98 | mg/L | |
| 00440 | BICARBONATE ION, CALCULATED (MG/L AS HCO3) | | 294 | mg/L | |
| 00445 | CARBONATE ION, CALCULATED (MG/L AS CO3) | | 0 | mg/L | |
| 00940 | CHLORIDE, TOTAL (MG/L AS CL) | | 50 | mg/L | |
| 00900 | HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3) | | 60 | mg/L | |
| 00929 | SODIUM, TOTAL (MG/L AS NA) | | 116 | mg/L | |
| 00945 | SULFATE, TOTAL (MG/L AS SO4) | | 1 | mg/L | |
| 70301 | TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L) | | 326 | mg/L | |

## Water Quality Analysis

**Sample Date:** 2/17/1941 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:**

**Sampled Aquifer:** Evangeline Aquifer

**Analyzed Lab:** **Reliability:** Reliability unknown or not available

**Collection Remarks:** No Data

| Parameter Code | Parameter Description | Flag | Value* | Units | Plus/Minus |
|---|---|---|---|---|---|
| 00415 | ALKALINITY, PHENOLPHTHALEIN (MG/L) | | 0 | mg/L | |
| 00410 | ALKALINITY, TOTAL (MG/L AS CACO3) | | 254.1 | mg/L | |
| 00440 | BICARBONATE ION, CALCULATED (MG/L AS HCO3) | | 310 | mg/L | |
| 00445 | CARBONATE ION, CALCULATED (MG/L AS CO3) | | 0 | mg/L | |
| 00940 | CHLORIDE, TOTAL (MG/L AS CL) | | 49 | mg/L | |
| 00900 | HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3) | | 70 | mg/L | |
| 00929 | SODIUM, TOTAL (MG/L AS NA) | | 117 | mg/L | |
| 00945 | SULFATE, TOTAL (MG/L AS SO4) | | 1 | mg/L | |
| 70301 | TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L) | | 338 | mg/L | |

## Water Quality Analysis

**Sample Date:** 1/31/1942 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:**

**Sampled Aquifer:** Evangeline Aquifer

**Analyzed Lab:** **Reliability:** Reliability unknown or not available

**Collection Remarks:** No Data

| Parameter Code | Parameter Description | Flag | Value* | Units | Plus/Minus |
|---|---|---|---|---|---|
| 00415 | ALKALINITY, PHENOLPHTHALEIN (MG/L) | | 0 | mg/L | |
| 00410 | ALKALINITY, TOTAL (MG/L AS CACO3) | | 239.34 | mg/L | |
| 00440 | BICARBONATE ION, CALCULATED (MG/L AS HCO3) | | 292 | mg/L | |
| 00910 | CALCIUM (MG/L) | | 16 | mg/L | |
| 00445 | CARBONATE ION, CALCULATED (MG/L AS CO3) | | 0 | mg/L | |
| 00940 | CHLORIDE, TOTAL (MG/L AS CL) | | 48 | mg/L | |
| 00900 | HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3) | | 62 | mg/L | |
| 00920 | MAGNESIUM (MG/L) | | 6 | mg/L | |
| 71860 | RESIDUAL SODIUM CARBONATE, CALCULATED | | 3.49 | | |
| 00931 | SODIUM ADSORPTION RATIO, CALCULATED (SAR) | | 6.12 | | |
| 00932 | SODIUM, CALCULATED, PERCENT | | 79 | PCT | |
| 00929 | SODIUM, TOTAL (MG/L AS NA) | | 113 | mg/L | |
| 00945 | SULFATE, TOTAL (MG/L AS SO4) | | 2 | mg/L | |
| 70301 | TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L) | | 328 | mg/L | |

## Water Quality Analysis

**Sample Date:** 1/9/1943 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:**

**Sampled Aquifer:** Evangeline Aquifer

**Analyzed Lab:** **Reliability:** Reliability unknown or not available

**Collection Remarks:** No Data

| Parameter Code | Parameter Description | Flag | Value* | Units | Plus/Minus |
|---|---|---|---|---|---|
| 00415 | ALKALINITY, PHENOLPHTHALEIN (MG/L) | | 0 | mg/L | |
| 00410 | ALKALINITY, TOTAL (MG/L AS CACO3) | | 235.25 | mg/L | |
| 00440 | BICARBONATE ION, CALCULATED (MG/L AS HCO3) | | 287 | mg/L | |
| 00910 | CALCIUM (MG/L) | | 23 | mg/L | |
| 00445 | CARBONATE ION, CALCULATED (MG/L AS CO3) | | 0 | mg/L | |
| 00940 | CHLORIDE, TOTAL (MG/L AS CL) | | 48 | mg/L | |
| 00950 | FLUORIDE, DISSOLVED (MG/L AS F) | | 0.2 | mg/L | |
| 00900 | HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3) | | 90 | mg/L | |
| 00920 | MAGNESIUM (MG/L) | | 8 | mg/L | |
| 71851 | NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3) | | 0 | mg/L | |
| 71860 | RESIDUAL SODIUM CARBONATE, CALCULATED | | 2.89 | | |
| 00931 | SODIUM ADSORPTION RATIO, CALCULATED (SAR) | | 4.53 | | |
| 00932 | SODIUM, CALCULATED, PERCENT | | 70 | PCT | |
| 00929 | SODIUM, TOTAL (MG/L AS NA) | | 99 | mg/L | |
| 00945 | SULFATE, TOTAL (MG/L AS SO4) | | 2 | mg/L | |
| 70301 | TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L) | | 321 | mg/L | |

## Water Quality Analysis

**Sample Date:** 2/12/1947 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:**

**Sampled Aquifer:** Evangeline Aquifer

**Analyzed Lab:** **Reliability:** Reliability unknown or not available

**Collection Remarks:** No Data

| Parameter Code | Parameter Description | Flag | Value* | Units | Plus/Minus |
|---|---|---|---|---|---|
| 00445 | CARBONATE ION, CALCULATED (MG/L AS CO3) | | 0 | mg/L | |
| 00940 | CHLORIDE, TOTAL (MG/L AS CL) | | 50 | mg/L | |
| 00900 | HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3) | | 54 | mg/L | |

** Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..*

# Texas Water Development Board
## Well Schedule

**State Well Number** 6514717 **Previous Well Number** **County** Harris 201

**River Basin** 10 San Jacinto River **Zone** 1 **Latitude** 294513 **Longitude** 952159 **Source of Coords** 2

**Owner's Well No.** _____ **Location** _____

**Owner**
Main Building Corp.

**Driller**
Layne Texas Co.

**Address** _____ **Tenant/Oper.** _____

**Date Drilled** / /1938 **Depth** 932 **Source of Depth** **Altitude** 49 **Source of Alt.**

**Well Type** W **User**

**WELL CONSTRUCTION**

**Const-Method**

**Casing Material**

**Completion**

**Screen Material**

**Casing or Blank Pipe (C)**
**Well Screen or Slotted Zone (S) or Open Hole (O)**
**Cemented from** ____ **to** ____

**LIFT DATA -** **Pump Mfr. -** _____ **Type -** NONE **No. Stages** _____

**Bowls Diam -** _____ **in.** **Setting -** _____ **ft.** **Column Diam. -** _____ **in.**

**Motor Mfr. -** _____ **Fuel or Power -** **Horsepower -**

**YIELD Flow-** _____ **GPM** **Pump** _____ **GPM** **Meas.,Rept.,Est.-** _____ **Date-** _____

**WATER USE** **Primary -** UNUSED **Secondary -** **Tertiary -**

**OTHER DATA AVAILABLE** **Water Levels -** M **Quality -** N **Logs -** **Other Data -**

**WATER LEVELS** 1 measurement
1938
-93

**Recorded By** _____ **Date Record Collected or Updated -** 09/30/2002

**Reporting Agency** 01

**REMARKS -**
TWDB R178: 60 ft. of screen between 767 and 920 ft.
Yield: 257 gpm with 23 ft. drawdown when drilled.

**Aquifer -** 121EVGL **ID -** 15

EVANGELINE AQUIFER

# Dataset Descriptions and Sources

| Dataset | Source | Dataset Description | Update Schedule | Data Requested | Data Obtained | Data Updated | Source Updated |
|---|---|---|---|---|---|---|---|
| TX HGSD - Texas HGSD | Harris Galveston Subsidence District/Fort Bend Subsidence District | This dataset contains all groundwater well records compiled by Harris Galveston Subsidence District/Fort Bend Subsidence District. | Quarterly | 01/11/2021 | 01/12/2021 | 01/19/2021 | 01/12/2021 |
| TX TCEQ HIST - Texas TCEQ Historical | Texas Commission on Environmental Quality | This dataset contains all historical water well records searched from the TCEQ Public Water Well Viewer. Banks Environmental Data plots each well record based on location information found on the log. | As requested | N/A | N/A | N/A | N/A |
| TX TCEQ PWS - Texas TCEQ PWS | Texas Commission on Environmental Quality | This dataset contains a collection of records from Texas Water Districts, Public Drinking Water Systems and Water and Sewer Utilities who submit information to the TCEQ. | Quarterly | 11/11/2020 | 11/12/2020 | 11/16/2020 | 11/12/2020 |
| TX TWDB GW - Texas TWDB Groundwater Database | Texas Water Development Board | This dataset contains water well records contained within Texas Water Development Board Groundwater Database. | Quarterly | 01/19/2021 | 01/19/2021 | 01/19/2021 | 01/18/2021 |
| TX TWDB SDR - Texas TWDB Submitted Drillers Reports | Texas Water Development Board | This dataset contains water well records from the Texas Water Development Board Submitted Drillers Reports Database. | Quarterly | 01/19/2021 | 01/19/2021 | 01/19/2021 | 01/18/2021 |
| WW USGS - USGS Water Wells | U.S. Geological Survey | This dataset contains groundwater well records from the U.S. Geological Survey. | Semi-annually | 01/28/2021 | 01/28/2021 | 01/28/2021 | 01/28/2021 |



Banks Environmental Data, Inc. - 1601 Rio Grande, Ste. 331 - Austin, TX 78701 - 800.531.5255 P - 512.478.1433 F
www.banksenvdata.com

## Disclaimer

The Banks Environmental Data Water Well Report was prepared from existing state water well databases and/or additional file data/records research conducted at the state agency and the U.S. Geological Survey. Banks Environmental Data has performed a thorough and diligent search of all groundwater well information provided and recorded. All mapped locations are based on information obtained from the source. Although Banks performs quality assurance and quality control on all research projects, we recognize that any inaccuracies of the records and mapped well locations could possibly be traced to the appropriate regulatory authority or the actual driller. It may be possible that some water well schedules and logs have never been submitted to the regulatory authority by the water driller and, thus, may explain the possible unaccountability of privately drilled wells. It is uncertain if the above listing provides 100% of the existing wells within the area of review. Therefore, Banks Environmental Data cannot fully guarantee the accuracy of the data or well location(s) of those maps and records maintained by the regulatory authorities.



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www.banksenvdata.com

# APPENDIX B

# MONITORING WELL BORING LOGS

PROJECT: **2111 Fannin Street**
**Houston, Harris County, Texas**

# Log of Well No. MW-01

BORING LOCATION: LATITUDE: **29.747892** LONGITUDE: **-95370367**

DRILLING CONTRACTOR: **BEST Drilling**

DRILLING METHOD: **Hollow Stem Auger**

CASING/SCREEN TYPE: **SCH 40 PVC** SCREEN SLOT SIZE: **0.01"**

CASING INTERVAL (ft): **0-10** SCREEN INTERVAL (ft): **10-25**

APPROVED BY: **John Lembcke** LOGGED BY: **Colton Beall**

DATE INITIATED: **01/27/2021**
DATE COMPLETED: **01/27/2021**
TOTAL DEPTH (ft): **25**
DEPTH TO WATER: (ft) STATIC: **14** INITIAL: **18**
BORING DIAMETER: **8.25"**
SCREEN/CASING DIAMETER: **2.00"**
GROUND SURFACE ELEVATION (ft): **N/A**
TOC ELEVATION (ft): **N/A**

STATE OF TEXAS — JOHN T. LEMBCKE — GEOLOGY 626 — LICENSED PROFESSIONAL GEOSCIENTIST

**Flush** DRUMS (SO/GW): **2/1**

| DEPTH (feet) | Sample No. | Sample | Rec. (%) | PID Reading | DESCRIPTION: NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. |
|---|---|---|---|---|---|
| 0 | | | | 2 | Concrete |
| 2 | | | 100 | 3 | Black clay, high plasticity, iron at 1-3 feet |
| 4 | | | | 5 | |
| 6 | | | 100 | 5 | |
| 8 | MW-01 (8-10) | | | 6 | |
| 10 | | | | 15 | Gray/orange clay, high plasticity |
| 12 | | | 100 | 60 | |
| 14 | MW-01 (13-15) | | | 241 | |
| 16 | | | | 850 | Gray/orange sandy clay, medium plasticity, moist |
| 18 | | | 100 | 750 | |
| 20 | | | | 50 | |
| 22 | | | 100 | 6 | Gray/orange dry clay |
| 24 | MW-01 (23-25) | | | | |

WELL INSTALLATION DETAILS

GWL

Legends/Notes:

**Soil Stratigraphy**
Concrete
Clay

**Well Construction Details**
Fill
Cement
Bentonite
Sand
Cover
Casing
Screen
End Cap

**Depth to Water (GWL)**
Static
Initial

# STATE OF TEXAS WELL REPORT for Tracking #569706

| | | | |
|---|---|---|---|
| Owner: | **JK Fannin, LLC** | Owner Well #: | **MW-1** |
| Address: | **20607 Hidden Shore Circle<br>Katy, TX 77450** | Grid #: | **65-22-1** |
| Well Location: | **2111 Fannin<br>Houston, TX 77002** | Latitude: | **29° 44' 51.28" N** |
| | | Longitude: | **095° 22' 13.52" W** |
| Well County: | **Harris** | Elevation: | **No Data** |
| Type of Work: | **New Well** | Proposed Use: | **Monitor** |

Drilling Start Date: **1/27/2020** Drilling End Date: **1/27/2020**

Borehole:

| *Diameter (in.)* | *Top Depth (ft.)* | *Bottom Depth (ft.)* |
|---|---|---|
| **8** | **0** | **25** |

Drilling Method: **Hollow Stem Auger**

Borehole Completion: **Filter Packed**

Filter Pack Intervals:

| *Top Depth (ft.)* | *Bottom Depth (ft.)* | *Filter Material* | *Size* |
|---|---|---|---|
| **8** | **25** | **Sand** | **20/40** |

Annular Seal Data:

| *Top Depth (ft.)* | *Bottom Depth (ft.)* | *Description (number of sacks & material)* |
|---|---|---|
| **0** | **6** | **Concrete 1 Bags/Sacks** |
| **6** | **8** | **Bentonite 1 Bags/Sacks** |

Seal Method: **Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Slab Installed** **Surface Completion by Driller**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:

| Strata Depth (ft.) | Water Type |
|---|---|
| **No Data** | **No Data** |

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **BEST DRILLING SERVICES, INC.**

**P.O. BOX 70822**
**Houston, TX 77270**

Driller Name: **Alfredo Palacios** License Number: **5036**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

| Top (ft.) | Bottom (ft.) | Description |
|---|---|---|
| **0** | **0.5** | **Concrete** |
| **0.5** | **5** | **CLAY, black** |
| **5** | **15** | **CLAY, orange** |
| **15** | **20** | **SANDY CLAY, gray/orange** |
| **20** | **25** | **CLAY, gray/orange** |

Casing:
BLANK PIPE & WELL SCREEN DATA

| Dia (in.) | Type | Material | Sch./Gage | Top (ft.) | Bottom (ft.) |
|---|---|---|---|---|---|
| **2** | **Riser** | **New Plastic (PVC)** | **40** | **0** | **10** |
| **2** | **Screen** | **New Plastic (PVC)** | **40 0.010** | **10** | **25** |

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

**Texas Department of Licensing and Regulation**
**P.O. Box 12157**
**Austin, TX 78711**
**(512) 334-5540**

PROJECT: **2111 Fannin Street**
**Houston, Harris County, Texas**

# Log of Well No. **MW-02**

BORING LOCATION: LATITUDE: **29.747572** LONGITUDE: **-95370878**

DRILLING CONTRACTOR: **BEST Drilling**

DRILLING METHOD: **Hollow Stem Auger**

CASING/SCREEN TYPE: **SCH 40 PVC** SCREEN SLOT SIZE: **0.01"**

CASING INTERVAL (ft): **0-10** SCREEN INTERVAL (ft): **10-25**

APPROVED BY: **John Lembcke** LOGGED BY: **Colton Beall**

SURFACE COMPLETION: **Flush** DRUMS (SO/GW): **2/1**

| | |
|---|---|
| DATE INITIATED: | **01/27/2021** |
| DATE COMPLETED: | **01/27/2021** |
| TOTAL DEPTH (ft): | **25** |
| DEPTH TO WATER: (ft) STATIC: | **14** |
| INITIAL: | **18** |
| BORING DIAMETER: | **8.25"** |
| SCREEN/CASING DIAMETER: | **2.00"** |
| GROUND SURFACE ELEVATION (ft): | **N/A** |
| TOC ELEVATION (ft): | **N/A** |

STATE OF TEXAS — JOHN T. LEMBCKE — GEOLOGY 626 — LICENSED PROFESSIONAL GEOSCIENTIST

| DEPTH (feet) | Sample No. | Sample | Rec. (%) | PID Reading | DESCRIPTION<br>NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. |
|---|---|---|---|---|---|
| 0 | | | | 1.4 | Concrete |
| 2 | | | 100 | 1.5 | Black clay, high plasticity |
| 4 | | | | 1.3 | |
| 6 | | | 100 | 1.6 | Gray clay, high plasticity |
| 8 | MW-02 (8-10) | | | 1.6 | |
| 10 | | | | 1.3 | |
| 12 | | | 100 | 1.6 | Gray/orange clay, high plasticity, black seam at 12', calcareous nodules at 15' |
| 14 | MW-02 (13-15) | | | 1.6 | |
| 16 | | | | 1.7 | |
| 18 | | | 100 | 1.9 | Gray/orange sandy clay, medium platicity, moist at 17-19 |
| 20 | | | | 1.9 | |
| 22 | | | 100 | 1.9 | Gray/orange clay, high plasticity |
| 24 | MW-02 (23-25) | | | | |

WELL INSTALLATION DETAILS

GWL

Legends/Notes:

**Soil Stratigraphy**
- Concrete
- Clay
- Sandy Clay

**Well Construction Details**
- Fill
- Cement
- Bentonite
- Sand
- Cover
- Casing
- Screen
- End Cap

**Depth to Water (GWL)**
- Static
- Initial

# STATE OF TEXAS WELL REPORT for Tracking #569710

| | | | |
|---|---|---|---|
| Owner: | **JK Fannin, LLC** | Owner Well #: | **MW-2** |
| Address: | **20607 Hidden Shore Circle<br>Katy, TX 77450** | Grid #: | **65-22-1** |
| Well Location: | **2111 Fannin<br>Houston, TX 77002** | Latitude: | **29° 44' 51.28" N** |
| | | Longitude: | **095° 22' 13.52" W** |
| Well County: | **Harris** | Elevation: | **No Data** |
| Type of Work: | **New Well** | Proposed Use: | **Monitor** |

Drilling Start Date: **1/27/2020** Drilling End Date: **1/27/2020**

Borehole:

| *Diameter (in.)* | *Top Depth (ft.)* | *Bottom Depth (ft.)* |
|---|---|---|
| **8** | **0** | **25** |

Drilling Method: **Hollow Stem Auger**

Borehole Completion: **Filter Packed**

Filter Pack Intervals:

| *Top Depth (ft.)* | *Bottom Depth (ft.)* | *Filter Material* | *Size* |
|---|---|---|---|
| **8** | **25** | **Sand** | **20/40** |

Annular Seal Data:

| *Top Depth (ft.)* | *Bottom Depth (ft.)* | *Description (number of sacks & material)* |
|---|---|---|
| **0** | **6** | **Concrete 1 Bags/Sacks** |
| **6** | **8** | **Bentonite 1 Bags/Sacks** |

Seal Method: **Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Slab Installed** **Surface Completion by Driller**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:

| Strata Depth (ft.) | Water Type |
|---|---|
| **No Data** | **No Data** |

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **BEST DRILLING SERVICES, INC.**

**P.O. BOX 70822**
**Houston, TX 77270**

Driller Name: **Alfredo Palacios** License Number: **5036**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

| Top (ft.) | Bottom (ft.) | Description |
|---|---|---|
| **0** | **0.5** | **Concrete** |
| **0.5** | **5** | **CLAY, black** |
| **5** | **10** | **CLAY, gray** |
| **10** | **17** | **SILTY, gray/orange** |
| **17** | **20** | **SANDY CLAY, gray/orange** |
| **20** | **25** | **CLAY, gray/orange** |

Casing:
BLANK PIPE & WELL SCREEN DATA

| Dia (in.) | Type | Material | Sch./Gage | Top (ft.) | Bottom (ft.) |
|---|---|---|---|---|---|
| **2** | **Riser** | **New Plastic (PVC)** | **40** | **0** | **10** |
| **2** | **Screen** | **New Plastic (PVC)** | **40 0.010** | **10** | **25** |

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

**Texas Department of Licensing and Regulation**
**P.O. Box 12157**
**Austin, TX 78711**
**(512) 334-5540**

# Log of Well No. MW-03

PROJECT: **2111 Fannin Street**
**Houston, Harris County, Texas**

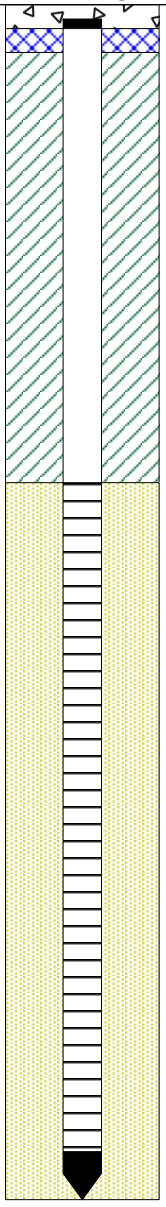
| | |
|---|---|
| BORING LOCATION: | LATITUDE: **26.747628** LONGITUDE: **-95.369992** |
| DRILLING CONTRACTOR: | **BEST Drilling** |
| DRILLING METHOD: | **Hollow Stem Auger** |
| CASING/SCREEN TYPE: | **SCH 40 PVC** SCREEN SLOT SIZE: **0.01"** |
| CASING INTERVAL (ft): | **0-10** SCREEN INTERVAL (ft): **10-25** |
| APPROVED BY: | **John Lembcke** LOGGED BY: **Colton Beall** |
| SURFACE COMPLETION: | **Flush** DRUMS (SO/GW): **2/1** |

| | |
|---|---|
| DATE INITIATED: | **01/27/2021** |
| DATE COMPLETED: | **01/27/2021** |
| TOTAL DEPTH (ft): | **25** |
| DEPTH TO WATER: (ft) | STATIC: **14** INITIAL: **18** |
| BORING DIAMETER: | **8.25"** |
| SCREEN/CASING DIAMETER: | **2.00"** |
| GROUND SURFACE ELEVATION (ft): | **N/A** |
| TOC ELEVATION (ft): | **N/A** |

STATE OF TEXAS
JOHN T. LEMBCKE
GEOLOGY
626
LICENSED
PROFESSIONAL GEOSCIENTIST

| DEPTH (feet) | Sample No. | Sample | Rec. (%) | PID Reading | DESCRIPTION<br>NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. |
|---|---|---|---|---|---|
| 0 | | | | | Concrete |
| 2 | | | 100 | 0.8 | |
| | | | | 0.9 | Black clay, high plasticity |
| 4 | | | | | |
| | | | 100 | 1.2 | Gray clay, high plasticity |
| 6 | | | | | |
| | | | | 1.6 | |
| 8 | | | | | |
| | MW-03 (8-10) | | | 1.6 | |
| 10 | | | | | Gray/orange clay, high plasticity, |
| | | | 100 | 1.2 | |
| 12 | | | | | |
| | MW-03 (13-15) | | | 1.0 | |
| 14 | | | | 1.0 | |
| 16 | | | | | |
| | | | 100 | 1.2 | Tan sandy clay, medium plasticity, moist |
| 18 | | | | | |
| | | | | 1.2 | |
| 20 | | | | | |
| | | | | 0.9 | |
| 22 | | | 100 | | Gray/orange clay, high plasticity |
| | | | | 1.2 | |
| 24 | MW-03 (23-25) | | | | |

WELL INSTALLATION DETAILS



GWL

Legends/Notes:

**Soil Stratigraphy**
- Concrete
- Clay
- Sandy Clay

**Well Construction Details**
- Fill
- Cement
- Bentonite
- Sand
- Cover
- Casing
- Screen
- End Cap

**Depth to Water (GWL)**
- Static
- Initial

# STATE OF TEXAS WELL REPORT for Tracking #569711

| | | | |
|---|---|---|---|
| Owner: | **JK Fannin, LLC** | Owner Well #: | **MW-3** |
| Address: | **20607 Hidden Shore Circle<br>Katy, TX 77450** | Grid #: | **65-22-1** |
| Well Location: | **2111 Fannin<br>Houston, TX 77002** | Latitude: | **29° 44' 51.28" N** |
| | | Longitude: | **095° 22' 13.52" W** |
| Well County: | **Harris** | Elevation: | **No Data** |
| Type of Work: | **New Well** | Proposed Use: | **Monitor** |

Drilling Start Date: **1/27/2020** Drilling End Date: **1/27/2020**

Borehole:

| *Diameter (in.)* | *Top Depth (ft.)* | *Bottom Depth (ft.)* |
|---|---|---|
| **8** | **0** | **25** |

Drilling Method: **Hollow Stem Auger**

Borehole Completion: **Filter Packed**

Filter Pack Intervals:

| *Top Depth (ft.)* | *Bottom Depth (ft.)* | *Filter Material* | *Size* |
|---|---|---|---|
| **8** | **25** | **Sand** | **20/40** |

Annular Seal Data:

| *Top Depth (ft.)* | *Bottom Depth (ft.)* | *Description (number of sacks & material)* |
|---|---|---|
| **0** | **6** | **Concrete 1 Bags/Sacks** |
| **6** | **8** | **Bentonite 1 Bags/Sacks** |

Seal Method: **Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Slab Installed** **Surface Completion by Driller**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:

| Strata Depth (ft.) | Water Type |
|---|---|
| **No Data** | **No Data** |

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **BEST DRILLING SERVICES, INC.**

**P.O. BOX 70822**
**Houston, TX 77270**

Driller Name: **Alfredo Palacios** License Number: **5036**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

| Top (ft.) | Bottom (ft.) | Description |
|---|---|---|
| **0** | **0.5** | **Concrete** |
| **0.5** | **4** | **CLAY, black** |
| **4** | **6** | **CLAY, gray** |
| **6** | **15** | **CLAY, gray/orange** |
| **15** | **20** | **SANDY CLAY, tan** |
| **20** | **25** | **CLAY, gray/orange** |

Casing:
BLANK PIPE & WELL SCREEN DATA

| Dia (in.) | Type | Material | Sch./Gage | Top (ft.) | Bottom (ft.) |
|---|---|---|---|---|---|
| **2** | **Riser** | **New Plastic (PVC)** | **40** | **0** | **10** |
| **2** | **Screen** | **New Plastic (PVC)** | **40 0.010** | **10** | **25** |

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**Texas Department of Licensing and Regulation**
**P.O. Box 12157**
**Austin, TX 78711**
**(512) 334-5540**

# APPENDIX C

# PHOTOGRAPH LOG

| Photo No.: | Date: |
|---|---|
| 1 | 3/23/21 |

**Description:**
View of plotted location of the closest water well documented in the 0.5-mile water well search. No water well was found on this property during the field reconnaissance.

**Photo Direction:**
**West**

| Photo No.: | Date: |
|---|---|
| 2 | 3/23/21 |

**Description:**
View of Enterprise car rental facility which is operating on the property of the closest plotted water well documented in the 0.5-mile water well search. Enterprise has no knowledge of a water well located on the property.

**Photo Direction:**
West