United States
Department of the Army

Camp Stanley Storage Activity
Boerne, Texas

TPDES Wastewater Permit Amendment Application

STATE OF TEXAS
STEVEN W. SCHRADER
61527
REGISTERED
PROFESSIONAL ENGINEER

October 1999

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Administrative Report

EXECUTIVE DIRECTOR
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
ATTN: Water Quality Division
Wastewater Permits Section (MC 148)
Applications Team
P.O. Box 13087
Austin, Texas 78711-3087
(512) 239-4433
(512) 239-4430 or 239-4888 FAX

FOR COMMISSION USE ONLY

Admin Review Staff _____
Application Fee Receipt No. _____
Admin Complete Date _____
County _____
Region _____
Segment _____
Expiration Date _____
Proposed/Current Permit # _____

APPLICATION FOR PERMIT TO DISCHARGE, DEPOSIT OR DISPOSE OF WASTE(S) INTO OR ADJACENT TO WATER IN THE STATE

For a Texas Pollution Discharge Elimination System (TPDES) Permit: The owner of the facility must apply for the permit. The operator is required to apply with owner when the operator is the entity responsible for the overall operation of the facility. (Please see the application instructions regarding " Who Applies for a Permit" .)

For a Texas Land Application Permit (TLAP): The owner of the facility must apply for the permit.

For both, Texas Pollution Discharge Elimination System (TPDES) and Texas Land Application Permit (TLAP) : The owner of the land where the facility is to be or is located may be required to be a co-permittee. If the facility is considered a fixture of the land (see instructions for definition), the owner of the land is considered part owner of the facility, and would need to apply as co-permittee. Alternatively, the facility owner may obtain a deed recorded easement from the landowner which will give sufficient property rights.

1. **Applicant General Information:**

a. Facility Owner: **United States Department of the Army**

* corporation or Other Legal Entity
** Individual

*Corporation or Other Legal Entity: If the application is submitted on behalf of a corporation, identify the charter number or certificate of authority registration number on file with the Texas Secretary of State. Identify the Tax Identification Number as recorded with the State Comptroller of Texas.

N/A	N/A
Charter Number (on file with the Texas Secretary of State)	Tax Identification Number (on file with the State Comptroller) or Social Security Number

If the application is submitted on behalf of an entity other than an individual and is not registered or chartered with the Texas Secretary of State, include a copy of the agreement which forms the entity.

**Individual: Pursuant to the Texas Water Code 26.027(b) please supply the following information when the applicant is an individual:

Applicant(s): _____
(Full legal name)

Business: _____
(Assumed Business or Professional name - Chapter 36, Business & Commerce Code).

Physical Address of Individual: _____
(Street Address of Place of Residence)

City: _____ State: _____ Zip: _____

Sex: _____ State Identification No.: _____ Date of Birth: _____
(Driver's License or Personal ID Certificate)

b. Facility Operator: **United States Department of the Army**

(Required if applying for a TPDES Permit)
- Corporation or Other Legal Entity
** Individual

*Corporation or Other Legal Entity: If the application is submitted on behalf of a corporation identify the charter number or certificate of authority registration number on file with the Texas Secretary of State. Identify the Tax Identification Number as recorded with the State Comptroller of Texas.

N/A	N/A
Charter Number (on file with the Texas Secretary of State)	Tax Identification Number (on file with the State Comptroller) or Social Security Number

If the application is submitted on behalf of an entity other than an individual and is not registered or chartered with the Texas Secretary of State, include a copy of the agreement which forms the entity.

**Individual: Pursuant to the Texas Water Code 26.027(b), please supply the following information when the applicant is an individual:

Applicant(s): _____
(Full Legal Name)

Business: _____
(Assumed Business or Professional name - Chapter 36, Business & Commerce Code)

Physical Address of Individual: _____
(Street Address of Place of residence)

City: _____ State: _____ Zip: _____

Sex: ____ State Identification No. _____ Date of Birth _____
(Driver's License or Personal ID Certificate)

c. Address to be used on the permit and for receiving correspondence from the TNRCC:

Address: **25800 Ralph Fair Road**

City: **Boerne** State: **Texas** Zip: **78015-4800**

d. Identify the person(s) to be contacted for administrative and technical questions during processing of the application. Include the name, address, facsimile number, phone number, title, firm name, where applicable. The person(s) identified will be the contact(s) for the permitting staff if additional information is needed during the process. If the address is the same as item 1 of the application, please indicate " same as item 1" .

Steven W. Schrader, P.E.

Environmental Engineer

Parsons Engineering Science, Inc.

8000 Centre Park Dr.

Austin, TX 78754 **Phone (512) 719-6048** **Fax (512) 719-6099**

e. Identify the individual to be contacted to publish notice in a newspaper of general circulation in the county where the facility is (to be) located. Only identify one person to be contacted. This person will be notified by the Office of Chief Clerk to publish notice of Application/Draft Permit. Note: This will occur after the draft permit has been mailed to the contact person identified above, for review and comment of the draft permit (after technical review is completed). If the address is the same as item 1 of the application, please indicate " same as item 1" .

Brian K. Murphy, CSP

Environmental Officer

United States Army

Camp Stanley Storage Activity

25800 Ralph Fair Road

Boerne, TX 78015-4800

f. **If the applicant(s) identified in item 1 is an entity other than an individual**, please provide the name of two individuals of both, the owner and operator, that can be contacted by the agency as needed throughout the term of the permit. Include their phone number and address if different than the permanent address to be used for the permit, in item 1 of the application. (i.e., President or Vice President of a Corporation, Utility District, an Elected Official of a City or County, a General Partner of a Partnership, etc.) If the address is the same as item 1 of the application, please indicate " same as item 1" .

Owner: **Brian K. Murphy, CSP**

(210) 698-5208 Address same as Item 1

Operator: **Ken Wallace**

(210) 295-7469 Address same as Item 1

g. List each person employed by the State of Texas who **represented your company and was paid** for services regarding this application. Note: Any violation of §26.0283 of the Water Code, or §572.054 of the Government Code, relating to conflict of interest, may result in denial of the application or filing of charges with the appropriate office.

N/A

2. **Permit Information**

a. State Permit Number (if existing): **03849**

Expiration Date of Existing Permit **March 1, 2000**

b. NPDES Permit No.: **N/A**

NPDES Permit Expiration Date: **N/A**

NOTE: APPLICANT MUST HAVE BOTH NON-EXPIRED NPDES AND STATE PERMIT, OR TPDES PERMIT TO APPLY FOR A RENEWAL.

c. Type of Permit for Which Application is Submitted (check one):

☐ New TPDES Permit (Original, Unpermitted)

☐ New Texas Land Application Permit (Original, Unpermitted)

☒ Major Amendment (Renewing the permit term)

☐ Major Amendment (without renewal)

(Retain current expiration date. Application requirements are limited to those items that relate to the proposed modification)

☐ Renewal

☐ Minor Amendment

(Retain current expiration date. Application requirements are limited to those items that relate to the proposed modification. See application instructions to determine if proposed changes can be made through a minor amendment.)

d. Type of Technical Report(s) Attached to Administrative Report for Permit Application. (Please note that a Technical Report is considered part of the application for permit):

☐ Domestic Wastewater Application Technical Report

☒ Industrial Wastewater Application Technical Report

☐ Sewage Sludge Technical Report

e. If the application is for a major or minor amendment, briefly list the proposed changes requested in the amendment. **A major amendment includes but is not limited to any change that makes a monitoring requirement less stringent, removal of a monitoring requirement, increase in a flow limit, relocating an outfall, increasing acreage or adding authorization for effluent irrigation site, increasing acreage or adding authorization for sewage sludge beneficial use or sludge disposal site, changing disinfection method from chlorination to ultraviolet system, etc.** Note: Permits are site specific. If applying for a permit at a different site than current permitted, an application for a new permit must be submitted.

Include treated groundwater as a stream to be treated in the wastewater treatment plant and discharged through Outfall 001. Authorize land application of treated wastewater from Outfall 001 and expand the land treatment area for Outfall 002.

f. For any application involving an average daily discharge of five (5) million gallons or more, provide the name of each county or counties located within 100 statute miles downstream of the point(s) of discharge. (30 TAC Subsection 305.93(c))

N/A

3. **Facility/Plant Site Information**

a. Plant Name, if applicable: **Camp Stanley Storage Activity**

b. Physical Street Address of the facility/plant, if available:

25800 Ralph Fair Road Boerne, TX 78015-4800

c. Facility Location **(Outfall 001 wastewater treatment plant):**

Latitude: Deg. 98 Min. 37 Sec. 36

Longitude: Deg. 29 Min. 40 Sec. 38

d. Facility/Plant Location Description:

(1) For an existing permitted facility:

Is the location as described on page one of the existing permit correct? ☒ Yes ☐ No

If No, provide a more accurate description in item b., below. If the location is a different site than currently permitted, an application for a new permit must be submitted. Permits are site specific.

(2) For a new permit:

Give a **written location description (not directions)** of the facility (plant) with respect to known or easily identifiable landmarks, which can be found on a USGS Topographic map, indicating the miles or feet from major intersections. The description must be detailed enough for the facility to be located on the USGS topographic map submitted with the application.

N/A

e. County(s) where Facility is/is to be Located: **Bexar**

If the waste disposal activity is located in Bexar, Comal, Hayes, Kinney, Medina, Travis, Uvalde or Williamson County, is the waste disposal activity subject to 30 TAC Chapter 213, entitled Edwards Aquifer Rules?

☒ Yes ☐ No

If YES, the applicant may be required to submit additional information concerning methods of aquifer protection.

f. Identify the name of the nearest city where the proposed/existing facility is to be located:

San Antonio

g. For Domestic Facilities, identify type of service provided by this facility: **N/A**

Public _____ Private _____

Both Public and Private _____

h. Is Facility located on Indian Land? ☐ Yes ☒ No

4. **Effluent Disposal Site Location Description**

Give a **written location description (not directions)** of the effluent disposal site, if significantly different from the facility site, with respect to known or easily identifiable landmarks, which can be found on a USGS Topographic map, indicating the distance from major intersections. If the location is not significantly different from the facility site indicate " same as facility site description" .

Same as facility site description.

5. **Facility/Plant Ownership Information**

(If the following items are not properly answered, the application may returned or there may be a significant delay in processing.):

a. Ownership of treatment facility/plant* **United States Department of the Army**

(Individual, Corporation or other Legal Entity)

Address, if different from Question 1: **Same as question 1.**

***The owner of the treatment facility must be identified as the applicant in item 1 of the application. The owner of the treatment facility is required to hold the permit (See application instructions.)**

b. Ownership of land where treatment facility/plant is or will be located:

****United States Department of the Army**

(Individual, Corporation or Other Legal Entity)

Address, if different from Question 1: **Same as question 1.**

****If the owner of the land where the facility is located is different than the owner of the facility, and the facility is considered a fixture of the land (i.e., pond system, evaporation pond, units half-way in ground, holding ponds) the applicant must provide a copy of executed deed recorded easements giving the facility owner sufficient rights to the land or apply as a co-permittee. (See application instructions).**

If the facility is not considered a fixture of the land, a long-term lease for the life of the facility must be provided.

Application for new facilities: If the land is to be acquired by the facility owner, a copy of an executed option to purchase agreement must be provided. The agreement must include a statement that the facility will not be constructed until the owner of the facility obtains ownership of the land.

c. Ownership of **effluent disposal area** for land application system: _____

***** United States Department of the Army**

(Individual, Corporation or other Legal Entity)

Address, if different from Question 1: Same as question 1.

***If the owner of the effluent disposal site is not the same as applicant, provide a copy of a long-term lease for the use of the la If the lease agreement is less than a five-year term, the permit may given a term equivalent to the term of the lease.

6. **Discharge Information**

a. For a currently permitted discharge into a watercourse:

Are the point of discharge and discharge route description the same as described on page one of the current permit.

☒ Yes ☐ No

If no, provide a more accurate description in item b., below. If the point of discharge has changed or a new outfall is proposed, an application for a major amendment must be submitted.

b. For a proposed discharge into a watercourse:

Provide a written description that traces the flow of effluent from the plant site to the nearest major watercourse. (For example: " From the plant site through a six-inch pipe to a county drainage ditch, to an unnamed tributary to Doe Creek, to Doe Creek, then to the Bravos River.")

N/A

c. Is treated wastewater to be discharged to a city, county, or state highway right-of-way, or flood control district drainage ditch?

☐ Yes ☒ No

If YES, the applicant must inform the responsible entity of the proposed discharge plans and seek their approval for the discharge. The applicant must provide with this application proof of contact and copies of an approval letter from such entity.

7. **Land Disposal Information** (not discharged directly into surface water)

a. Provide a written description that traces the flow of effluent to final disposition including transportation and temporary storage (e.g., holding ponds). For example: " From the plant through a six-inch pipe to a holding pond then through a pipe to the irrigation site."

From the wastewater treatment plant to the southern sprinkler system

located in the pasture east of Building 98 and the KOA area.

From the groundwater treatment plant to the northern sprinkler system

located in the pasture north of well 16.

b. Identify the nearest identifiable watercourse to the disposal site to which rainfall runoff might flow if not contained.

Southern system - unnamed ditch, then to Leon Creek

Northern system - unnamed ditch, then to Salado Creek

8. **Site Maps**

a. Attach a **COMPLETE ORIGINAL (colored) USGS TOPOGRAPHIC Quadrangle MAP(S)** (72 minute scale) (copies are not acceptable). You may obtain original USGS topographic maps by calling 1 (800) 435-7627. On the original map, clearly show and label the following information, as it applies:

(1) Clearly label and delineate: **See Appendix 1.**

(a) The applicant's property boundaries

(b) The boundaries of the wastewater treatment, sewage sludge processing and/or composing facility (plant), within the applicant's property boundaries.

(2) Show an area at lease one (1) mile in all directions of the facility and all disposal activities. Adjacent quadrangle maps must be provided, if necessary, to show a one mile radius of the facility and all disposal activities.

(3) (a) Clearly label and identify the point(s) of discharge, by Outfall number,

(b) Trace the discharge route with a highlighter from the point(s) of discharge for a distance of three (3) stream miles or to the point that the effluent reaches a classified segment listed in 30 TAC, Chapter 307, Appendix A. (Note: Do not mark with dark ink over the discharge route. A new original map will be required if the discharge route is not visible.)

(4) Clearly label and delineate the boundaries of effluent surface/subsurface land disposal site(s), storage/holding/evaporation ponds, and/or the irrigation disposal area, within the applicant's approximate property boundaries.

(5) Clearly label and delineate the boundaries of the sewage sludge disposal and/or land application sites, identify the location of the disposal/land application area, showing the applicant's approximate property boundaries, buffer zones, and existing drainage patterns.

(6) Indicate the proximity of the plant site, discharge point(s) and/or disposal site(s) to any new or future commercial developments, housing developments, industrial sites, parks, schools and recreational areas.

(7) Clearly label all springs, public water supply wells, surface water supply intakes, water treatment plants, potable water storage facilities and sewage treatment plants within one mile of the treatment facility. **See Appendix 2.**

(8) If the discharge route(s) abuts or crosses property which is being utilized as a park, playground or school yard and is within one mile of the point of discharge, highlight the area on the original USGS topographic map. List each park, playground or schoolyard within one mile of the discharge.

THE FOLLOWING ITEM 8.b. IS ONLY REQUIRED FOR NEW PERMIT APPLICATIONS AND MAJOR AMENDMENT PERMIT APPLICATIONS. (The item is not applicable for Renewal or Minor Amendment permit applications.)

b. Landowners Property Boundary Map and Information. Please refer to the application instructions for examples. The application processing will be significantly delayed if the information is not provided exactly as requested. **See Appendix 3.**

(1) Provide a map or drawing, **with scale**, which includes the following information:

(a) Applicant's property where the facility/plant is located:

(1) Clearly delineate and label the applicant's property boundaries.

(2) Clearly show and label the location of the wastewater treatment facility/plant within the applicant's property boundaries.

(3) Clearly delineate the approximate property boundaries of the landowners surrounding the applicant's property boundaries.

(4) For domestic wastewater treatment plants, the map must also show the distance of the buffer zone into adjacent property and the approximate property boundaries of the landowners affected by the buffer zone.

b. For discharge into a water body:

(1) Clearly identify and label the location of the point(s) of discharge.

(2) Highlight and trace the discharge route(s) for one mile downstream from the point of discharge.

(3) Clearly delineate the property boundaries of the landowner's adjacent to the discharge route for one mile downstream from the point of discharge. Or, if the point of discharge is into a lake, bay estuary or area effected by tidal, delineate the approximate property boundaries of the landowners ½ mile in all directions of the outfall(s), along the watercourse.

c. For land disposal of effluent:

(1) Clearly delineate the boundaries of the irrigation site within the applicant's property boundaries.

(2) Clearly delineate the property boundaries of the landowners surrounding the applicant's property boundaries where the irrigation site is proposed.

(3) Clearly label the location of holding/evaporation pond(s) within the applicant's property boundaries.

d. For sewage sludge land application/disposal/incineration:

(1) Clearly delineate the boundaries of the beneficial use land application site, sludge disposal site and/or incineration site within the applicant's property boundaries.

(2) Clearly delineate the property boundaries of the landowners surrounding the applicant's property boundaries where the beneficial use land application site and/or incineration site is located.

(3) Clearly delineate the property boundaries of the landowners within ½ mile in all directions from the applicant's property boundaries where the sewage sludge disposal site is located.

(2) Corresponding list of landowners identified on the above requested map showing adjacent landowners. **See Appendix 4.**

(a) Provide a separate list of the adjacent and surrounding landowners required to be shown on the landowners map above. The list must include the name and complete mailing address of each landowners; and, the list must correspond with the map in a numeric order beginning with number one (1). **A list corresponding by lot and/or tract numbers will not be accepted. Any map and list that is not easily cross referenced and the landowners are not easily identifiable, will be returned for the applicant to revise accordingly.**

(b) Provide the adjacent landowner mailing list on computer disk. If more convenient, printed labels of the list may be provided in lieu of a computer disk. **This means that <u>before</u> your permit application can be declared administratively complete,** a complete list of the adjacent landowners identified in the application must be provided on a 3½ diskette using software compatible with WordPerfect. Or if the list is provided in the form of printed labels, <u>**four sets**</u> of labels are required.

Please carefully read the following instructions for providing the disk or labels as the application will not be declared administratively complete if the information is not provided exactly as requested.

Instructions for DISK and LABELS:

If the names are submitted on computer disk, please label the disk with the applicant's name and permit number. On the disk itself, type the permit number and applicant's name on the top line before typing the addresses. Names and addresses must be typed in the format indicated below. This format is required by the U.S. Postal Service for machine readability. **Each letter in the name and address must be capitalized, contain no punctuation, and the appropriate two-character abbreviation must be used for the state. Each entity listed must be blocked and spaced consecutively as shown below.**

Example:

Permit No. XXXXX-XXX, Texas Chemical Plant

TERRY M. JENKINS
RR 1 BOX 34
WACO TX 76724

MR AND MRS EDWARD PEABODY
1405 MONTAGUE LANE
WACO TX 76710-1234

A List submitted on computer disk should be the one item on that disk. Please do not submit the list on a disk that includes maps or other materials submitted with your application.

If you wish to provide the list on printed labels, please use sheets of labels that have 30 labels to a page. Please provide **four complete sets of labels** of the landowner list.

Each name and corresponding address must appear only once on the mailing labels or disk even if the entity owns more than one parcel of land identified on the landowners map. Please eliminate duplicate names and addresses. Names and addresses should appear in the same order as the list cross referencing the landowners with their property on the landowners map.

c. The names and mailing addresses of persons identified as potentially affected persons were obtained from:

Bexar County Appraisal District

Source: City, County, School or Water District Records, Abstract Co., etc.)

(3) If the adjacent property ownership list shows the State of Texas to be an adjacent landowner, your application may affect lands dedicated to the permanent school fund. Refer to Texas Water Code §5.115. To determine whether lands dedicated to the permanent school fund are affected, you may submit a request which includes the property location to the General Land Office at the following address:

GENERAL LAND OFFICE
DEPUTY COMMISSIONER OF ASSET ACQUISITION
STEPHEN F AUSTIN BLDG
1700 N CONGRESS
AUSTIN TX 78701

If it is determined that your application may affect lands dedicated to the permanent school fund, your application must include the following information:

a. State the location of the permanent school fund land to be affected.

N/A

b. Describe any foreseeable impact or effect of the proposed permitted action on permanent school fund land.

N/A

A formal action or ruling by the Commission on an application affecting permanent school fund land that is made without the notice required by the above-referenced rule is voidable by the School Land Board as to any permanent school fund lands affected by the action or ruling. [Texas Water Code 5.115(g)]

THE FOLLOWING ITEM 8.d. IS ONLY REQUIRED FOR NEW PERMIT APPLICATIONS AND MAJOR AMENDMENT PERMIT APPLICATIONS FOR DOMESTIC FACILITIES. (This item is not applicable for Domestic Renewal permit applications or Industrial New, Amendment, and Renewal permit applications.)

d. Facility Drawing: Show on a 8½" by 11" site map (to scale) the following: **N/A**

(1) The applicant's property boundaries.

(2) Each treatment unit and specify the distance from each unit to the property line.

(3) The required buffer zone (set back) in accordance with 30 TAC Chapter 309.

(4) If the required buffer zone (set back) as shown in the facility drawing is not owned by the applicant, indicate the alternative to ownership which will be utilized based on 30 TAC Section 309.13(e)(2) or (e)(3) or the request for a variance in accordance with 30 TAC Section 309.13(f):

_____

_____

_____

(5) Provide documentation to support the alternative or variance to be utilized to comply with 30 TAC Section 309.13(e) or (f).

_____

_____

_____

(6) Indicate if the facility meets the requirements of 30 TAC Section 309.13(a) through (d):

☐ Yes ☐ No

THE FOLLOWING ITEM 8.d IS ONLY REQUIRED FOR NEW PERMIT APPLICATONS AND MAJOR AMENDMENT PERMIT APPLICATINOS. (This item is not applicable of requesting a Renewal permit application).

d. New Facilities and physical expansions of facility: Submit a minimum of one original ground level photograph as instructed in items a. and b., below. Clearly describe the exact location of the photos on a plot plan or map. Indicate the direction (N.E.S or W) that the photographer is facing. See Appendix 5.

(1) Discharge Applications: Show the location of the wastewater treatment facility, the point of discharge to the receiving watercourse and as much area downstream as may be captured on film. If discharge is to a lake, show the area on either side of the point at which the discharge line is proposed to enter the lake.

(2) Land Disposal: Show the location of the wastewater treatment facility and the general characteristics of the are of disposal.

9. **Additional Permit Coverage for Site**

a. List any other permits, existing or pending, which pertain to pollution control activities conducted at this facility (site) and any other TNRCC permits or licenses.

Hazardous Waste Management Permit No. **N/A**
Non Attainment Permit No. **N/A**
National Emission Standards for Hazardous Pollutants Permit No. **N/A**
Water Right/Use Permit No. **N/A**
Water Right/Secondary Use Permit No. **N/A**
TNRCC Certificate of Adjudication **N/A**
TNRCC Certificate of Convenience and Necessity **N/A**
On-Site Subsurface Facility Permit **N/A**
Industrial Solid Waste Registration No. **69026**
Dredge and Fill Permit No. **N/A**
UIC program under SWDA **N/A**
Sewage Sludge Registration **N/A**
Sludge/Septage Transporter Registration **N/A**
Municipal Solid Waste Landfill No. **N/A**
Other **EPA ID TX2210020739 Air Quality Account Number BG-0841-S**

Air Permit 29466	**Building 90 Cold Solvent Cleaning**
Standard Exemption 32405	**SWMU B-3 Soil Vapor Extraction**
Standard Exemption 32406	**Building 27 Paint Booth**
Standard Exemption 32407	**Building 200 Paint Booth**
Standard Exemption 29517	**Building 27 Paint Booth**

b. For domestic wastewater treatment facilities: If any portion of the treated effluent is given or sold to another party for the purpose of irrigation, provide the following: **N/A**

(1) Copies of approval letter(s) authorizing use of treated effluent under and approved plan in accordance with 30 TAC Chapter 210, Use of Reclaimed Water, and include the following information:

(2) An estimate of volume of treated effluent in gallons per month.

(3) The number of acres irrigated by each authorized user that is given, sold or otherwise utilizes treated effluent.

c. List any entity that acts as a customer or waste contributor, who maintains a wastewater collection system for transport of their wastewater to the applicant's facility, separate from the applicant.

N/A

10. Application and Postage Fees

a. Check the appropriate permit application processing and postage fee below. The application fee must be send under separate cover to TNRCC, Revenues Section (see instructions for mailing address). To assist in expediting the application, please include a copy of the check with the application.

1) **Industrial permit application fees** are based upon the EPA Major/Minor facility designation and the applicability of EPA categorical guidelines (Table 1) for the facility as follows:

	Type of Application	*Application Fees	
		NEW/AMEND	RENEWAL
☐	Minor amendment for a minor facility	$150.00	N/A
☐	Minor amendment for a major facility	$450.00	N/A
☒	New major amendment and/or renewal for a minor facility not subject to categorical standards promulgated by EPA (40 CFR Part 400-471)	$350.00	$315.00
☐	New, Major amendment and/or renewal for a minor facility subject to categorical standards promulgated by EPA (40 CFR Part 400-471)	$1,250.00	$1,215.00
☐	New, major amendment and/or renewal for a major facility	$2,050.00	$2,015.00

(2) **Domestic wastewater application fees** are dependent on the type of application and the size of the facility.

	Type of Application	*Application Fees	
		NEW/AMMEND	RENEWAL
	Minor amendment	$150.00	N/A
	Fee for new, major amendment or renewal:		
☐	< .05 MGD	$350.00	$315.00
☐	< .05 but < .10	$550.00	$515.00
☐	< .10 but < .25	$850.00	$815.00
☐	< .25 but < .50	$1,250.00	$1,215.00
☐	< .50 but < 1.0	$1,650.00	$1,615.00
☐	∃ 1.0	$2,050.00	$2,015.00

*(Postage fees of $50.00 for New and Amendments and $15.00 for Renewals have been included with the application fees (above) to cover the expenses of the required notice.) (30 TAC, Section 305.53)

11. **Attachments**

List and index all attachments cross-referenced to the specific related item in this application (Provide a separate attachment if necessary.)

Appendix 1 Site Map - Administrative Report Item 8.a.

Appendix 2 Water Supply Wells - Administrative Report Item 8.a.(7).

Appendix 3 Landowners Map - Administrative Report Item 8.b.(1)

Appendix 4 Landowners List - Administrative Report Item 8.(2)

Appendix 5 Land Application Site Photographs - Administrative Report Item 8.d.

Appendix 6 Photographs of Buildings - Supplemental Permit Information Form Item 8.

Appendix 7 Building Inventory and Assessment Forms - Supplemental Permit Information Form Item 12.

Appendix 8 Flow Schematic - Technical Report Item 3.f.

Appendix 9 Facility Map - Technical Report Item 3.g.

Appendix 10 Land Disposal of Effluent - Attachment C.

Appendix 11 Water Wells - Attachment C. Item 11.

Appendix 12 Soils - Attachment C. Items 12 and 13.

Appendix 13 Geologic Maps - Attachment C. Item 15.

INSTRUCTIONS FOR SIGNATURE PAGE

Signature on Application: The person who signs the application form should be the applicant(s). If the operator is required to apply as co-permittee with the facility owner, both signature pages are required.

SIGNATORY REQUIRMENTS:

The application must be signed by the official indicated below, according tot he type of entity:

- corporation - a principal executive officer of at least the level of vice president;
- partnership - general partner as identified in the partnership agreement
- sole proprietorship - the proprietor
- municipality - a ranking elected official
- independent school district - at least the level of assistant superintendent
- state, federal or other public facility, the application must be signed by a principal executive officer

When another person signs on behalf of the applicant(s), his/her title or relationship to the applicant must be shown. In all cases, the person signing the form must be authorized to do so by the applicant. **A person signing an application on behalf of an applicant(s) must provide proof of authorization. A copy of the authorization letter from the executive officer must be included with the application.**

The signature page must bear the seal of a notary public. The date signed by the applicant must be same date notarized. The signature page will not be acceptable if the dates are different.

SIGNATURE PAGE

OWNER OF FACILITY:

I, **Ernest N. Roberson, Jr.** (Typed or Printed Name) **Commander, CSSA** (Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Signature: _____ Date: 3 October 1999

NOTE: ALL APPLICATIONS MUST BEAR THE SIGNATURE AND SEAL OF NOTARY PUBLIC.

SUBSCRIBED AND SWORN to before me by the said ERNEST N. ROBERSON on this 3RD day of OCT., 1999

My commission expires on the ~~[illegible]~~ 23RD day of JUNE, 2002.

MARY E CLINE
NOTARY PUBLIC
State of Texas
Comm. Exp. 06-23-2002

(Seal)

_____
Notary Public

BEXAR
County, Texas

SIGNATURE PAGE

FACILITY OPERATOR:
(THIS ONLY APPLIES IF THE OPERATOR IS REQUIRED TO APPLY AS CO-PERMITTEE)

I, _____ _____
(Typed or Printed Name) (Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Signature: _____ Date: _____

NOTE: ALL APPLICATIONS MUST BEAR THE SIGNATURE AND SEAL OF NOTARY PUBLIC.

SUBSCRIBED AND SWORN to before me by the said _____ on

this _____ day of _____, _____

My commission expires on the _____ day

of _____, _____.

(Seal) _____
Notary Public

_____
County, Texas

All Applicants Should Complete the Following Items

Permit Number: 03849

Address for Receiving Self-Reporting/DMR Forms:

Provide the address to be used for receiving self-reporting/DMR forms from the TNRCC. The address given in item 1 of the application will be used if a different address is not provided in the space.

Commander, CSSA

25800 Ralph Fair Road

Attn: Environmental Officer

Boerne, TX 78015-4800

Permit Number: 03849

Address for receiving Annual Billing Invoices:

Provide the address to be used for receiving invoices of Annual Water Quality Assessment and Wastewater Treatment fees assessed, September 1. The address given in item 1 of the application will be used if a different address is not provided in the space.

Commander, CSSA

25800 Ralph Fair Road

Attn: Environmental Officer

Boerne, TX 78015-4800

Supplemental Permit Information Form

For TNRCC staff use only

Application Type: ☐ **Renewal**
☐ **Major Amendment**
☐ **Minor Amendment**
☐ **New**

Admin Complete Date: _____

Agency Receiving SPIF:

☐ **Texas Historical Commission** (new & major amendments)
☐ **Texas Parks & Wildlife** (renewal, major & minor amendments & new)
☐ **US Fish & Wildlife** (renewal, major & minor amendments & new)
☐ **Army Corps of Engineers** (renewal, major amendment & new)

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES applications

Each item must be completed addressed. Please do not refer to a response to an item in the permit application form as it will cause delays in processing your application. The application will not be declared administratively complete without this form being completed in its entirety.

The following applies to all applications:

1. Permittee: **United States Department of the Army Camp Stanley Storage Activity**

2. Permit # **03849** NPDES Permit No./EPA ID #) **EPA ID TX2210020739**

3. Address of the project (location description that includes street/highway, city/vicinity, county):

   25800 Ralph Fair Road Boerne, Texas 78015-4800

4. List the county in which the facility is located **Bexar**

5. If the property is publicly owned and the owner is different than the permittee/applicant, please identify the owner:

   N/A

6. Identify the name of the water body (receiving waters) or TNRCC segment number that will receive the discharge:

   Outfall 001 to Leon Creek Segment 1907. Outfall 002 to Salado Creek Segment 1910 of the San Antonio River Basin.

7. Please provide a 7.5 minute USGS quadrangle map with the project boundaries plotted and a general locationmap showing the project area. *(This map is required in addition to the map requested in the application administrative report)* **See Appendix 1**

8. Please provide original photographs of any structures 50 years or older on the property. **See Appendix 6**

9. Does your project involve any of the following? Please indicate yes by circling the appropriate letter. **N/A**

   a. Proposed access roads, utility lines, and construction easements
   b. Visual effects that could damage or detract from a historic property's integrity
   c. Vibration effects during construction, or as a result of project design
   d. Additional phases of development that are planned for the future
   e. Sealing of caves, fractures, sinkholes, or other karst features
   f. Disturbance of vegetation or wetlands

10. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves or other karst features):

    N/A

11. Describe existing disturbances, vegetation & land use (plowing, other ground disturbances):

    No disturbances at land application sites. Vegetation consists of mixed grasses and land use is for grazing.

The following applies only to applications for New TPDES permits and Major Amendments to TPDES Permits:

12. List construction dates of any buildings or structures on the property:

    See Appendix 7.

13. Provide a brief history of the property, and name of the architect/builder, if known:

    See Appendix 7

The following applies only to applications for New, Amended and Renewal agriculture (CAFO) applications:

14. List the total number and capacity (in acre feet) of any retention structures on the property:

    N/A

15. How and where (location and number of acres) are wastewater and waste (i.e., manure, sludge) disposal operations accomplished:

    N/A

Technical Report

TECHNICAL REPORT

FOR INDUSTRIAL WASTEWATER DISCHARGE PERMITS

(Revised December 1998)

The following information (Items 1-16) must be provided as a minimum to support an industrial wastewater permit application. All attachments (Attachments A-J) need to be reviewed and completed as directed. Do not refer to supplemental reports in lieu of filling out these minimum requirements. If an item does not apply to your facility write N/A to indicate that you have considered it. Please do not include information concerning storm water discharges, which are authorized and regulated by an EPA promulgated general permit.

ITEM 1 IS ONLY REQUIRED FOR EXISTING PERMITTED FACILITIES SUBMITTING AMENDMENT APPLICATIONS.

1. Are you requesting an amendment of an existing permit?

   YES X NO _____

   If YES, discuss the scope of any permit changes being requested. Explain why the permit amendment is needed and provide supplemental information or additional data that will support the request.

   CSSA requests authorization to discharge treated groundwater to the wastewater treatment plant for further treatment and discharge through Outfall 001. In addition, CSSA requests authorization to land-apply treated wastewater at an area north of the WWTP. An expansion of the currently permitted land application area for treated groundwater is also requested.

   These changes will increase the flexibility for disposal of treated groundwater and provide for beneficial reuse of treated wastewater.

ITEM 2 IS ONLY REQUIRED FOR EXISTING PERMITTED FACILTIES SUBMITTING RENEWAL APPLICATIONS.

2. Are you requesting any minor changes to the permit, which include correcting typographical errors, changing the construction schedule for a new source discharger, and/or removing a point source outfall? (Please note that changes such as reductions in monitoring frequencies, removal of effluent limitations, addition of wastestreams, etc., are not considered minor changes.)

   YES _____ NO X

   If YES, list and discuss the requested changes.

ITEMS 3-16 ARE REQUIRED FOR ALL (NEW, AMENDMENT, AND RENEWAL) PERMIT APPLICATIONS.

3. FACIILTY/SITE INFORMATION:

a. Describe the type of facility and industrial or commercial activity at the plant. Provide a detailed description of the processes at the facility, which generate wastewater. Your description should include information such as any modifications to your process water/storm water handling facilities, the start-up or shutdown of any process or treatment units, any wastewater recycle projects, or any changes in production throughput.

Camp Stanley is a military base whose primary mission is receipt, storage, and issuance of ordnance material, as well as quality assurance testing and maintenance of military weapons and ammunition. Wastewater is generated from domestic sources, a small vehicle washrack, and from groundwater monitoring. A groundwater treatment plant is being designed for treatment and either direct discharge, land application, or indirect discharge to the domestic WWTP.

b. Describe the general nature of your business and list any Standard Industrial Classification codes that apply.

Military base. National Security.

SIC Code(s) 9711 , _____ , _____ , _____ , _____ , _____

c. Provide a list of raw materials, major intermediates, and products handled at your facility. Provide corresponding Chemical Abstracts Systems (CAS) numbers. Be specific and avoid trade names. For commercial (non-manufacturing) facilities, provide a list of chemicals used on-site which could impact effluent quality. (Attach additional pages if necessary.)

RAW MATERIALS	INTERMEDIATES	PRODUCTS
N/A		

d. Business operates 24 hours/day 7 days/week 12 months/year.

Will the discharge/disposal be seasonal? _____ YES X NO.

If YES, please explain.

e. List any physical, chemical, and/or biological treatment processes that you use for the treatment of wastewater at your facility. This list should be specific and include each unit in the treatment process and dimensions (e.g. dissolved air floatation, chemical precipitation, equalization, pH control, aeration, steam stripping, clarification, anaerobic lagoon). Please specify the associated outfall for each treatment unit and which wastewaters are chlorinated prior to discharge.

Treatment Units:

	Dimensions (ft)				
001 WWTP	Length	Width	Depth	Diameter	Volume
Bar Screen					
Imhoff Tank	26	26	24		
Trickling Filter			10	45	
Chlorine Contact Basin	15	9	4		
Sludge Drying Bed	50	30	3		
002 GWTP					
Storage and Settling Tanks (2)					5,000 gal
Granular Activated Carbon Cannisters (1)					55 gal

f. Attach a flow schematic showing each treatment unit (including any lagoons, ponds or impoundments) and all sources of wastewater flow into the treatment plant and to each outfall. This schematic should include process wastewater, cooling water, domestic wastewater, and storm water. A water balance using average flows for each waste stream must be included. (See Attachment J for example.) **See Appendix 8**

g. Attach a facility map (drawn to scale) showing: **See Appendix 9**

(1) Production areas, maintenance areas, materials handling areas, and waste disposal areas. **See Appendix 9**

(2) The location of each unit of the wastewater treatment plant including the location of sumps and impoundments. **See Appendix 9**

(3) The accurate location of water supply wells and ground water monitoring wells. **See Appendix 9**

(4) The location of outfalls and the outline of the drainage area that flows to each outfall that contains storm water. **No stormwater outfalls.**

4. Please provide the following information concerning each outfall for discharge and each final point of effluents disposal for no-discharge operations: a) describe the location of each discharge outfall (e.g. Outfall 001; at the outlet weir of the treatment plant prior to entering the river) and the sampling location (if different); b) please complete the table to describe discharge or disposal operations; and c) provide a list of the wastestreams (e.g., process wastewater, cooling tower blowdown, once through cooling water, sanitary wastewater) to be discharged or disposed of via this permit.

OUTFALL		LATITUDE DEG	LATITUDE MIN	LATITUDE SEC	LONGITUDE DEG	LONGITUDE MIN	LONGITUDE SEC	DESCRIPTION OF LOCATION
001	a.	98	37	36	29	40	38	Following the final treatment unit near the southwest corner of the CSSA property.

	Discharge or Disposal Method*	Flow Hrs/day	Daily Average Flow MGD**	Daily Maximum Flow MGD**	I or C***	P or G****	Type of Flow Measurement Device
b.	D	24	0.03	0.06	C	G	V-notch weir

c. CONTRIBUTING WASTESTREAMS

Domestic sewage, car wash water, treated groundwater from monitoring well development, and monitoring well purge water.

OUTFALL		LATITUDE DEG	LATITUDE MIN	LATITUDE SEC	LONGITUDE DEG	LONGITUDE MIN	LONGITUDE SEC	DESCRIPTION OF LOCATION
002	a.	98	36	53	29	42	40	Following the final treatment unit near well 16.

	Discharge Or Disposal Method*	Flow hrs/day	Daily Average Flow MGD**	Daily Maximum Flow MGD**	I or C***	P or G****	Type of Flow Measurement Device
b.	D and I	24	0.03	0.15	C	P	Positive Displacement Totalizer

c. CONTRIBUTING WASTESTREAMS

Treated groundwater from well development, monitoring well purge water, and groundwater remediation system.

* Please indicate the method of wastewater discharge/disposal:
D = Discharge; I = Irrigation (Land Application);
E = Evaporation; S = Subsurface Disposal (Septic Tank/Drain Fields)

** Please state the flow you are requesting to have authorized by this permit application.

*** Please indicate whether the flow is (I) Intermittent or (C) Continuous.

**** Pumped or gravity flow. If pumped, indicate pump capacity (gpm).

OUTFALL		LATITUDE DEG	MIN	SEC	LONGITUDE DEG	MIN	SEC	DESCRIPTION OF LOCATION
_____	a.							

	Discharge Of Disposal Method*	Flow Hrs/day	Daily Average Flow MGD**	Daily Maximum Flow MGD**	I or C***	P or G****	Type of Flow Measurement Device
b.							

c. CONTRIBUTING WASTESTREAMS

OUTFALL		LATITUDE DEG	MIN	SEC	LONGITUDE DEG	MIN	SEC	DESCRIPTION OF LOCATION
_____	a.							

	Discharge Of Disposal Method*	Flow Hrs/day	Daily Average Flow MGD**	Daily Maximum Flow MGD**	I or C***	P or G****	Type of Flow Measurement Device
b.							

c. CONTRIBUTING WASTESTREAMS

OUTFALL		LATITUDE DEG	MIN	SEC	LONGITUDE DEG	MIN	SEC	DESCRIPTION OF LOCATION
_____	a.							

	Discharge Of Disposal Method	Flow Hrs/day	Daily Average Flow MGD**	Daily Maximum Flow MGD**	I or C***	P or G****	Type of Flow Measurement Device
b.							

c. CONTRIBUTING WASTESTREAMS

5. For each outfall regulated in your existing permit which requires you to monitor or report the flow, report the average and maximum values from the Monthly Effluent Reports for the previous 24 months regardless of the required monitoring frequency. Indicate the total number of excursions (NE) over the last 24 months.

Monitoring Start Date 6/1/97 Monitoring End Date 5/31/99

OUTFALL	----FLOW (MGD)--- AVERAGE OF DAILY AVERAGE VALUES	MAXIMUM OF DAILY AVERAGE VALUES	NE	FLOW (MGD) MAXIMUM OF DAILY MAXIMUM VALUES	NE	NUMBER OF SAMPLES
001	0.012	0.050	3	0.187	3	520

6. For each outfall that discharges storm water runoff and is to be regulated by this individual permit, provide the following information (please refer to Attachment K for guidance): **N/A**

a.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)

b. Describe any treatment for storm water runoff for each outfall.

None

c. List the local area rainfall and your source of information.

Average rainfall for wettest month. **4** in/month

25-year 24-hour rainfall. **7.7** Inches

Source **Average rainfall from Climatic Atlas of Texas, LP 192 TDWR, Dec. 1983.**

25-yr 24-hr rainfall from Tech. Bulletin No. 40, U.S. Weather Bureau, 1962.

7. Is your treatment facility located above the 100-year frequency flood level?

X YES _____ NO

Source of Information **FIRM - Bexar Co. Panel No. 480045 0095**

If NO, then please provide the elevation of the 100-year flood plain, the elevation of the treatment facility, and a description of what protective measures are in use or planned to prevent flooding of the treatment facility?

8. INDUSTRIAL SOLID WASTE MANAGEMENT:

a. Are hazardous wastes treated, stored, or disposed of within the wastewater treatment system at this facility?

_____ YES **X** NO

If YES, list the EPA hazardous waste number(s) and the units within the wastewater treatment system used to treat, store, or dispose of hazardous wastes. Show the location of these units on the site map.

See Appendix 9

b. Locate all active and inactive hazardous and non-hazardous solid waste storage, treatment and/or disposal sites on a facility map. **See Appendix 9**

c. Describe the management of storm water runoff for the solid waste disposal site(s).

Storm water runoff drains from solid waste disposal sites into area creeks. The disposal sites are generally covered with soil and vegetation. A site-wide investigation is underway to determine the nature of waste in each area and determine the need for remediation.

d. Is any leachate collected from the solid waste disposal site(s)?

YES _____ NO ___X___

If YES, describe the leachate collection, treatment and disposal method.

9. DOMESTIC SEWAGE, SEWATE SLUDGE, AND/OR SEPTAGE MANAGEMENT AND DISPOSAL:

Please check the appropriate method(s) of domestic sewage and domestic sewage sludge treatment/disposal and complete Attachment F if directed.

Domestic sewage is not generated on site. **PROCEED TO QUESTION NO. 10.**

Facility is connected to a wastewater treatment plant permitted to receive domestic sewage or domestic sewage is transported off-site to a permitted facility for treatment and/or disposal. **PROVIDE THE NAME AND TNRCC, NPDES, and/or TPDES PERMIT NO. OF THE PLANT WHICH RECIEVES THE DOMESTIC SEWAGE. IF HAULED BY MOTORIZED VEHICLE, PROVIDE THE NAME AND TNRCC REGISTRATION NO. OF THE HAULER.**

___X___ Industrial wastewater and domestic sewage are commingled prior to wastewater treatment.

_____ Industrial wastewater and domestic sewage are treated separately. Domestic treatment sludges and/or domestic septage are commingled with industrial wastewater treatment sludges prior to sludge use or disposal. **COMPLETE ATTACHMENT F OF THIS APPLICATION.**

_____ Industrial wastewater and domestic sewage are treated separately. Domestic treatment sludges and/or domestic septage are NOT commingled with industrial wastewater treatment sludges prior to sludge use or disposal. **COMPLETE ATTACHMENT F OF THIS APPLICATION.**

_____ Domestic sewage is disposed of by on-site septic tank. **COMPLETE ATTACHMENT F OF THIS APPLICATION.**

_____ Other (Please provide detailed description).

10. Do you receive wastes from off-site sources for a) treatment in your facility, b) disposal on-site via land application (irrigation, evaporation, etc.), and/or c) discharge via a permitted outfall?

_____ YES ____X____ NO

If NO, go to Item 11. If YES, proceed as directed.

a. Do you receive wastes, for treatment at your facility, from off-site sources which are directly related to the on-site activities conducted at your facility?

_____ YES _____ NO

If YES, provide a list of the waste(s) received (including volumes, characterization, and compatibility with on-site wastes), identify the source(s) of the waste(s) (name and address of the generator), and describe the relationship of the waste source(s) with your facility's activities.

b. Is the wastewater from a TNRCC, NPDES, and/or TPDES permitted facility commingled with your wastewater after your final treatment and prior to discharge via your final outfall or disposal on-site via land application?

_____ YES _____ NO

If YES, provide the name, address, and TNRCC, NPDES, and/or TPDES permit number of the contributing facility and a copy of any agreements and/or contracts relating to this activity.

c. Is your facility a Publicly Owned Treatment Works (POTW) that accepts process wastewater from any Significant Industrial User (SIU) and has or is required to have an approved pretreatment program under the NPDES/TPDES program?

_____ YES _____ NO

If YES, then complete Attachment G of this permit application as directed.

11. SIGNFICANT LEAKS AND/OR SPILLS

Please provide existing information regarding the history of significant leaks of spills of toxic or hazardous pollutants at the facility within the last three (3) years. Include the approximate date and location of the spill/leak, and the type of material and amount of material released.

A spill of hydraulic oil from a mower/tractor occurred on February 3, 1999. Approximately 50 gallons of oil were released onto the paved roadway over a distance of about 1.3 miles.

12. COMPLIANCE HISTORY

Are you currently required to meet any implementation schedule for the construction, operation, or upgrading of your wastewater treatment equipment? This requirement includes Federal, State, or local authority permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, or grant and loan conditions.

_____ YES ____X____ NO

If YES, provide a brief summary of the requirements.

13. Radioactive materials shall not be discharged in excess of the amount regulated by 25 TAC Sections 289.11-289.126 (relating to Texas Regulations for Control of Radiation) and 30 TAC Chapter 336 (relating to Radiation Rules). If you mine, use, store, or process any radioactive material(s), list the radioactive materials and provide the results of at least one analysis of your effluent in picocuries per liter (pCi/L) for all radioactive parameters which may be present. (This requirement is not applicable to radioactive materials fixed in a device or instrument.) If this application is for a new facility submit results from similar facilities, treatability studies, or literature sources.

N/A

14. Does your facility use any cooling towers or boilers that discharge blowdown or other wastewater streams to the outfall(s)?

_____ YES ____X____ NO

If YES, the following information on all chemical additives including biocides must be submitted for cooling towers and boilers. If aquatic toxicity information is not available, additional effluent biomonitoring may be required. If the MSDS sheets do not contain the information specified below, it will be necessary to obtain the information from the manufacturer. Provide a summary of this information in addition to the submittal of the MSDS sheets. Please specify which outfalls are affected.

a. Manufacturers Product Identification Number

b. Product Use. (e.g., biocide, fungicide, corrosion inhibitor, etc.)

c. Chemical Composition including Chemical Abstracts System (CAS) number for each ingredient.

d. Product toxicity data specific to fish and aquatic invertebrate organisms. Specify if data is for the whole product or for an active ingredient.

e. Classify product as non-persistent, persistent, or bioaccumulative.

f. Product or active ingredient half-life.

g. If data in Item d., above is for the whole product, indicate the concentration of the whole product in the blowdown stream. If data in Item d., above is for the active ingredient, indicate the concentration of the active ingredient in the blowdown stream.

h. Frequency of product use (e.g., 2 hr/day once every two weeks).

i. The number of cooling towers on site is _____ (e.g., 2,3,4, etc) and the total blowdown volume is:

Daily Average _____ gallons /day

Daily Maximum _____ gallons/day

j. The number of boilers on site is _____ (e.g., 2,3,4, etc) and the total blowdown volume is:

Daily Average _____ gallons /day

Daily Maximum _____ gallons/day

15. Does your facility discharge once-through cooling water to the outfall(s)?

_____ YES ____X____ NO

If YES, the following information on all chemical additives including chlorine and bromine must be submitted. If aquatic toxicity information is not available, additional effluent biomonitoring may be required. If the MSDS sheets do not contain the information specific below, it will be necessary to obtain the information from the manufacturer. Provide a summary of this information in addition tot he submittal of the MSDS sheets. Please specify which outfalls are affected.

a. Manufacturers Product Identification Number
b. Product Use. (e.g., biocide, fungicide, corrosion inhibitor, etc.)
c. Chemical Composition including Chemical Abstracts System (CAS) number for each ingredient.
d. Product toxicity data specific to fish and aquatic invertebrate organisms. Specify if data is for the whole product or for an active ingredient.
e. Classify product as non-persistent, persistent, or bioaccumulative.
f. Product or active ingredient half-life.
g. If data in Item d., above is for the whole product, indicate the concentration of the whole product in the once-through cooling water stream. If data in Item d., above is for the active ingredient, indicate the concentration of the active ingredient in the once-through cooling water stream.
h. Frequency of product use (e.g., 2 hr/day once every two weeks).

16. IMPOUNDMENTS

Do you use or plan to use any lagoons, ponds, or impoundments for treatment (T), disposal (D), containment (C), or evaporation (E) of your wastewater?

_____ YES ____X____ No If YES, complete items a-d for existing impoundments and items a-I for proposed new impoundments. If no, skip items a-I:

a. What are the dimensions of the impoundment(s)? **N/A**

	POND 1	POND 2	POND 3	POND 4
Designation: (T)(C)(D) or (E)	_____	_____	_____	_____
Length	_____ ft	_____ ft	_____ ft	_____ ft
Width	_____ ft	_____ ft	_____ ft	_____ ft
Depth from water surface	_____ ft	_____ ft	_____ ft	_____ ft
Depth below natural ground level	_____ ft	_____ ft	_____ ft	_____ Ft

For impoundments with irregular shapes, submit surface area (instead of length and width), the average depth, and the maximum depth below natural ground level.

b. What is the capacity of the impoundment(s)? **N/A**

	POND 1	POND 2	POND 3	POND 4
Gallons	_____	_____	_____	_____
Acre-Feet	_____	_____	_____	_____

c. If a discharge occurs from the impoundments, designate the Outfall associated with the impoundment. **N/A**

	POND 1	POND 2	POND 3	POND 4
Outfall No.				

d. Are the impoundments lined to comply with one of the following specifications? Please describe the pond liner. **N/A**

(1) Compacted Clay Liner: The soil liner shall contain at least 3 feet, along the sides and bottom, of clay-rich soil material compacted in lifts of no more than 9 inches, to 95% standard proctor density at the optimum moisture content to achieve a permeability equal to our less than 1×10^{-7} cm/sec.

(2) In-Situ Clay Liner: The soil liner shall contain at least 3 feet, along the sides and bottom, of clay-rich soil material having more than 30% passing a 200-mesh sieve, liquid limit greater than or equal to 30%, and a plasticity index greater than or equal to 15, to achieve a permeability equal to or less than 1×10^{-7} cm/sec.

(3) Plastic/Rubber Liner: The liner shall be either a plastic or rubber membrane liner at least 30 mils in thickness which completely covers the sides and the bottom of the pond and which is not subject to degradation due to reaction with wastewater with which it will come into contact. If this lining material is vulnerable to ozone or ultraviolet deterioration it should be covered with a protective layer of soil of at least 6 inches. A leak detection system is also required.

	YES	NO	Liner Description
Pond 1	_____	_____	_____
Pond 2	_____	_____	_____
Pond 3	_____	_____	_____
Pond 4	_____	_____	_____

e. Submit any available data on the following: **N/A**

(1) Liner permeability, liner thickness, test results on liner compatibility with appropriate wastes, test results from clay borrow source, test results from liner construction, etc.

(2) For impoundments constructed using in-situ soils as the liner: submit available soils boring information, the depth of impermeable clay soils, test results on soil permeability, procedures for compaction of top layer of in-situ soil, etc.

(3) Analytical data on wastewater stored in each impoundment. (Additional testing is not being required, initially. However, information regarding levels of the contaminants that are listed in TABLES B-1 through B-9 may be useful in assessing the need for including pond lining requirements in the permit.)

f. Are there any leak detection systems or ground water monitoring wells in place or planned? Groundwater monitoring is associated with a RCRA Facility Investigation.

_____ YES ___X___ NO

If YES, describe in a separate attachment, the leak detection system for each pond and/or attach any available ground water monitoring well data. All ground water monitoring wells must be numbered and accurately located on a map submitted with the application.

Existing ground water monitoring data should be summarized and evaluated to determine if there is a statistically significant trend in concentrations and/or a statistically significant difference compared with background. The ground water monitoring summary should also include information on the monitoring wells such s the driller's logs, well completion data, ground water elevations, sampling procedures, etc.

g. Is the bottom of the pond above the seasons high water table in the most shallow water bearing zone? **N/A**

_____ YES _____ NO

h. On a USGS quadrangle map, accurately locate and identify water supply wells within a 1-mile radius of the impoundments. Submit copies of State Water Well Reports (driller's logs, completion data), and data on depths to ground water for water supply wells including a description of how the depths to ground water were obtained. **N/A**

i. Include any other pertinent site-specific data that is available pertaining to the ground water, soils, geology, etc. that has been or can be used to assess the potential for migration of wastes from the impoundments and the potential for contamination of ground water or surface water. Additional data may include logs and location plats of borings, soil analyses, water quality data, etc. **N/A**

ATTACHMENTS

TO THE INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT

The following attachments may be required to be completed and submitted with the technical report. Please indicate, at the end of this section, if the attachment is completed and submitted with the technical report based on the following:

ATTACHMENT A: EPA EFFLUENT CATEGORICAL GUIDELINES

Attachment A is required to be submitted for applications which seek authorization to discharge wastewaters which are subject to USEPA Effluent Limitation Guidelines - Title 40 of the Code of Federal Regulations (40 CFR), Parts 400 - 471.

If you are requesting authorization to discharge a wastewater which is subject to an effluent limitation guideline then complete Attachment A as directed. If your business or industry is not subject to an effluent limitation guideline then skip Attachment A.

ATTACHMENT B: EFFLUENT CHARACTERIZATION AND ANALYTICAL TESTING

Attachment B is required to be submitted for all applications.

ATTACHMENT C: LAND DISPOSAL OF EFFLUENT

Attachment C is required to be submitted for applications which seek authorization for the use of land disposal (irrigation, evaporation, etc.) as a method of effluent disposal.

If this application seeks a new authorization or a renewal (with or without an amendment request) of an existing authorization to use land disposal for effluent disposal then complete Attachment C as directed. If this application does not request any authorization for land disposal of effluent then skip Attachment C.

ATTACHMENT D: TOXICITY TESTING

Attachment D is required to be submitted for applications which contain 1) process wastewater outfalls and/or any other continuous discharge outfalls from an industrial facility subject to EPA Categorical Standards (40 CFR 400-471), 2) process wastewater outfalls and/or any other continuous discharge outfalls from an industrial facility classified as an EPA Major, or 3) treated domestic wastewater from outfalls at flows of 1 MGD or greater. External outfalls conducting routine toxicity testing as a requirement of the currently issued wastewater discharge permit do not need to be re-tested. Internal outfalls also do not need to be tested.

If this application requires toxicity testing, under the conditions stated above, then complete Attachment D as directed. If this application does not require toxicity testing, under the conditions stated above, then Skip Attachment D.

ATTACHMENT E: RECEIVING WATERS

Attachment E is required to be submitted for applications for a permit to discharge wastewater into waters in the state.

Attachment E is not required to be submitted for applications for a permit which seeks authorization for the use of land disposal (irrigation, evaporation, etc.) as the only method of effluent disposal with no discharge of wastewater into waters in the state.

ATTACHMENT F: SEWAGE SLUDGE MANAGEMENT AND DISPOSAL

Attachment F is required to be submitted for <u>some</u> applications to obtain information concerning the disposal of domestic sewage sludge and/or domestic septage. Please refer to Item No. 15 on Page No. 8 of the technical report to determine if Attachment F is required for your application.

ATTACHMENT G: INDUSTRIAL WASTE CONTRIBUTION

Attachment G is required to be submitted for applications from those facilities which have or are required to have an approved pretreatment program under the TPDES program.

If this facility does have or is required to have an approved pretreatment program under the TPDES program, then complete Attachment G as directed. If this facility does not have and is not required to have an approved pretreatment program under the TPDES program, then skip Attachment G.

ATTACHMENT H: HAZARDOUS SUBSTANCES

Attachment H is required to be submitted for all applications.

ATTACHMENT I: POLLUTION PREVENTION

Attachment I is required to be submitted for all applications.

ATTACHMENT J: SCHEMATIC OF WASTEWATER FLOWS EXAMPLE

Attachment J is an example of the type of wastewater flow schematic which is expected to be submitted in response to Item No. 3.f on Page No. 3 of the technical report. The example provided in the application as Attachment J does not need to be submitted with the application. An actual schematic of your facility's wastewater flows must be submitted with application as Attachment J.

ATTACHMENT K: STORM WATER PERMITTING

Attachment K is intended to provide information concerning which conditions require individual TPDES permits for storm water discharges. Attachment K does not need to be submitted with the application.

Please indicate which attachments are completed and submitted with the technical report based on the above information. Attachments that are not applicable do not need to be submitted with the technical report.

	ATTACHMENT	COMPLETED AND SUBMITTED WITH THE TECHNICAL REPORT:			
A:	EPA EFFLUENT CATEGORICAL GUIDELINES	YES	X	NO	
B:	EFFLUENT CHARACTERIZATION AND ANALYTICAL TESTING	YES	X	NO	
C:	LAND DISPOSAL OF EFFLEUNT	YES	X	NO	
D:	TOXICITY TESTING	YES		NO	X
E:	RECEIVING WATERS	YES	X	NO	
F:	SEWAGE SLUDGE MANAGEMENT AND DISPOSAL	YES		NO	X
G:	INDUSTRIAL WASTE CONTRIBUTION	YES		NO	X
H:	HAZARDOUS SUBSTANCES	YES	X	NO	
I:	POLLUTION PREVENTION	YES	X	NO	

ATTACHMENT A

EPA EFFLUENT CATEGORICAL GUIDELINES

1. Table A-1 is a list of effluent limitation guidelines as found in Title 40 Code of Federal Regulations, Parts 400 - 471. Check the category(s) that applies to wastewater generated at your facility.

TABLE A-1

	INDUSTRY	40 CFR PART
_____	Dairy Products Processing	405
_____	Grain Mills	406
_____	Canned and Preserved Fruits and Vegetables	407
_____	Canned and Preserved Seafood Processing	408
_____	Sugar Processing	409
_____	Textile Mills	410
_____	Cement Manufacturing	411
_____	Feedlots	412
_____	Electroplating	413
_____	Organic Chemicals, Plastics and Synthetic Fibers	414
_____	Inorganic Chemicals	415
_____	Soap and Detergent Manufacturing	417
_____	Fertilizer Manufacturing	418
_____	Petroleum Refining	419
_____	Iron and Steel Manufacturing	420
_____	Nonferrous Metals Manufacturing	421
_____	Phosphate Manufacturing	422
_____	Steam Electric Power Generating	423
_____	Ferroalloy Manufacturing	424
_____	Leather Tanning and Finishing	425
_____	Glass Manufacturing	426
_____	Asbestos Manufacturing	427
_____	Rubber Manufacturing	428
_____	Timber Products Processing	429
_____	Pulp, Paper, and Paperboard	430
_____	Builders' Paper and Board Mills	431
_____	Meat Products	432
_____	Metal Finishing	433
_____	Coal Mining	434
_____	Oil and Gas Extraction	435
_____	Mineral Mining and Processing	436
_____	Pharmaceutical Manufacturing	439
_____	Ore Mining and Dressing	440
_____	Paving and Roofing Materials	443
_____	Paint Formulating	446
_____	Ink Formulating	447
_____	Gum and Wood Chemicals Manufacturing	454
_____	Pesticide Chemicals	455
_____	Explosives Manufacturing	457
_____	Carbon Black Manufacturing	458
_____	Photographic	459
_____	Hospital	460
_____	Battery Manufacturing	461
_____	Plastics Molding and Forming	463
_____	Metal Molding and Casting	464
_____	Coil Coating	465
_____	Porcelain Enameling	466
_____	Aluminum Forming	467
_____	Copper Forming	468
_____	Electrical and Electronic Components	469
_____	Nonferrous Metals Forming and Metal Powders	471
X	N/A	

2. Industrial wastewater must be treated to levels that meet the requirements of applicable USEPA Effluent Limitation Guidelines - Title 40 of the Code of Federal Regulations (40 CFR), Parts 400 - 471. Therefore, the permit application must contain all information necessary to calculate permit limits based on these guidelines.

If limitations in the above referenced guidelines that apply to your facility are expressed in terms of production (e.g., lbs of pollutant/1000 lbs of production), provide a quantity representative of the actual level of production over the last three years, if available, for each category or subcategory. For refineries (40 CFR Part 419), please include the size of each process unit, the throughput of the refinery, and the throughput of each unit.

SUBCATEGORY	ACTUAL QUANTITY/DAY	DESIGN QUANTITY/DAY	UNITS
N/A			

For facilities subject to effluent limitation guidelines for organic chemicals, plastics and synthetic fibers manufacturing, provide the fraction of total plant production that falls into each subpart (for instance, 45% commodity chemicals, 35% bulk chemicals, and 30% specialty chemicals.) Also identify processes in Appendices A and B to 40 CFR Part 414 that are utilized and provide the flow of metal bearing waste streams and cyanide bearing waste streams, if any. See 40 CFR 414.

SUBCATEGORY	% of Total Production	APPENDIX A AND B	
		Metal	Process
N/A			

For refineries (40 CFR Part 419), please identify the specific subcategory (i.e., topping, cracking, petrochemical, lube, and/or integrated) your facility is classified as and include a justification for the classification.

N/A

3. Provide a breakdown of process wastewater flow(s) and non-process wastewater flow(s) as defined for the industry in the appropriate guideline category. This quantitative listing of all wastewater sources is required in addition to a schematic flow diagram.

N/A

4. Please list all the processes which are **both** subject to USEPA Effluent. Limitation Guidelines **and** generate a wastewater which is discharged via this permit. Please provide all the requested information for each process listed.

PROCESS	EPA GUIDELINE (PART & SUBPART)	DATE PROCESS BEGAN OPERATION (*1)
N/A		

(*1) May also include the date construction for the process commenced.

ATTACHMENT B

EFFLUENT CHARACTERIZATION AND ANALYTICAL TESTING

1. GENERAL GUIDANCE FOR ATTACHMENT B:

Attachment B contains a series of analytical tables which may need to be completed in order for the application to be technically complete. Following is a listing of conditions which determine when a particular table is required to be completed and when it is not required. Please note that the term " complete table required" means that all pollutants listed on that table are required to be tested if the table is required and the term " partial table required" means that only certain pollutants from the table (as determined by the instructions) will be required to be tested if the table is required.

TABLE B-1: Complete table required for all external outfalls which do not discharge solely storm water.

Complete table required for all final effluent monitoring points for effluent disposed of via land application or evaporation.

Not required for internal outfalls or stormwater only discharges.

TABLE B-2: Complete table required for all external outfalls which discharge process wastewater.

Partial table (only those pollutants that are used at the facility as a feedstock, intermediate, product, byproduct, coproduct, maintenance chemical or that could in any way contribute to contamination in the wastewater streams) required for each continuously discharging nonprocess external outfall (including noncontact cooling water). Please respond with a " N/A" for each individual pollutant which is <u>not</u> analyzed under this condition.

Not required for internal outfalls or storm water only discharges.

TABLE B-3: Partial table (only those pollutants which are required by the conditions specified) required for each external outfall.

Not required for internal outfalls or storm water only discharges.

TABLE B-4: Complete table required for all external outfalls which discharge process wastewater and other wastewaters, which may contain pesticides or herbicides, from a facility which manufactures or formulates pesticides or herbicides.

Not required for internal outfalls or storm water only discharges.

TABLE B-5: Complete table required for all external outfalls

Not required for internal outfalls or storm water only discharges.

TABLE B-7: Partial table (only those <u>fractions</u> as specified in Table B-6) required for all process wastewater outfalls.

TABLE B-8: Complete table required for each external outfall under the conditions specified.

Not required for internal outfalls or storm water only discharges.

TABLE B-9: Partial table (only those pollutants which are required by the conditions specified) required for each external outfall.

Not required for internal outfalls or storm water only discharges.

TABLE B-10: Complete table required for all external outfalls which discharge solely storm water runoff associated with " industrial activity" and are not regulated by an NPDES/TPDES multi-sector or construction general storm water permit. Please refer to Attachment K for specific guidance.

TABLE B-11: Partial table (only those pollutants which are required by the conditions specified) required for all external outfalls which discharge solely storm water runoff associated with " industrial activity" and are not regulated by an NPDES/TPDES multi-sector or construction general storm water permit. Please refer to Attachment K for specific guidance.

2. GENERAL REQUIREMENTS FOR ATTACHMENT B:

All information submitted with this attachment shall comply with the following:

a. For pollutants currently regulated in your permit, report the average and maximum values from the Monthly Effluent Reports for the previous 24 months for all pollutants in the existing permit regardless of the required monitoring frequency. (For pH, report the minimum and maximum values.)

b. Tables B-1, B-2, and B-3: For pollutants not currently regulated in your permit, average and maximum concentrations must be calculated from at least four (4) separate analytical results obtained from four (4) grab or composite samples collected at a frequency of 1/week for a period of 4 weeks from the wastewater stream unless otherwise specified in the application or approved by the TNRCC. Prior approval to submit less than four (4) samples should be obtained from the TNRCC prior to application submittal.

   Tables B-4, B-5, B-7, B-8, B-9, B-10, and B-11: For pollutants not currently regulated in your permit, average and maximum concentrations may be calculated from at least one (1) analytical result obtained from a grab or composite sample.

   The quantitative data may be data collected over the past 365 days.

c. If this application is for a new discharge, results from similar facilities, treatability studies, design information, or literature sources may be submitted when real effluent analytical data is not available. The basis of the " results" submitted should be explained.

d. For facilities which have an intermittent discharge from final retention impoundment(s) when the impoundments reach holding capacity and a discharge is not foreseen in the near future; samples of the effluent currently stored in the impoundment may be used to satisfy the analytical requirements.

e. Test Methods utilized should be sensitive enough to detect the constituents at the Minimum Analytical Level (MAL) specified. For analytical results that are non-detect, please report the analytical values as less than the detection level (example: a result that is non-detect with a detection level of 50 ug/l should be reported as " <50ug/l").

f. Grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and enterococci. 24-hour composite samples must be used for all other pollutants.

g. If any of the analysis reported in this application are performed by a contract laboratory or a consulting firm, please provide the name, address, and telephone number for each laboratory and/or firm. Also specify which pollutants were analyzed by which laboratory/firm.

3. Outfalls that contain any wastewater other than storm water (e.g., process wastewater, utility wastewater, domestic wastewater, groundwater, etc.) must complete TABLE B-1. Facilities that utilize land application or evaporation for wastewater treatment/disposal must also provide these analytical results.

TABLE B-1

OUTFALL 001 Sample Type: GRAB x COMPOSITE ____

POLLUTANT	INFLUENT CONCENTRATION (mg/l) AVG	INFLUENT CONCENTRATION (mg/l) MAX	NUMBER OF SAMPLES	EFFLUENT CONCENTRATION (mg/l) AVG.	EFFLUENT CONCENTRATION (mg/l) MAX	NUMBER OF SAMPLES
BOD (5-day)				0.8	2.7	75
CBOD (5-day)						
Chemical Oxygen Demand						
Total Organic Carbon						
Ammonia Nitrogen						
Total Suspended Solids				1.1	9.5	75
Nitrate Nitrogen						
Total Organic Nitrogen						
Total Phosphorus						
Oil and Grease						
Total Residue Chlorine				1.9	3.5	472
Total Dissolved Solids						
Sulfate						
Chloride						
Fluoride						
Fecal Coliform						
Temperature (°F)				75	102	482
pH (Standard Units; min/max)				7.1 min	8.6 max	75

POLLUTANT	EFFLUENT CONCENTRATION (µg/l) AVG.	EFFLUENT CONCENTRATION (µg/l) MAX	NUMBER OF SAMPLES	MAL µg/l
Total Aluminum				30
Total Antimony				30
Total Arsenic				10
Total Barium				10
Total Beryllium				5
Total Cadmium				1
Total Chromium				10
Trivalent Chromium				--
Hexavalent Chromium				10
Total Copper				10
Cyanide, Total, Amenable to Chlorination or Weak-Acid Dissociable)				20
Total Lead				5
Total Mercury				0.2
Total Nickel				10
Total Phenols				20
Total Selenium				10
Total Silver				2
Total Thallium				10
Total Zinc				5

4. TABLE B-2 contains a list of organic compounds included in the Texas Surface Water Quality Standards at 30 TAC 307.6. TABLE B-2 must be completed with the results of an analysis of all pollutants for each outfall that contains process wastewater. In addition, an analysis for each continuously discharging nonprocess outfall (including noncontact cooling water) must be provided for only those pollutants in TABLE B-2 that are used at the facility as a feedstock, intermediate, product, by product, coproduct, maintenance chemical or that could in any way contribute to contamination in the wastewater streams.

TABLE B-2

OUTFALL 001	CONC. µg/l (*1)			
POLLUTANT	AVG.	MAX	NUMBER OF SAMPLES	MAL (µg/l)
Benzene				10
Benzidine				50
Benzo(a)anthracene				10
Benzo(a)pyrene				10
Bis(chloromethyl)ether (*2)				--
Carbon Tetrachloride				10
Chlorobenzene				10
Chloroform				10
Chrysene				10
Cresols				(*3)
Dibromochloromethane				10
1,2-Dibromoethane				2
1,4-Dichlorobenzene				10
1,2-Dichloroethane				10
1,1-Dichloroethylene				10
Fluoride				500
Hexachlorobenzene				10
Hexachlorobutadiene				10
Hexachloroethane				20
Methyl Ethyl Ketone				50
Nitrobenzene				10
n-Nitrosodiethylamine				20
n-Nitroso-di-n-Butylamine				20
PCB's, Total (*4)				1
Pentachlorobenzene				20
Penthachlorophenol				50
Phenanthrene				10
Pyridine				20
1,2,3,5-Tetrachlorobenzene				20
Tetrachloroethylene				10
Trichloroethylene				10
1,1,1-Trichloroethane				10
2,4,5-Trichlorophenol				50
TTHM (Total Trihalomethanes)				10
Vinyl Chloride				10

(*1) Indicate units if different from µg/l.

(*2) Hydrolyzes in water. Will not require applicant to analyze at this time.

(*3) MAL's for Cresols: p-Chloro-m-Cresol 10 µg/l; 4,6-Dinitro-o-Cresol 50 µg/l; p-Cresol 10 µg/l.

(*4) Total of PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, PCB-1016.

5. TABLE B-3 CONTAINS TESTING REQUIREMENTS FOR THE COMPOUND " Tributyltin" and for the indicator bacteria " enterococci." Not all applicants are required to test for tributyltin or enterococci. Testing is required only under the following conditions: **N/A**

A. TRIBUTYLTIN

Testing will be required for 1) industrial/commercial facilities which directly dispose of wastewater from the types of operations listed below OR 2) domestic facilities which receive wastewater from the types of industrial/commercial operations listed below. Please check all that apply.

____ 1) Manufacturers and formulators of tributyltin or related compounds, including, but not limited to SIC code 2879. Testing required.

____ 2) Painting of ships, boats and marine structures, including, but not limited to SIC code 1721. Testing required.

____ 3) Ship and boat building and repairing, including, but not limited to SIC codes 3731, 3732, and 3441. Testing required.

____ 4) Ship and boat cleaning, salvage, wrecking and scaling, including, but not limited to SIC codes 4499 and 7699. Testing required.

____ 5) Operation and maintenance of marine cargo handling facilities and marinas, including, but not limited to SIC codes 4491 and 4493. Testing required.

____ 6) Facilities engaged in wood preserving, including, but not limited to SIC code 2491. Testing required.

____ 7) Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent. Testing required.

____ 8) None of the above. No testing required.

B. ENTEROCOCCI

Testing will be required for all dischargers directly into the Houston Ship Channel (classified stream segment nos. 1006 and 1007). Please check all that apply.

____ 1) Discharge is directly to the Houston Ship Channel (classified stream segment number 1006 or 1007). Testing required.

____ 2) Discharge is not directly to the Houston Ship Channel (classified stream segment number 1006 and 1007). No testing required.

TABLE B-3

OUTFALL **N/A**	Concentration				
POLLUTANT	AVG.	MAX	Units	NUMBER OF SAMPLES	MAL (μg/l)
Tributyltin					0.010
Enterococci					N/A

6. TABLE B-4 contains a list of pesticide compounds included in the Texas Surface Water Quality Standards at 30 TAC 307.6. TABLE B-4 must be completed if the facility manufactures or formulates pesticides or herbicides. Complete TABLE B-4 with the results of an analyses for each outfall that contains process wastewater or may contain pesticides or herbicides. Report an average and maximum value if more than one analytical result is available.

__X__ N/A This facility does not manufacture or formulate pesticides or herbicides.

TABLE B-4

OUTFALL _____

POLLUTANT	CONCENTRATION (µg/l)* AVG.	CONCENTRATION (µg/l)* MAX.	NUMBER OF SAMPLES	MAL µg/l
Aldrin				0.05
Alpha-hexachlorocyclohexane				0.05
Beta-hexachlorocyclohexane				0.05
Carbaryl				5
Chlordane				0.15
Chlorpyrifos				0.05
2,4-D				10
Danitol				---
4,4'-DDD				0.1
4,4'-DDE				0.1
4,4'-DDT				0.1
Demeton				0.2
Diazinon				0.5
Dicofol				2
Dieldrin				0.1
Diuron				---
Endosulfan I (alpha)				0.1
Endosulfan II (beta)				0.1
Endosulfan Sulfate				0.1
Endrin				0.1
Gamma - Hexachlorocyclohexane (Lindane)				0.05
Guthion				0.10
Heptachlor				0.05
Heptachlor Epoxide				1.0
Hexachlorophene				10
Malathion				0.10
Methoxychlor				2.0
Mirex				0.2
Parathion				0.1
Toxaphene				5
2,4,5-TP (Silvex)				2

7. Review the following TABLE B-5 and mark the appropriate column with an " X" if you believe a specific constituent to be present or absent in your discharge. Base your determination on your knowledge of raw materials, maintenance chemicals, intermediates, and products handled at your facility and/or previous analyses of your wastewater. You must provide the results of at least one analysis for each constituent believed present. Report an average and maximum value if more than one analytical result is available.

TABLE B-5

OUTFALL 001

POLLUTANTS	BELIEVED PRESENT	BELIEVED ABSENT	CONCENTRATION (mg/l)* AVG.	CONCENTRATION (mg/l)* MAX.	NUMBER OF SAMPLES
Bromide					
Color (PCU)					
Nitrate-Nitrite (as BN)					
Sulfide (as S)					
Sulfite (as SO_3)					
Surfactants					
Total Antimony					
Total Beryllium					
Total Boron					
Total Cobalt					
Total Iron					
Total Magnesium					
Total Molybdenum					
Total Thallium					
Total Tin					
Total Titanmium					

TABLE B-5 **Indicate units if different from mg/l**

TABΛE B- Table B-6 is a list of primary industrial categories with a breakdown of Gas Chromatography/Mass Spectrometry (GC/MS) testing requirements for Priority Pollutants. Categories are defined in 40 CFR Parts 400 - 471. Check any category(s) that apply to your facility and provide the indicated analysis for Priority Pollutants listed in Table B-6.

TABLE B-6

X N/A	GC/MS Testing Required			
	Volatile	Acid	Base/Neutral	Pesticides
Adhesives and Sealants	Yes	Yes	Yes	No
Aluminum Forming	Yes	Yes	Yes	No
Auto and Other Laundries	Yes	Yes	Yes	Yes
Battery Manufacturing	Yes	No	Yes	No
Coal Mining	No	No	No	No
Coil Coating	Yes	Yes	Yes	No
Copper Forming	Yes	Yes	Yes	No
Electric and Electronic Components	Yes	Yes	Yes	Yes
Electroplating	Yes	Yes	Yes	No
Explosives Manufacturing	No	Yes	Yes	No
Foundries	Yes	Yes	Yes	No
Gum and Wood Chemicals				
Subparts A,B,C,E	Yes	Yes	No	No
Subparts D,F	Yes	Yes	Yes	No
Inorganic Chemicals	Yes	Yes	Yes	No
Iron and Steel Mfg.	Yes	Yes	Yes	No
Leather Tanning/Finishing	Yes	Yes	Yes	No
Mechanical Products Mfg.	Yes	Yes	Yes	No
Nonferrous Metals Mfg.	Yes	Yes	Yes	Yes
Ore Mining (Subpart B)	No	Yes	No	No
Organic Chemicals, Plastics and Synthetic Fibers	Yes	Yes	Yes	Yes
Paint and Ink Formulation	Yes	Yes	Yes	No
Pesticides	Yes	Yes	Yes	Yes
Petroleum Refining	Yes	Yes	Yes	No
Pharmaceutical Preparations	Yes	Yes	Yes	No
Photographic Equipment and Supplies	Yes	Yes	Yes	No
Plastic Processing	Yes	No	No	No
Porcelain Enameling	No	No	No	No
Printing and Publishing	Yes	Yes	Yes	Yes
Pulp and Paperboard Mills				
Subparts A,B,C,D,R	*	Yes	*	Yes
Subparts F,G,H,I, K,L,M,N,O,P	Yes	Yes	*	Yes
Subparts E,Q,S,T	Yes	Yes	*	Yes
Subparts J,U	Yes	Yes	Yes	*
Rubber Processing	Yes	Yes	Yes	No
Soap and Detergent Mfg.	Yes	Yes	Yes	No
Steam Electric Power Plants	Yes	Yes	No	No
Textile Mills (Not Subpart C)	Yes	Yes	Yes	No
Timber Products Processing	Yes	Yes	Yes	Yes

*** Test if " believed present" .**

9. Table B-7 contains a list of priority pollutants. If you are a primary industry as shown in Table B-6 and process wastewater is discharged, you must analyze for those GC/MS fractions as shown in Table B-7. If you are not a primary industry and if you believe that a specific constituent (except for: acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4,6 dinitrophenol) is present in an amount greater than 10 ppb you must provide the results of at least one analysis. If you believe that acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4,6 dinitrophenol is present in an amount greater than 100 ppb you must provide results for these chemicals. Base your determination on your knowledge of raw materials, maintenance chemicals, intermediates, and products handled at your facility or analysis of your wastewater. Report an average and a maximum value if more than one analytical result is available.

TABLE B-7

OUTFALL 001

POLLUTANT	CONCENTRATION (µg/l)* AVG.	CONCENTRATION (µg/l)* MAX.	NUMBER OF SAMPLES	MAL µg/l
VOLATILE COMPOUNDS				
Acrolein				50
Acrylonitrile				50
Benzene				10
Bromoform				10
Carbon Tetrachloride				10
Chlorobenzene				10
Chlorodibromomethane				10
Chloroethane				10
2-Chloroethylvinyl Ether				50
Chloroform				10
Dichlorobromomethane				10
1,1-Dichloroethane				10
1,2-Dichloroethane				10
1,1-Dichloroethylene				10
1,2-Dichloropropane				10
1,3-Dichloropropylene				10
Ethylbenzene				10
Methyl Bromide				20
Methyl Chloride				20
Methylene Chloride				20
1,1,2,2-Tetrachloroethane				10
Tetrachloroethylene				10
Toulene				10
1,2-Trans-Dichloroethylene				10
1,1,1-Trichloroethane				10
1,1,2-Trichloroethane				10
Trichloroethylene				10
Vinyl Chloride				10

*** Indicate units if different from µg/l**

TABLE B-7 (cont'd)

OUTFALL 001

POLLUTANT	CONCENTRATION (µg/l)* AVG.	MAX.	NUMBER OF SAMPLES	MAL (µg/l)
ACID COMPOUNDS				
2-Chlorophenol				10
2,4-Dichlorophenol				10
2,4-Dimethylphenol				10
4,6-Dinitro-o-Cresol				50
2,4-Dinitrophenol				50
2-Nitrophenol				20
4-Nitrophenol				50
P-Chloro-m-Cresol				10
Pentachlorophenol				50
Phenol				10
2,4,6-Trichlorophenol				10
BASE NEUTRAL COMPOUNDS				
Acenaphthene				
Acenaphthylene				10
Anthracene				10
Benzidine				50
Benzo(a)Anthracene				10
Benzo(a)Pyrene				10
3,4-Benzofluorathene				10
Benzo(ghi)Perylene				20
Benzo(k)Fluoranthene				10
Bis(2-Chloroethoxy)Methane				10
Bis(2-Chloroethyl)Ether				10
Bis(2-Chloroisopropyl)Ether				10
Bis(2-Ethylhexyl)Phthalate				10
4-Bromophenyl Phenyl Ether				10
Butylbenzyl Phthalate				10
2-Chloronaphthalene				10
4-Chlorophenyl Phenyl Ether				10
Chrysene				10
Dibenzo(a,h)Anthracene				20
1,2-Dichlorobenzene				10
1,3-Dichlorobenzene				10
1,4-Dichlorobenzene				10
3,3-Dichlorobenzidine				50
Diethyl Phthalate				10
Dimethyl Phthalate				10
Di-n-Butyl Phthalate				10
2,4-Dinitrotoluene				10
2,6-Dinitrotoluene				10
Di-n-Octyl Phthalate				10
1,2-Diphenyl Hydrazine (as Azobenzene)				20

*** Indicate units if different from µg/l**

TABLE B-7 (cont'd)

OUTFALL 001

POLLUTANT	CONCENTRATION (µg/l)* AVG.	MAX.	NUMBER OF SAMPLES	MAL (µg/l)
BASE/NEUTRAL COMPOUNDS (con't)				
Fluoranthene				10
Fluorene				10
Hexachlorobenzene				10
Hexachlorobutadiene				10
Hexachlorocyclopentadiene				10
Hexachloroethane				20
Ideno(1,2,3-cd)pyrene				20
Isophorone				10
Naphthalene				10
Nitrobenzene				10
N-Nitrosodimethylamine				20
N-Nitrosodi-n-Propylamine				20
N-Nitrosodiphenylamine				20
Phenanthrene				10
Pyrene				10
1,2,4-Trichlorobenzene				10
PESTICIDES				
N/A				
Aldrin				0.05
alpha-BHC				0.05
beta-BHC				0.05
gamma-BHC				0.05
delta-BHC				0.05
Chlordane				0.15
4,4-DDT				0.1
4,4-DDE				0.1
4,4-DDD				0.1
Dieldrin				0.1
alpha-Endosulfan				0.1
beta-Endosulfan				0.1
Endosulfan Sulfate				0.1
Endrin				0.1
Endrin Aldehyde				0.1
Heptachlor				0.05
Heptachlor Epoxide				1.0
PCB-1242				1.0
PCB-1254				1.0
PCB-1221				1.0
PCB-1232				1.0
PCB-1248				1.0
PCB-1260				1.0
PCB-1016				1.0
Toxaphene				5.0

*** Indicate units if different from µg/l**

10. Under certain conditions, the applicant may be responsible for providing analyses of the effluent from its process wastewater outfalls for Dioxin/Furan compounds. Please review the conditions below and proceed as instructed. The applicant is required to report that 2,3,7,8 Tetrachlorodibenzo-P-Dioxin (TCDD) may be discharged if the applicant 1) knows or has reason to believe that TCDD or any congeners of TCDD will or may be present in the effluent or 2) uses or manufactures one of the following compounds:

a. Please review the following compounds. Check those compounds which are manufactured and/or used in a process at the facility. Also provide a brief description of the conditions of its/their presence at the facility and then proceed to Item No. 10b. If none, then check N/A and proceed to Item No. 10b.

X	N/A
_____	2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CAS #93-76-5
_____	2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CAS #93-72-1
_____	2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CAS #136-25-4
_____	0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CAS #299-84-3
_____	2,4,5-trichlorophenol (TCP) CAS #95-95-4
_____	Hexachlorophene (HCP) CAS #70-30-4

b. If you know or have any reason to believe that 2,3,7,8 Tetrachlorodibenzo-P-Dioxin (TCDD) or any congeners of TCDD may be present in your effluent then give a brief description of the conditions for its presence below and then proceed to Item No. 10c below. If you do not have any reason to believe that TCDD may be present in your effluent then check N/A and proceed to Item No. 10c below.

X N/A

c. If you check N/A in both Item Nos. 10a and 10b above, then proceed to Item No. 11. Otherwise you must complete one analysis of a composite sample of each process wastewater outfall for Dioxin/Furan compounds. An additional sample of sludge from the wastewater treatment system must also be analyzed. The samples shall be analyzed and reported for congeners of chlorinated dibenzo-p-dioxins and dibenzofurans and also reported as toxicity equivalents (TEQ) based on the relative toxic equivalence factors provided in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and Dibenzofurans (CDD's and CDF's) and 1989 Update. E{A?625/3-89/016, March 1989. TABLE 7 is provided to report the results of the congeners listed below in parts per quadrillion (ppq)for wastewater and parts per trillion (ppt) in sludges. The analyses should be made using EPA method 1613 or an equivalent method if approved by the TNRCC.

TABLE B-8

Outfall 001 N/A

Compound	Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10.0
1,2,3,7,8-PeCDD	0.5					50.0
2,3,7,8-HxCDDs	0.1					50.0
2,3,7,8-TCDF	0.1					10.0
1,2,3,7,8-PeCDF	0.05					50.0
2,3,4,7,8-PeCDF	0.5					50.0
2,3,7,8-HxCDFs	0.1					50.0
Total						

EXAMPLE:

Compound	Equivalent Factors	Concentration (ppq)	Equivalents (ppq)
2,3,7,8-TCDD	1	13	13
1,2,3,7,8-PeCDD	0.5	22	11
2,3,7,8-HxCDDs	0.1	17	1.7
2,3,7,8-TCDF	0.1	20	2
1,2,3,7,8-PeCDF	0.05	100	5
2,3,4,7,8-PeCDF	0.5	120	60
2,3,7,8-HxCDFs	0.1	100	10
Total TEQ			102.7

Test methods utilized must be sensitive enough to quantify the constituents at the Minimum Analytical Level (MAL) specified.

11. a. Please answer the following questions and proceed as directed.

Are there pollutants listed in Attachment H of this application which are believed present in the discharge?

Yes _____ No ___X___

Are there pollutants listed in Item No. 3.c on Page No. 2 of the Industrial Wastewater Permit Application Technical Report which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

Yes _____ No ___X___

If NO to both questions then go to Item No. 12 of this attachment.

If YES to either question then proceed as directed below.

b. Table B-9 must be completed for pollutants listed in ATTACHMENT H and for pollutants related to materials handled on-site (raw materials, intermediate products, products, etc., as listed in Item No. 5 on Page No. 2 of the Industrial Wastewater Permit Application Technical Report), which are believed to be present in a wastewater discharge.

For analytical results that are non-detect, please report the analytical values as less than the detection level (example: a result that is non-detect with a detection level of 50 ug/l should be reported as " < 50 ug/l"). **N/A**

TABLE B-9

Outfall _____

Pollutant & CAS Number	Avg ug/l	Max ug/l	Number of Samples	Analytical Method

12. Table B-10 must be completed for all outfalls which discharges only storm water runoff associated with " industrial activity" and are not regulated by a multi-sector general storm water permit (please refer to Attachment K for specific guidance). The discharge must be sampled and analyzed for the following pollutants at least once by grab sample during the first 30 minutes or once by a flow weighted composite sample if equipment is available for compositing by flow:

TABLE B-10

Outfall N/A

Pollutant	MAXIMUM VALUES (mg/l) Grab Sample Taken During First 30 Minutes	MAXIMUM VALUES (mg/l) Flow Weighted Composite Sample	AVERAGE VALUES (mg/l) Grab Sample Taken During First 30 Minutes	AVERAGE VALUES (mg/l) Flow Weighted Composite Sample	Number of Storm Events Sampled
Oil and Grease					
Biochemical Oxygen Demand (BOD5)					
Chemical Oxygen Demand					
Total Organic Carbon					
Total Suspended Solids					
Total Kjeldahl Nitrogen					
Nitrate plus Nitrite Nitrogen					
Ammonia Nitrogen					
Total Phosphorus					
pH (Standard Units)	Min	Max	Min	Max	

	MAXIMUM VALUES (µg/L		AVERAGE VALUES (µg/l)			MAL µg/l
Total Aluminum						30.0
Total Arsenic						10.0
Total Barium						10.0
Total Cadmium						1.0
Total Chromium						10.0
Trivalent Chromium						N/A
Hexavalent Chromium						10.0
Total Copper						10.0
Total Lead						5.0
Total Mercury						0.2
Total Nickel						10.0
Total Selenium						10.0
Total Silver						
Total Zinc						5.0

13. Table B-11 must be completed for every outfall which discharges only storm water runoff associated with " industrial activity" and is not regulated by a multi-sector general storm water permit (please refer to Attachment K for specific guidance). Each discharge must be sampled and analyzed for the following pollutants at least once by grab sample during the first 30 minutes or once by a flow weighted composite sample if equipment is available for composting by flow. Do not include those pollutants listed previously in TABLE B-10.

a. Include each pollutant that is limited in a USEPA Effluent Guideline to which the facility is subject (40 CFR Part 400 - 471) except those for which the monitoring frequency is less than once per month.

b. Include each pollutant this is limited in an existing TNRCC, NPDES, and/or TPDES permit for process water for the facility except those for which the monitoring frequency is less than once per month.

c. Include each pollutant from TABLES B-2, B-3 and B-4 that is used at the facility as a feedstock, intermediate, product, coproduct, byproduct, maintenance chemical or that could in any way contribute to contamination of storm water runoff.

d. Include each pollutant from TABLES B-5, B-7, B-8, and B-9, and ATTACHMENT H that you know or have reason to believe is present in outfalls containing only storm water runoff.

(1) For pollutants listed from TABLE B-5, either report quantitative data from the analysis of a grab sample or a flow weighted composite sample or briefly describe the reasons the pollutant is expected to be discharged.

(2) For pollutants listed from TABLE B-7 (except for: acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4,6 dinitrophenol) that are expected to be discharged in concentrations of **10 ppb or greater**, you must submit quantitative data from the analysis of at least one grab sample or one flow weighted composite sample.

(3) For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4,6 dinitrophenol, you must submit quantitative data if any of these four pollutants is expected to be discharged in concentrations of 100 ppb or greater.

(4) For every pollutant listed from TABLE B-7 expected to be discharged in concentrations **greater than 10 ppb** (or 100 ppb for the four pollutants listed above) you must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

(5) For pollutants listed from ATTACHMENT H, explain why the pollutant is believed to be present and report any analytical data that you have. No additional analysis is required.

TABLE B-11

Outfall N/A Pollutant	MAXIMUM VALUES (mg/l) Grab Sample Taken During First 30 Minutes	 Flow Weighted Composite Sample	AVERAGE VALUES (mg/l) Grab Sample Taken During First 30 Minutes	 Flow Weighted Composite Sample	Number of Storm Events Sampled

14. Please provide the following data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample: **N/A**

a. Date of storm event: _____

b. Duration of storm event (in minutes): _____

c. Total rainfall during storm event (in inches): _____

d. Number of hours between beginning of storm measured and end of previous measurable rain event: _____

e. Maximum flow rate during rain event (gallons/minute): _____

f. Total storm water flow from rain event (in gallons): _____

g. Provide a description of the method of flow measurement or estimate:

_____

ATTACHMENT C

LAND DISPOSAL OF EFFLUENT

ATTACHMENT C IS REQUIRED FOR APPLICATIONS (NEW, AMENDMMENT, OR RENEWAL) FOR FACILITIES REQUESTING AUTHORIZATION FOR DISPOSAL OF TREATED WASTEWATER VIA LAND APPLICATION.

Are you currently authorized or requesting new authorization to use land application as a method of disposal for treated effluent?

YES ___X___ NO _____ If YES, complete this attachment. If NO, do not submit this attachment with the technical report.

Are you 1) currently authorized in your existing permit to utilize land application for disposal of your effluent **AND** 2) this permit is **NOT** requesting changes from your existing permit conditions for those operations?

YES _____ NO ___X___ If YES, only items 1 through 11 are required

Are you 1) currently authorized in your existing permit to utilize land application for disposal of your effluent **AND** 2) this permit is requesting changes from your existing permit conditions for those operations?

YES ___X___ NO _____ If YES, only items 1 through 15 are required.

Are you seeking a new authorization for the land application for disposal of effluent by either a new permit application or an amendment permit application of an existing facility not currently authorized for land disposal of effluent?

YES ___X___ NO _____ If YES, items 1 through 15 are required.

1. Disposal System:

(X) Surface Disposal:
- Evaporation
- Irrigation

( ) Other (describe)

( ) Subsurface Disposal:
- Absorption
- Percolation fields
- Evapotranspiration beds
- Subsurface soils absorption

_____

_____

2. Is the proposed/existing disposal site within the 100-year frequency flood level? YES ___X___ NO ___

If YES, describe how the site will be protected from inundation.

Land application will be suspended during and following periods of inundation. Land application will be resumed when vegetation becomes stressed for water based on visual inspections.

3. Provide the following information if using irrigation for land disposal:

Area acres	Effluent Application Gallons/Day	Describe land use and indicate type of crop(s) - (alfalfa or wheat, park, golf course, landscape, etc.)	Public Access YES/NO
5	**30,000**	**Pasture – mixed grasses**	**No**
29.6	**30,000**	**Pasture – mixed grasses**	**No**

For non-public access areas, describe access controls.

Fenced areas with guarded gates.

4. Total surface area of storage pond(s): **N/A** acres

Total storage volume of storage pond(s): **N/A** million gallons

Provide dimensions (length, width, water depth, and freeboard) of each effluent storage/holding pond.

N/A

Describe the effluent storage/holding pond liner (e.g., compacted clay, synthetic liner, other)

N/A

5. Describe tailwater control facilities and operations, and describe how rainfall runon will be controlled such that extraneous waters do not enter the land application site?

No tail water controls will be installed. Land application will be limited to the water demands of the grasses so that no runoff of treated wastewater occurs. Runon will not be controlled, but land application will be suspended during wet periods when runoff could include treated wastewater.

ITEM 6 IS REQUIRED FOR AMENDMENT AND RENEWAL PERMIT APPLICATIONS. (This item is not applicable for NEW permit applications.

6. Provide the monitoring data for the pervious 24 months for the parameters that are regulated in the current permit. Provide the 30-day average data if the permit includes a 30-day average limit. If the permit includes only a single grab limit, provide the maximum single grab value for the month. If monitoring is not required for any of the following parameters, indicate N/A.

DATE MO/YR Outfall 001	30-DAY AVG FLOW gpd	BOD(5) mg/l	TSS mg/l	TDS mg/l	NITROGEN mg/l	IRRIGATION APPLICATION RATE acre-feet/mo.
06/97	0.05	1.1	3.5	N/A	N/A	N/A
07/97	0.006	1.6	1.2			
08/97	0.005	0.7	1.2			
09/97	0.006	0.7	0.8			
10/97	0.007	0.9	0.9			
11/97	0.008	0.5	1.2			
12/97	0.01	1.1	2.8			
01/98	0.009	0.5	2.0			
02/98	0.01	0.7	0.8			
03/98	0.019	1.4	0.5			
04/98	0.006	0.6	1.6			
05/98	0.006	1.2	0.5			
06/98	0.007	0.7	0.5			
07/98	0.006	0.8	0.5			
08/98	0.009	0.8	0.5			
09/98	0.007	0.4	0.8			
10/98	0.039	1.1	0.8			
11/98	0.037	0.5	0.8			
12/98	0.008	7.4	0.5			
01/99	0.007	0.7	1.1			
02/99	0.007	0.6	0.5			
03/99	0.007	0.8	0.8			
04/99	0.008	0.3	0.5			
05/99	0.007	1.2	1.0			

Explain any persistent excursions and discuss any corrective actions for the parameters shown in the above table and for pH, chlorine residual or other parameters that are regulated in the current permit.

N/A

7. Submit an annual cropping plan that includes but is not limited to the following: **See Appendix 10**

   a. A soils map depicting the location of the crops currently being grown. These locations should be identified by field and crop.
   b. Type of crops and acreage irrigated for each crop.
   c. Growing seasons for each crop.
   d. Nutrient requirements for each crop.
   e. Additional fertilizer requirements for each crop, proposed additional fertilizer applications for each crop, and methods of fertilizer application for each crop.
   f. Supplemental watering requirements for each crop.
   g. Salt tolerances of each crop.
   h. Harvesting method and number of harvests per year for each crop.

8. Describe the application method and equipment, (e.g., row irrigation, spray irrigation using a center pivot sprinkler system, etc.) Estimate the irrigation efficiency.

   Spray irrigation using a solid set system. Efficiency is estimated to be 75 percent.

9. Disposal Requirements (complete applicable section and include design calculations; include all assumptions, such as runoff, evaporation, evapotranspiration, etc.):

   a. Irrigation

	WWTP	GWTP	
Area under irrigation:	5	29.6	acres
Design application frequency:	8	8	hours/day
	5	5	days/week
Land grade: average:	0.4	0.2	percent (%)
maximum:			percent (%)
Design application rate:	6.7	1.1	acre-feet/acre/year
Design Total Nitrogen loading rate:	30.9	22	lbs N/acre/day

   Provide a separate engineering report of water balance and storage volume calculations in accordance with 30 TAC Section 309.20, Subchapter C, Land Disposal of Sewage Effluent. Describe the method of application and provide a nitrogen balance for the crop system. **See Appendix 10**

b. Overland Flow **N/A**

Area utilized for application: _____ acres

Slopes for application area: _____ percent (%)

Design application rate: _____ gpm/foot of slope width

Slope length: _____ feet

Design BOD_5 loading rate _____ lbs BOD_5/acre/day

Design application frequency _____ hours/day

_____ days/week

Describe the method of application and design requirements in accordance with 30 TAC Section 317.10, Appendix B, Overland Flow Process.

c. Evaporation Ponds **N/A**

Daily average effluent flow into pond(s): _____ gallons per day

Surface area of pond(s): _____ acres

Storage volume of pond(s): _____ million gallons

Provide a separate engineering report of water balance and storage volume calculations for average long term conditions and worse case conditions (i.e., high rainfall and low evaporation).

d. Evapotranspiration Beds **N/A**

Number of beds: _____

Area of bed(s): _____ acres

Depth of bed(s): _____ feet

Void ratio of soil in the beds: _____

Storage volume within the beds: _____

Describe any lining to protect groundwater. Provide a separate engineering report of water balance and storage volume calculations.

e. Subsurface Soil Absorption **N/A**

Type of Disposal System:

_____ Conventional Drainfield, Beds, or Trenches

_____ Graveless Pipe

_____ Pressure Dosing

_____ Mound System

_____ Drip/Trickle Irrigation

_____ Other

Application area:	_____	acres
Application rate:	_____	gal/square feet/day
Area of trench:	_____	square feet
Number of beds:	_____	
Area of bed(s):	_____	square feet
Area of drainfield:	_____	square feet
Depth to groundwater:	_____	feet
Dosing duration per area:	_____	hours
Infiltration Rate:	_____	inches/hour
Storage volume:	_____	gallons
Soil Classification:	_____	

Include all information as required in 30 TAC Section 309.20, Subchapter C, Land Disposal of Sewage Effluent. Describe the schedule of rotation for dosing basins.

10. Indicate the exact boundaries of the disposal operation on the original USGS topographic map (7.5-minute scale) of the area. **See Appendix 1**

11. Provide a scale drawing and indicate on the original USGS topographic map (7.5-minute scale) all land which is to be a part of the disposal operation in addition to the following: on-site buildings, waste disposal or treatment facilities, effluent storage and tail water control facilities, buffer zones and water wells within 1 mile radius of disposal site boundaries.

    Identify the water uses from each water well within a half-mile radius of the disposal site boundaries. In addition, provide aspects of construction such as well logs, casing, yield, static elevation, water quality, and age for each well. Submit copies of State Water Well Reports (driller's logs, completion data), and data on depths to ground water for water supply wells including a description of how the depths to ground water were obtained. Local groundwater resources below the wastewater disposal site shall be monitored to establish preoperational baseline groundwater quality for the following: total dissolved solids, nitrate-nitrogen, chlorides, sulfates, pH, and coliform bacteria. **See Appendix 11**

12. On a U.S. Department of Agriculture (USDA) Natural Resources Conservation Service Soil Survey Map, accurately locate the area to be used for land application. Include engineering properties (No. 200 Sieve, Liquid Limit, Plasticity), soil name and mapping symbol, USDA textures and associated depths for each texture class, soil permeability for each texture class, and seasonal high water table. **See Appendix 12**

13. Provide analyses of the soil in the land application area for pH, conductivity, sodium adsorption ratio (SAR), total nitrogen, nitrate-nitrogen, potassium, phosphorus, calcium, magnesium, sulfur, and sodium. The nutrient parameters should be analyzed on a plant available or extractable basis. All results shall be reported in mg/kg dry weight basis (parts per million). When reporting the results, include all information pertaining to fertilizer recommendations. Composite sampling techniques should be used when sampling the irrigation tract. Individual soil types, as defined by the USDA Natural Resources Conservation Service soil survey, should be sampled individually at zones of 0-6, 6-18, and 18-30 inches. Each composite sample shall represent no more than 40 acres for areas located east of Interstate Highway 35 and 80 acres for areas located west of Interstate Highway 35. Each composite sample shall consist of no less than 15 subsamples. Subsamples shall be composited by zone and according to type of crop and soil for analysis and reporting.

See Appendix 12

14. Do you plan to install ground water monitoring wells or lysimeters around the land application site? YES _____ NO ____X____

15. For waste disposal activities subject to 30 TAC Chapter 213, Edwards Aquifer Rules, provide a report that describes the surface geologic units present in the proposed land application site and identifies the location and extent of any significant recharge areas in the land application site.

The land application sites are located within the Edwards Aquifer contributing zone, at a distance that is greater than 5 miles and less than 10 miles upstream from the recharge zone. No significant recharge areas are located in the vicinity of the land application sites. The major structural features in the CSSA area are the Balcones fault zone, the regional fracture pattern, and the regional dip. One normal fault has been identified along the southern boundary of CSSA, and there is a possible fault or fracture set near well MW16. (Appendix 13-1 and 13-2). Well logs, seismic survey data, and ground penetrating radar indicate that the fault near MW16 may be present although it has limited displacement.

ATTACHMENT D

TOXICITY TESTING INSTRUCTIONS

Toxicity Testing **N/A**

To determine if your facility has a reasonable potential to cause or to contribute to receiving water toxicity, the TNRCC requires that the test results of laboratory aquatic toxicity tests performed on the effluent from the following wastewaters be submitted:

1. Process wastewater outfalls and any other continuous discharge outfalls from an industrial facility subject to EPA Categorical Standards (40 CFR 400-471).
2. Process wastewater outfalls and any other continuous discharge outfalls from an industrial facility classified as an EPA Major.
3. Treated domestic wastewater from outfalls at flows of 1 MGD or greater.

External outfalls conducting routine toxicity testing as a requirement of the currently issued wastewater discharge permit do not need to be re-tested. Internal outfalls also do not need to be tested.

For those outfalls that meet one or more of criteria 1-3 above, and are not currently being tested, the TNRCC will review the test results to determine the need for continued toxicity testing as a permit requirement as well as the need for an effluent toxicity limit.

Test Methods

The permittee shall perform two of the following toxicity tests using effluent collected from the facility. If the discharge enters freshwater (salinity of receiving water less than 2 parts per thousand), the applicant shall perform test numbers 1 and 2 below. If the discharge enters saltwater (salinity of receiving water equal to or greater than 2 parts per thousand), the applicant shall perform test numbers 3 and 4 below. Dischargers are encouraged to contact the Water Quality Assessment Team of the Water Quality Division to obtain assistance regarding the nature of the receiving water and the appropriateness of the freshwater or marine test species.

All test organisms, procedures, and quality assurance requirements used shall be in accordance with " Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fourth Edition" (EPA/600/4-90/027F), or the latest revision of this document. The following tests shall be used:

1. Acute 24-hour static toxicity test using Daphnia pulex. A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.
2. Acute 24-hour static toxicity test using the fathead minnow (Pimephales promelas). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

3. Acute 24-hour static toxicity test using Mysidopsis bahia. A minimum of five (5) replicates with eight (8) organisms per replicate be used for this test.

4. Acute 24-hour static toxicity test using the Inland Silverside minnow (Menidia beryllina). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

Toxicity Test Dilution Series

Five effluent concentrations, in addition to a control (0% effluent) shall be used in the toxicity tests. These additional effluent concentrations shall be 6%, 13%, 25%, 50%, and 100%.

Sample Collection

The effluent sample shall be collected at a point following the last treatment unit. A flow-weighted 24-hour composite sample will be collected from the discharge point for use during the toxicity test. A 24-hour composite sample consists of a minimum of twelve (12) effluent portions collected at equal time intervals and combined proportional to flow or a sample continuously collected proportional to flow over a 24-hour operating day.

Dilution Water

For tests 1 and 2, dilution water used in the toxicity tests shall be moderately hard synthetic water. For tests 3 and 4, dilution water used in the toxicity tests shall be hypersaline brine or synthetic seawater.

Reporting Requirements

Facilities shall determine and report the 24-hour LC50 for each species tested. Additionally the applicant shall report the mean survival (for each species) at each effluent dilution following the 24 hour exposure. The applicant shall prepare a full report of the results according to " Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fourth Edition" (EPA 600/4-90/027F), Section 12, Report Preparation. The applicant shall submit the following information as an attachment to the application:

1. The full report.

2. Table D-1 or D-2 (as appropriate), including LC50 data and mean survival (Table D-1 & D-2 forms are provided).

Applicant _____

TNRCC, NPDES, and/or TPDES Permit Number _____

Outfall _____

TABLE D-1 (SHEET 1 OF 2)

DAPHNIA PULEX SURVIVAL

GENERAL INFORMATION

	Time (am/pm)	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent (%)					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN*						

1. Enter percent effluent corresponding to the LC50 below:

24 hour LC50 (Daphnia or Ceriodaphnia) = _____ % effluent

(circle appropriate genus)

95% confidence limits: _____

Method of LC50 calculation: _____

*If 24-hour survivorship data from the chronic Ceriodaphnia dubia test is being used, the mean survival per dilution for all 10 replicates shall be reported on this row.

Applicant _____

TNRCC, NPDES, and/or TPDES Permit Number _____

Outfall _____

TABLE D-1 (SHEET 2 OF 2)

FATHEAD MINNOW SURVIVAL

(*Pimephales promelas*)

GENERAL INFORMATION

	Time (am/pm)	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent (%)					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN*						

1. Enter percent effluent corresponding to the LC50 below:

24 hour LC50 (*Pimephales*) = _____ % effluent

95% confidence limits: _____

Method of LC50 calculation: _____

Applicant _____

TNRCC, NPDES, and/or TPDES Permit Number _____

Outfall _____

TABLE D-2 (SHEET 1 OF 2)

Mysidopsis bahia SURVIVAL

GENERAL INFORMATION

	Time (am/pm)	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent (%)					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN*						

1. Enter percent effluent corresponding to the LC50 below:

24 hour LC50 (*Mysidopsis*) = _____ % effluent

95% confidence limits: _____

Method of LC50 calculation: _____

Applicant _____

TNRCC, NPDES, and/or TPDES Permit Number _____

Outfall _____

TABLE D-2 (SHEET 2 OF 2)

INLAND SILVERSIDE MINNOW SURVIVAL
(*Menidia beryllina*)

GENERAL INFORMATION

	Time (am/pm)	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent (%)					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN*						

1. Enter percent effluent corresponding to the LC50 below:

24 hour LC50 (*Menidia*) = _____ % effluent

95% confidence limits: _____

Method of LC50 calculation: _____

ATTACHMENT E

RECEIVING WATERS

All applicants must submit USGS quadrangle maps showing the location of the facility and the discharge point(s) and/or the land treatment/land application area, as appropriate. If this is an application for a discharge permit, USGS quadrangle maps must be submitted that depict the discharge route for three (3) miles from the point of discharge (or until a classified segment as defined in 30 TAC Chapter 307, Appendix C, Texas Surface Water Quality Standards is reached).

The permittee should retain a copy of the information submitted with this Attachment for reference in subsequent applications.

APPLICATIONS FOR A PERMIT TO DISPOSE OF ALL WASTEWATER BY LAND DISPOSAL ARE NOT REQUIRED TO COMPLETE ATTACHMENT E, SECTION 1 OR 2.

SECTION 1

DESCRIPTION OF RECEIVING WATERS

If all outfalls do not enter the same receiving water, SECTION 1 must be completed for each receiving water. The outfalls that flow into each receiving water should be listed.

OUTFALL NUMBER(S) **001**

1. Is there a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge?

   _____ YES **X** NO

   If YES, identify owner of the drinking water supply and accurately locate it on the USGS 7.5-minute topographic map. **N/A**

2. For discharges into tidally affected waters, **N/A**

   a) What is the width of the receiving water at the outfall? _____ Feet

   b) Are there oyster reefs in the vicinity of the discharge?

   If YES, give appropriate distance from outfall(s). _____ Feet

3. Is the discharge directly into (or within 300 feet of) a classified segment as defined in Appendix C or a partially classified water body as defined in Appendix D of the Texas Surface Water Quality Standards (30 TAC 307.10)?

   _____ YES **If YES, stop here. SECTION 1 is complete. It is not necessary to complete SECTION 2.**

   X NO **Check NO if the discharge goes into a watercourse such as a creek or tributary prior to flowing into a classified segment and then complete Items 4 and 5. (Complete SECTION 2 only if appropriate).**

OUTFALL NUMBER(S) 001

The following questions refer to the immediate receiving water (e.g., a drainage ditch, a stream, a lake, a bay, etc.). Check the box which best describes the first receiving water into which the discharge will flow after it leaves the outfall and answer any associated questions.

4. The receiving water can best be described as:

a. [ ] Open Bay: Name _____

b. [ ] Tidal Stream, Bayou, or Marsh: Name _____

c. [ ] Lake or Pond: Name _____

(1) Surface Area _____ acres

(2) Average depth of the entire water body _____ Feet

(3) Approximate average depth of water body within a 500 foot radius of the discharge point

_____ Feet

d. [ ] Stream OR [X] Man-made Channel or Ditch:

Name/Number **Unnamed ditch, then to Leon Creek**

(1) Stream or Channel Type: Characterize the area **upstream** of the discharge by checking one of the boxes below. (**For a new discharge, characterize downstream area.**)

(a) [X] **Intermittent** (dry for at least one week during most years)

(b) [ ] **Intermittent with Persistent Pools** (enduring pools containing sufficient habitat to maintain significant aquatic life uses)

(c) [ ] **Perennial** (normally flowing)

(2) Characterize the stream channel modifications (check as appropriate)

[X] channelized [ ] dammed [ ] banks rip-rapped

[ ] leveed [X] concrete lined [ ] others, specify:

The channel is concrete-lined for about 1 mile downstream of outfall

(3) List the name(s) of any perennial streams which join the receiving water within three miles downstream of the discharge point:

None

(4) Do the receiving water characteristics change within three miles downstream of the discharge? (e.g., natural or man-made dams, ponds, reservoirs, etc.)

YES X NO _____ If, YES, state how:

Man-made dam at bridge leading to Dominion development approximately 2.5 miles downstream of Outfall 001

(5) Basis of flow assessment (for answer to item d(1): [ ] USGS flow records, [X] personal observation, [ ] historical observation of adjacent landowners,
[ ] other, specify

(6) General observations of water body during normal dry weather conditions: Concrete channel barely wet from discharge. Creek bed dry up to dam which had standing water.

Date and time of observation: **July 22, 1999 1:00 PM**

Was water body influenced by storm water runoff during observations?

No

e. [ ] Freshwater Swamp or March: Name _____

f. [ ] Other, Specify _____

5. General Characteristics of Water Body:

a. Is the receiving water upstream of the discharge or proposed discharge site influenced by (check as appropriate):

[ ] oil field activities [ ] urban runoff

[ ] agricultural runoff [ ] septic tanks

[ ] upstream discharges [ ] others, specify:

None

b. Uses of water body (observed or evidences of) (Check as appropriate):

[ ] livestock watering [ ] contact recreation

[ ] non contact recreation [ ] fishing

[ ] domestic water supply [ ] industrial water supply

[ ] irrigation withdrawal [ ] navigation

[ ] picnic or park activities

[ ] others, specify:

None

c. Select one of the following to best describe the aesthetics of the receiving water and the surrounding area (check one):

[ ] Wilderness: outstanding natural beauty; usually wooded or unpastured area; water clarity exceptional

[ ] Natural Area: trees and/or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

[ ] Common Setting: not offensive, developed but uncluttered; water may be colored or turbid

[X] Offensive: stream does not enhance aesthetics; cluttered, highly developed; dumping areas; water discolored.

ATTACHMENT E

RECEIVING WATERS

All applicants must submit USGS quadrangle maps showing the location of the facility and the discharge point(s) and/or the land treatment/land application area, as appropriate. If this is an application for a discharge permit, USGS quadrangle maps must be submitted that depict the discharge route for three (3) miles from the point of discharge (or until a classified segment as defined in 30 TAC Chapter 307, Appendix C, Texas Surface Water Quality Standards is reached).

The permittee should retain a copy of the information submitted with this Attachment for reference in subsequent applications.

APPLICATIONS FOR A PERMIT TO DISPOSE OF ALL WASTEWATER BY LAND DISPOSAL ARE NOT REQUIRED TO COMPLETE ATTACHMENT E, SECTION 1 OR 2.

SECTION 1

DESCRIPTION OF RECEIVING WATERS

If all outfalls do not enter the same receiving water, SECTION 1 must be completed for each receiving water. The outfalls that flow into each receiving water should be listed.

OUTFALL NUMBER(S) 002

1. Is there a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge?

   _____ YES ___X___ NO

   If YES, identify owner of the drinking water supply and accurately locate it on the USGS 7.5-minute topographic map. _____

2. For discharges into tidally affected waters,

   a) What is the width of the receiving water at the outfall? _____ Feet

   b) Are there oyster reefs in the vicinity of the discharge?

   If YES, give appropriate distance from outfall(s). _____ Feet

3. Is the discharge directly into (or within 300 feet of) a classified segment as defined in Appendix C or a partially classified water body as defined in Appendix D of the Texas Surface Water Quality Standards (30 TAC 307.10)?

   _____ YES **If YES, stop here. SECTION 1 is complete. It is not necessary to complete SECTION 2.**

   ___X___ NO **Check NO if the discharge goes into a watercourse such as a creek or tributary prior to flowing into a classified segment and then complete Items 4 and 5. (Complete SECTION 2 only if appropriate).**

OUTFALL NUMBER(S) 002

The following questions refer to the immediate receiving water (e.g., a drainage ditch, a stream, a lake, a bay, etc.). Check the box which best describes the first receiving water into which the discharge will flow after it leaves the outfall and answer any associated questions.

4. The receiving water can best be described as:

a. [ ] Open Bay: Name _____

b. [ ] Tidal Stream, Bayou, or Marsh: Name _____

c. [ ] Lake or Pond: Name _____

(1) Surface Area _____ acres

(2) Average depth of the entire water body _____ Feet

(3) Approximate average depth of water body within a 500 foot radius of the discharge point

_____ Feet

d. [ ] Stream OR [X] Man-made Channel or Ditch:

Name/Number **Unnamed ditch, then to Salado Creek**

(1) Stream or Channel Type: Characterize the area **upstream** of the discharge by checking one of the boxes below. (**For a new discharge, characterize downstream area.**)

(a) [X] **Intermittent** (dry for at least one week during most years)

(b) [ ] **Intermittent with Persistent Pools** (enduring pools containing sufficient habitat to maintain significant aquatic life uses)

(c) [ ] **Perennial** (normally flowing)

(2) Characterize the stream channel modifications (check as appropriate)

[X] channelized [ ] dammed [ ] banks rip-rapped

[ ] leveed [ ] concrete lined [ ] others, specify:

Channel poorly defined up to confluence with Salado Creek

(3) List the name(s) of any perennial streams which join the receiving water within three miles downstream of the discharge point:

None

(4) Do the receiving water characteristics change within three miles downstream of the discharge? (e.g., natural or man-made dams, ponds, reservoirs, etc.)

YES _____ NO ___X___ If, YES, state how:

(5) Basis of flow assessment (for answer to item d(1): [ ] USGS flow records, [X] personal observation, [ ] historical observation of adjacent landowners,
[ ] other, specify

(6) General observations of water body during normal dry weather conditions: **Creekbed completely dry for over three miles from outfall**

Date and time of observation: **July 22, 1999 12:00 PM**

Was water body influenced by storm water runoff during observations?

No

e. [ ] Freshwater Swamp or March: Name _____

f. [ ] Other, Specify _____

5. General Characteristics of Water Body:

a. Is the receiving water upstream of the discharge or proposed discharge site influenced by (check as appropriate):

[ ] oil field activities [ ] urban runoff

[ ] agricultural runoff [ ] septic tanks

[ ] upstream discharges [ ] others, specify:

None

b. Uses of water body (observed or evidences of) (Check as appropriate):

[ ] livestock watering [ ] contact recreation

[ ] non contact recreation [ ] fishing

[ ] domestic water supply [ ] industrial water supply

[ ] irrigation withdrawal [ ] navigation

[ ] picnic or park activities

[ ] others, specify:

None

c. Select one of the following to best describe the aesthetics of the receiving water and the surrounding area (check one):

[ ] Wilderness: outstanding natural beauty; usually wooded or unpastured area; water clarity exceptional

[x] Natural Area: trees and/or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

[ ] Common Setting: not offensive, developed but uncluttered; water may be colored or turbid

[ ] Offensive: stream does not enhance aesthetics; cluttered, highly developed; dumping areas; water discolored.

ATTACHMENT E

SECTION 2

SECTION 2 IS REQUIRED FOR INDUSTRIAL WASTEWATER PERMIT APPLICATIONS FOR NEW OUTFALLS AND FOR ALL EPA CLASSIFIED MAJOR FACILITIES

NOTE THAT SECTION 2 APPLIES ONLY TO PERENNIAL STREAMS AND INTERMITTENT STREAMS WITH PERSISTENT (PERENNIAL) POOLS AS IDENTIFIED IN SECTION 1, ITEM 4.d.(1). IF THE DISCHARGE IS DIRECTLY TO A CLASSIFIED SEGMENT AS DEFINED IN APPENDIX C OR TO A PARTIALLY CLASSIFIED WATER BODY AS DEFINED IN APPENDIX D OF THE TEXAS SURFACE WATER QUALITY STANDARDS (30 TAC 307.10), THEN IT IS NOT NECESSARY TO COMPLETE SECTION 2. IF THE INFORMATION REQUIRED IN THIS SECTION HAS BEEN PROVIDED IN A PREVIOUS APPLICATION, PLEASE RESUBMIT THE INFORMATION.

Outfall 001 - No perennial water prior to confluence with Leon Creek. Perennial pool at dam in Leon Creek about 2.5 miles from outfall. Outfall 002 - No perennial waters within 3 miles of outfall.

DETERMINATION OF PHYSICAL CHARACTERISTICS OF A WATER BODY

Use the " Stream Physical Characteristics Worksheet," SECTION B (PART I), to record the required data. Summarize and average the data from the worksheets and complete SECTION B (PART II), Physical Characteristics of Water Body. On an attached USGS Quadrangle map locate the existing or proposed discharge point(s) and locations of transect measurements.

Definitions of technical terms follow this discussion.

CONDUCT THE PHYSICAL ASSESSMENT DOWNSTREAM OF THE PROPOSED OR EXISTING OUTFALL. Use the attached " Stream Physical Characteristics Worksheet," SECTION B (PART I), to summarize measurements. The worksheet is divided into two portions. The upper portion is for general observations made over the entire reach, while the lower or boxed portions are for measurements and observations made at specific transect locations.

Transect measurements are usually made beginning at the point of outfall and continuing downstream. Once these are completed general observations are made over the reach while returning to the point of outfall.

Observe or measure stream widths at a minimum of four and a maximum of ten equally spaced locations over a 0.5 mile reach. The number of transects made depends upon width variability. At each point where width measurements are made, also measure the water depth at 4-10 points across the transect. Include transects within each habitat type (pool, riffle, run, glide) if they exist. If pools are present, include measurements across the deepest area.

Characterize each transect site as riffle, run, glide or pool.

After finishing the transect measurements, complete the general observation portion of the worksheet. Count the number of stream bends and determine their definition (well, moderate, poor.) Count the number of riffles and estimate the magnitude of flow fluctuations. Look for evidence of debris in bank trees or its position on stream banks (upper, middle, lower.) Another indication is how well stream flow covers the channel. If water has receded from banks exposing bottom substrates, fluctuations may be severe. The best source of evidence is historical USGS stream flow records, if available. Indicate observed channel obstructions (fences, log jams, culverts, low water bridges, etc.) and channel modifications (channelized, cleared, levied, concrete lines, rip-rapping, etc.).

At an appropriate location within the stream reach, measure stream flow. **IT IS VERY IMPORTANT TO IDENTIFY THE FLOW MEASUREMENT METHOD.**

DEFINITIONS

Glide - Portion of the water column that resembles flow that would be found in a shallow canal. Water surface gradient over a glide is nearly zero, so velocity is slow, but flow is shore to shore without eddy development.

Pool - An area of the water column that has slow velocity and is deeper than a riffle, run, or glide. The water surface gradient of pools is very close to zero and their channel profile is usually concave. Pools often have eddies with varying directions of flow.

Riffle - Portion of water column that is usually constricted where water velocity is fast due to a change in surface gradient. Stream depth is generally shallow and the channel profile is usually straight to convex. Surface flow through riffles usually ripples due to constriction, shallowness, and presence of irregular bottom substrates.

Run - Portion of the water column that has rapid nonturbulent shore to shore flow. A run is too deep to be a riffle and flow is too fast to be a pool. The channel profile under a run is usually a uniform flat plane.

Stream Bend - Curved part of a stream. A well defined bend has a deep outside area and shallow inside area accentuated by point bar development. Due to sharp bending, stream flow is forced to the outside and eddies develop on the inside of the bend. A moderately developed bend forces some flow to the outside and has only a slight change in depth across the channel. A poorly defined bend has no noticeable change in water depth across the channel, and stream flow is generally not forced to one side.

Stream Depth - The vertical height of the water column from the existing water surface level to the channel bottom.

Stream Width - The horizontal distance along the transect line from shore to shore along the existing water surface.

Transect Line - A straight line, perpendicular to stream flow, between two points on opposite stream banks.

ATTACHMENT E

SECTION 2 (Part I) - Stream Physical Characteristics Worksheet

Date: _____ Time: _____

Stream Name: _____

Location: _____

Type of stream upstream of existing discharges or downstream of proposed discharges:

(Check one) [ ] **perennial** [ ] **Intermittent with persistent pools**

THE FOLLOWING INFORMATION IS TO BE PROVIDED FOR THE STREAM DOWNSTREAM OF EXISTING OR PROPOSED DISHARGES

No. of stream beds: Well defined _____
Moderately defined _____
Poorly defined _____

No. of riffles: _____

Flow fluctuations (check one): [ ] minor [ ] moderate [ ] Severe

Evidence of flow fluctuations _____

Observed stream uses _____

Channel obstructions/modifications _____

Stream Type at Transect Location: riffle ☐, run ☐, glide ☐, pool ☐ (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle ☐, run ☐, glide ☐, pool ☐ (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle ☐, run ☐, glide ☐, pool ☐ (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle ☐, run ☐, glide ☐, pool ☐ (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle ☐, run ☐, glide ☐, pool ☐ (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle ☐, run ☐, glide ☐, pool ☐ (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle ☐, run ☐, glide ☐, pool ☐ (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points across Transect (channel bed to water surface)									

ATTACHMENT E

SECTION B (Part II) - Physical Characteristics of Water Body

	_____
Streambed slope of entire reach (from USGS map in ft./ft.)	_____
Approximate drainage area above the most downstream transect (from USGS map or county highway map in mi^2)	_____
Length of stream evaluated (in feet)	_____
Number of lateral transects made	_____
Average stream width (in feet)	_____
Average stream depth (in feet)	_____
Instantaneous stream flow (in ft^3/sec)	_____
Indicate flow measurement method **(VERY IMPORTANT - type of meter, floating chip timed over a fixed distance, etc.)**	_____
Flow fluctuations (minor, moderate, severe)	_____
Size of pools (large, small, moderate, none)	_____
Maximum pool depth (in feet)	_____
Total number of stream bends	_____
Number well defined	_____
Number moderately defined	_____
Number poorly defined	_____
Total number of riffles	_____

ATTACHMENT H

HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED IF EXPECTED TO BE PRESENT

Attachment H is a list of hazardous substances which are required to be identified by the applicant if expected to be present in any wastewater discharged or disposed of via this permit. Please check all substances listed below which are expected to be present in the effluent. If none of the substances listed below are expected to be present then please check the following statement to verify that all of the hazardous substances listed in Attachment H have been reviewed.

X All of the hazardous substances and toxic pollutants listed in Attachment H have been reviewed for possible presence in the effluent discharged/disposed of via the proposed permit.

Toxic Pollutant

_____ Asbestos

Hazardous Substances

_____ Acetaldehyde
_____ Allyl alcohol
_____ Allyl chloride
_____ Amyl acetate
_____ Anilin
_____ Benzonitrile
_____ Benzyl chloride
_____ Butyl acetate
_____ Butylamine
_____ Carbofuran
_____ Carbon disulfide
_____ Coumaphos
_____ Cresol
_____ Crotonaldehyde
_____ Cyclohexane
_____ Dicamba
_____ Dichlobenil
_____ Dichlone
_____ 2,2-dichloropropionic acid
_____ Dichlorvos
_____ Diethylamine
_____ Dimethylamine
_____ Dinitrobenzene
_____ Diquat
_____ Disulfoton
_____ Diuron
_____ Epichlorohydrin
_____ Ethion
_____ Ethylene diamine
_____ Formaldehyde
_____ Furfural
_____ Isoprene
_____ Isopropanolamine
_____ Kepone
_____ Mercaptodimethur
_____ Methyl mercaptan
_____ Methyl methacrylate
_____ Mevinphos
_____ Mexacarbate
_____ Monoethylamine
_____ Monomethlamine
_____ Naled
_____ Naphthenic acid
_____ Nitrotoluene
_____ Phenolsulfonate
_____ Phosgene
_____ Propargite
_____ Propylene oxide
_____ Pyrethrins
_____ Quinoline
_____ Resorcinol
_____ Strontium
_____ Strychnine
_____ Styrene
_____ 2,4,5-T
_____ (2,4,5 Trichlorophenoxyacetic acid)
_____ TDE (Tetrachlorodiphenylethane)
_____ Trichlorofan
_____ Triethylamine
_____ Trimethylamine
_____ Uranium
_____ Vanadium
_____ Vinyl acetate
_____ Xylene
_____ Xylenol
_____ Zirconium

ATTACHMENT I

POLLUTION PREVENTION

This attachment is intended to gather information on your facility's efforts for pollution prevention. Please answer all questions of this attachment and provide all the information required with your application.

1. Have you instituted or continued programs directed toward pollution prevention (P2), especially to incorporate water conservation, source reduction, waste minimization, and/or recycling?

   YES X NO _____

   If YES, provide a brief summary of the program(s) that incorporate water conservation, source reduction, waste minimization, recycling, and/or any other elements that are similar to the suggestions above. **PLEASE DO NOT SUBMIT DETAILED PLANS OR REPORTS WITH THIS APPLICATION.**

   CSSA is authorized to utilize treated groundwater for irrigation. This permit application requests authorization to reclaim additional treated wastewater for on-site reuse by irrigation.

2. Have you collected and compiled reliable data to record trends of actual reductions of pollutants in either pounds per day or percent reductions?

   YES _____ NO X

   If YES, provide a brief summary of the actual or percent reductions. **PLEASE DO NOT SUBMIT DETAILED PLANS OR REPORTS WITH THIS APPLICATION.**

3. The TNRCC encourages facilities to develop and implement new pollution prevention programs or modify existing pollution prevention programs for your facility. Following are some components that may be considered when developing a pollution prevention program. **PLEASE DO NOT SUBMIT ANY RESPONSE FOR THIS ITEM, THIS IS PROVIDED IN THE APPLICATION FOR INFORMATIONAL PURPOSES ONLY.**

   a. Develop a Pollution Prevention Mission Statement, incorporating economic growth and ensuring environmental protection of your watershed.

   b. Develop Your Industry's Policy Statements on Pollution Prevention.

      1. Promote Water Conservation, Source Reduction, Waste Minimization and Recycling.

      2. Apply policy statements to any and all departments and processes of your industry.

   c. Incorporate P2 plans and best management practices as part of industrial process and wastewater plant designs.

   d. Learn about Pollution Prevention Opportunities for Your Specific Industry.

      1. Research potential areas where P2 may be incorporated into your industry's processes and operations through a P2 self-assessment.

      2. Provide P2 information, contact persons and telephone numbers to your management and other similar industries.

      3. Use the internet as a resource.

   e. Serve as a Role Model.

      1. Coordinate recycling efforts with the city government and between industries.

      2. Arrange an industrial user mentor program.

      3. Provide meeting facilities for other industries in your watershed and other industry groups.

   f. Use the Media and Local Resources

      1. Request local universities provide technical expertise.

      2. Send public service announcements to newspapers, radio, and local television stations to communicate your industry's purpose in P2 activities, meeting times and locations.

      3. Ensure the success of your programs by involving your community, including other industry organizations and asking for feedback.

   g. Educate your Industry and Community

      1. Train staff (including management) and introduce P2 principles and activities during the process operations and wastewater treatment plant.

      2. Request that industry leaders influence and support P2 curriculum and terminology taught at all levels in community schools and universities.

   h. Establish Reliable Data

      1. Collect and compile reliable data to record trends of actual reductions of pollutants in either pounds per day or percent reductions.

      2. Develop, implement, and track the success of your organization's P2 plan as an example for other industries.

i. Evaluate Why Pollution Prevention is Important to Your Industry.

1. Knowing that water is a limited resource, establish rationale for your industry to save water.
2. Prepare for Total Maximum Daily Loads (TMDLs) that may be developed in your watershed - TMDLs define the limits to what a watershed can receive.
3. Assist other industries in your watershed to encourage them to reduce pollutant contributions.

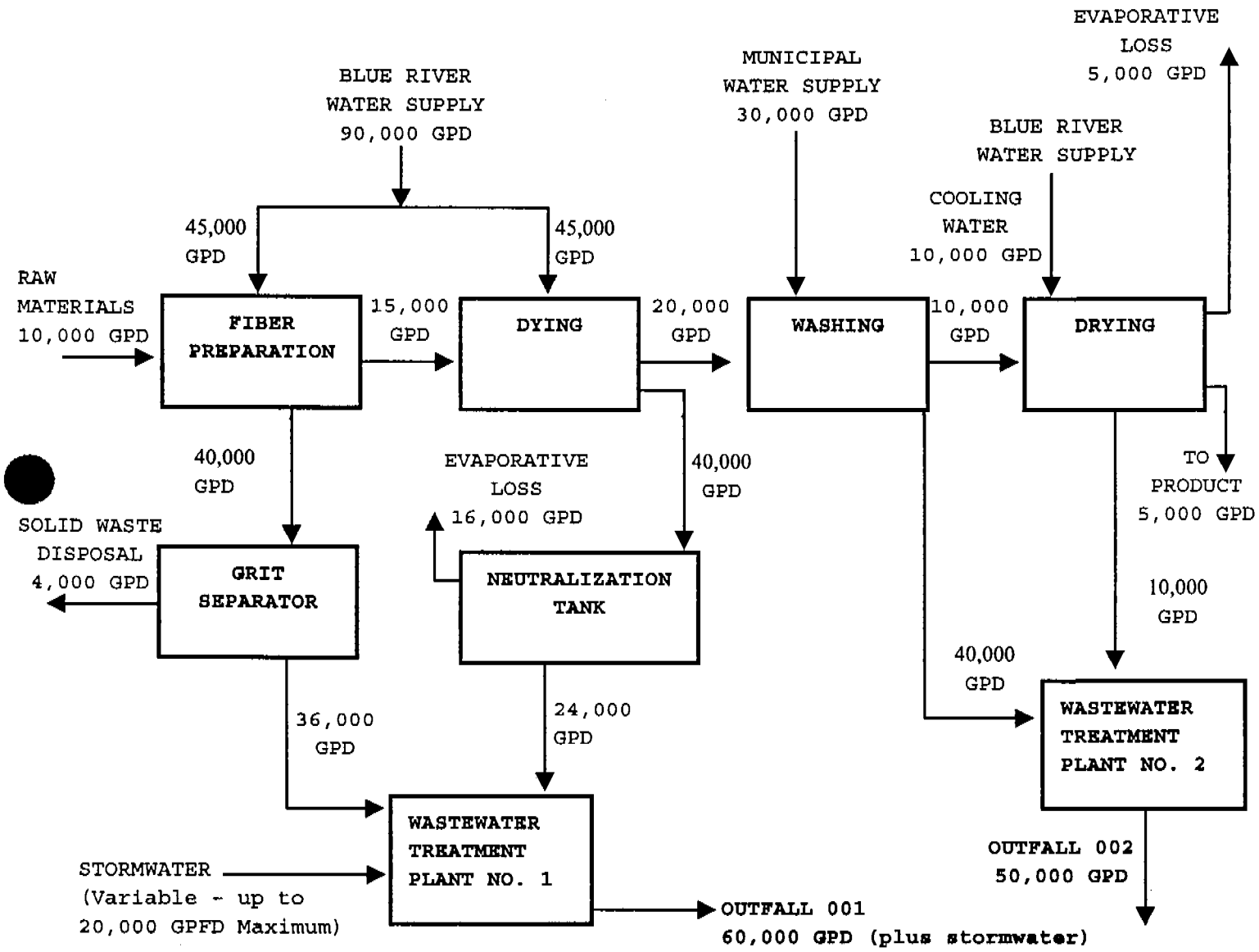
j. Optimize the efficiency and extending the useful life of the wastewater plant. The following items should be considered:

1. The influent loadings, flow and design capacity.
2. The effluent quality and wastewater plant performance.
3. The age and expected life of the wastewater plant's equipment.
4. Bypasses and overflows of the wastewater plant.
5. New developments at the facility.
6. Training plans and status.
7. The financial status of the facility.
8. Preventative maintenance programs and equipment condition.
9. An overall evaluation of conditions at the facility.

ATTACHMENT J

SCHEMATIC OF WASTEWATER FLOWS

EXAMPLE



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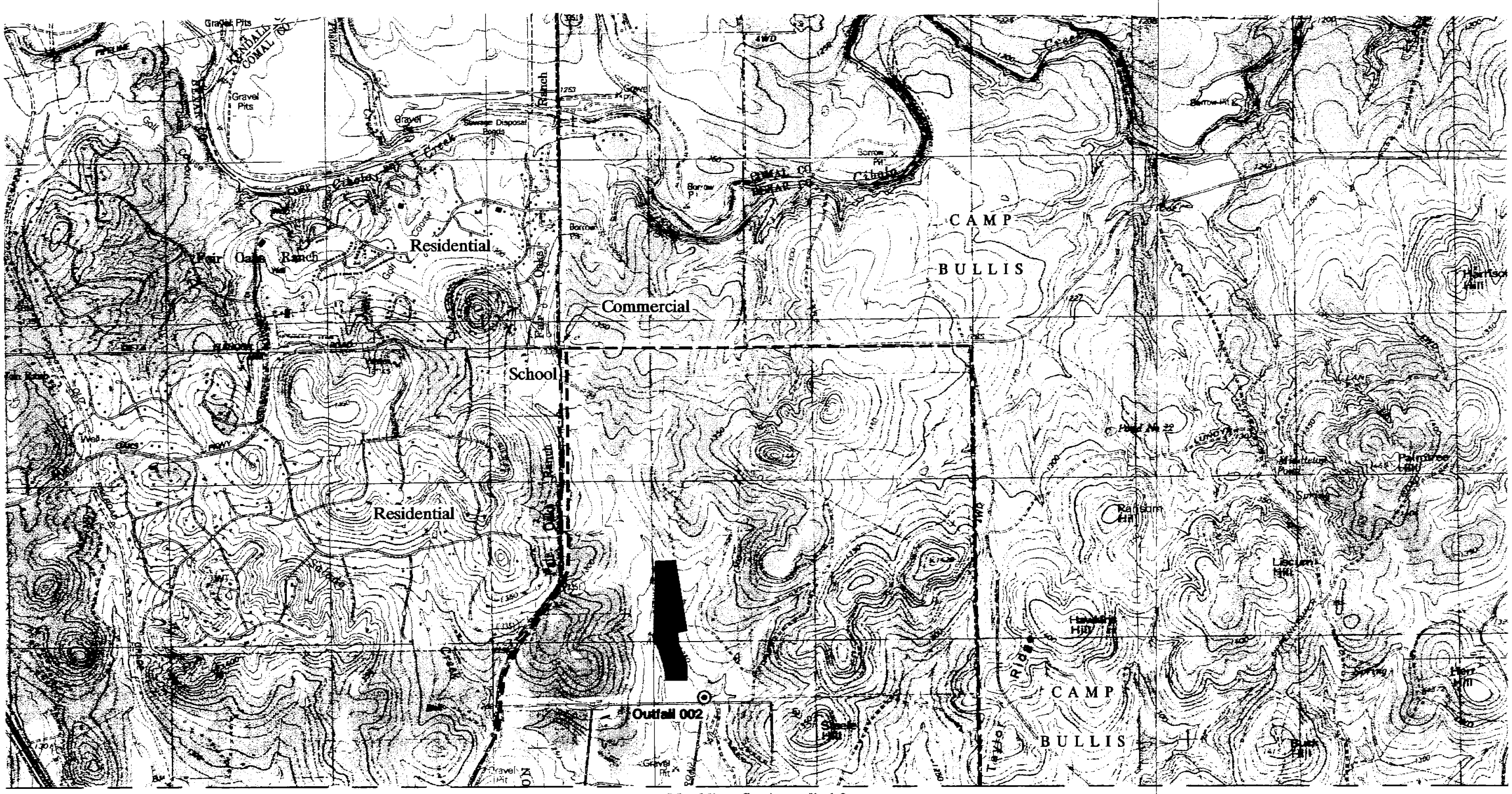
Appendix 2	Water Supply Wells - Administrative Report Item 8.a.(7).
Appendix 3	Landowners Map - Administrative Report Item 8.b.(1)
Appendix 4	Landowners List - Administrative Report Item 8.(2)
Appendix 5	Land Application Site Photographs - Administrative Report Item 8.d.
Appendix 6	Photographs of Buildings - Supplemental Permit Information Form Item 8.
Appendix 7	Building Inventory and Assessment Forms - Supplemental Permit Information Form Item 13.
Appendix 8	Flow Schematic - Technical Report Item 3.f.
Appendix 9	Facility Map - Technical Report Item 3.g.
Appendix 10	Land Disposal of Effluent - Attachment C.
Appendix 11	Water Wells - Attachment C Item 11.
Appendix 12	Soils - Attachment C Items 12 and 13.
Appendix 13	Geologic Maps - Attachment C Item 15.

Appendix 1

Site Map

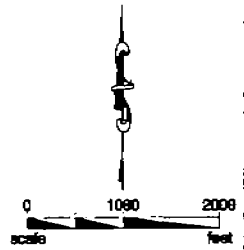
Administrative Report Item 8.a.



Source:
U.S. Geological Survey 7.5 Minute Quadrangle Map:
Camp Bullis, Tx. (rev. 1992)
Van Raub, Tx. (rev. 1991)

LEGEND

- Outfall Location
- CSSA Property Boundary
- Discharge Route
- Land Application Sites



Appendix 1-1

Site Map
Northern Portion

Camp Stanley Storage Activity

PARSONS ENGINEERING SCIENCE, INC.

736071-14000 CSSA-AREA-N.DWG

Matchline - See Appendix 1-1

LEGEND

- Outfall Location
- CSSA Property Boundary
- Discharge Route
- Land Application Sites

Source:
U.S. Geological Survey 7.5 Minute Quadrangle Map:
Camp Bullis, Tx. (rev. 1992)
Van Raub, Tx. (rev. 1991)

Appendix 1-2

Site Map
Southern Portion

Camp Stanley Storage Activity

PARSONS ENGINEERING SCIENCE, INC.

736071-14000 CSSA-AREA-S.DWG

Appendix 2

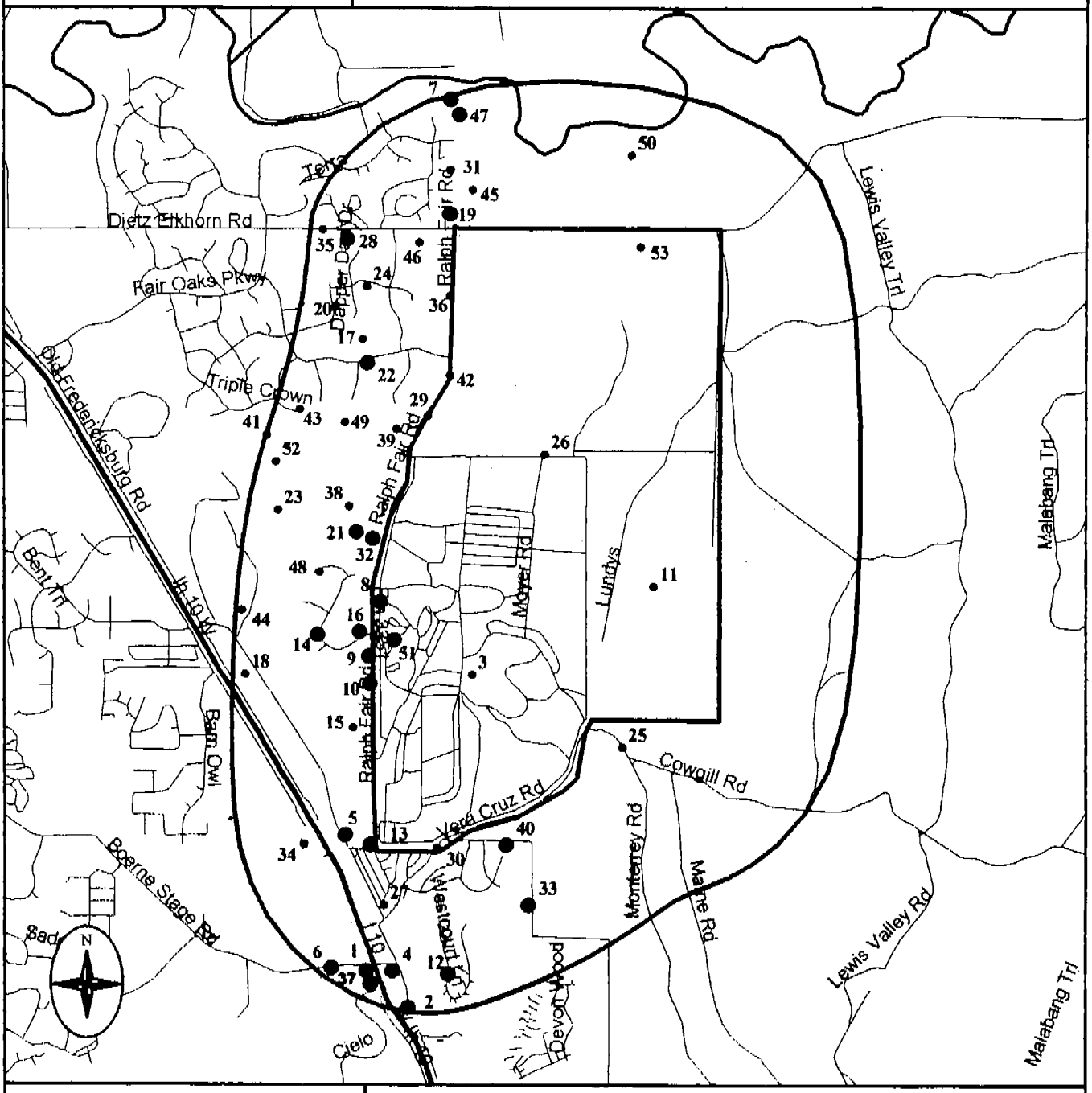
Water Supply Wells

Administrative Report Item 8.a.(7).

Banks Information Solutions, Inc.

Water Well Report™

Map of Wells within One Mile Buffer



- Subject Site
- Ground Water Wells (Cluster)
- Ground Water Well
- Airport
- Hospital
- Highway
- Primary road
- Secondary and connecting road
- Local road
- Access road
- Water body
- Park
- State

0 0.606241 Miles

Banks Information Solutions, Inc.
P.O. Box 12861, Capitol Station Austin, Texas 78711
1701 Nueces Austin, Texas 78701
512-478-0069 FAX 512-478-1433 E Mail: BANKS@BANKSINFO.COM

August 10, 1999

Appendix 3

Landowners Maps

Administrative Report Item 8.b.(1)

Appendix 4

Landowners List

Administrative Report Item 8.(2)

1 GUNNELS JAMES J & MARY D
25406 IMA RUTH PARKWAY
SAN ANTONIO TX
78257-1178

2 ROEDER DORIS M
25402 IMA RUTH PKY
SAN ANTONIO TX 78257-1178

3 RUTLEDGE WILLIAM W & SHARON
PO BOX 701051
SAN ANTONIO TX 78270-1051

4 LEONARD JAMES R & RUBY
12290 S US HWY 181 # 32
SAN ANTONIO TX 78223-9618

5 BIRD JEFFREY S & JEANNE L
25306 IMA RUTH PKY
SAN ANTONIO TX 78257-1177

6 GALLAGHER LANCE NELSON
25302 IMA RUTH PKY
SAN ANTONIO TX 78257-1177

7 LOEWEN BETSY M
25214 IMA RUTH PARKWAY
SAN ANTONIO TX 78257-1195

8 BULLERI JOHN L
25210 IMA RUTH PKY
SAN ANTONIO TX 78257-1195

9 HACKERSON LYLE D & FAYE L
25202 IMA RUTH PKY
SAN ANTONIO TX 78257-1195

10 CRETTET KITTY B
25126 IMA RUTH PKY
SAN ANTONIO TX 78257-1194

11	SHAW TOMMY LESTER 25122 IMA RUTH PKY SAN ANTONIO TX 78257-1194
12	TAYLOR KIM M & THELMA J SPROUL 25118 IMA RUTH PARKWAY SAN ANTONIO TX 78257-1194
13,14	LITTLE WINFIELD & VIRGINIA 31500 IH 10 W BOERNE TX 78006-9235
15	BRIGGS ROBERT V 25106 IMA RUTH PKY SAN ANTONIO TX 78257-1194
16	SAVAGE EMMA C 25102 IMA RUTH PKWY SAN ANTONIO TX 78257-1194
17	GRIFFIN RICHARD J 25018 IMA RUTH PKY SAN ANTONIO TX 78257-1193
18	GRIFFIN DANA JO & RICHARD J 25014 IMA RUTH PKY SAN ANTONIO TX 78257-1193
19	GARRETT HELEN G 23907 CIELO VISTA SAN ANTONIO TX 78255-9573
20	WRIGHT WILLIAM K & LOIS M 25006 IMA RUTH PKWY SAN ANTONIO TX 78257-1193
21	BERRY G W & ELVA 25002 IMA RUTH PKWY SAN ANTONIO TX 78257-1193
22	MOORE FRED E & FAYDELLE JR PO BOX 25 ODEM TX 78370

23	KAUFMAN MARGARET S 24906 IMA RUTH PKY SAN ANTONIO TX 78257-1176
24	NEWMAN HAROLD E & PATSY G RR 1 BOX 171 INGLESIDE TX 78362-9708
25	FRENCH R PAT & W B SMITH % ADA MAE FRENCH 588 TOWN HALL EST # A17 KEENE TX 76059
26,27	LEON SPRING VOL FIRE DEPT 24900 IMA RUTH PKY SAN ANTONIO TX 78257-1176
28	CHAPMAN MARTHA K 807 COBBLE DR SAN ANTONIO TX 78216-3733
29	HODGES DONALD E & KAYE E 25311 BREWER DR SAN ANTONIO TX 78257-1190
30	TALLEY CHARLES L 1361 EWALD RD NEW BRAUNFELS TX 78130-1903
31	FLORES SELEDONIO & JANIE 25231 BREWER DR SAN ANTONIO TX 78257-1137
32, 75	LEON SPRINGS VILLA HOMEOWNERS ASSOCIATION 25300 FAHRENTHOLD CIRCLE SAN ANTONIO TX 78257-1121
33	BOVEE PATRICIA LOU 25227 BREWER DR SAN ANTONIO TX 78257-1137

34 LINCOLN WILLIAM K
25223 BREWER DR
SAN ANTONIO TX 78257-1137

35 MORALES JESUS R & FLORENCIA BARRERA
25219 BREWER DR
SAN ANTONIO TX 78257-1137

36 GRUDLE ROBERT J
1437 PAMS PATH
NEW BRAUNFELS TX 78130-3126

37 HENDREX KAREN JOLEN
25211 BREWER DR
SAN ANTONIO TX 78257-1137

38 DORON YVONNE ETAL
25207 BREWER DR
SAN ANTONIO TX 78257-1137

39 RIPLEY RICHARD J & VIRGINIA
25203 BREWER DR
SAN ANTONIO TX 78257-1137

40 FLANAGAN SEAN P & RACHAEL M
25119 BREWER ST
SAN ANTONIO TX 78257-1137

41 SCHAEFER RICHARD E &ZEHEITU
25115 BREWER DR
SAN ANTONIO TX 78257-1135

42 PHIPPS ELIZABETH R
PO BOX 658
BLANCO TX 78606

43 RASKE ALBERT J & LOUISE W
25107 BREWER DR
SAN ANTONIO TX 78257-1135

44 KELLEY MARIE B
6811 MARIMBA PL
SAN ANTONIO TX 78227-2937

45	BOLDUC RENE R & ADELE F 25015 AUE RD SAN ANTONIO TX 78257-1189
46, 47	DE LA CRUZ PEDRO & KATY 25011 AUE RD SAN ANTONIO TX 78257-1189
48	MCCLAIN KIRT DAVID PO BOX 17123 SAN ANTONIO TX 78217-7123
49	BEXAR COUNTY INFRASTRUCTURE SERVICES DEPARTMENT 233 NORTH PECOS SUITE 420 SAN ANTONIO TX 78207
50	OAKLEY REX 24915 AUE RD SAN ANTONIO TX 78257-1132
51	HALEY CHARLES CLARK 22130 SCENIC LOOP RD SAN ANTONIO TX 78255-2174
52	WELLMAN CECIL K & VALERIE A 24903 AUE RD SAN ANTONIO TX 78257-1132
53	MASSENGALE WAYNE H 8802 SADDLE TRAIL SAN ANTONIO TX 78255-2066
54	BLOCKER GORDON C 7410 GREGORY CIRCLE SAN ANTONIO TX 78257-1122
55	LOVELACE JAMES & DIANA 7715 PORTAL DR HOUSTON TX 77071-1230

56 BURKS RODNEY F & LESLIE D
14611 MOUNTAIN WOOD
SAN ANTONIO TX 78232-4565

57 SALAZAR EMILIO C & CAROLINE I
24807 AUE RD
SAN ANTONIO TX 78257-1130

58 SECK CHARLES W
24803 AUE RD
SAN ANTONIO TX 78257-1130

59 MORRIS GARY LEE & NORMA LOU
24819 HOUSE MOUNTAIN
SAN ANTONIO TX 78255-2063

60 SPENGLER DANETTE RAY
25319 BREWER DR
SAN ANTONIO TX 78257-1190

61 NEWMAN BETTY LOUISE
25403 BREWER DR
SAN ANTONIO TX 78257-1139

62 PARSONS ALLEN K
25411 BREWER
SAN ANTONIO TX 78257-1148

63 BULVERDE UTILITY CO
P O BOX 680099
SAN ANTONIO TX 78268-99

64 KROLL STEPHEN M & CHARLA E
86 CHACE HILL RD
STERLING MA 1564 -1519

65 BLANTON JERRY P
25410 IMA RUTH PKY
SAN ANTONIO TX 78257-1178

66 BALCH O E & MARSHIA JEAN
25411 IMA RUTH PKWY
SAN ANTONIO TX 78257-1181

67 MARTINEZ ROBERT
7607 CHERYL DIANNE CIR
SAN ANTONIO TX 78257-1142

68 LITOFSKY IRVING & HELEN G GARRETT
23907 CIELO VISTA
SAN ANTONIO TX 78255-9573

69 LAIN CHARLES M & WANDA
7615 CHERYL DIANE
SAN ANTONIO TX 78257-1142

70 SANSONE MARION
7619 CHERYL DIANNE CIR
SAN ANTONIO TX 78257-1142

71 MUSIAL KIMBERLY M
7623 CHERYL DIANNE
SAN ANTONIO TX 78257-1142

72 LATHROP ERNESTINE M
31240 IH 10 W
BOERNE TX 78006-9237

73 GUTIERREZ RAFAEL & MARGARITA V
7631 CHERYL DIANNE
SAN ANTONIO TX 78257-1142

74 JOHNSON IVA
7507 KAREN SKYE CIR
SAN ANTONIO TX 78257-1124

76 GARCIA THOMAS S & HENRIETTA
7529 CURRES CIR
BOERNE TX 78015-6501

77 BARRERA HECTOR F & MARIA D
7579 CURRES CIR
BOERNE TX 78015-6501

78 TORRALVA PHILLIP JR
234 FREEMAN DR
SAN ANTONIO TX 78228-3921

79	KLABUNDE MILTON WAYNE 25490 OLD FREDERICKSBURG RD BOERNE TX 78015-6516
80, 93, 95	FAVOR RUTH M KLABUNDE ETAL 26044 OLD FREDERICKSBURG RD BOERNE TX 78015-6518
81	VANDELDEN JULIE A K 26109 RALPH FAIR RD BOERNE TX 78015-4857
82	HICKS CARLYNN B 26435 RALPH FAIR BOERNE TX 78015-4857
83	HERNANDEZ JOHNNY L. 14515 LARKSTONE DR SAN ANTONIO TX 78232-4729
84	DANTE WILLIAM R 26455 RALPH FAIR RD BOERNE TX 78015-4857
85	GORDON FRANCES E 115 SPYGLASS HILL ST PORT LAVACA TX 77979-4949
86	LIRA RICHARD 26743 RALPH FAIR RD BOERNE TX 78015-4859
87	MARSH THAD H 26753 RALPH FAIR RD BOERNE TX 78015-4859
88	YOUNG RICHARD D & VIRGINIA G 26818 FAWN MOUNTAIN BOERNE TX 78015-4870
89	WORTHEN FREDDIE J & FRANCES 943 SANDLEBURY CT PORT ORANGE FL 32127-7961

90	HAGENDORF MICHAEL W 27125 RALPH FAIR RD BOERNE TX 78015-4873
91	HAGENDORF CONSTRUCTION CO 27125 RALPH FAIR RD BOERNE TX 78015-4873
92	KLABUNDE M SHIRLEY MRS 27207 RALPH FAIR RD BOERNE TX 78015-4873
94	FRIAR FRED & BETTY 27397 RALPH FAIR RD BOERNE TX 78015-4873
96, 100	GOMBERT FAMILY PARTNERSHIP % MILDRED & ROY A GOMBERT 27805 RALPH FAIR RD BOERNE TX 78015-4873
98	GOMBERT ROY A JR 27645 RALPH FAIR RD BOERNE TX 78015-4873
99	GOMBERT ROY A & MILDRED B 27805 RALPH FAIR RD BOERNE TX 78015-4873
101	LIBERTY SAVINGS BANK FSB 2251 ROMBACH AVE WILMINGTON OH 45177
102	JOHNSON RICHARD E JR 28035 RALPH FAIR RD FAIR OAKS RANCH TX 78015-4841
103	ADAMS DEBRA & KAMI K HAACK 28117 RALPH FAIR RD BOERNE TX 78015-4843

104 SINCLAIR DIANE & LESLIE E
28127 RALPH FAIR RD
FAIR OAKS RANCH TX 78015-4843

105 MULLINS DAVID C & RHONDA M
28245 RALPH FAIR RD
BOERNE TX 78015-4860

106 NASH KIRK W & SUSAN C
29539 FAIRWAY BLUFF DR
BOERNE TX 78015-4469

107 WENDEL LEWIS S & BONNIE A
28339 RALPH FAIR RD
FAIR OAKS RANCH TX 78015-4846

108 KUEHN ROBERT WAYNE & DEBORAH S
28471 RALPH FAIR RD
BOERNE TX 78015-4848

109 HEFFERMAN PAUL A
28643 RALPH FAIR RD
BOERNE TX 78015-4850

110 PERKINS AL
2015 EVANS RD STE 200
SAN ANTONIO TX 78258-7428

111 DOMINGUEZ CARMEN T
PO BOX 2206
FORT CAMPBELL KY 42223-2206

112 RAPIER GEORGE M & III SUSAN W
7419 SECRETARIAT LN
FAIR OAKS RANCH TX 78015-4825

113 SMITH JIM R & LORETTA B
28843 RALPH FAIR RD
FAIR OAKS RANCH TX 78015-4854

114 BOERNE ISD
123 JOHNS ROAD
BOERNE TX 78006

115	ATKISON WESLEY & FAYE 29302 SUMPTER DR FAIR OAKS RANCH TX 78015-4307
116	RFR HOLDINGS 6125 E 82ND PL TULSA OK 74137 2104
117	CHATELLE MICHAEL G & MARY K 7087 DIETZ ELKHORN RD BOERNE TX 78015-4741
118, 119, 124	SRP DOMINION LTD % NEIL MEILI 707 WEST AVE # 210 AUSTIN TX 78701-2700
120	GEHRKE ROBERT L DBA BRASS N SUCH 3326 HAMPTON DR MISSOURI CITY TX 77459-3036
121	SYFERT GUY N & PAMELA 121 INDUSTRIAL DR BOERNE TX 78006-3306
122	DAUGHTRY HENRY A JR 25300 W IH 10 SAN ANTONIO TX 78257-9517
123	LEON CREEK VENTURE LC 320 E NAKOMA ST SAN ANTONIO TX 78216-2741
125	INTCO-DOMINION PARTNERSHIP 4801 WOODWAY DR # 151 E HOUSTON TX 77056-1805
126	OWENS DON W ET AL 29580 RALPH FAIR RD BOERNE TX 78015-4225

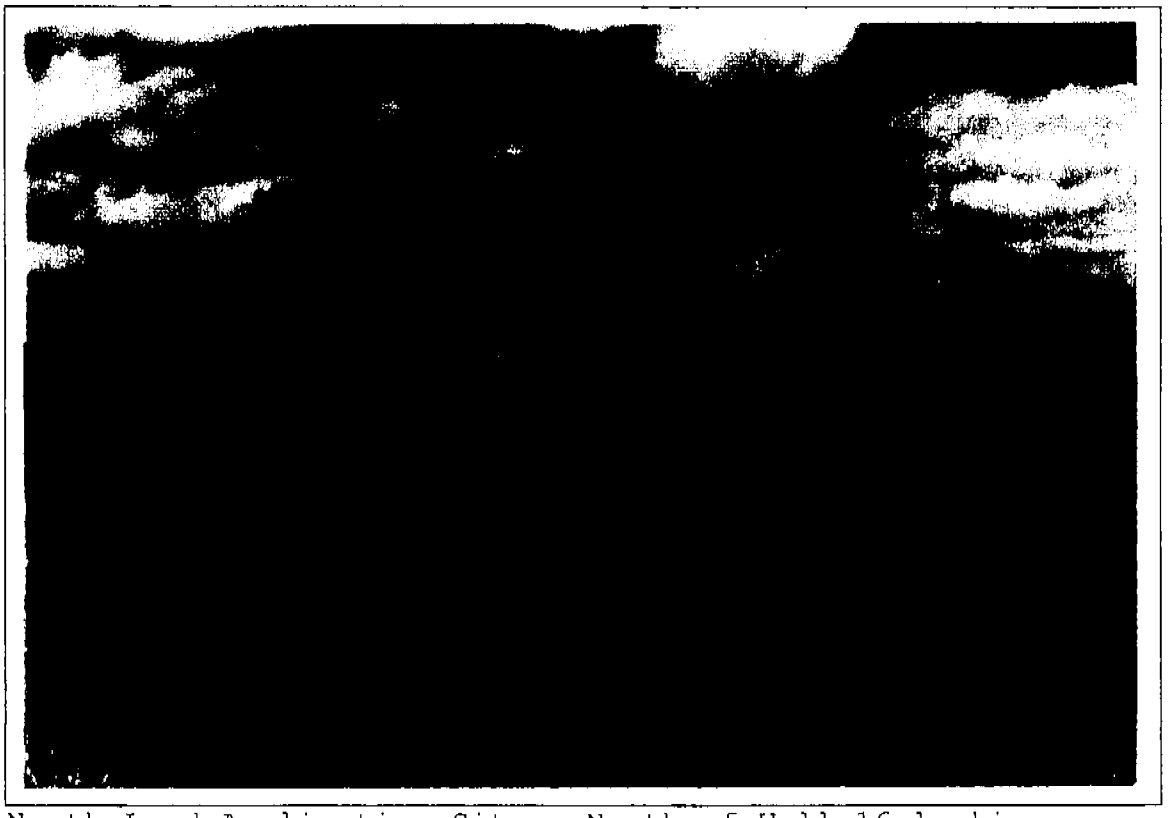
127 UNITED STATES DEPARTMENT OF THE ARMY
CAMP BULLIS TRAINING SITE
FORT SAM HOUSTON TX 78234-5000

Appendix 5

Land Application Site Photographs

Administrative Report Item 8.d.

North Land Application Site - North of Well 16 looking west.



North Land Application Site - North of Well 16 looking north.

South Land Application Site - Looking northeast

South Land Application Site - Looking southeast

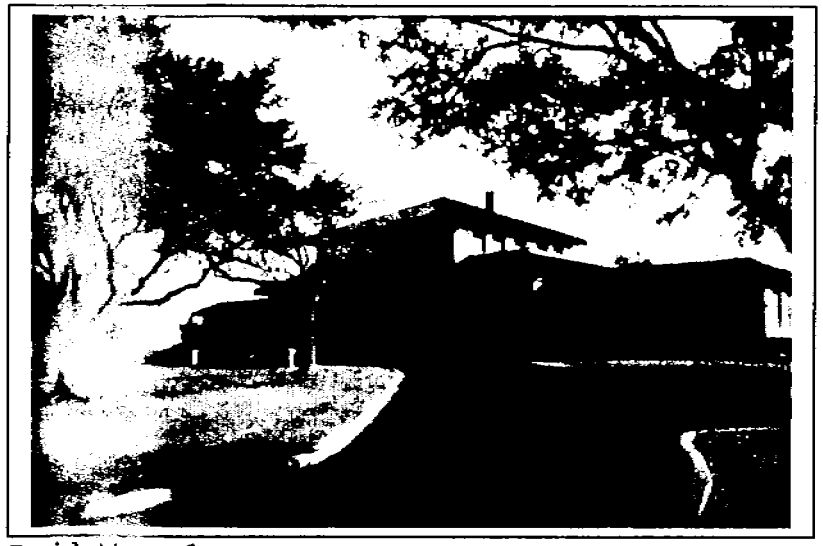
Outfall 001 discharge route looking upstream (north)

Outfall 001 discharge route looking downstream (south)

Appendix 6

Photographs of Buildings

Supplemental Permit Information Form Item 8.

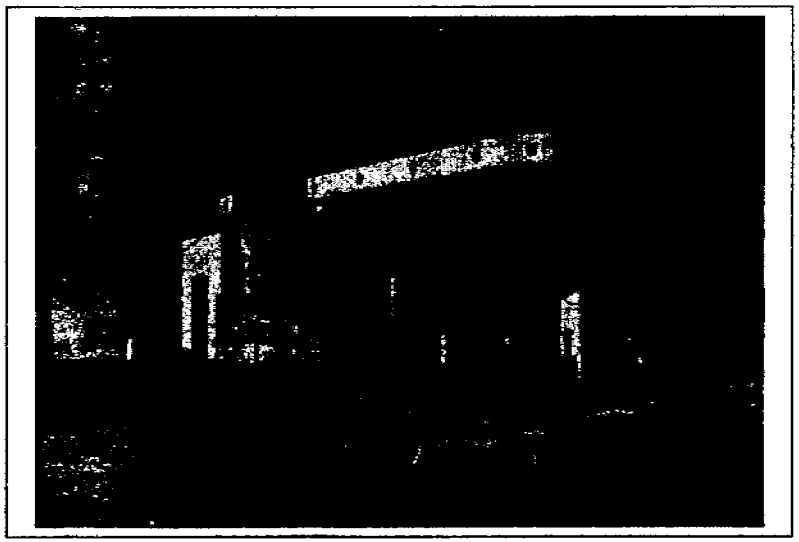


Building 1

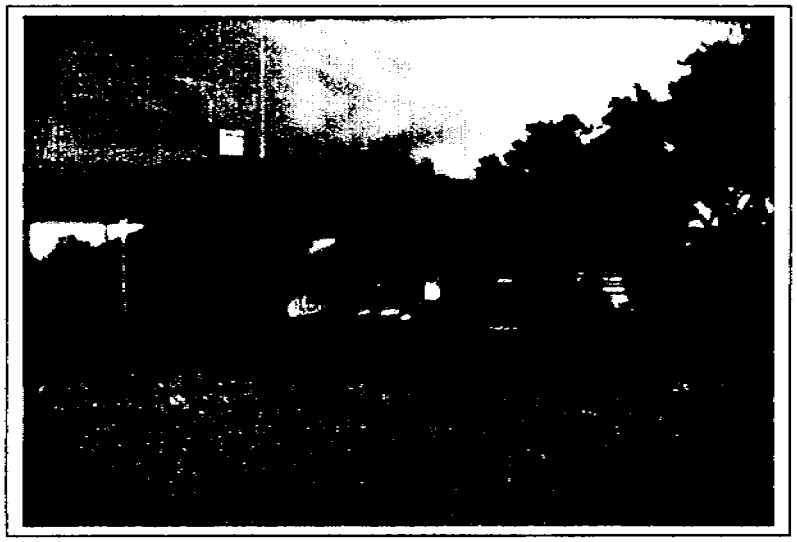
Building 2

Building 3

Building 4



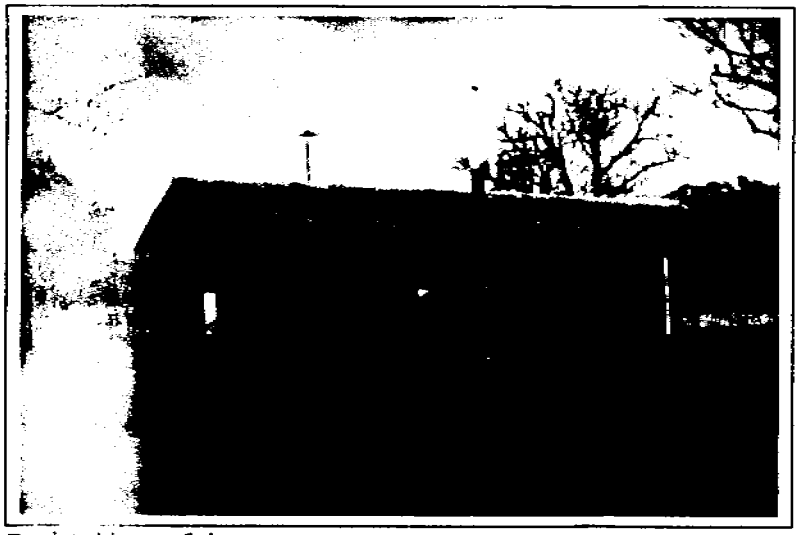
Building 5



Building 11

Building 12

Building 13

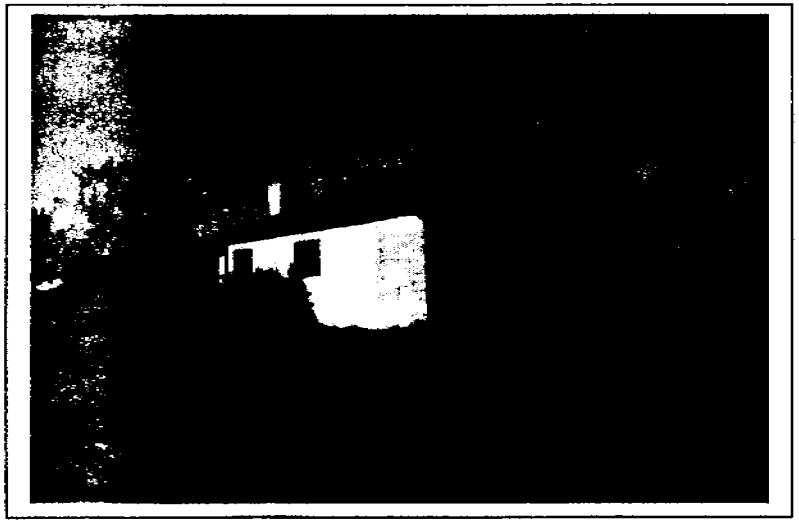


Building 14

Building 15

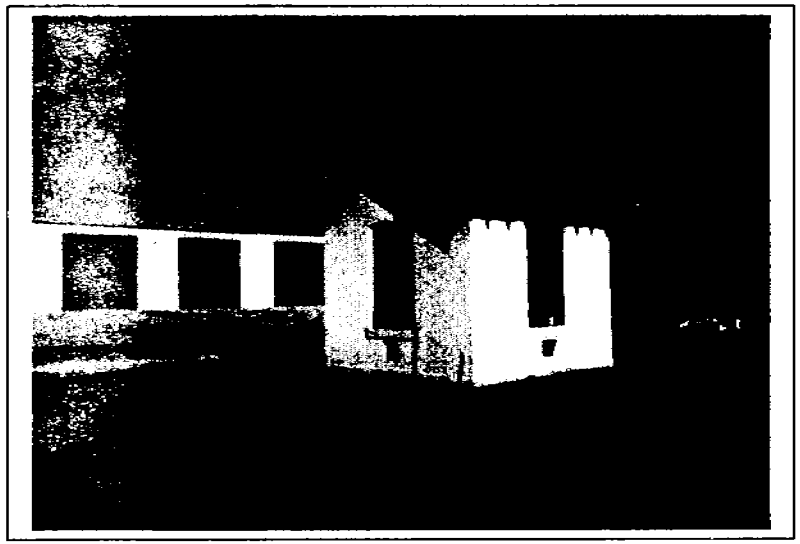
Building 18

Building 20

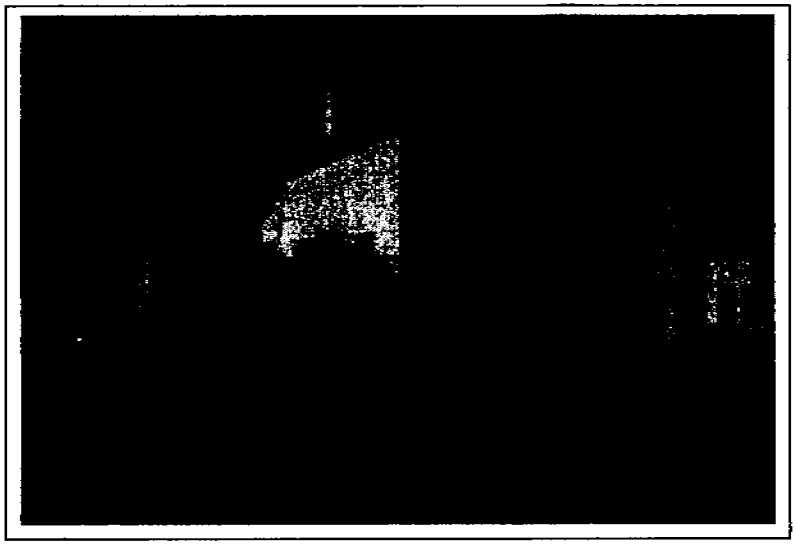


Building 23

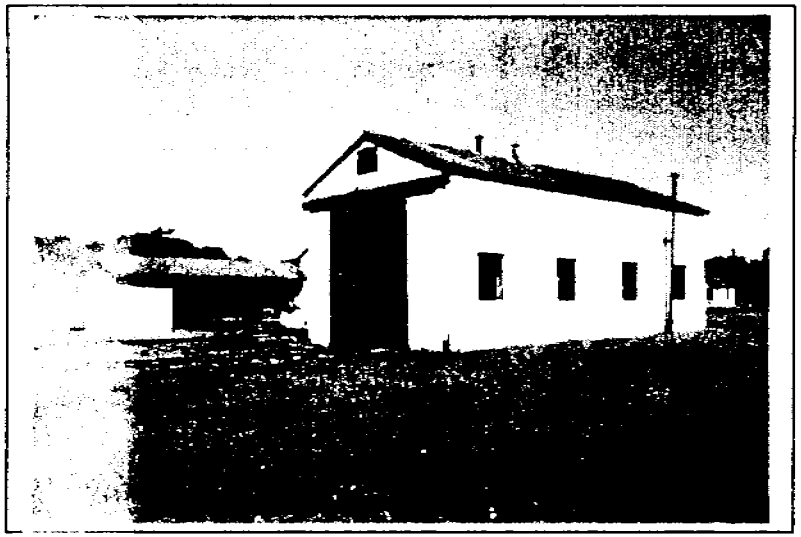
Building 24



Building 26



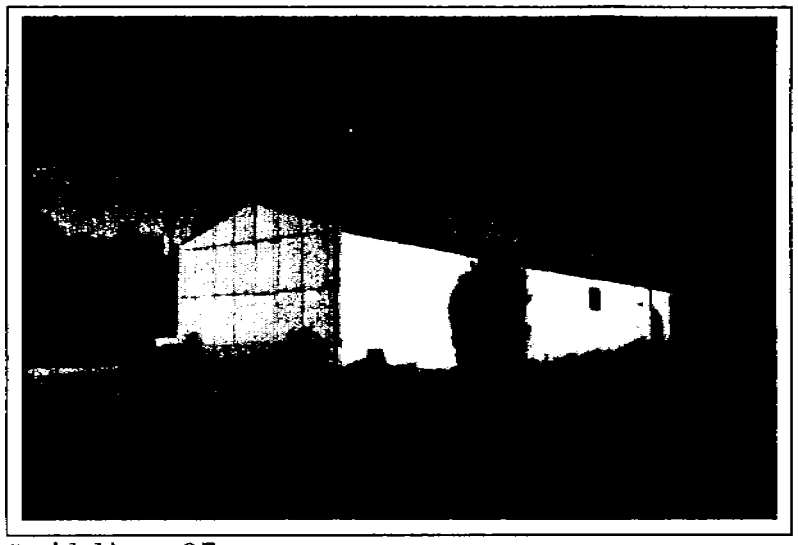
Building 27



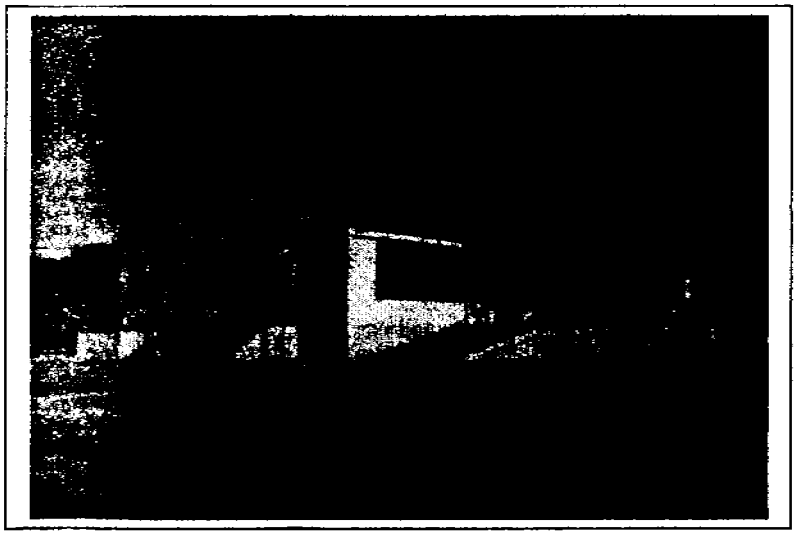
Building 28

Buildings 32 and 33

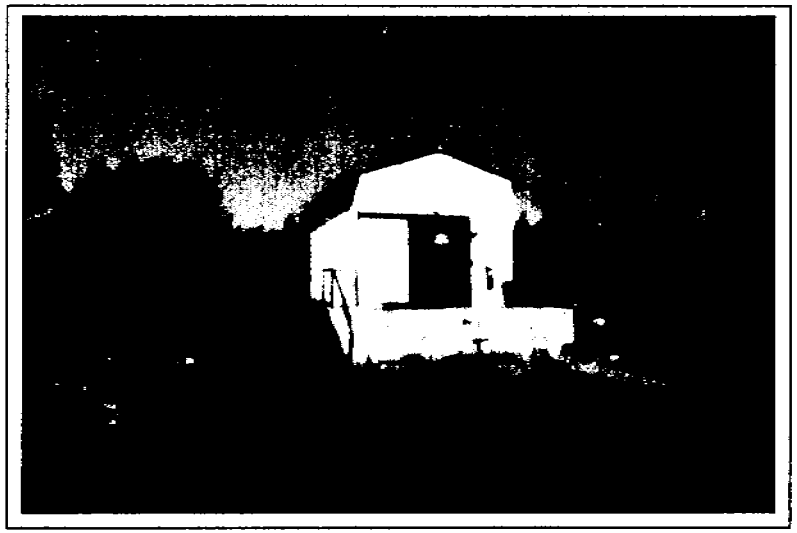
Building 36



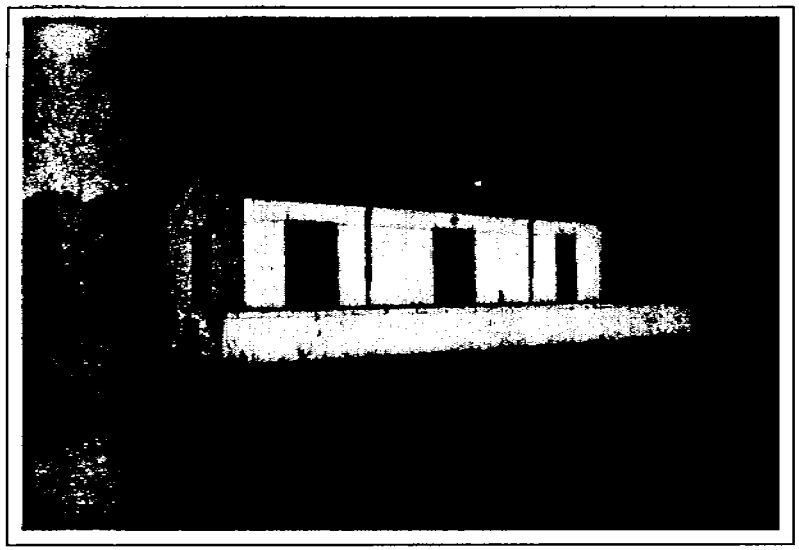
Building 37



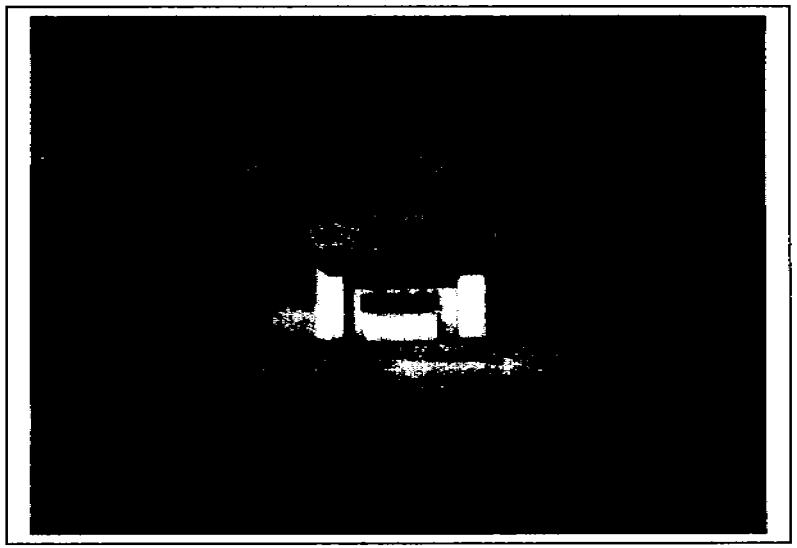
Building 38



Building 40



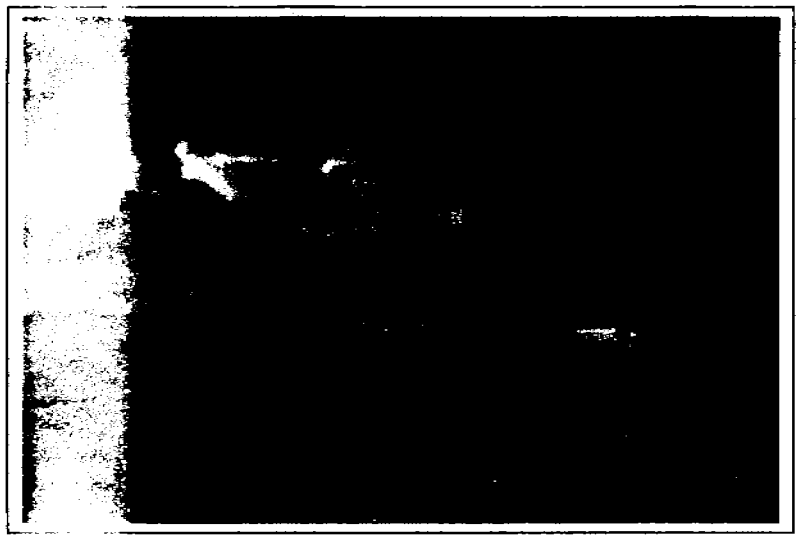
Building 41



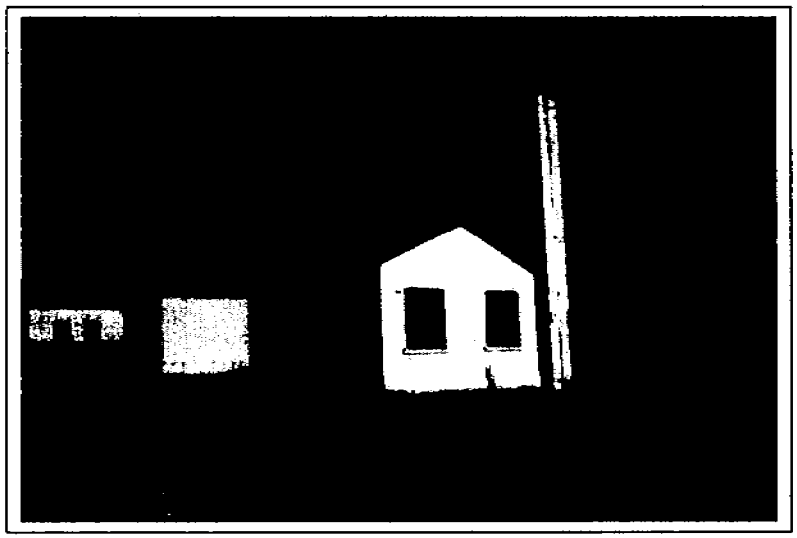
Building 42

Building 42

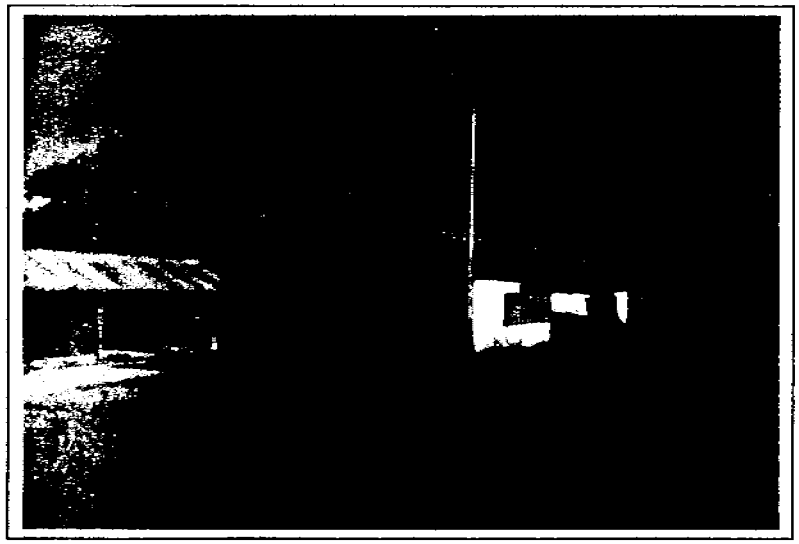
Building 45



Building 46



Building 47

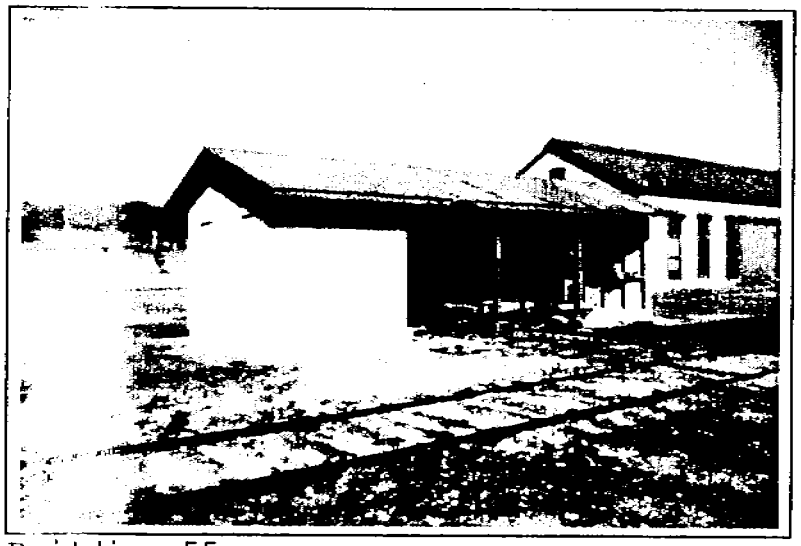


Building 50

Building 51

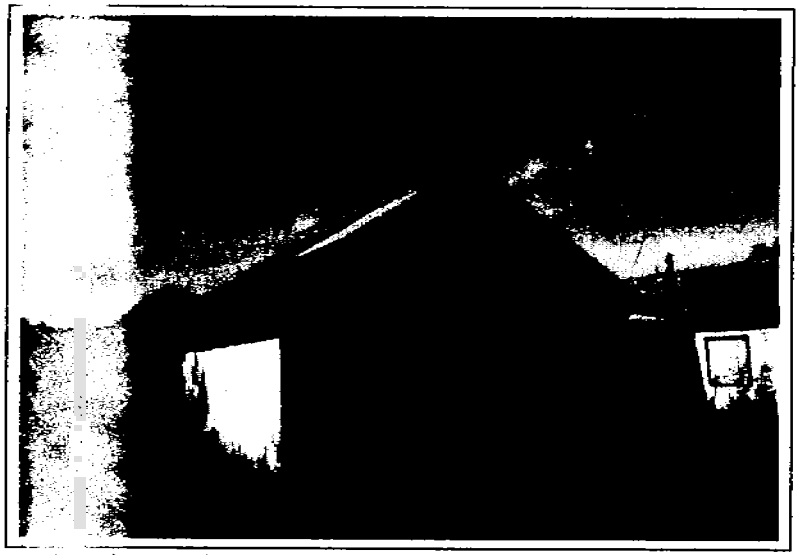
Building 52

Building 54

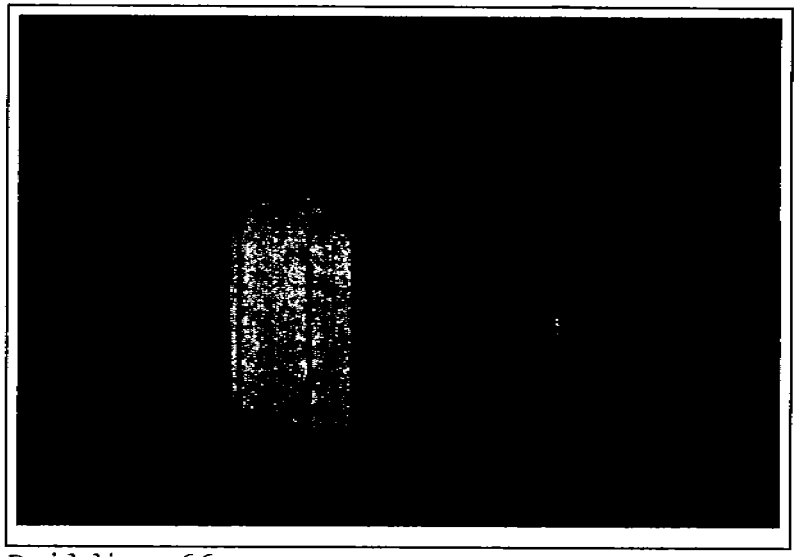


Building 55

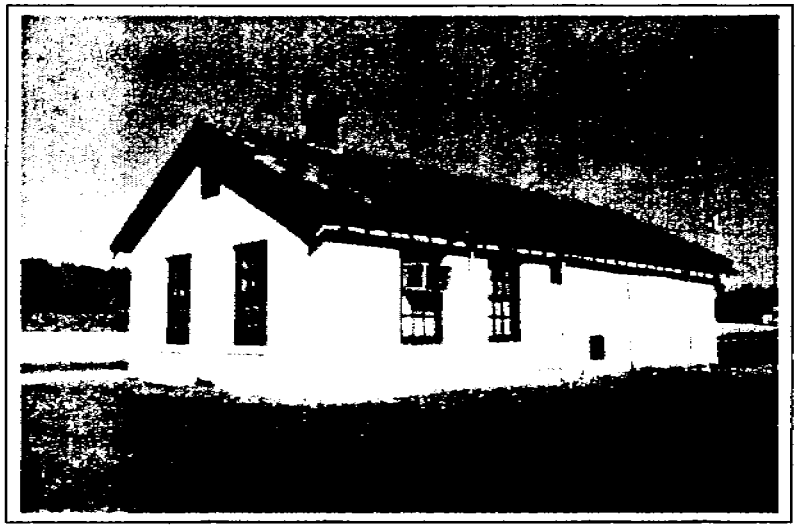
Building 64



Building 65

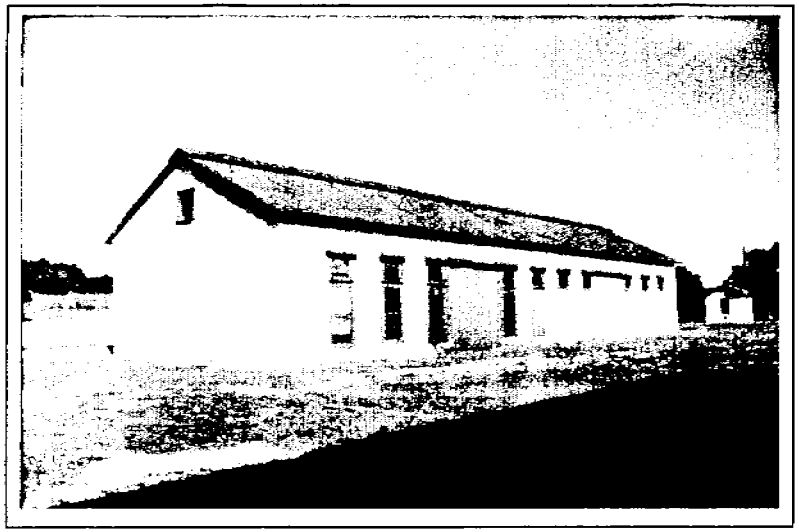


Building 66

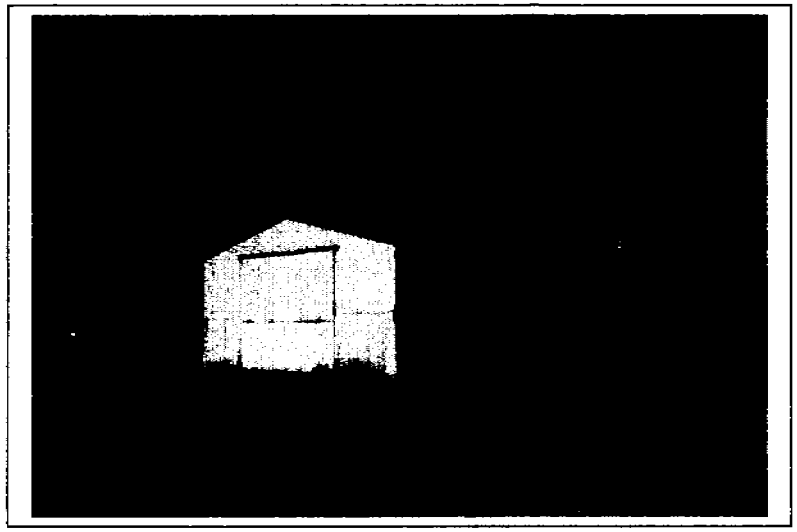


Building 73

Building 76

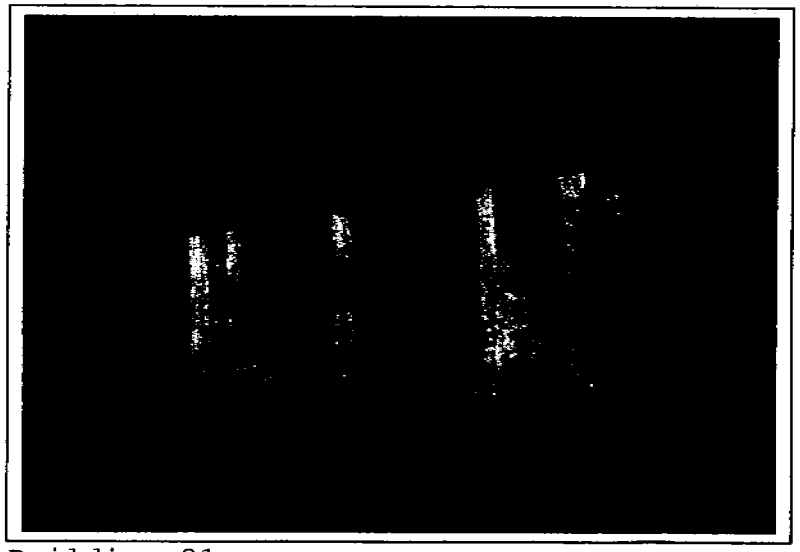


Building 77

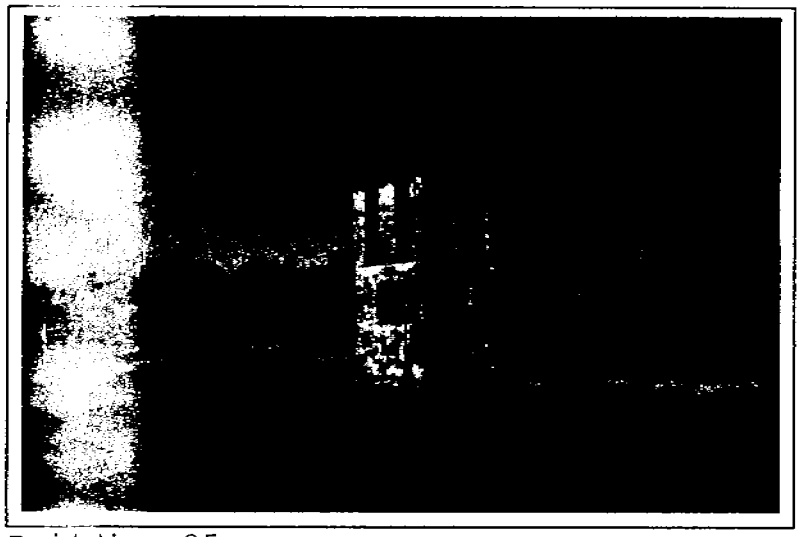


Building 78

Building 79



Building 81

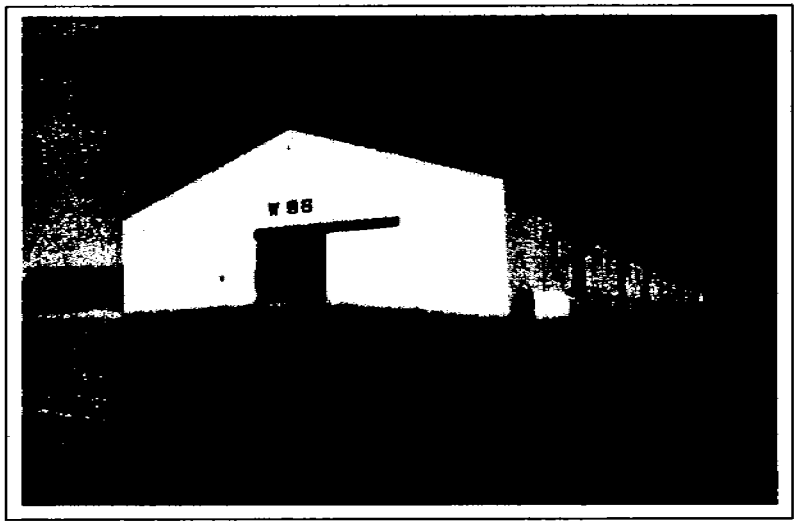


Building 85

Building 88

Building 89

Building 90



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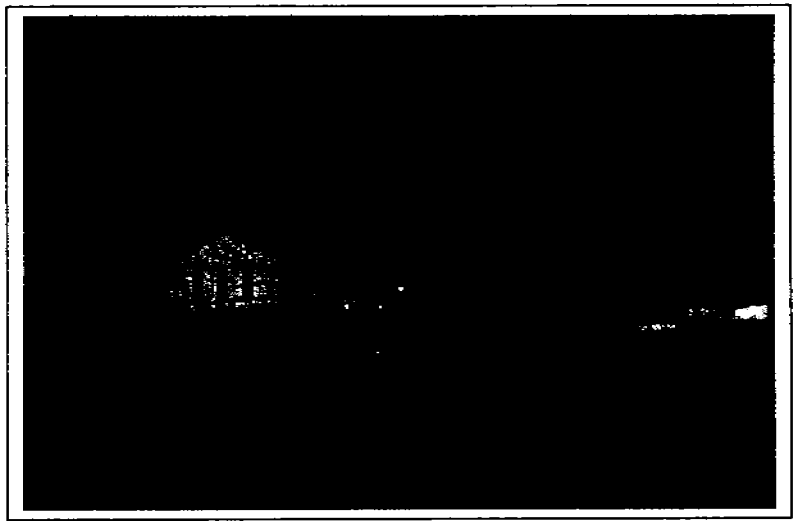
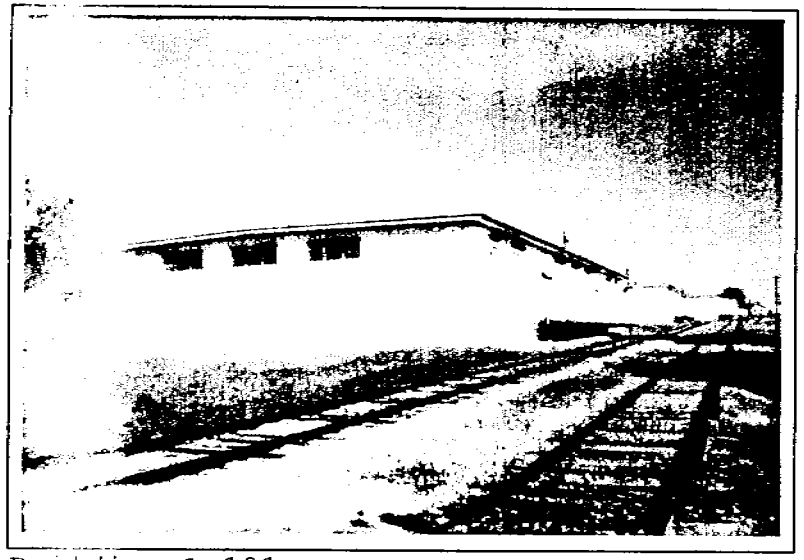


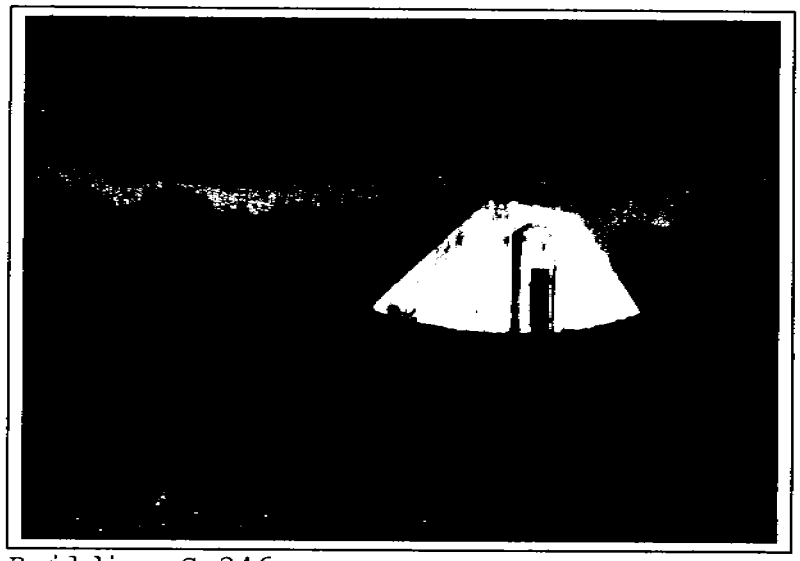
Building 98

Building 99

Building A-100



Building A-101



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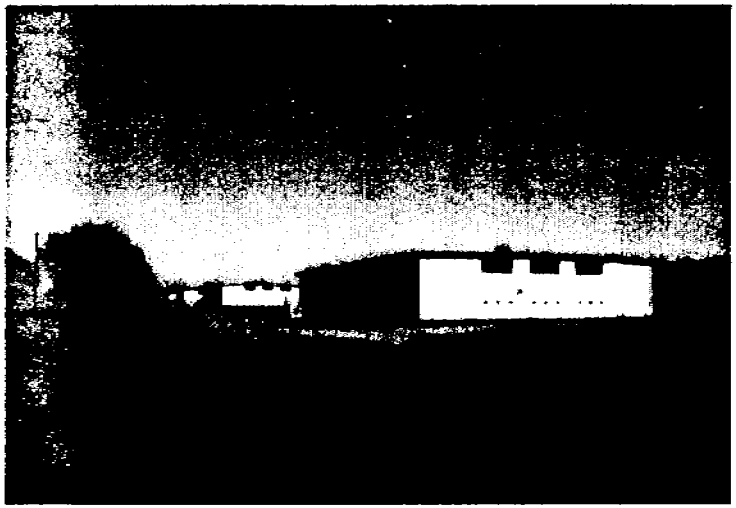

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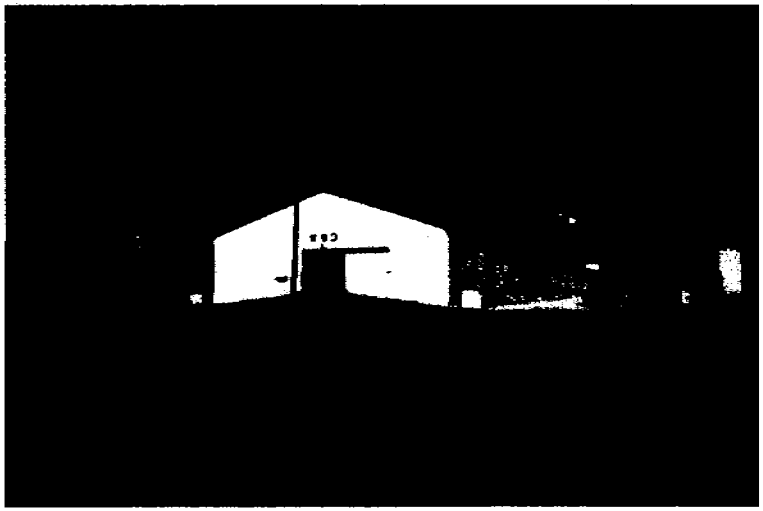


Building W-93

Appendix 7

Building Inventory and Assessment Forms

Supplemental Permit Information Form Item 13.

CAMP STANLEY STORAGE ACTIVITY

BUILDING INVENTORY AND ASSESSMENT FORMS

FINAL DRAFT

Prepared for:

U.S. Army Corps of Engineers, Fort Worth District
819 Taylor Street
Fort Worth, Texas 76102-0300

Prepared by:

Science Applications International Corporation
405 South 8th Street, Suite 201
Boise, Idaho 83707

28 February 97

Contract No. DACA63-95-D-0020
Delivery Order No. 0013

HISTORIC AMERICAN BUILDINGS SURVEY

CAMP STANLEY STORAGE ACTIVITY
25800 Ralph Fair Road
Boerne, Bexar County, Texas

July 1996

INDEX TO PHOTOGRAPHS

CAMP STANLEY STORAGE ACTIVITY
25800 Ralph Fair Road
Boerne, Bexar County, Texas

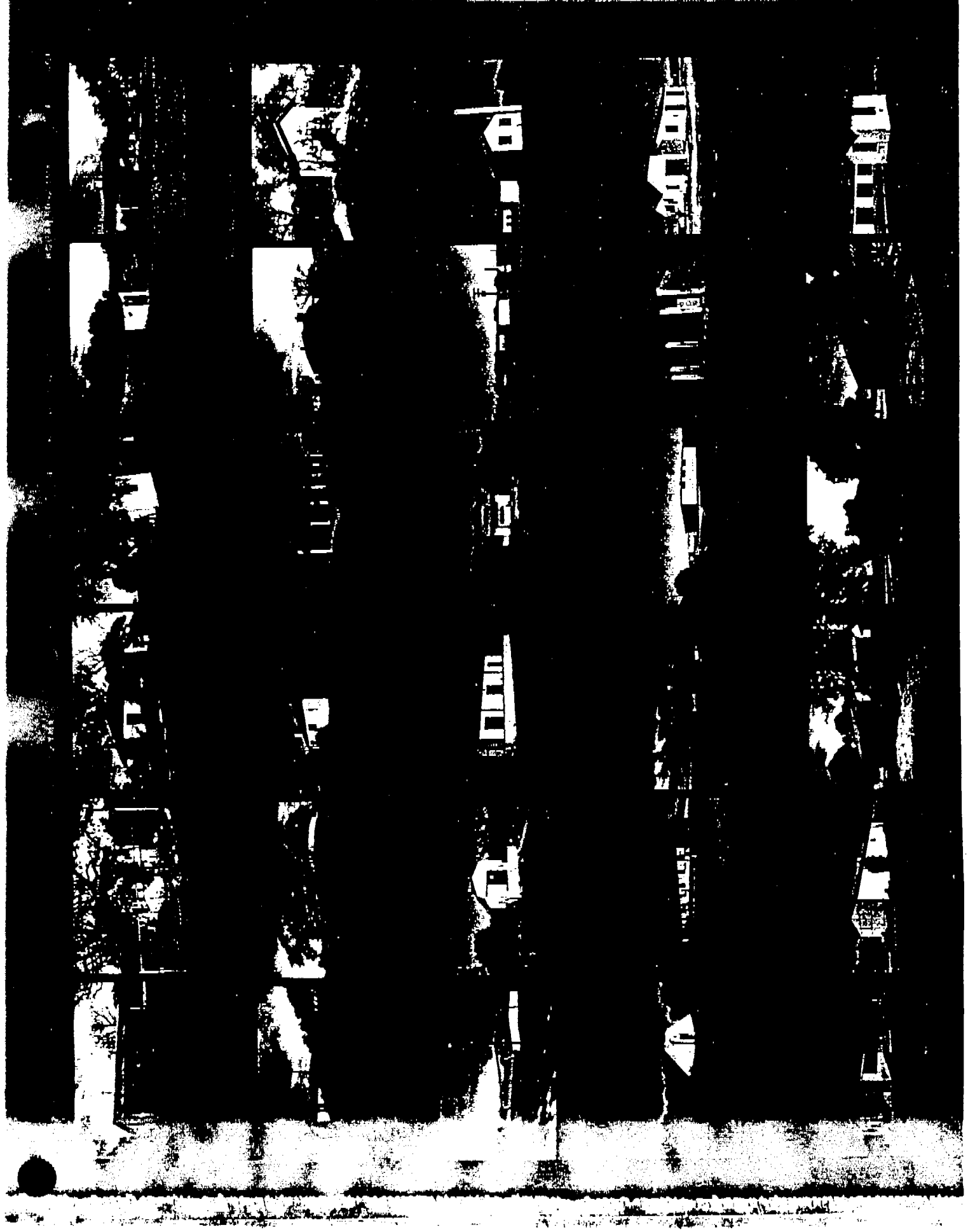
Roll 1

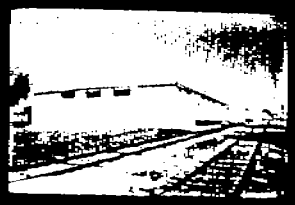
1. Building 14, facing north
2. Building 15, facing north
3. Building 13, facing north
4. Building 12, facing northwest
5. Building 20, facing northeast
6. Building 11, facing northeast
7. Building 11, facing northeast
8. Building 11, facing northeast
9. Building 23, facing northwest
10. Building 24, facing northeast
11. Building 23. facing southeast
12. Building 54, facing west
13. Building 76, facing northeast
14. Building 40, facing northwest
15. Building 41, facing northwest
16. Building 42, facing west
17. Buildings 44 and 47, facing northeast
18. Building 47, facing northeast
19. Building G-246, facing northeast
20. Building 45, facing northwest
21. Building 46, facing southwest
22. Building I287, facing northeast
23. Building 81, facing northwest
24. Buildings 32 and 33, facing northwest Built 1960 and 1972 - no data sheet
25. Building 38, facing northwest
26. Building 37, facing northwest
27. Building 36, facing northeast
28. Building 2, facing southeast
29. Building 2, facing northeast
30. Building 26, facing northwest
31. Building 77, facing northwest
32. Building 55, facing northwest
33. Building 28, facing northwest
34. Building 73, facing northwest
35. Building A-101, facing northwest
36. Building A-100, facing northwest
36A. Building 99, facing northwest

Photographer: Alexandra C. Cole, SAIC, Santa Barbara, CA, December 1995.

ROLL 1 # 24

BLD 32 BLD 33





34 35

KODAK 5052 TMX 36 KODAK 5052 TMX

36

INDEX TO PHOTOGRAPHS

CAMP STANLEY STORAGE ACTIVITY
25800 Ralph Fair Road
Boerne, Bexar County, Texas

Roll 2

1. Building 89, facing northwest
2. Building 85, facing northwest
3. Building 85, facing southwest
4. Building 96, facing northwest
5. Building W-93, facing northwest
6. Building 294, facing northeast
7. Building 90, facing northeast
8. Building 98, facing northwest
9. Building 66, facing northwest
10. Building 4, facing northwest
11. Building 27, facing northwest
12. Building 5, facing northwest
13. Building 78, facing northwest
14. Building 52, facing northwest
15. Building 64, facing northwest
16. Building 50, facing northeast
17. Building 65, facing northwest
18. Building ~~18~~, facing northwest Building 43
19. Building 79, facing northeast
20. Building 51, facing northeast
21. Building 51, facing southeast
22. Building 88, facing northeast
23. Building 4, facing northeast
24. Building 1, facing southeast
25. Building 1, facing southeast
26. Building 1, facing south
27. Building 3, facing southeast
28. Building 3, facing southeast
29. Building 1, facing northeast

Photographer: Alexandra C. Cole, SAIC, SantaBarbara, CA, December 1995.

HISTORIC AMERICAN BUILDINGS SURVEY

ADMINISTRATION BUILDING
Building #1

HABS No. xx-###

Location: McElvoy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #1 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, because of alterations it no longer retains integrity and is not considered eligible for the NRHP.

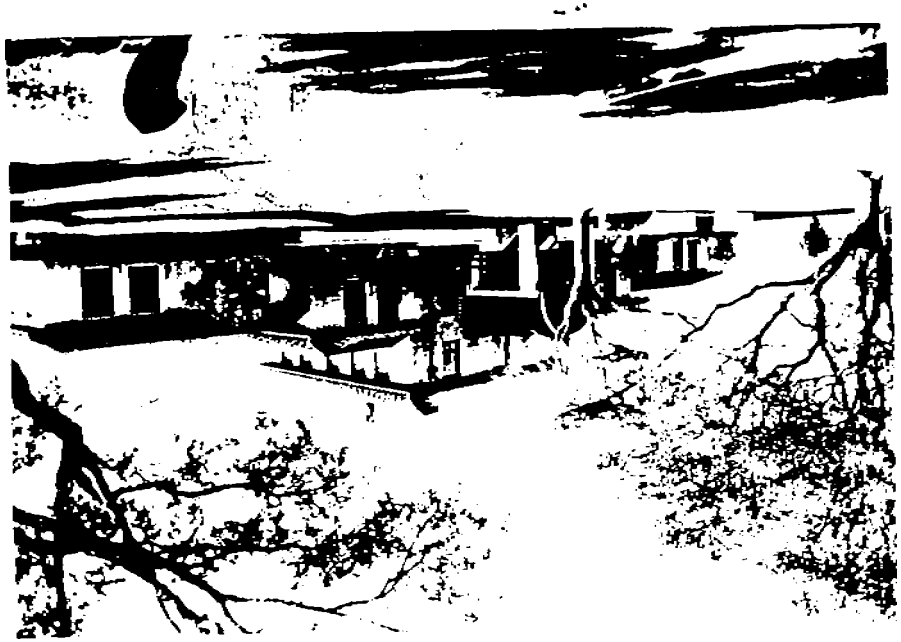
Description: This Spanish Mission style rectangular building, set on a knoll, has a raised concrete foundation. Measuring 40'x 74', the three-bay two-story main block, of hollow clay tile faced with dressed native limestone laid in a random pattern, is flanked by two 40' x 40' one-story wings that in turn are flanked by stucco one-story ells. The hipped roof is topped with red tiles. The wings and ells have flat roofs topped with red tile mansard projections. The front entry, reached via a circular drive, has a panelled oak double door reached by four brick steps. The major architectural feature is the overscale limestone rusticated door surround. An arched concrete canopy shelters the front doors.

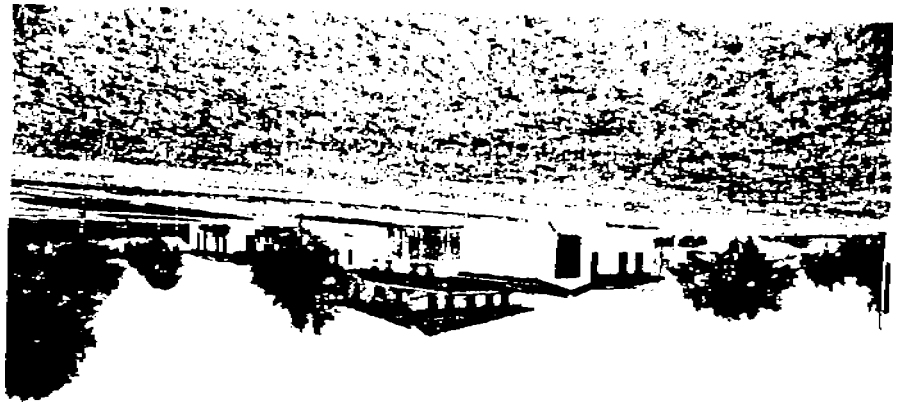
The building underwent a major remodelling in 1983, when the ells were added, all the windows were exchanged for single plate glass windows, and the entrance canopy was erected.

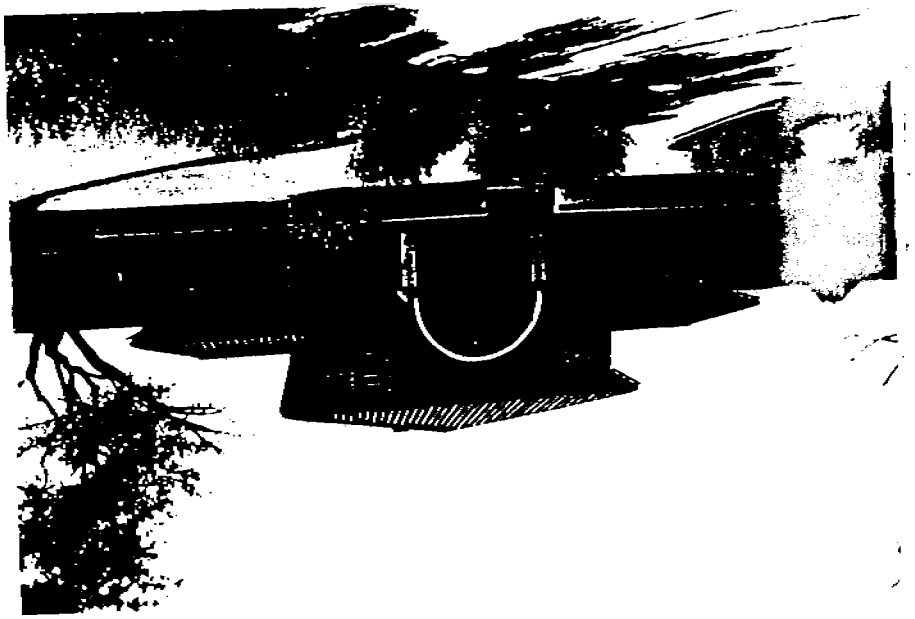
History: Designed in 1938 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, the building was constructed in 1939 and used as the administration building. It currently serves as the Camp Stanley Storage Activity (CSSA) Headquarters.

Sources: Real Property forms, March 27, 1944; Completion Report 1939; Architectural Plan #6278-209-8, 1938.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.







SURVEILLANCE LABORATORY
Building #2; Dispensary

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #2 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, because of alterations it no longer retains integrity and is not considered eligible for the NRHP.

Description: This three-bay by four-bay one-story rectangular Spanish Mission style building, measuring 26' x 42', is constructed of concrete block faced with dressed native limestone laid in a random pattern. It has a gabled red-tile roof. A gable-roof ell, measuring 10' x 12', extends from the north side and houses a boiler. The majority of the windows, located on all four sides, are metal sash casement with a top-opening transom window at the bottom. On the east side are a bank of multi-paned metal sash windows, with the bottom two-thirds of the panes painted out. Wood single and double doors with six-light upper sections provide access on the south and west sides. Special architectural details include carved rafters and the arched stone vent surrounds in the gable roofs. An engaged stone chimney to vent the boiler is attached to the north wall.

A large 4-bay metal prefabricated Butler garage is attached to the south side of the building by a red-tile-roofed passageway. Several windows have been boarded up for air conditioning units.

History: Designed in 1939 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, the building was constructed in 1939 using state WPA grant funds. The concrete blocks were cast on the premises. Designed as a surveillance laboratory, it had an office, workroom, oven room, and coil and boiler room. Here ammunition was technically examined and analyzed. In more recent years it served as the camp dispensary and later as the firehouse. Currently it is vacant.

Sources: Real Property forms, March 27, 1944; Completion Report 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

FLAGPOLE
Building #3

HABS No. xx-###

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #3 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". It qualifies as part of the original CSSA plan and retains integrity. Its significance however comes from contributing to the original layout rather than as an individual structure; because the layout is not considered eligible for the NRHP, neither is this structure.

Description: A 75-foot high steel flagpole set into an octagonal concrete canted base is located in front of the Administration Building (#1). The base is set upon an octagonal concrete platform with classical molding. A plaque with "1940" is set into the north side of the base.

History: Designed in 1939 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, the flagpole was built as a complement to the Administration Building, #1.

Sources: Real Property Form 5-49, October 1, 1947; Completion Report 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

HISTORIC AMERICAN BUILDINGS SURVEY

GARAGE
Building #4

HABS No. xx-###

Location: Central Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #4 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, because of alterations it no longer retains integrity and is not considered eligible for the NRHP.

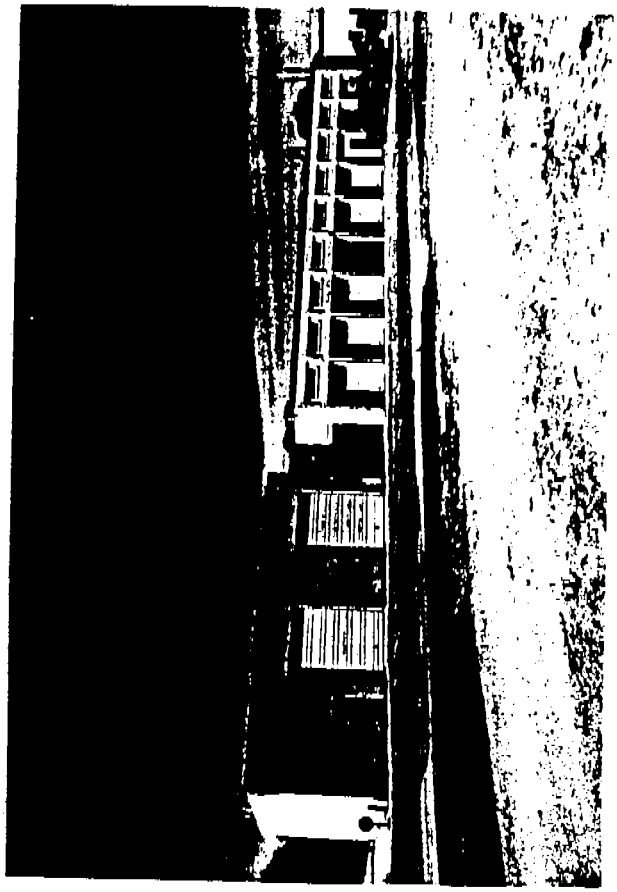
Description: This nine-bay Spanish Mission style rectangular building, measuring 26' x 136', is flanked by single bay recessed wings. It has a concrete foundation, and is constructed of concrete blocks faced with dressed native limestone laid in a random pattern, topped by a row of soldier bricks. The flat roof is constructed of concrete. There are multi-paned steel sash windows with cast stone sills on the north, east, and west sides. The work bays are enclosed with metal roll up doors. A modern tilt-up three bay storage unit is attached to the garage to the south.

Originally it had a red tile shed roof supported on decorative concrete lintels; this was enclosed with a new concrete flat roof in 1944. In 1984 Cochran & Associates of San Antonio filled in a number of windows and bays and added new overhead doors as well as adding the addition at the south.

History: Designed in 1938 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, this garage was completed in 1941. It was divided into three parts; one end was storage, the center housed rolling equipment, and the other end was a shop for repairing the rolling equipment. Currently it is used to repair equipment.

Sources: Real Property forms, March 27, 1944; Completion Report, 1941; Architectural Plan #6278-207-2, June 24, 1938.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



GAS AND OIL BUILDING HABS No. xx-###

Building #5, Motor Pool Dispatcher Station

Location: Central Road, Camp Stanley Storage Activity, Bexar County, Texas.

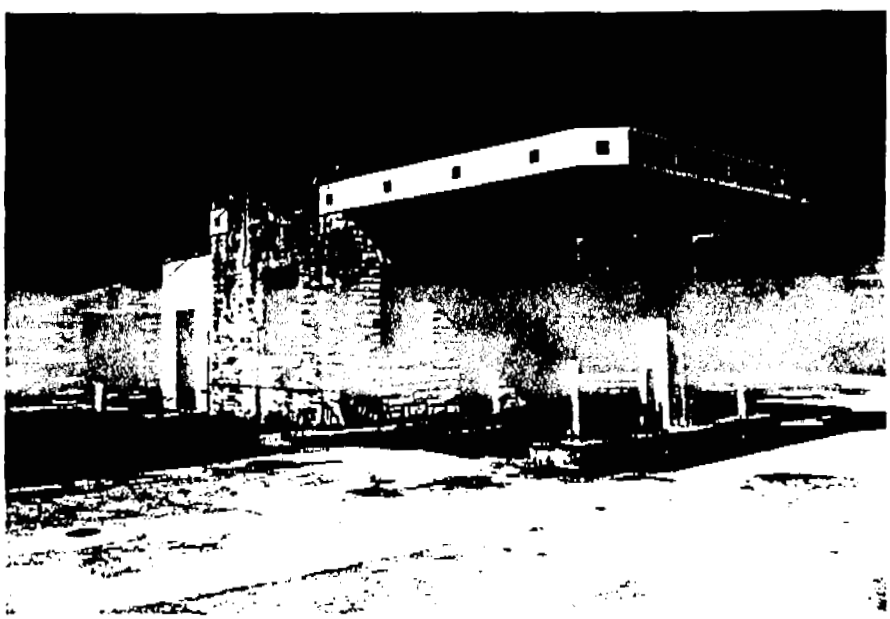
Significance: Building #5 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, because of alterations it no longer retains integrity and is not considered eligible for the NRHP.

Description: This one-story Spanish Mission style gas station, measuring 24' x 29', has a concrete foundation and is constructed of concrete blocks faced with dressed native limestone laid in a random pattern, and topped with a row of soldier bricks with a tile coping. A 17' x 20' concrete service canopy extends from the front of the building over a pump island. The concrete roof is flat. Decorative red tiles are inset into the upper portion of the canopy and the station. Nine-pane steel sash windows with cast stone sills light the north, south, and east sides. A two-panel door with six-light upper section provides access on the east side. A concrete block oil storage house with metal sash windows extends from the rear (west) side.

History: Designed in 1939 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, this gas station was completed in 1941. Originally there were two electrically operated gas pumps on the service island. This station was designed to furnish motor fuel for government vehicles. Currently it is used for a temporary office for Fort Sam Houston munitions personnel.

Sources: Real Property forms, March 27, 1944; Completion Report 1941; Architectural Plan #6278-211-2, January 3, 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



COMMANDING OFFICER'S QUARTERS - QUARTERS 11 HABS No. xx-###
Building #11

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #11 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Built in 1919, it falls outside the period of significance. Additionally because of extensive alterations it no longer retains integrity. It is not considered eligible for the NRHP.

Description: This irregular-shaped one-story house is built of adobe with a stucco finish, and has a red tile roof. The main block measures 52'5" x 61', and there are three wings measuring 13' x 11', 41' x 12', and 8' x 38'. A long porch on the south side has been enclosed with a bank of two-over-two light double-hung wood sash windows. A raised concrete patio, reached by three concrete steps, is enclosed by two wings on the east side. The wood double doors are recessed between two wings on the north side; the entrance patio formed by the wings is further enclosed by low stucco walls with piers. The red tile roof is complex, with both hipped and gable elements. Its wide overhanging eaves are supported on wood knee braces. The windows include two-over-two light double hung wood sash windows, and both single and paired aluminum sash windows set in deep reveals.

The compound is surrounded by low limestone walls, and the parking areas are also edged with limestone blocks. Set on a knoll, the house provides extensive views south across the Camp to the mountains beyond.

A major remodel in 1985 included the replacement of windows with double hung aluminum sash windows.

History: Built in 1919 as a club by the Fourth Infantry as part of military construction at Leon Springs Military Reserve, the house was rehabilitated in 1939 for use as a residence. Currently it serves as a civilian residence.

Sources: Real Property forms, March 27, 1944; Architectural plan#58-11-219, November 5, 1958.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

UTILITY BUILDING - QUARTERS 11 HABS No. xx-###
Building #T12

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #T12 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Built pre-1929, it falls outside the period of significance. Additionally because of alterations it no longer retains integrity. It is not considered eligible for the NRHP.

Description: This small 10' x 20' storage building is clad in 8" tongue-and-groove wood siding and has a shed roof covered with corrugated metal. The foundation consists of cedar posts. On the east and west side are six-over-six light double hung wood sash windows, and a single screened opening on the south side. A modern wood door provides access on the west side.

History: It is not known when this building was constructed. From archival evidence, it would appear to date between 1925 and 1944; it does not appear on a 1925 map of Camp Stanley, but does appear in the March 1944 property inventory. Because it used a cedar post foundation, it would appear to be earlier that the type of construction introduced in the 1938-39 period that used concrete. Originally a utility building for the Commanding Officer's compound, it is currently used for storage.

Sources: Real Property Forms March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

COMMANDING OFFICER'S GARAGE - QUARTERS 11 HABS No. xx-###
Building #13

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #13 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Built pre-1929, it falls outside the period of significance. Additionally because of alterations it no longer retains integrity. It is not considered eligible for the NRHP.

Description: This rectangular garage, measuring 19'3" x 38'9 ', is constructed of wood tongue-and-groove siding covered with stucco, and is topped by a hipped roof of red tile. The west end, with two five-panel doors and three double-hung aluminum sash windows, houses a storage room. The east end, with a concrete floor has one large open bay. A shed-roof greenhouse has been added on the east side.

History: It is not known when this building was constructed. From archival evidence, it would appear to date between 1925 and 1944; it does not appear on a 1925 map of Camp Stanley, but does appear in the March 1944 property inventory. Judging from its use of wood siding and its architectural style, it would appear that the garage was built in the 1920s and rehabilitated during the 1938-41 period when the rest of the camp was constructed. The greenhouse ell is a recent addition.

Sources: Real Property Forms March 27, 1944.

Historian Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

SERVANT'S HOUSE - QUARTERS 11 HABS No. xx-###
Building #T14

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #T14 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Built pre-1929, it falls outside the period of significance. It is not considered eligible for the NRHP.

Description: This rectangular building, measuring 16' x 41', contains living quarters at the west end and a two-bay garage at the east end. It sits on a cedar post foundation with a 1"x 12" wood skirt. The walls are clad in rounded wood clapboards. The wood shed roof, with 1" x 12" sheathing, is covered with corrugated metal; a small shed roof overhang extends across the south side. The main facade, on the south side, contains two five-panel entrance doors up three wooden steps each, two six-over-six light double-hung wood sash windows, and an open two-bay garage. There are casement windows on the west side.

History: It is not known when this building was constructed. From archival evidence, it would appear to date between 1925 and 1944; it does not appear on a 1925 map of Camp Stanley, but does appear in the March 1944 property inventory. Because it used cedar post foundation, and narrow rounded wood siding, the building appears to date to the 1920s, rather than the 1938-41 period of construction. It originally housed servants working at the Commanding Officer's compound, and is currently used for storage.

Sources: Real Property forms, March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

ROOT CELLAR - QUARTERS 11 HABS No. xx-###
Building #T15

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #T15 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Built pre-1929, it falls outside the period of significance. It is not considered eligible for the NRHP.

Description: This small rectangular building, measuring 9' x 18', is constructed of concrete block with a concrete floor and concrete slab roof topped with large wooden timbers, supporting a corrugated metal roof holding sod. The concrete block walls are covered with 1" x 12" wood planks with battens, painted yellow. The metal-clad door has iron hardware. It is dilapidated.

History: It is not known when this building was constructed. From archival evidence, it would appear to date between 1925 and 1944; it does not appear on a 1925 map of Camp Stanley, but does appear in the March 1944 property inventory. Presently vacant, it served as a root cellar for the Commanding Officer's compound.

Sources: Real Property Forms March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

PUMP HOUSE - QUARTERS 11
Building #20

HABS No. xx-###

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

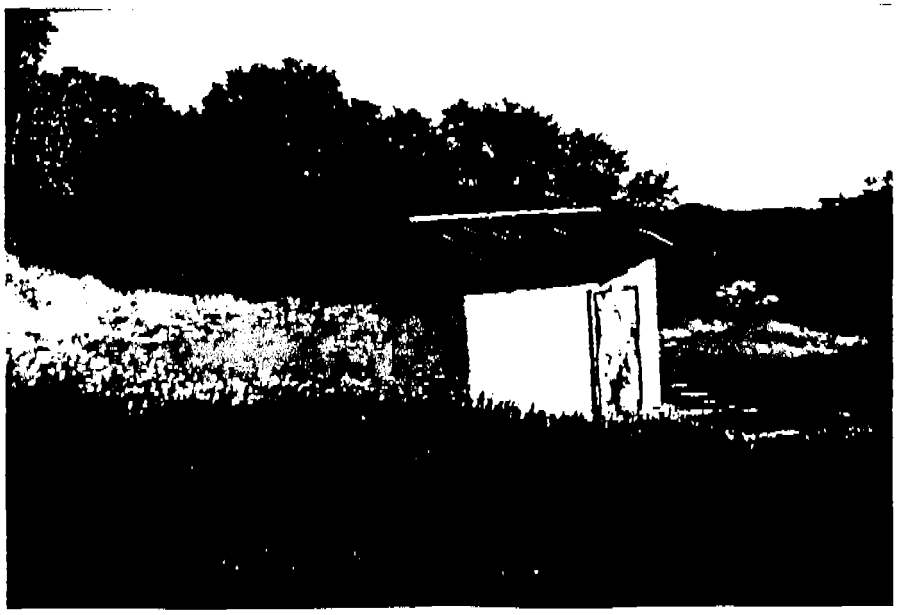
Significance: Building #20 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a standard building type, it is not considered eligible for the NRHP.

Description: A small square concrete block building, measuring 10' x 11'10", and topped with a red tile gable roof, houses the pump. There are two single-pane windows on the east and west sides and a single metal-clad door on the south side. The building sits on a raised concrete pad. The pump house is located down the hill from the main house.

History: Constructed in 1942, this building encloses the pump that pumps water uphill to the Commanding Officer's compound from the nearby reservoir (Building #76).

Sources: Real Property Forms March 27, 1944.

Historian Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



NCO QUARTERS
Building #21

HABS No. xx-###

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #21 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, because of alterations it no longer retains integrity and is not considered eligible for the NRHP.

Description: This Spanish Mission style residence, measuring 39' x 42', sits on a high concrete foundation and is constructed of hollow clay tile faced with dressed native limestone laid in a random pattern. The north slope of the red tile gable roof is pierced by a stone chimney. A gable-roof addition clad in stucco, with a boxed stucco exterior chimney, extends from the west side. The windows are one-over-one light double-hung aluminum sash. The cellar windows are three-paned in metal sash. The hollow core wood doors have three upper lights. Wood decks have been added to the north and south sides.

History: Designed in 1938 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, and completed in 1939, this building was constructed as a non-commissioned officer's (NCO) house. It contained a full basement housing the heater and laundry facilities, and a long screened porch extending the length of the south side, with large arched windows on the east and west sides. The windows were steel-framed.

A number of changes have been made to this building: windows and doors have been replaced, the south porch has been filled in and finished in stucco, a wing has been added to the west, the door on the north side has been partially filled in and made into a window, and a new door cut through the stone wall, wood decks have been added to the north and south sides, and a metal awning has been added to the door on the north.

Sources: Real Property Forms March 27, 1944; Completion Report, 1939; Architectural Plan #6278-206-1, April 12, 1938.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

Building 21
is identical to
Building 23

NCO QUARTERS
Building #22

HABS No. xx-###

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #22 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, because of alterations it no longer retains integrity and is not considered eligible for the NRHP.

Description: This Spanish Mission style residence, measuring 39' x 42', sits on a high concrete foundation and is constructed of hollow clay tile faced with limestone laid in a random ashlar pattern. The north slope of the red tile gable roof is pierced by a stone chimney. A gable-roof addition clad in stucco, with a boxed stucco exterior chimney, extends from the west side. The windows are one-over-one light double-hung aluminum sash. The cellar windows are three-paned in metal sash. The hollow core wood doors have three upper lights. Wood decks have been added to the north and south sides.

History: Designed in 1938 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, and completed in 1939, this building was constructed as a non-commissioned officer's (NCO) house, it contained a full basement housing the heater and laundry facilities, and a long screened porch extending the length of the south side, with large arched windows on the east and west sides. The windows were steel-framed.

A number of changes have been made to this building: windows and doors have been replaced, the south porch has been filled in and finished in stucco, a wing has been added to the west, the door on the north side has been partially filled in and made into a window, and a new door cut through the stone wall, wood decks have been added to the north and south sides, and a metal awning has been added to the door on the north.

Sources: Real Property Forms March 27, 1944; Completion Report, 1939; Architectural Plan #6278-206-1, April 12, 1938.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

Building 22
is identical to
Building 23

NCO QUARTERS
Building #23

HABS No. xx-###

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #23 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, because of alterations it no longer retains integrity and is not considered eligible for the NRHP.

Description: This Spanish Mission style residence, measuring 39' x 42', sits on a high concrete foundation and is constructed of hollow clay tile faced with limestone laid in a random ashlar pattern. The north slope of the red tile gable roof is pierced by a stone chimney. A gable-roof addition clad in stucco, with a boxed stucco exterior chimney, extends from the west side. The windows are one-over-one light double-hung aluminum sash. The cellar windows are three-paned in metal sash. The hollow core doors have three upper lights. Wood decks have been added to the north and south sides.

History: Designed in 1938 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, and completed in 1939, this building was constructed as a non-commissioned officer's (NCO) house, it contained a full basement housing the heater and laundry facilities, and a long screened porch extending the length of the south side, with large arched windows on the east and west sides. The windows were steel-framed. A number of changes have been made to this building: windows and doors have been replaced, the south porch has been filled in and finished in stucco, a wing has been added to the west, the door on the north side has been partially filled in and made into a window,and a new door cut through the stone wall, wood decks have been added to the north and south sides, and a metal awning has been added to the door on the north.

Sources: Real Property Forms March 27, 1944; Completion Report, 1939; Architectural Plan #6278-206-1, April 12, 1938.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

NCO GARAGE
Building #24

HABS No. xx-###

Location: McElroy Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #24 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, because of alterations it no longer retains integrity and is not considered eligible for the NRHP.

Description: An rectangular six-bay open garage, measuring 22' x 72', serves the three NCO residences. Built of concrete block with a stucco finish, it has concrete floors and a flat roof with red tile coping. A red tile canopy extends the length of the front (south) side.

History: Constructed in 1939, this garage originally contained only three bays and had wood overhead doors. At an unknown date, three additional bays were added to the east.

Sources: Real Property Forms March 22, 1944; Completion Report, 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

PAINT MIXING BUILDING
Building #26

HABS No. xx-###

Location: Roberts Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #26 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a standard building type, it is not considered eligible for the NRHP.

Description: This small square building, measuring 12' x 12', sits on a raised concrete foundation, and is constructed of concrete block with a stucco finish. The red tile gable roof, over 1" x 8" sheathing on 2" x 6" rafters, is pierced by a circular vent. Four-over-four light double-hung wood sash windows light the south and east sides. A metal-clad door provides access on the west side. A window on the north side has been filled in.

History: Constructed in 1943, this small building was used to mix paint. It is now vacant.

Sources: Real Property Forms March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

HISTORIC AMERICAN BUILDINGS SURVEY

WASH, GREASE AND PAINT BOOTH
Building #27

HABS No. xx-###

Location: Central Road, Camp Stanley Storage Activity, Bexar County, Texas

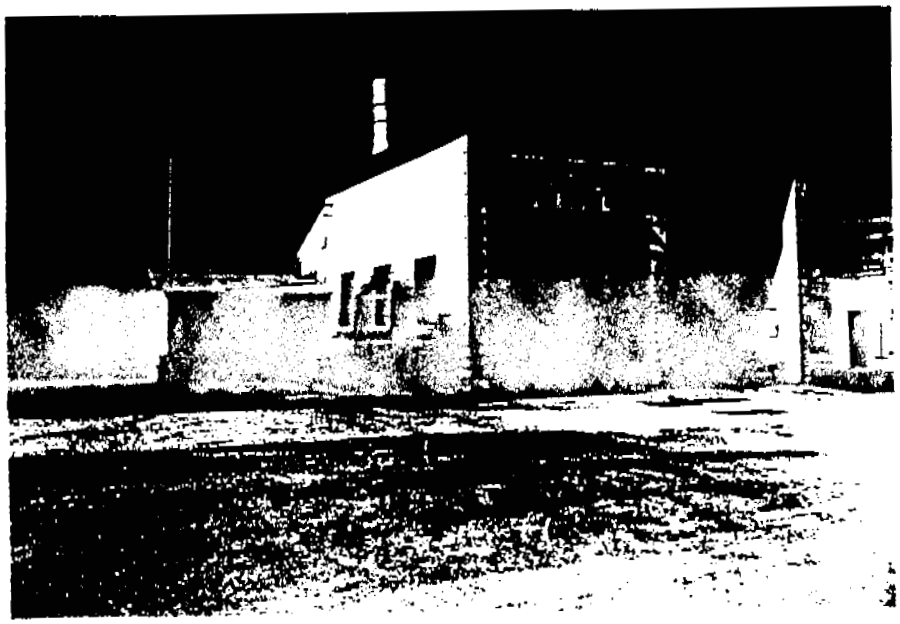
Significance: Building #27 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a standard building type, it is not considered eligible for the NRHP.

Description: This square two-bay building, measuring 29'4" x 29'4", is constructed of concrete block with a flat built-up composition roof. It has a shed-roof concrete block wing to the rear (west) and a gable-roof corrugated metal ell to the south. The south bay is enclosed with wood double doors with tight mesh screens. On the north and west sides are metal sash multi-paned windows, and on the east side are three double-hung aluminum sash windows. The open north bay has a lube rack, and the closed south bay is used for spray-painting vehicles. A paved open area to the south of the building is used for vehicle washing.

History: Designed by the U.S. Engineer Office, San Antonio District in July 1943, it was completed in October 1943. Designed as a vehicle wash and grease shed, as part of the garage and service station complex, it is now used as a paint and grease building.

Sources: Real Property Forms March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



LOCOMOTIVE SHELTER
Building #28

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #28 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a standard building type, it is not considered eligible for the NRHP.

Description: This high rectangular one-story building, measuring 22' x 52', is constructed of concrete block with a stucco finish, and has a corrugated metal roof over wood rafters. Windows on the north, east and west sides are multi-paned metal frame with transom inserts. A single door on the west side, of metal with a wire glass upper pane, provides access on the west side. Two large metal sliding doors on the south side provided locomotive access. The interior is an open bay with a large work pit in the concrete floor. The tracks lead from a spur line into the building and stop at bumpers at the end of the interior work pit.

History: Designed by the U.S. Engineer Office, San Antonio District, and constructed in August 1943, the locomotive shed was built as a locomotive shelter and repair and maintenance shop. The concrete block was taken from surplus materials at the site. Ammunition and materials to be stored were brought to Camp Stanley by the Stanley branch of the Southern Pacific Lines, arriving at Gate 9. From there the Camp locomotive shunted the freight cars to the requisite facilities, all of which were connected by spur lines to the main line through the Camp. The locomotive was on site until 1993, at which time it was sold. The building is now vacant.

Sources: Real Property Forms March 27, 1944; Architectural Plan August 6, 1943.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

PLANT CHANGE HOUSE
Building #36

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #36 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, this building is a typical operations building that does not have the regional architectural features required for eligibility. Additionally because of alterations it has lost integrity. It is not considered eligible for the NRPH.

Description: This rectangular one-story building, measuring 26'8" x 41'8", is constructed of concrete blocks with a stucco finish. The gable roof is covered with corrugated asbestos panels. A gable roof ell extends to the south. A stucco chimney rises between the main block and the ell. A wood entry door is on the east side, and there are two other wood doors on the east and west sides of the ell. There are 12-light windows in metal frame sash on the east, north, and west sides. A small prefabricated gable-roof garage has been constructed to the south of the building.

When the building changed use to a guest house, it was altered. One of the original two entry doors on the east side was replaced by an aluminum frame window and a second window was cut through. Several of the windows have been altered; the openings have been reduced to accommodate new aluminum frame windows.

History: Designed by the Construction Division of the Office of the Constructing Quartermaster, San Antonio, and constructed in 1940, this building was designed for people working on the site as a place to change clothes, take showers, eat lunches, or use the restrooms. The men working with ammunition wore white cotton duck coveralls that were treated with a flame retardant. This change house was the place to change in or out of these coveralls. Currently it serves as a guest house and contractor's office.

Sources: Real Property Forms March 22, 1944; Completion Report 1939; Architectural Plan #6278-214-12, April 10, 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

STEAM PLANT AND CARTRIDGE CLEANING BUILDING HABS No. xx-###
Building #37

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #37 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, this building is a typical operations building that does not have the regional architectural features required for eligibility. Additionally because of alterations, it has lost integrity. It is not considered eligible for the NRPH.

Description: This 25' x 100' one-story rectangular building sits on a high concrete foundation. The steel frame walls and gable roof are covered with corrugated asbestos panels. A large vent extends from the east slope of the roof. The single window, on the east side, has eight-lights set in a metal frame. Corrugated metal doors provide access on the east and west sides. To the rear (east) are the remains of a hollow clay tile square chimney stack that was once connected to the building by a pipe, now gone.

Originally the building was open on the west side, with the boiler room at the north end. A self-supporting steel smoke stack, now gone, extended 60' in height, at the same location where the brick stack stands.

History: Designed in 1939 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, and completed in 1940, this building was used as a steam plant to renovate ammunition cases and as a source of heating for buildings #37 and #38. The money for its construction came from a Works Progress Administration (WPA) grant. Currently the building serves as storage for engineering supplies such as plumbing and electrical parts.

Sources: Real Property forms, March 27, 1944; Completion Report, 1941; Architectural Plan #6278-216-2, May 26, 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

OPERATIONS BUILDING
Building #38

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #38 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, this building is a typical operations building that does not have the regional architectural features required for eligibility. Additionally because of alterations, it has lost integrity. It is not considered eligible for the NRPH.

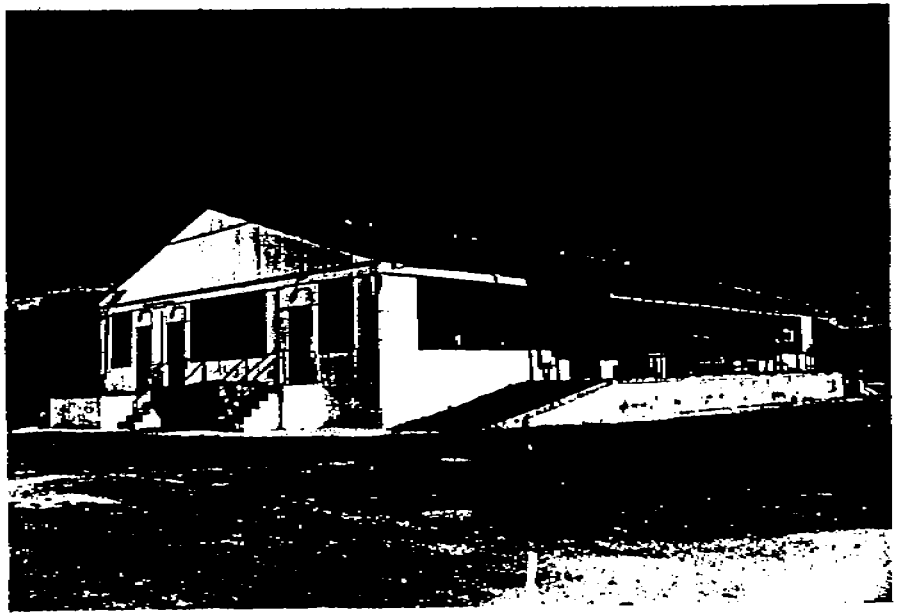
Description: This rectangular building, measuring 50' x 100', sits on a high concrete foundation. Its steel frame walls and gable roof are covered with corrugated cement asbestos panels. Two 10'-wide concrete loading docks with ramps extend the length of the east and west sides. Fixed multi-paned wire-glass windows in steel frames, with 4-pane pivot windows in the centers of the 16-light modules, are located on all four sides. Two sets of wood double doors with four-pane upper sections provide access on the east and west sides. The north and south sides have both single and double doors with glass upper panes. There are four large metal circular vents on the ridgeline of the roof.

Over the years the building has been altered with the replacement of windows on the north and south sides, with doors and the addition of concrete loading docks on the north and south sides, and a corrugated metal canopy over the loading dock on the east side.

History: Designed in 1939 by the Construction Division of the Office of the Constructing Quartermaster and constructed in 1941 using WPA grant funds, this building was used as the operations building for pressuring small ammunition (exerting pressure on ammunition to make certain the parts would stay together). It included a toilet room, tool room, and a large main room. It is now used as a maintenance building by the Engineering Craft Team.

Sources: Real Property Forms March 27, 1944; Completion Report 1941; Architectural Plan #6278-215-3, May 26, 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



DAILY SUPPLY HOUSE
Building #40

HABS No. xx-###

Location: Plant Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #40 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a standard building type, it is not considered eligible for the NRHP.

Description: This small rectangular building, measuring 13' 7" x 25'2", sits on a high concrete foundation with a concrete loading platform extending along the front (east) side. A tin-clad fire-proof sliding door provides access on the front side. The steel frame walls and gable roof are covered with corrugated concrete asbestos panels. A circular metal vent rises from the ridge line of the roof. A paved area leads from the road to the loading dock. The only alteration is the addition of a flight of steps to the south side of the loading platform.

History: This small building, set along a hillside, was designed and built in 1941, using WPA funds. Materials and labor were provided by the General Supply Company, Inc., of San Antonio, supervised by the Constructing Quartermaster, San Antonio. It was used to store one day's supply of powder to all the buildings requiring it. As a safety precaution, to never expose the men to more hazard than was necessary, only that limited supply of black powder would be removed from the magazine and moved to Building #40. It is now used for hazardous material storage.

Sources: Real Property Forms March 27, 1944; Completion Report 1941.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

BLANK LOADING PLANT
Building #41

HABS No. xx-###

Location: Plant Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #41 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a standard building type, it is not considered eligible for the NRHP.

Description: This small rectangular building, measuring 20' x 43'3", sits on a high concrete foundation with a concrete loading platform extending along the front (east) side. The steel frame walls and gable roof are covered with corrugated concrete asbestos panels. Three circular metal vents rise from the ridge line of the roof. A paved area leads from the road to the loading dock. Three metal doors with four pane upper sections provide access on the south, east, and north sides. A bank of multi-paned metal sash windows light the west side. A small gable roof powder hopper house with a concrete floor is located on the west side of the gable roof and is reached by metal stairs at the rear (north).

History: Built in 1941, this blank loading building was constructed using WPA funds. It was designed to load blanks into salute-type ammunition. Black powder was loaded into the powder hopper room at the rear on the roof, from which it was gravity fed to machinery in the building below. A machine weighed the powder and filled the shell casings. This building is now used for storage of electrical parts.

Sources: Real Property Forms March 27, 1944; Completion Report 1941.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

DEBOOSTERING BARRICADE
Building #42

HABS No. xx-###

Location: Plant Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #42 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because through the removal of its equipment it no longer retains integrity, it is not considered eligible for the NRHP.

Description: This barricade, roughly C-shaped, is one story in height with reinforced concrete walls two-and-one-half-feet thick. The wing walls forming the C face towards the west, and a smaller C-shaped section with a concrete roof faces towards the east. Concrete platforms within the C shapes on both east and west sides formerly housed equipment that has since been removed. Various marks and straps remain where the metal fixtures were attached to the concrete. Three round metal disks are embedded in the east side of the concrete wall, with bore holes of varying dimensions going through them to the other side of the wall. Vents through the roofs on both sides of the wall are located above each of the three bore holes.

History: Built in 1941, this barricade was used to deboost ammunition and disassemble fuses of live ammunition. Live ammunition that had become unstable, damaged, or obsolete was defused here. The cap was unscrewed from the casing, the fuse was removed, and the casing was taken to the burning pit (#P43) where the remaining powder and filler was burned out. The brass shell was sold for scrap.

A jig with various attachments was fastened to I-beams bolted to the concrete barricade on the west side. A live shell was strapped in a vise on the I-beams. Depending on the size of the ammunition, the proper bore hole was chosen and a rod inserted from the front (east) through to the back. This rod had a pincer-like arrangement on the end of it that would grasp the tip of the ammunition. The rod was attached to a wheel on the east side. A person turning the wheel could then unscrew the tip without detonating the ammunition. The heavy concrete walls between the operator and the ammunition protected the operator. A series of mirrors were attached so the operator could see what was happening on the other side of the wall. The equipment has been removed, and the barricade is no longer in use.

Sources: Real Property forms, March 27, 1944; Completion Report, 1941.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

BURNING PIT
Building #43

HABS No. xx-###

Location: East Outer Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #43 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical structure at an arsenal, it is not considered eligible for the NRHP.

Description: The burning pit is a small structure made of concrete post and beams with concrete block infill walls. It has a dirt floor and a reinforced-concrete flat roof. Measuring 7' x 9'4", it has a reinforced concrete furnace ell, 5'6" x 6'6", at the rear (east). A metal chute leads from the windows on the east of the building into the furnace that is lined with pieces of rall road track. Similar pieces of track provide a grating over the top of the furnace as well, A metal cover lies on the ground.

History: Built in 1942, this burning pit was used for burning out the insides of obsolete ammunition. Ammunition was dumped from the larger building down the chute into the furnace. Once the powder was burned out, the casings were sold for scrap. Currently it is not in use.

Sources: Real Property Forms March 27, 1944; Real Property Record Form 5-47, October 1, 1947.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

INSPECTOR'S WORKSHOP
Building #44, Renovation/Operations

HABS No. xx-###

Location: Central Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #44 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, because it is a typical building type, and because it has been altered, it is not considered eligible for the NRHP.

Description: This complex of buildings consists of the original one-story rectangular brick building with an addition to the rear (east), connected by a loading platform to a 1985 shed-roof addition to the south. The high foundations are of reinforced concrete. The original building, measuring 30' x 40', is constructed of brick, painted yellow, and has a gable roof covered with corrugated cement asbestos panels. The 1965 rear addition has corrugated cement asbestos panel walls and a gable roof covered with corrugated metal. The 1985 addition has concrete block (north) and corrugated metal walls. Windows in the original section have aluminum sash, and there are no windows in the new addition. The double and single metal doors are located on the east and west sides.

History: This building, constructed in 1943, was used to test ammunition. The original section, containing two rooms, had a barricade in the northwest corner. Currently the new building is used for surveillance.

Sources: Real Property Forms March 27, 1944; Architectural Plan April 16, 1965.

Historian Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

SHIPPING AND RECEIVING BUILDING
Building #45

HABS No. xx-###

Location: Moyer Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #45 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type at an arsenal, it is not considered eligible for the NRHP.

Description: This large rectangular one-story building, measuring 41'4" x 181'4", sits on a raised concrete foundation and is constructed of brick. The gable roof is covered with corrugated cement asbestos panels and topped by metal circular vents. The building is divided into four sections by three poured-concrete walls that extend through the roof as fire walls. High wire-glass transom windows with cast stone sills light the north, south, and east sides. Four overhead doors and four personnel doors provide access on the north and south sides, leading to loading platforms that extend the length of the building on these sides. The platforms are protected by shed roof canopies. The west end contains an office, kitchen, and bathrooms; the remainder is divided into four open bays, with rooms three and four at the east end further divided in half.

History: Designed by the U.S. Engineer Office, Fort Sam Houston, this building was constructed in 1943 for packing, receiving, and shipping ammunition. Railroad tracks connected this building with eight magazines where ammunition was stored. It is still used for the same function.

Sources: Real Property Forms March 27, 1944; Architectural Plan #W-2161-1217-4, January 15, 1943.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

HEATING PLANT
Building #46

HABS No. xx-###

Location: Moyer Road, Camp Stanley Storage Activity, Bexar County, Texas

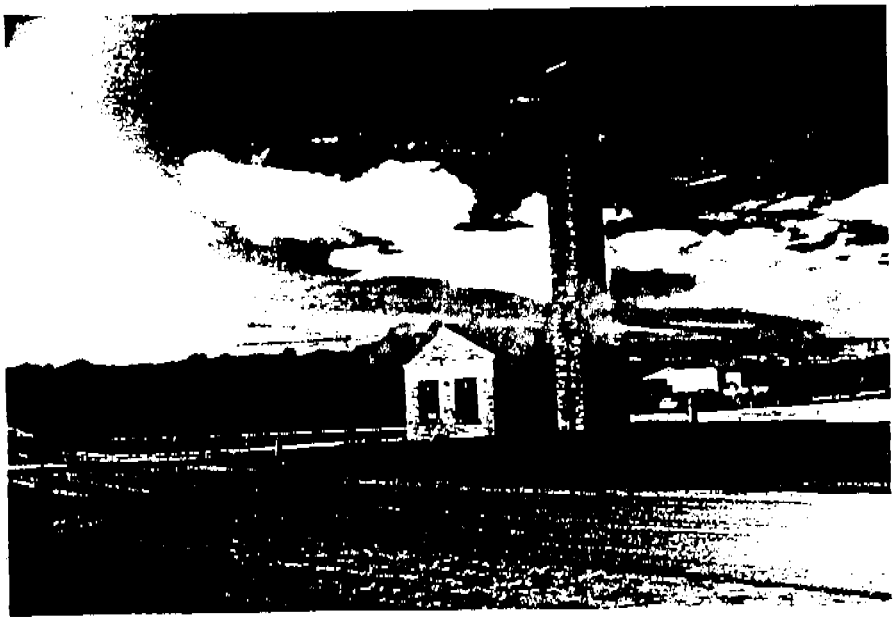
Significance: Building #46 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type, it is not considered eligible for the NRHP.

Description: This small square building, measuring 18' x 22', sits on a concrete foundation and is constructed of brick with a gable roof covered with corrugated cement asbestos panels. Two metal vents extend from the ridge line. A single metal door provides access on the west side. Two multi-paned wire glass windows in metal sash light the east and south sides. A tall brick vent stack rises to the north of the building and is connected by a pipe to the boiler within the building.

History: Constructed in 1943, this building was designed to heat building #45. It performs the same function currently.

Sources: Real Property Forms March 26, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



HEATING PLANT
Building #47

HABS No. xx-###

Location: Central Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #47 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type, it is not considered eligible for the NRHP.

Description: This small square building, measuring 18' x 22', sits on a concrete foundation and is constructed of brick, painted yellow, with a gable roof covered with corrugated cement asbestos panels. Two metal vents extend from the ridge line. Two wood single doors, one with six-light wire glass in the upper section, provide access on the west side. Two multi-paned wire glass windows in metal sash light the east and south sides. A tall brick vent stack rises to the east of the building and is connected by a pipe to the boiler within the building.

History: Constructed in 1943, this building was designed to heat building #44. It is currently vacant.

Sources: Real Property Forms March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

TIRE SHOP HABS No. xx-###

Building #50; Box Shop, Saw Shed

Location: Roberts Drive, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #50 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it was recreated from other buildings, it is not considered eligible for the NRHP.

Description: This one-story gable-roof rectangular building, measuring 17'10" x 55'9", sits on a concrete foundation. The random-length wood plank walls and the roof are covered with corrugated metal painted cream. A slightly higher 24'2" x 49'7" wing extends to the west. Many of the wood sash windows are missing, and their frames are open or covered with corrugated metal. The various doors are either five-panel wood, metal or corrugated metal. This building is connected to Building #P 65 on the south side by a modern corrugated-metal-covered passageway.

History: The recorded date of construction is 1945, but judging from the random length wood pieces used for the walls and the variety of window and door types, the building very probably was created from remnants of the 1917 Camp Stanley buildings. The building, once used to store tires and/or boxes, is dilapidated, and is now used to store farm equipment.

Sources: DA Form 2877; 1942 Map.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

HISTORIC AMERICAN BUILDINGS SURVEY

GUARD SHELTER - MAIN ENTRANCE
Building #51

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #51 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". It qualifies as part of the original CSSA plan and retains integrity. Its significance however comes from contributing to the original layout rather than as an individual building; because the layout is not considered eligible for the NRHP, neither is this building.

Description: The Spanish Mission style gate house complex at the entrance of Camp Stanley consists of an 8' x 13' main guard building, two gateposts, a pair of wrought iron gates, and an 18'-long limestone wall. The small gate house, containing an office and bathroom, is constructed of concrete block faced with dressed native limestone laid in a random pattern. It has a wooden plank door with strap hinges and a steel framed multi-paned window. The gable roof is covered with red tile. The square entrance posts, topped with carriage lamps, are of concrete block faced with dressed native limestone laid in a random pattern.

History: The gate house complex was designed in 1938 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, and completed in 1939. The tile roof was installed by Turner Roofing Company of San Antonio. There were two main entrances to Camp Stanley, this gate, where cars and pedestrian employees and Gate Eight (Building #P 85) for freight trains. The gate house is now vacant, and the main entrance point is beyond the entrance gate at Building #79.

Sources: Real Property Forms March 27, 1944; Completion Report 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

FIRE OBSERVATION TOWERS
Buildings #52 and #53

HABS No. xx-###

Location: Off Road No. S-2, off Road No. F-11, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Buildings #52 and #53 were evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although they qualify as part of the original CSSA plan, these buildings are typical operations buildings that do not have the regional architectural features required for eligibility. They are not considered eligible for the NRPH.

Description: There are two similar fire observation towers at CSSA, consisting of four-leg towers of structural steel with legs 10' apart tapering to 7' x 7' corrugated metal observation booth 42' above the ground. The small booths, reached by trap doors from spiral staircases, have steel sash transom windows on all sides.

A small clapboard-sided gable-roof building, housing equipment, is located to the south of building #52.

History: Constructed in 1939, these observation towers were built by the General Supply Company of San Antonio and were designed for general observation of the Camp. They are now unused.

Sources: Real Property Forms March 27, 1944; Completion Report 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

CHLORINATION BUILDING
Building #54

HABS No. xx-###

Location: Road near U-28, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #54 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type, it is not considered eligible for the NRHP.

Description: This small square building, measuring 7' x 7', sits on a concrete foundation and is constructed of concrete. The gable roof is clad in asphalt shingles. A wood door provides access on the south side. A small shed-roof concrete block addition extends to the west, accessible by a composition board door.

History: No date is given for the construction of this building; presumably it was built in 1942 when the reservoir was constructed. This building provides chlorine for the nearby reservoir (Building #76).

Sources: Real Property forms, March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

RAILROAD CAR SHELTER
Building #55

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas.

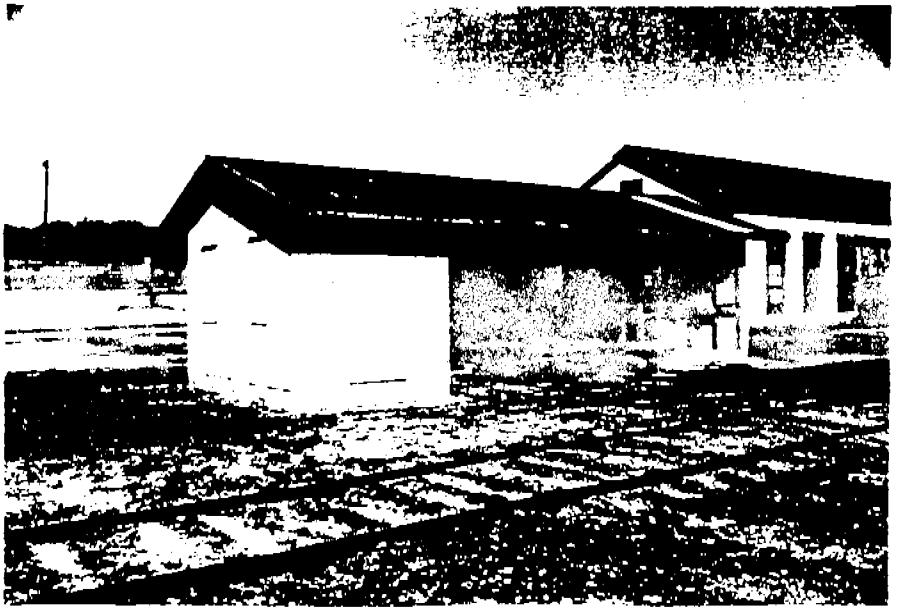
Significance: Building #55 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, this building is a typical operations building that does not have the regional architectural features required for eligibility. It is not considered eligible for the NRPH.

Description: This small one-story wood-frame open shed, measuring 12' x 31', sits on a raised concrete foundation. Its walls and gable roof are clad in corrugated metal siding. The south end, 8' x 12', is enclosed in corrugated metal, with a door and two windows of corrugated metal door. It was used as a tool room. Three sets of railroad tracks lead from the shed to the adjacent spur line.

History: Built in 1939, this building was constructed with WPA funds. This open shed contains three stalls to shelter the manually operated railroad hand-cars. It was constructed with WPA funds. Currently there are two hand-cars, an open flat car and a motorized flat car, in the shed. It is not currently in use.

Sources: Real Property Forms March 27, 1944; Completion report 1939. .

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



STABLES
Building #T64

HABS No. xx-###

Location: Central Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #T64 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it was recreated from other buildings, it is not considered eligible for the NRHP.

Description: This long rectangular one-story stable building, measuring 14'4" x 305'6", sits on a concrete continuous footing. The wood-plank walls and the gable roof are covered with corrugated metal siding. Windows with sliding wooden shutters are located along the north side, and the east side is open. The long building is divided into separate stalls, some enclosed with wooden doors and some delineated by horizontal 1" x 6" plank walls, approximately 5' high, with wire mesh above. The floor is gravel, although in some stalls wood plank flooring has been laid over the gravel.

History: The stables, part of the 1917 Camp Stanley cantonment, were rehabilitated in 1941 to shelter horses used by the mounted guards who patrolled the perimeter fence. Judging from current maps superimposed on a 1925 map of the Cantonment, as well as historical photographs and blueprints of the Camp Stanley buildings of this era, this stable was not an original building but a reconstruction using old materials. Stables from Camp Stanley 1917 era were double-sided, with two 10' x 12' stalls facing each other for a total width of 24'. They were built of board and batten and were constructed in modules of varying lengths depending upon need. None of them were as long as this building. Additionally the configuration of buildings from the 1925 map, when the current map is superimposed on it, does not fit the footprint of the stables. Currently the building is used for storage.

Sources: Real Property Forms March 27, 1944; Real Property Form 5-47; *Camp Stanley. Plans for Typical Buildings. Leon Springs, Texas*, 1919; photograph of Camp Stanley 1917.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

SADDLE ROOM

HABS No. xx-###

Building #T65; Box Shop; Tool Room

Location: Central Road, Camp Stanley Storage Activity, Bexar County, Texas.

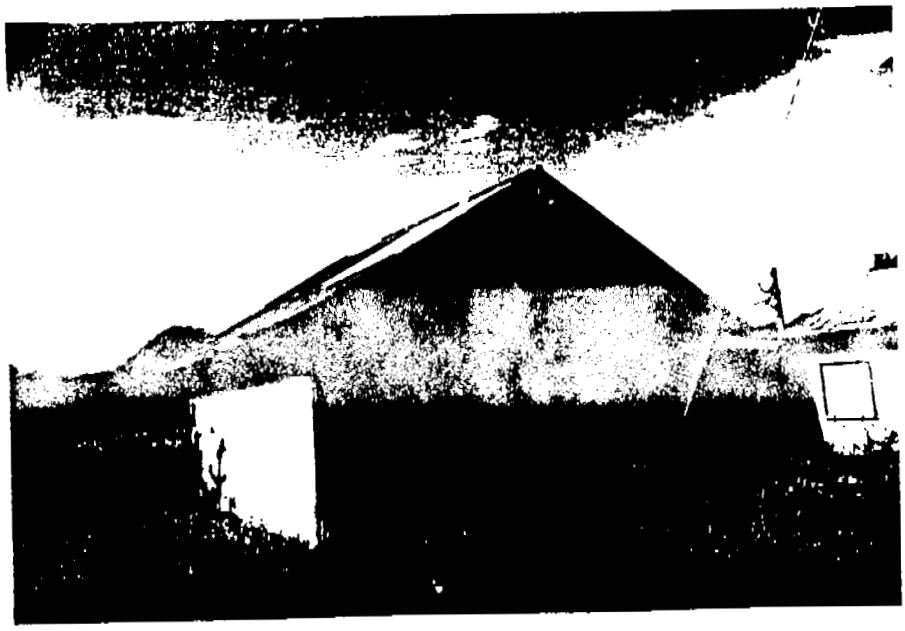
Significance: Building #T65 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it was recreated from other buildings, it is not considered eligible for the NRHP.

Description: This one-story square building, measuring 21' x 22', has cedar pole foundations, vertical wood plank walls covered with corrugated metal siding, and a gable roof covered with corrugated metal. There are six-over-six light, fixed wood sash windows on the north side, six-over-six light double hung wood sash windows on the west side, and two window openings covered with metal and plywood on the east side. A corrugated metal door provides access on the north side. This building is connected to Building #P 50 on the north side by a modern corrugated-metal-covered passageway.

History: This building, mentioned on real property forms as part of the Guard stables and yards, was part of the 1917 Camp Stanley cantonment that was rehabilitated in 1941 for new use. It was used as a saddle room and later as a box shop and tool room. It is currently used for storage. Judging from current maps superimposed on a 1925 map of the Cantonment, building #65 was not an original building but a reconstruction using old materials. The configuration of buildings from the 1925 map, when the current map is superimposed on it, does not fit the footprint of this building.

Sources: Real Property Forms March 27, 1944; Real Property Form 5-47.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



LATRINE, EAST SPUR TRACK
Building #66

HABS No. xx-###

Location: Roberts Drive, Camp Stanley Storage Activity, Bexar County, Texas.

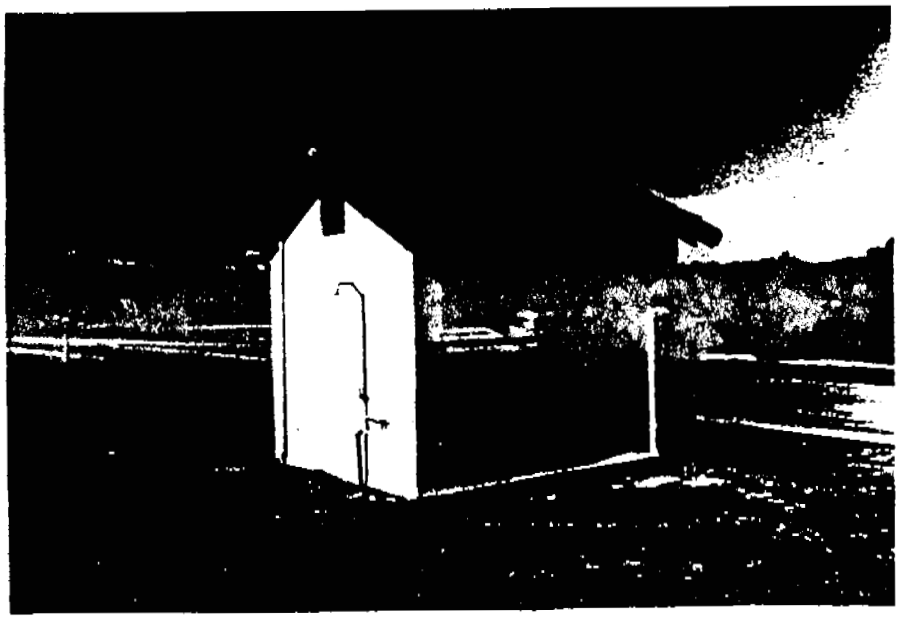
Significance: Building #66 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type, it is not considered eligible for the NRHP.

Description: This small one-story building, measuring 8' x 10', sits on a concrete foundation, and is constructed of concrete block with a stucco finish. The gable roof is covered with red tiles. Three of the windows are one-over-one light aluminum sash windows and the fourth is a fixed two-light window with wood sash. A single metal door provides access on the east side.

History: Constructed in 1943, this building was one of a number of latrines placed throughout the camp. It has been altered with the addition of aluminum frame windows and now serves as a hazardous materials storage building.

Sources: Real Property Forms March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



POST PROPERTY OFFICE
Building #73; Post Engineering Office

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #73 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type, it is not considered eligible for the NRHP.

Description: This rectangular one-story building, measuring 21' x 24', sits on a concrete foundation and is constructed of concrete block with a stucco finish. The red tile gable roof has a large vent on the ridge line. Six-over-six light double-hung wood sash windows light the south, east, and west sides. There are metal single and double doors on the north and west sides.

History: Constructed in 1942, this building was used as the post engineer's office. Currently it is being used as a laboratory for water and waste testing, and for water and sewage records.

Sources: Real Property Forms March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

RESERVOIR
Building #76

HABS No. xx-###

Location: Road near U-28, Camp Stanley Storage Activity, Bexar County, Texas

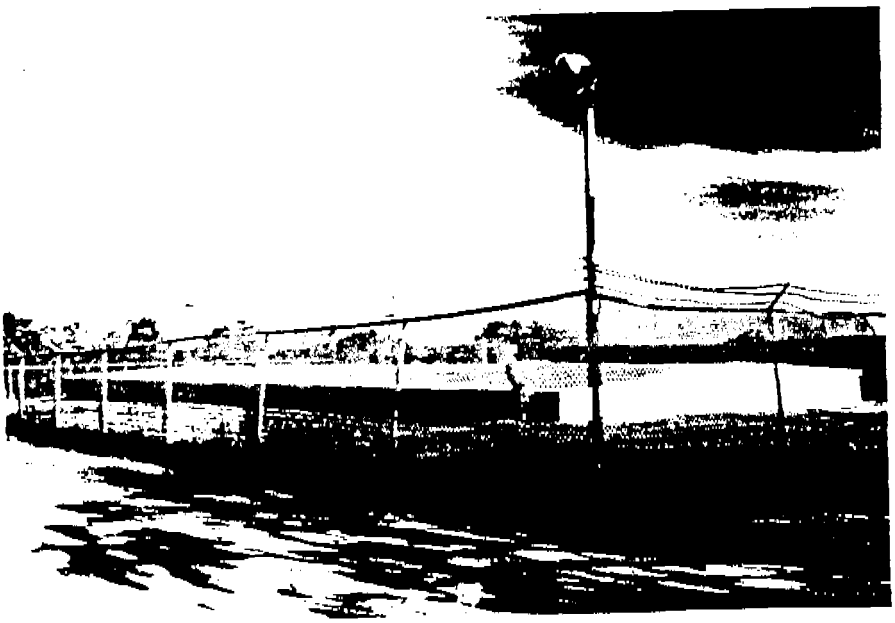
Significance: Building #76 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical structure type, it is not considered eligible for the NRHP.

Description: This concrete reservoir, measuring 52' x 127', holds 600,000 gallons for use by CSSA. It is a slightly raised reservoir covered with a shallow-pitch gable roof of metal. Surrounded by a chain link fence, it is located on a hill behind the COQ complex.

History: Built in 1942 on McFarland Hill, the reservoir provides gravity-fed water to the CSSA and pumps water to the adjacent COQ complex.

Sources: Real Property forms, March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



HISTORIC AMERICAN BUILDINGS SURVEY

PAINT SHOP AND POST PROPERTY WAREHOUSE HABS No. xx-###
Building #T77

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #T77 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it was recreated from other buildings, it is not considered eligible for the NRHP.

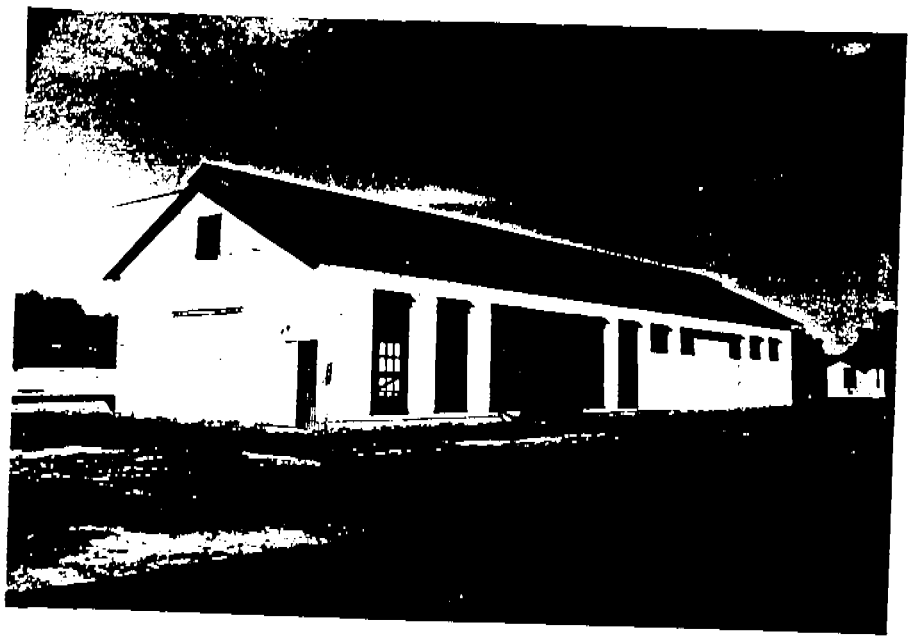
Description: This high one-story rectangular building, measuring 30' x 100', sits on a concrete foundation. It is constructed of 1" x 12" plank walls covered with corrugated metal siding painted yellow. The corrugated metal gable roof covers 2" x 4" rafters with 1" x 12" sheathing. Fixed six-over-six light wood sash windows with shed-roof canopies light the south, east, and west sides as well as the gables. Nine 18-light windows, created by stacking three six-light windows, light the east and west sides. There are a tall metal double door on the south, a corrugated metal double door on the east, and a single five-panel door on the west.

The building, according to a 1939 photograph, had board-and-batten siding and a large wooden double door on the south side. Judging from an inspection of the building itself, there were ten 18-light windows on both the east and the west sides. Alterations to this building include the addition of corrugated metal siding, the removal of the lower 12 lights of the 18-light windows, and the cladding of the wood double door in corrugated metal siding.

History: Although the building record mentions that this building was constructed in 1929, it resembles the board and batten buildings dating from the 1917 Camp Stanley construction period. The presence of wide plank wall construction and the use of six-over-six light windows in narrow wood surrounds, the pitch of the gable roof, and its double roofing with a smaller gable roof along the ridge line are style diagnostics that match those of the 1917 construction style. Very probably this building was recreated from a number of obsolete cantonment buildings, when Camp Stanley was separated from Camp Bullis and construction began for the arsenal. Currently it is used for storage.

Sources: Real Property Forms March 27, 1944; historic photos of 1917, 1939 in Fort Sam Houston Museum archives.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



HISTORIC AMERICAN BUILDINGS SURVEY

REPAIR GARAGE
Building #T78

HABS No. xx-###

Location: Off Road No. F-11, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #T78 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type, it is not considered eligible for the NRHP.

Description: This one-story rectangular building, measuring 26' x 65'6", sits on a concrete foundation and is built of wood frame clad in corrugated metal siding. The gable roof is also clad in corrugated metal. Windows are steel sash multi-pane with transoms. There are double corrugated metal doors on the west and south sides, and a single metal personnel door on the west side.

History: Constructed in 1942, this building was a repair garage, located on Road U-26, off Central Road. It was later moved to its present location near the garage, lubricating and gas station buildings, and was used as a welding shop. It is now vacant.

Sources: Real Property Forms March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

GUARD SHELTER
Building #79

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #79 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it has been extensively altered, it is not considered eligible for the NRHP.

Description: This one-story rectangular Spanish Mission style building, measuring 7'10" x 22'9", sits on a reinforced concrete foundation and is constructed of concrete block faced with limestone. The gable roof is covered with red tiles. A circular limestone wall, approximately 5' high, is located across the road from the guard shelter; an opening on the east side provides access.

History: Constructed in 1942, this building was the guard shelter for the main entrance. A security guard was also posted within the circular stone enclosure. A 1983 remodel, by Cochran and Associates of San Antonio, replaced the original door and windows on the south side with an aluminum frame picture window and door, and added an 18'x 21' flat roof wing to the rear (north). The building currently continues in use as the guard house, where visitors are checked in and given badges.

Sources: Real Property forms, March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

GUARD SHELTERS
Buildings #80, #81, #82, #83, #84

HABS No. xx-###

Location: Tompkins Road, West Outer Drive, North Outer Drive, East Outer Drive, South Outer Drive, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Buildings #80 through #84 were evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because they fall outside the period of significance, and because they are a typical building type, they are not considered eligible for the NRHP.

Description: There are five shed-roof open shelters, measuring 14' x 28', constructed of concrete posts and beams with concrete block infill walls. The wood framed window openings, two at the rear and one on the side, were originally covered with wood plank shutters, most of which are missing. There are two rooms, a smaller one, partially enclosed with a concrete block wall and finished with a concrete floor that originally housed a heater, and the larger room with a gravel and dirt floor.

History: Built in 1942, these six shelters were used by mounted guards patrolling the perimeter of CSSA. At the time the perimeter road was unpaved, and using horses for patrol was necessary. Currently they are vacant.

Sources: Real Property Forms March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

GUARD TOWER
Building #85

HABS No. xx-###

Location: North Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #85 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". It qualifies as part of the original CSSA plan and retains integrity. Its significance however comes from contributing to the original layout rather than as an individual building; because the layout is not considered eligible for the NRHP, neither is this building.

Description: This small square two-story Spanish Mission style tower, measuring 8' x 8', sits on a raised concrete foundation and is constructed of concrete block faced with dressed native limestone laid in a random pattern. The hipped roof is covered with red tiles. The first floor contains two-over -two light double-hung sash windows on the west and south sides and a fixed two-light window on the north side, with a wide wood sill. The upper story has two narrow vertical five-pane steel sash casement windows on each side. A wood panel door provides access on the east side.

History: Although there is no date recorded in the real property forms for this building, it very probably dates from 1939-42 when the rest of the limestone-faced buildings were designed and constructed at Camp Stanley. It was the guard house for Gate 9, where the Southern Pacific spur line entered the Camp. The west window facing the track had a wide sill, where the guard could converse with entrants into the camp. The building is now vacant, as all traffic funnels through the main entrance gate (Building #51).

Sources: Real Property forms, March 27, 1944; Real Property form 5-47, October 1, 1947.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

ISOLATION STABLE
Building #T88

HABS No. xx-###

Location: Central Road at Barnard Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #T88 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it was recreated from other buildings, it is not considered eligible for the NRHP.

Description: This one-story rectangular shed-roof stable, measuring 16' x 72', is open on the south side. Built on cedar post foundations, its wood frame is covered with corrugated metal walls and roof. The floors are gravel. A corrugated metal shed roof tack room, measuring 8' x 10', extends from the southwest corner. The west end of the main building is enclosed, and the remainder is divided into five stalls, with window openings and wood gates to enclose them. It is surrounded by corrals. The stable is dilapidated.

History: The real property forms do not indicate a construction date, but judging from the type of wood used, it could have been recreated in 1941 using parts of the 1917 Camp Stanley buildings, as was the case with buildings #50, #51, and #66. It was used as an isolation stable, where a sick horse could be treated. Currently it is used by the Department of the Army for agricultural use.

Sources: Real Property forms, March 27, 1944; Real Property Form 5-47, October 1, 1947.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

HISTORIC AMERICAN BUILDINGS SURVEY

HEATING PLANT
Building #89

HABS No. xx-###

Location: North Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #89 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type, it is not considered eligible for the NRHP.

Description: This small building, measuring 26' x 31', sits on a raised concrete foundation and is constructed of hollow clay tiles with a stucco finish. The concrete slab roof is covered with built-up roofing. Multi-paned steel sash windows light the north, south, and east aides. A roll-up metal door and a metal double door with glass panes provides access on the west side. Built on a knoll, it is connected by overhead pipes to buildings #90 and #91.

History: Constructed in 1942, this building was designed as a heating plant for buildings #90 and #91. Currently it serves as back-up heating for building #90.

Sources: Real Property forms, March 27, 1944; Architectural Plan October 6, 1958.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

CLIPPING, BELTING & LINKING BUILDING HABS No. xx-###
Building #90

Location: North Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #90 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type, it is not considered eligible for the NRHP.

Description: This large rectangular building, measuring 60' x 500', sits on a raised concrete foundation and is constructed of hollow clay tile with a stucco finish. The shallow-pitch concrete slab gable roof is covered with built-up roofing. Ten-foot-wide loading docks extend the length of the east and west sides, and along the north and south sides as well. The multi-paned steel sash windows are covered with metal grilles. Roll-up metal doors provide access on all aides. A 27' x 43' wing extends from the east side. At some date Buildings 90-1 and 90-2 were added to the east.

History: Constructed in 1942, this building was used to assemble small arms and artillery ammunition. In the 1960s it was used as a small arms repair shop. Currently the battery shop is used to repair electric forklifts, and the large main section is used for weapons rehabilitation.

Sources: Real Property forms, March 27, 1944; Real Property Form 5-47; DA Form 2877; Architectural Plan May 16, 1960.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

STANDARD WAREHOUSE HABS No. xx-###
Buildings #W-91, #W-92, #W-93, #W-94, #W-96

Location: Roads Number W-2, W-3, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Buildings #W-91 through #W-96 were evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because they fall outside the period of significance, and because they are a typical building type, they are not considered eligible for the NRHP.

Description: These five long rectangular buildings, measuring 66' x 600', sit on raised concrete foundations and are constructed of hollow clay tile with a stucco finish. The gable roofs are covered with concrete asbestos panels. Two eight-foot wide loading docks extend along the east and west sides. The multi-paned steel sash windows with cast stone sills are covered with metal grilles. Nine-panel sliding metal doors are located on all sides. Railroad spurs run north/south between the buildings.

Building 91 has a two-story parachute drying tower at its northwest corner, a later addition in 1958, with pipes leading from it to Building #89. Several of the windows are blocked up.

History: Designed in 1941 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, and completed in 1942, these buildings were used for storage. Current use includes: Building 91- warehouse office, box shop for packing and crating, special equipment repair and packing of parachutes for ammunition; Building 92 - storage for general supplies; Building 93 - transportation office, shipping and receiving, lumber storage, hazardous materials pharmacy, storage; 94 - weapons storage; 96 - communications shop, storage.

Sources: Real Property forms, March 27, 1944; Architectural Plan #7033-1202-9, May 31, 1941, and October 6, 1958 .

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

W 86

CHANGE HOUSE
Building #T98

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas.

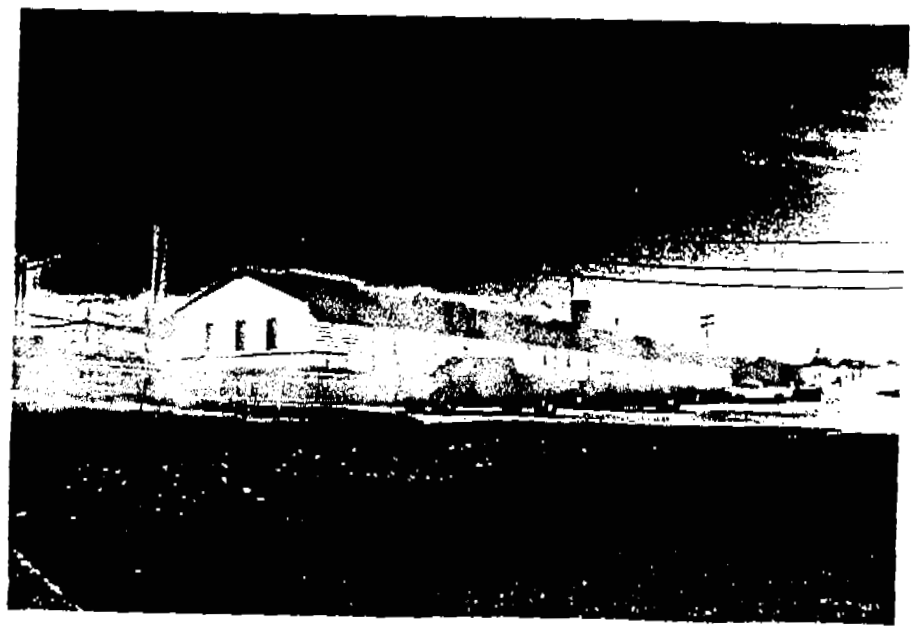
Significance: Building #T98 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type with numerous alterations, it is not considered eligible for the NRHP.

Description: This one-story rectangular building, measuring 27' x 248', sits on a concrete foundation and is constructed of wood frame clad in metal clapboard siding. The wood frame gable roof is covered with composition roofing. The windows are one-over-one light double hung in aluminum frames. The doors are hollow core. A brick chimney extends from the east slope of the roof at the center of the building. A shed-roof porch extends the length of the west side. This building has been extensively remodelled. Its original wood siding has been covered with metal clapboards, and its original wood doors and wood-frame windows have been replaced.

History: Constructed in 1942, this building was used as a change house to accommodate the people working on the site as a place to change clothes, take showers, eat lunches, or use the restrooms. The men working with ammunition wore white cotton duck coveralls that were treated with a flame retardant. This change house was the place to change in or out of these coveralls. Additionally the building contained the clock room where workers punched in and out, and a cafeteria. It resembles standard World War II temporary buildings. It now houses offices for procurement, personnel, engineering and environmental departments, and has a meeting room and cafeteria as well.

Sources: Real Property forms, March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



ELECTRIC POWER STATION
Building #99

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas

Significance: Building #99 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical structure type, it is not considered eligible for the NRHP.

Description: Set into an earth berm, this 22' x 40' reinforced concrete building houses the diesel powered emergency generator. Two concrete wings extend from the main block. A metal double door, flanked by louvered openings, provides access on the east side.

History: Built in 1942, this building contained the electric power station for CSSA. Currently it serves as back-up power.

Sources: Real Property forms, March 27, 1944.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

RECEIVING AND SHIPPING WAREHOUSE
Building #A-100

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas.

Significance: Building #A-100 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, this building is a typical operations building that does not have the regional architectural features required for eligibility. It is not considered eligible for the NRPH.

Description: This rectangular five-bay by seven-bay one-story building, measuring 81' x 113', sits on a high concrete foundation and is of concrete post and beam construction with concrete block infill with a stucco finish. The shallow-pitch concrete roof has wide overhanging eaves. A flat roof ell, measuring 16' x 19'4", extends from the south side. A red brick chimney extends from the roof of the ell. Multi-pane steel sash windows with cast stone sills are located in the upper walls along all sides. The east and west sides additionally have four-over-four light double-hung wood sash windows. Wood panel doors, both single and double, both solid and with single upper panes, provide access on the east, west, and south sides. Loading docks sheltered by canopies extend the length of the east and west sides. Alterations include the addition of the ell and the canopies, and a door on the south side.

History: Designed in 1938 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, as a standard magazine, and constructed in 1939, this building originally was used as a receiving and shipping warehouse, and later as a civilian mess hall and offices. Currently the east half is used as a weight room.

Sources: Real Property forms, March 27, 1944; Completion Report 1939; Architectural Plan #6278-205-1, March 31, 1938.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

STANDARD MAGAZINES
Buildings #A-101, #A-102, #A-103

HABS No. xx-###

Location: Tompkins Road, Camp Stanley Storage Activity, Bexar County, Texas.

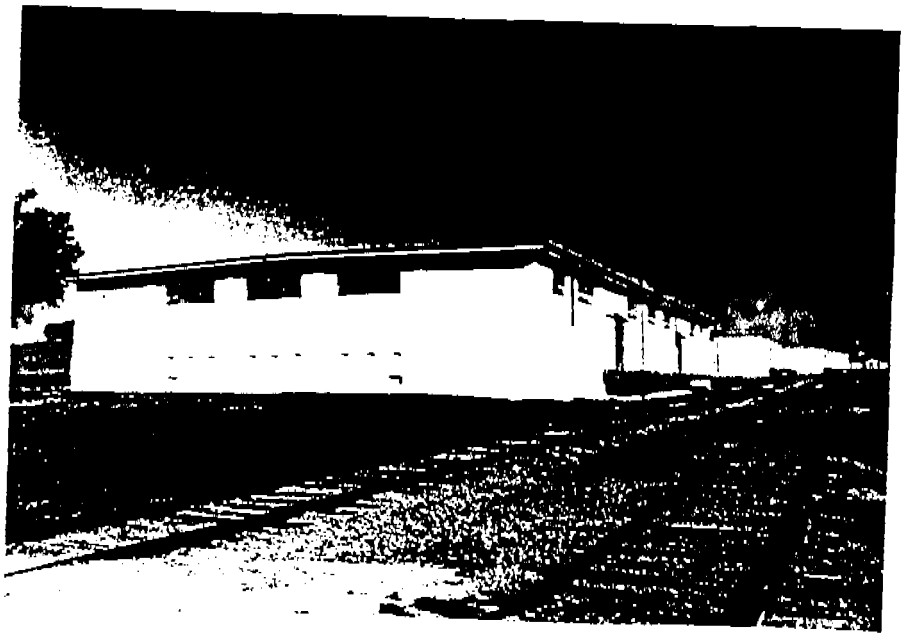
Significance: Buildings #A-101, #A-102, and #A-103 were evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although they qualify as part of the original CSSA plan, they are typical operations buildings that do not have the regional architectural features required for eligibility. They are not considered eligible for the NRHP.

Description: These rectangular five-bay by nine-bay one-story buildings, measuring 81' x 145', sit on high concrete foundations and are of concrete post and beam construction with concrete block infill with a stucco finish. The shallow-pitch concrete roofs have wide overhanging eaves. Multi-pane steel sash windows with cast stone sills are located in the upper walls along all sides. The east and west sides have steel sliding type doors, three on the west and two on the east. Louvered vents at the floor line provide ventilation. Loading docks extend the length of the west sides and partially along the east sides, with either concrete steps or metal ladders.

History: Designed in 1938 out of the Construction Division of the Office of the Constructing Quartermaster, Major C. R. Hazeltine, San Antonio, and constructed in 1939-40, these magazines were used to store ammunition of various types. Currently they are used for general storage.

Sources: Real Property forms, March 27, 1944; Completion Report 1939; Architectural Plan #6278-205-1, March 31, 1938.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



IGLOO MAGAZINES HABS No. xx-###

Buildings #104 - #128 (B Section), #135- #165 (C section)

Location: Road No. B-7 (B section), Road No. C-9 (C section), Camp Stanley Storage Activity, Bexar County, Texas.

Significance: These igloos were evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although they qualify as part of the original CSSA plan, they are considered standard Quartermaster underground magazines typical to an arsenal. They are not considered eligible for the NRHP.

Description: This series of storage igloos, measuring 29' x 62', are standard Quartermaster underground magazines. Built on solid rock or stable soil, these igloos are constructed of reinforced concrete in the form of a parabolic arch that is covered with earth. A steel door set in a concrete end wall provides access. A 20" copper ventilator and a series of lightning rods top the mound.

History: Constructed in 1939, these igloos were designed by the Constructing Quartermaster using specifications prescribed by the Chief of Ordnance. Steel forms, rather than wood, were used in their construction; the fact that they could be re-used indefinitely brought down the unit price per igloo, and the savings were used to build other areas at the Camp. They were and are used to store ammunition of various types.

Sources: Completion Report 1940; *Camp Stanley Ammunition Depot* 1940.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.

'B' and 'C'
area igloos are
identical to 'F', 'G'
'H' (see G-24 6)

IGLOO MAGAZINES HABS No. xx-###

Buildings #212 - #244 (F Section), #245 - #251 (G Section), #252 - #286 (H Section)

Location: Road No. F-11, F-13, and Barnard Road (F Section), Road No. G-16 and Fincke Road (G Section), Roads No. H-18 - H-22 and Central (H Section), Camp Stanley Storage Activity, Bexar County, Texas.

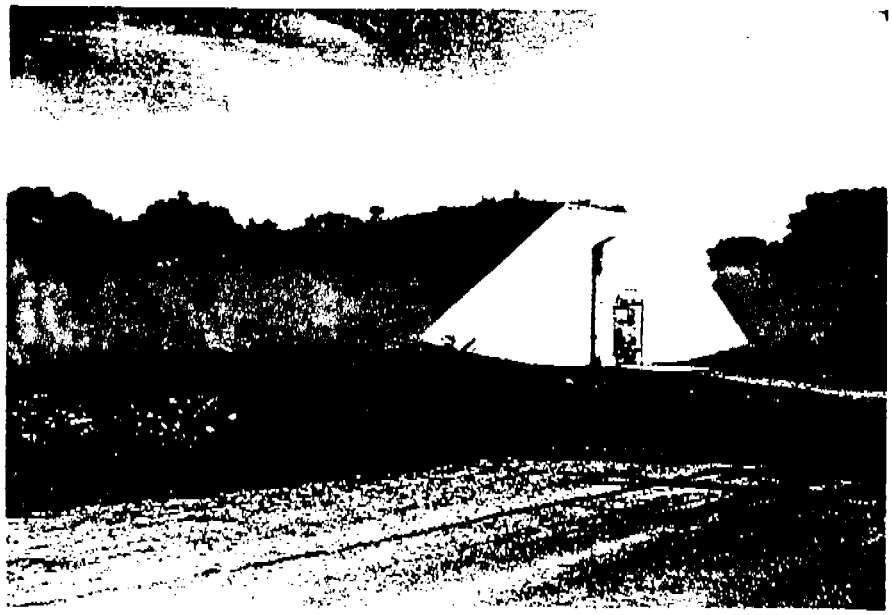
Significance: These igloos were evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although they qualify as part of the original CSSA plan, they are considered standard Quartermaster underground magazines typical to an arsenal. They are not considered eligible for the NRHP.

Description: This series of storage igloos, measuring 29' x 42', are standard Quartermaster underground magazines. Built on solid rock or stable soil, these igloos are constructed of reinforced concrete in the form of a parabolic arch that is covered with earth. A steel door set in a concrete end wall provides access. A 20" copper ventilator and a series of lightning rods top the mound.

History: Constructed in 1939-1940, these igloos were designed by the Constructing Quartermaster using specifications prescribed by the Chief of Ordnance. Steel forms, rather than wood, were used in their construction; the fact that they could be re-used indefinitely brought down the unit price per igloo, and the savings were used to build other areas at the Camp. They were and are used to store ammunition of various types.

Sources: Completion Report 1940; *Camp Stanley Ammunition Depot* 1940.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



STANDARD MAGAZINES HABS No. xx-###

Buildings #I-287, #I-288, #I-289, #I-290, #I-291

Location: Moyer Road, Camp Stanley Storage Activity, Bexar County, Texas.

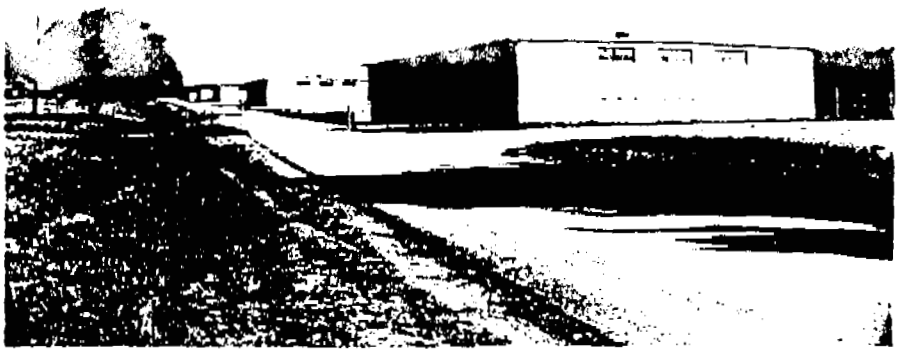
Significance: Buildings #I-287 through #I-291 were evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Although it qualifies as part of the original CSSA plan, the buildings are typical operations building that do not have the regional architectural features required for eligibility. They are not considered eligible for the NRPH.

Description: These rectangular five-bay by nine-bay one-story buildings, measuring 81' x 145', sit on high concrete foundations and are of concrete post and beam construction with concrete block infill with a stucco finish. The shallow-pitch concrete roofs have wide overhanging eaves. Multi-pane steel sash windows with cast stone sills are located in the upper walls along all sides. The east and west sides have steel sliding type doors, three on the west and two on the east. Louvered vents at the floor line provide ventilation. Loading docks extend the length of the west sides.

History: Constructed in 1940, these magazines were used to store ammunition of various types. Currently they are used for small arms storage.

Sources: Real Property forms, March 27, 1944; Completion Report 1939.

Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



INCINERATOR
Building #294

HABS No. xx-###

Location: Road Number B-7, Camp Stanley Storage Activity, Bexar County, Texas.

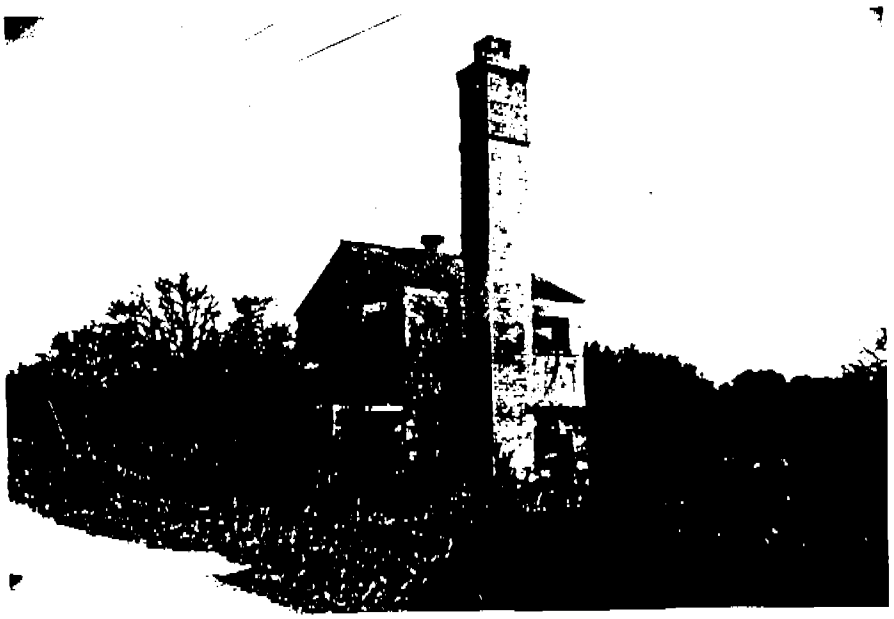
Significance: Building #294 was evaluated under Criterion A as part of the theme "Planning and Design of Permanent Military Installations 1929-1939". Because it falls outside the period of significance, and because it is a typical building type, it is not considered eligible for the NRHP.

Description: This one-story brick building, measuring 19' x 21', sits on a raised concrete foundation. The gable roof, topped by a ventilator, is covered with concrete asbestos panels. Built into the side of a hill, the foundation slopes to the east, forming a basement with two windows and a metal door providing light and access. On the upper floor there are six-light transom windows on the north, south, and east sides, and a sliding metal door on the west side. A two-story square brick smokestack stands adjacent to the building on the south side. A poured-concrete loading platform extends the length of the west side.

History: Constructed in 1943, this building was the incinerator for burning paper and non-ammunition trash. Currently it is dilapidated and vacant.

Sources: Real Property forms, March 27, 1944.

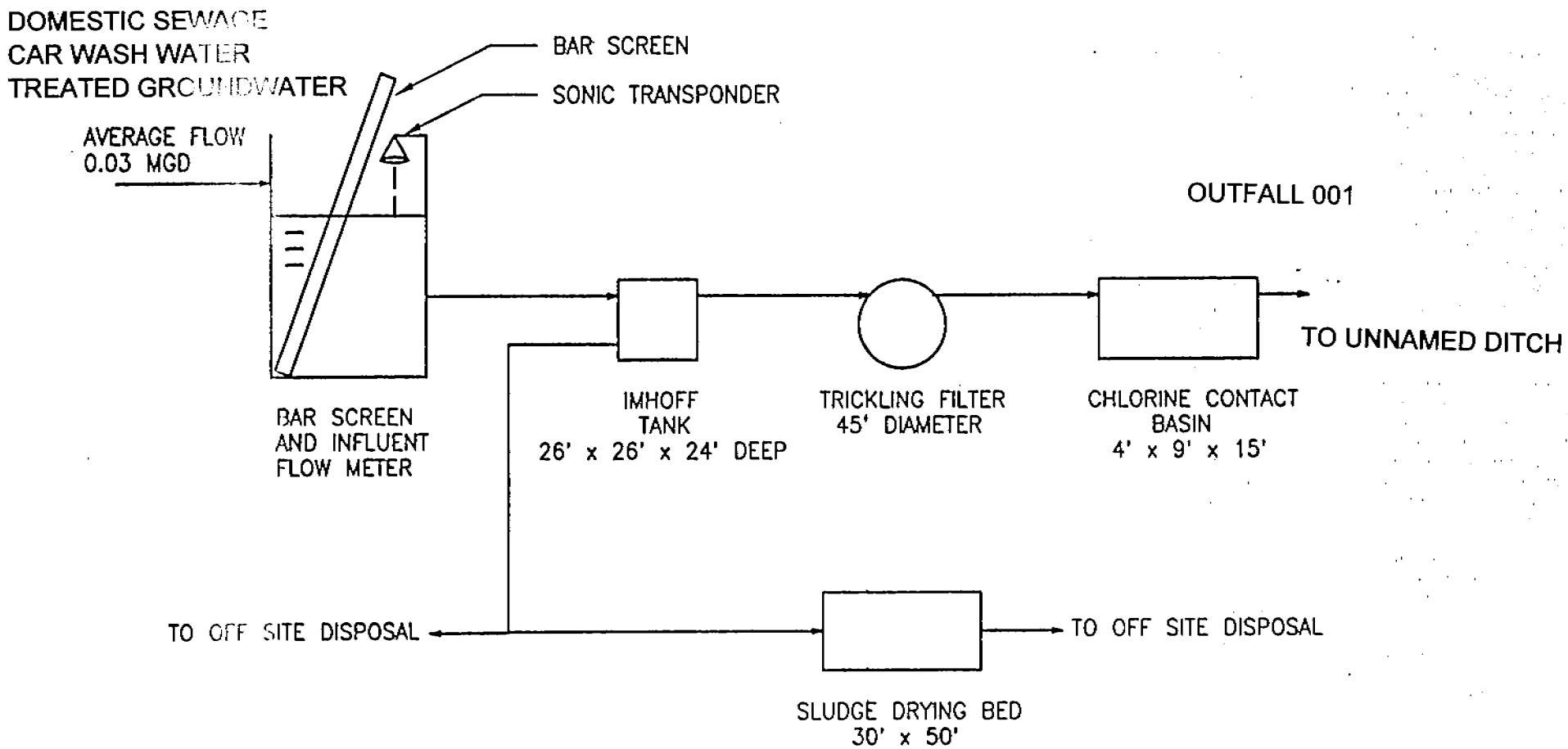
Historian: Alexandra C. Cole, SAIC, Santa Barbara, CA, 1996.



Appendix 8

Flow Schematic

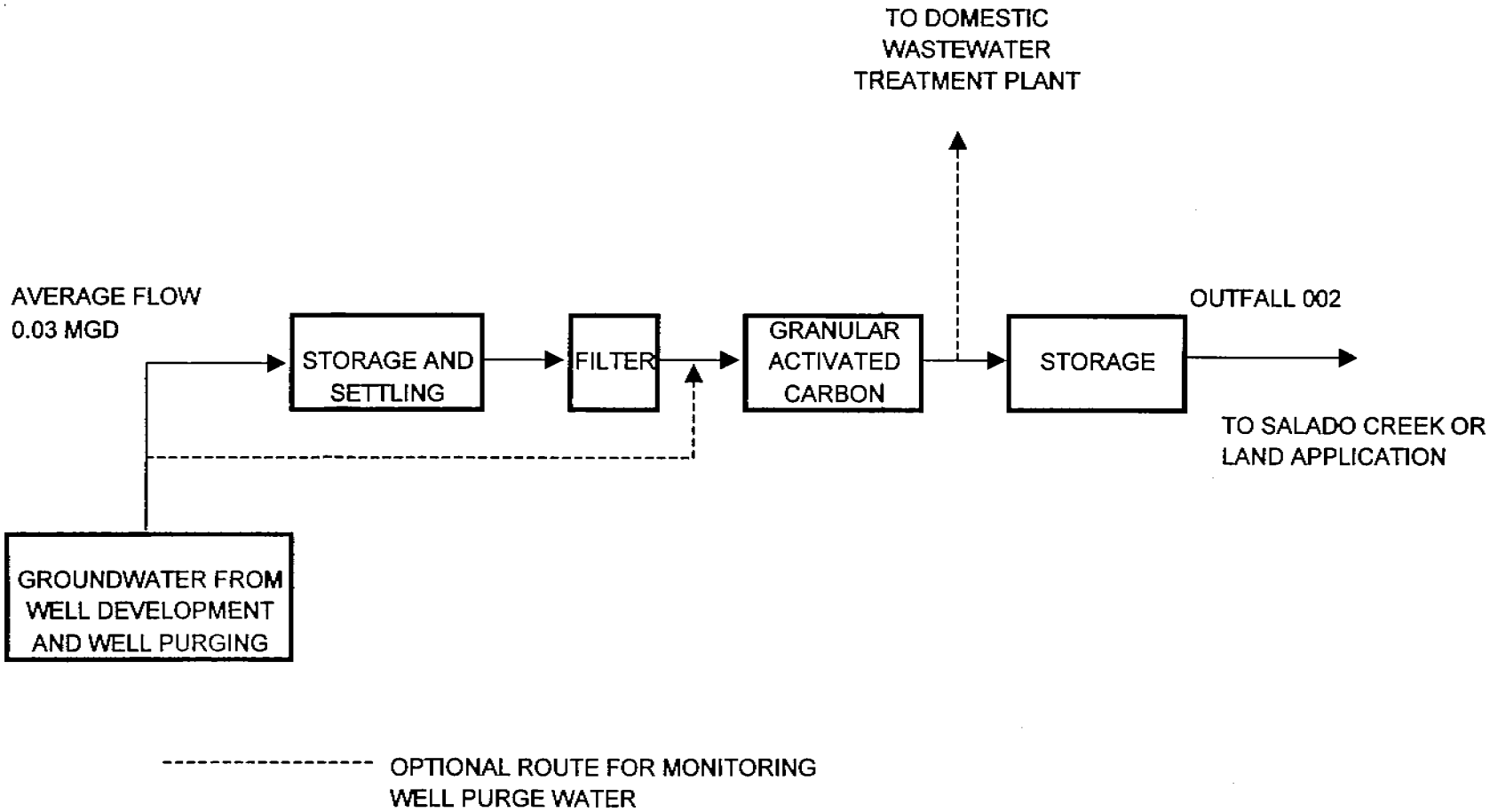
Technical Report Item 3.f.



Appendix 8-1

Existing Wastewater Treatment
Camp Stanley Storage Activity

PARSONS ENGINEERING SCIENCE, INC.



Appendix 8-2

Proposed Groundwater Treatment
Camp Stanley Storage Activity

PARSONS ENGINEERING SCIENCE, INC.

Appendix 9

Facility Map

Technical Report Item 3.g.

Appendix 9

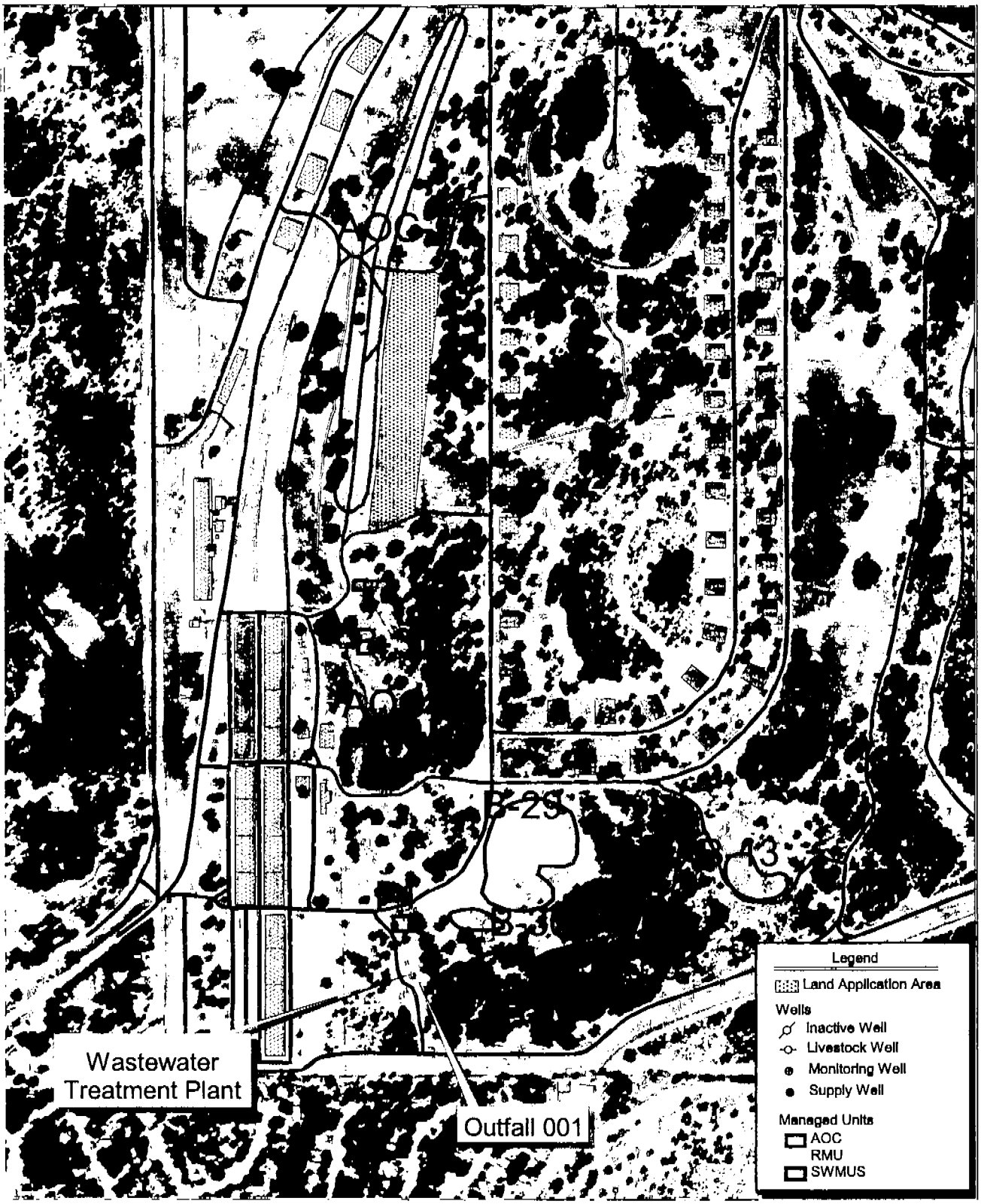
Facility Map
Camp Stanley Storage Facility

PARSONS ENGINEERING SCIENCE, INC.

Appendix 10

Land Disposal of Effluent

Attachment C.



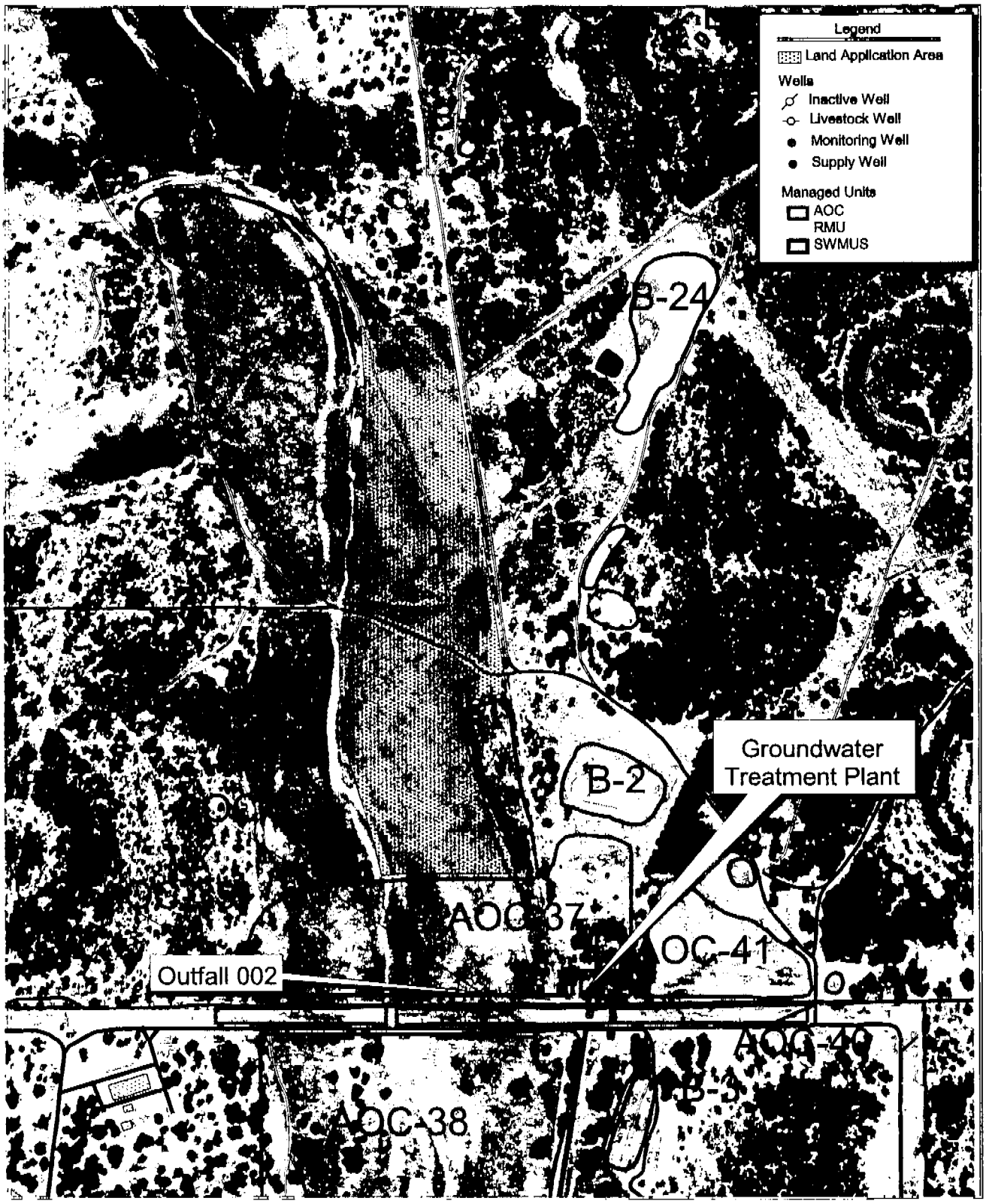
200 0 200 400 600 Feet

Appendix 10-1

South Land Application Site
Camp Stanley Storage Activity

PARSONS ENGINEERING SCIENCE, INC.

//m51491/f/environmental data/final/ss



200 0 200 400 600 Feet

Appendix 10-2

North Land Application Site
Camp Stanley Storage Activity

PARSONS ENGINEERING SCIENCE, INC.

//m51491/f/environmental data/final/as

Item 7. Annual Cropping Plan

CSSA plans to use two land application sites on the property, one in proximity to Outfall 001 (the Southern Site) with an area of about 5 acres, and the other north of Outfall 002 (the Northern Site) with an area of about 29.6 acres. These land application sites will receive periodic spray irrigation of treated wastewater diverted from the outfall nearest each site to support growth of mixed native grasses during the year. Irrigation will be halted during winter months when grasses are dormant. Appendices 10-1 and 10-2 show the site locations.

The southern land application site associated with Outfall 001 lies mainly on Krum Complex soils with a small fraction of Crawford and Bexar Stony soils on the eastern edge of the site. The northern land application site associated with Outfall 002 lies in Trinity and Frio soils. These are the main channel soils for Salado Creek. Appendix 12 contains a soil map of the site.

The irrigation will generally take place when the vegetation appears stressed due to drought conditions. No supplemental nutrients will be provided to the grasses and no supplemental water besides wastewater and precipitation will be used to irrigate the land application sites. No grasses will be harvested from the site.

The native grass species at the land application sites are relatively salt tolerant to highly salt tolerant. It is assumed that the irrigation water will maintain an electrical conductivity of the soil of less than 8 mmhos/cm.

Runoff from these land application sites would be minimal since slopes are approximately 0.4 and 0.2% for the southern and northern sites, respectively. Furthermore, maximum application rates of less than 0.02 inches per hour, which is up to one order of magnitude less than the soil permeabilities, minimizes the probability of runoff from the land application sites under all but inundating conditions.

Item 9. Water Balances

The following tables present water balances for the two land application sites. No storage calculation was completed since the effluent will be discharged during periods when it is not land applied.

Appendix 10
Water Balance Southern Land Application Area

CSSA Area Meteorological Data

Month	Average Precipitation (inches) (1)	Average Evapo-transpiration (inches) (2)	Average Gross Evap. (inches) (3)
January	1.64	1.35	2.46
February	1.75	1.71	2.71
March	1.40	3.42	4.08
April	2.63	3.69	4.71
May	3.72	7.47	5.70
June	3.06	7.11	7.51
July	1.78	8.55	9.39
August	2.81	5.49	9.59
September	3.62	5.49	7.55
October	3.02	4.86	5.93
November	2.19	2.43	3.90
December	1.43	1.08	2.83
Total	28.95	52.65	66.35

Operating Data - CSSA Outfall 001

Curve Number for Application Site	80	(4)
Conductivity of Effluent (mmhos/cm)	0.7	(5)
Max. Conductivity of Soil (mmhos/cm)	8	(6)
Size of Irrigated Area (Acres)	5.0	
Storage Area as a Percent of Irrigated Area (%)	0.0	
Irrigation Efficiency (%)	75	(7)
Total nitrogen in effluent (mg/L)	4.2	(8)
Nitrogen (lb/acre/year)	30.9	

Outfall 001 Wastewater

Flow (Gal/day)	30,000
	Gallons
January	930,000
February	840,000
March	930,000
April	900,000
May	930,000
June	900,000
July	930,000
August	930,000
September	900,000
October	930,000
November	900,000
December	930,000
(Gal/year)	10,950,000

Flowrate over	5.0	acres
	0.138	gal/ft2/day
	6.721	ft/yr
	6.721	in/month
	80.656	in/yr

Notes:

(1) Average annual rainfall data in San Antonio area, (1946-1984), Texas Water Oriented Data Bank

(2) "Bulletin 6019 Consumptive Use of Water by Major Crops in Texas" Texas Board of Water Engineers, November 1960. June - Nov. values are for perennial pasture. Dec. - Mar. values are for small grains (winter rye). Apr is average. Subdivision 4D

(3) Average evaporation data in San Antonio area (1940-1982), from Texas Water Oriented Data Bank.

(4) Urban Hydrology for Small Watersheds, Technical Release No. 55, 2nd Edition, United States Department of Agriculture, Soil Conservation Service. Value is for Krum Complex soils, hydrologic soil group D

(5) Outfall 001 sample event 26 June 1995 and *Water Chemistry*, Snoeyink and Jenkins, Wiley & Sons, 1980, p. 76.

(6) 30 TAC 309.

(7) Handbook for Land Application of Municipal and Industrial Wastewater, Apr 1993, State of Idaho, Division of Environmental Quality.

(8) Outfall 001 sample events August and September 1999.

Appendix 10
Water Balance Southern Land Application Area

CSSA Water Balance - Average Year

Column		2	3		5	6	7		8		
Month	Avg. Precip (in)	Average Runoff (in)	Average Infiltrated Precipitation (in)	Evapotrans-piration (in)	Required Leaching (in)	Total Water Needs (in)	Effluent Needed in the Root Zone (in)	Net Evaporation from Storage Surface (in)	Max. effluent that could be applied to land (in)	Effluent that would be applied to land (in)	Effluent that would be discharged from OF 001 (in)
Jan.	1.54	0.01	1.53	1.35	0.00	1.35	0.00	0.00	0.00	0.00	6.72
Feb.	1.75	0.00	1.75	1.71	0.00	1.71	0.00	0.00	0.00	0.00	6.72
Mar.	1.40	0.01	1.39	3.42	0.20	3.62	2.23	0.00	2.97	2.97	3.75
Apr.	2.63	0.00	2.63	3.69	0.10	3.79	1.16	0.00	1.55	1.55	5.17
May	3.72	0.01	3.71	7.47	0.37	7.84	4.13	0.00	5.51	5.51	1.21
June	3.06	0.00	3.06	7.11	0.40	7.51	4.45	0.00	5.93	5.93	0.79
July	1.78	0.00	1.78	8.55	0.67	9.22	7.44	0.00	9.92	6.72	0.00
Aug.	2.81	0.00	2.81	5.49	0.27	5.76	2.95	0.00	3.93	3.93	2.79
Sept.	3.62	0.00	3.62	5.49	0.18	5.67	2.05	0.00	2.74	2.74	3.98
Oct.	3.02	0.02	3.00	4.86	0.18	5.04	2.04	0.00	2.73	2.73	4.00
Nov.	2.19	0.02	2.17	2.43	0.03	2.46	0.29	0.00	0.38	0.38	6.34
Dec.	1.43	0.00	1.43	1.08	0.00	1.08	0.00	0.00	0.00	0.00	6.72
TOTAL	28.95	0.07	28.88	52.65	2.41	55.06	26.75	0.00	35.66	32.46	48.19

All values are inches of water per acre of irrigated area.

Example Calculations for June:

Column 2. Average Runoff: Monthly Average of [(Daily Precipitation - 0.2*(Retention)]^2 / [(Daily Precipitation) + 0.8 * (Retention)]
where Retention = [1000 / (Curve Number)] - 10 and
Curve Number = 80 for antecedant moisture condition II (9)

Column 3. Infiltration: (Monthly Precipitation) - (Runoff Flow) = (3.06 in) - (0.00 in) = 3.06 in

Column 5. Required Leaching: If (Evapotranspiration) - (Infiltration) < 0.00, Required Leaching = 0.00 in, else
= (Conductivity of Effluent) / [(Maximum Allowable Conductivity of Soil) - (Conductivity of Effluent)] * [(Evapotranspiration) - (Infiltration)]
= (0.72 mmhos/cm) / [(8.00 mmhos/cm) - (0.72 mmhos/cm)] * [(7.11 in) - (3.06 in)] = 0.40 in , Use 0.00 if [(7.11 in) - (3.06 in)] < 0

Column 6. Total Water Needs: (Evapotranspiration) + (Required Leaching) = (7.11 in) + (0.40 in) = 7.51 in

Column 7. Effluent Needed in the Root Zone: (Total Water Needs) - (Ave. Infiltrated Rainfall) = (7.51) - (3.06) = 4.45 in

Column 8. Maximum effluent that could be applied to land: (Wastewater Hydraulic Loading) / (Irrigation Efficiency) * 100 = (4.45 in) / (75 %) * 100 = 5.93 in

Notes:

(9) Soil Conservation Service "National Engineering Handbook" Section 4--Antecedent Rainfall, March 1985.

CSSA Loading Calculations

Nitrogen Loading Rate

= (4.2 mg/L) / (453,590 mg/lb) * (28.316 L/ft^3) * (32.46 in/yr) / (12 in/ft) * (43,560 ft^2/acre)
= 30.9 lb/acre/yr

Wastewater Loading Rate

= (32.46 in/yr) / (12 in/ft) * (43,560 ft^2/acre) * (7.481 gal/ft^3) * (5.00 acres)
= 4,407,501 gal/yr

Adjustment in Fertilization Rates

None

Appendix 10
Northern Land Application Area

CSSA Area Meteorological Data

Month	Average Precipitation (inches) (1)	Average Evapo-transpiration (inches) (2)	Average Gross Evap. (inches) (3)
January	1.54	1.35	2.45
February	1.75	1.71	2.71
March	1.40	3.42	4.08
April	2.63	3.69	4.71
May	3.72	7.47	5.70
June	3.06	7.11	7.51
July	1.76	8.55	9.39
August	2.81	5.49	9.59
September	3.62	5.49	7.55
October	3.02	4.86	5.93
November	2.19	2.43	3.90
December	1.43	1.08	2.83
Total	28.95	52.65	68.35

Operating Data - CSSA Outfall 002

Curve Number for Application Site	74	(4)
Conductivity of Effluent (mmhos/cm)	0.41	(5)
Max. Conductivity of Soil (mmhos/cm)	8	(6)
Size of Irrigated Area (Acres)	29.6	
Storage Area as a Percent of Irrigated Area (%)	0.0	
Irrigation Efficiency (%)	75	(7)
Total nitrogen in effluent (mg/L)	2.8	(8)
Nitrogen (lb/acre/year)	21.7	

Outfall 002 Wastewater

Flow (Gal/day)	30,000
	Gallons
January	930,000
February	840,000
March	930,000
April	900,000
May	930,000
June	900,000
July	930,000
August	930,000
September	900,000
October	930,000
November	900,000
December	930,000
(Gal/year)	10,950,000

Flowrate over	29.6 acres
	0.023 gal/ft2/day
	1.135 ft/yr
	1.135 in/month

Notes:

(1) Average annual rainfall data in San Antonio area, (1946-1984), Texas Water Oriented Data Bank

(2) "Bulletin 6019 Consumptive Use of Water by Major Crops in Texas" Texas Board of Water Engineers, November 1960.

June - Nov. values are for perennial pasture. Dec. - Mar. values are for small grains (winter rye). Apr is average. Subdivision 4D

(3) Average evaporation data in San Antonio area (1940-1972), Texas Water Oriented Data Bank.

(4) Urban Hydrology for Small Watersheds. Technical Release No. 55, 2nd Edition, United States Department of Agriculture, Soil Conservation Service. Value is average of Trinity soils, hydrologic soil group D, and Frio soils, hydrologic soil group B.

(5) Average groundwater conductivity from MW16 and Well D in Sep 94

(6) 30 TAC 309

(7) Handbook for Land Application of Municipal and Industrial Wastewater, April 96, State of Idaho, Division of Environmental Quality

(8) Outfall 001 sample event 26 June 1995

Appendix 10
Northern Land Application Area
CSSA Water Balance - Average Year

Month	Avg. Precip (in)	Average Runoff (in)	Average Infiltrated Precipitation (in)	Evapotrans-piration (in)	Required Leaching (in)	Total Water Needs (in)	Effluent Needed in the Root Zone (in)	Net Evaporation from Storage Surface (in)	Max. effluent that could be applied to land (in)	Effluent that would be applied to land (in)	Effluent that would be discharged from OF 002 (in)
Jan.	1.54	0.01	1.53	1.35	0.00	1.35	0.00	0.00	0.00	0.00	1.14
Feb.	1.75	0.00	1.75	1.71	0.00	1.71	0.00	0.00	0.00	0.00	1.14
Mar.	1.40	0.01	1.39	3.42	0.11	3.53	2.14	0.00	2.85	1.14	0.00
Apr.	2.63	0.00	2.63	3.69	0.06	3.75	1.12	0.00	1.49	1.14	0.00
May	3.72	0.01	3.71	7.47	0.20	7.67	3.96	0.00	5.28	1.14	0.00
June	**3.06**	**0.00**	**3.06**	**7.11**	**0.22**	**7.33**	**4.27**	**0.00**	**5.69**	**1.14**	**0.00**
July	1.78	0.00	1.78	8.55	0.37	8.92	7.14	0.00	9.51	1.14	0.00
Aug.	2.81	0.00	2.81	5.49	0.14	5.63	2.82	0.00	3.77	1.14	0.00
Sept.	3.62	0.00	3.62	5.49	0.10	5.59	1.97	0.00	2.63	1.14	0.00
Oct.	3.02	0.02	3.00	4.86	0.10	4.96	1.96	0.00	2.61	1.14	0.00
Nov.	2.19	0.02	2.17	2.43	0.01	2.44	0.27	0.00	0.37	0.37	0.77
Dec.	1.43	0.00	1.43	1.08	0.00	1.08	0.00	0.00	0.00	0.00	1.14
TOTAL	28.95	0.07	28.88	52.65	1.31	53.96	25.65	0.00	34.21	9.45	4.18

All values are inches of water per acre of irrigated area

Example Calculations for June:

Column 2. Average Runoff: Monthly Average of [(Daily Precipitation - 0.2*(Retention)]^2 / [(Daily Precipitation) + 0.8 * (Retention)]
where Retention = [1000 / (Curve Number)] - 10 and
Curve Number = 74 for antecedant moisture condition II (9)

Column 3. Infiltration: (Monthly Precipitation) - (Runoff Flow) = (3.06 in) - (0.00 in) = 3.06 in

Column 5. Required Leaching: If (Evapotranspiration) - (Infiltration) < 0.00, Required Leaching = 0.00 in, else
= (Conductivity of Effluent) / [(Maximum Allowable Conductivity of Soil) - (Conductivity of Effluent)] * [(Evapotranspiration) - (Infiltration)]
= (0.41 mmhos/cm) / [(8.00 mmhos/cm) - (0.41 mmhos/cm)] * [(7.11 in) - (3.06 in)] = 0.22 in , Use 0.00 if [(7.11 in) - (3.06 in)] < 0

Column 6. Total Water Needs: (Evapotranspiration) + (Required Leaching) = (7.11 in) + (0.22 in) = 7.33 in

Column 7. Effluent Needed in the Root Zone: (Total Water Needs) - (Ave. Infiltrated Rainfall) = (7.33) - (3.06) = 4.27 in

Column 8. Maximum effluent that could be applied to land: (Wastewater Hydraulic Loading) / (Irrigation Efficiency) * 100 = (4.27 in) / (75 %) * 100 = 5.69 in

Notes:

(9) Soil Conservation Service "National Engineering Handbook" Section 4--Antecedent Rainfall, March 1985.

CSSA Loading Calculations

Nitrogen Loading Rate

= (2.8 mg/L) / (453,590 mg/lb) * (28.316 L/ft^3) * (34.206 in/yr) / (12 in/ft) * (43,560 ft^2/acre)
= 22 lb/acre/yr

Wastewater Loading Rate

= (34.206 in/yr) / (12 in/ft) * (43,560 ft^2/acre) * (7.481 gal/ft^3) * (29.60 acres)
= 27,492,071 gal/yr

Adjustment in Fertilization Rates

None

Appendix 11

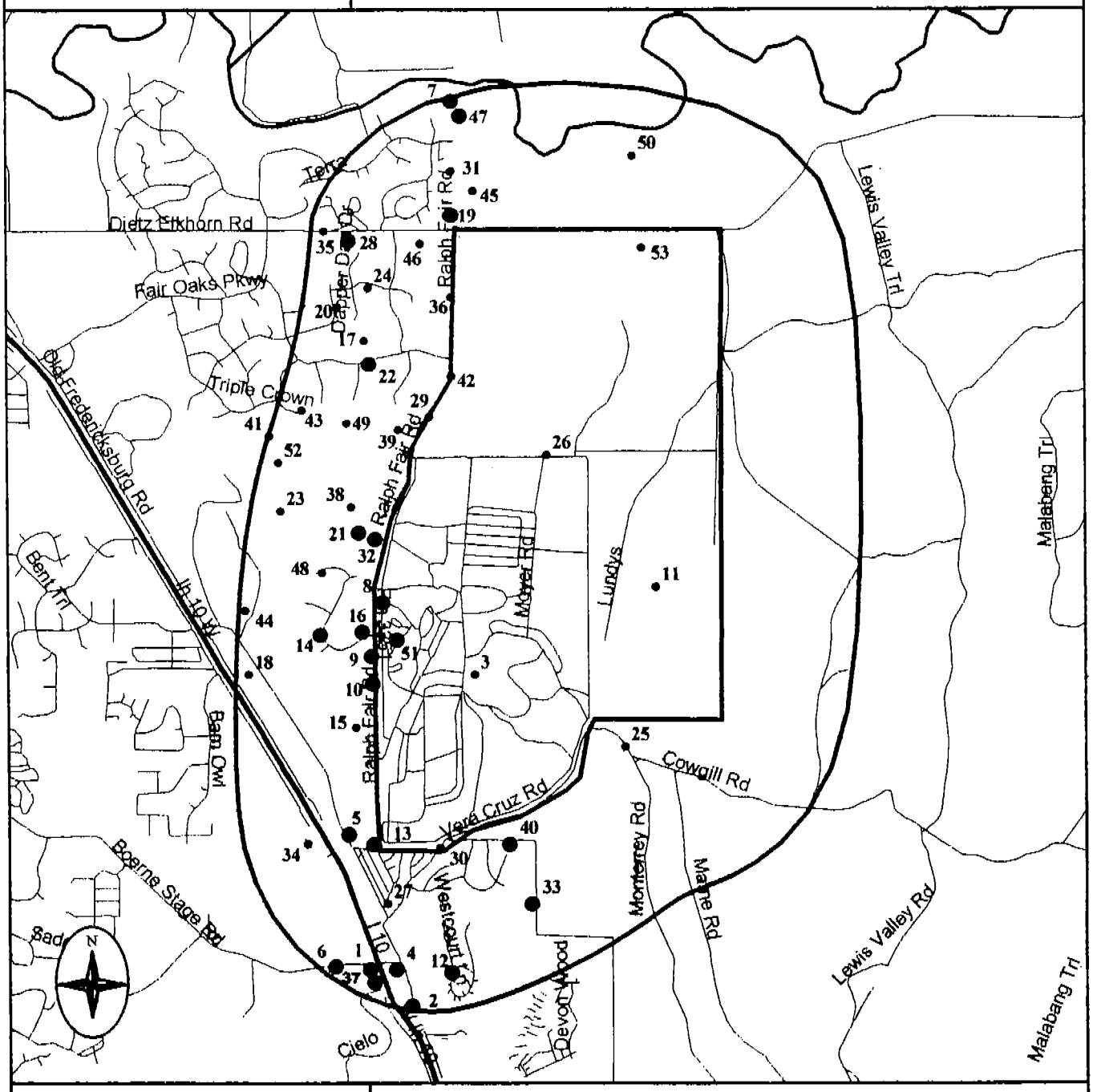
Water Wells

Attachment C. Item 11.

Banks Information Solutions, Inc.

Water Well Report™

Map of Wells within One Mile Buffer



Subject Site
Ground Water Wells (Cluster)
Ground Water Well
Airport
Hospital
Highway
Primary road
Secondary and connecting road
Local road
Access road
Water body
Park
State

0 0.606241 Miles

Banks Information Solutions, Inc.
P.O. Box 12851, Capitol Station Austin, Texas 78711
1701 Nueces Austin, Texas 78701
512-478-0069 FAX 512-478-1433 E Mail: BANKS@BANKSINFO.COM

August 10, 1999

Banks Information Solutions, Inc.

Water Well Report™

DETAILS

		MAP ID
State ID	68-19-9G	1
Banks ID	4802903248	
Owner Of Well	Nasr Mabarak	
Type Of Well	Domestic	
Depth Drilled	305 '	
Completion Date	8/30/73	
Longitude	-98.632785	
Latitude	29.665329	

		MAP ID
State ID	68-19-904	2
Banks ID	4802901081	
Owner Of Well	Leon Springs Element-	
Type Of Well	Institution	
Depth Drilled	700 '	
Completion Date	6/15/90	
Longitude	-98.628611	
Latitude	29.663333	

		MAP ID
State ID	68-19-905	2
Banks ID	4802901082	
Owner Of Well	Leon Springs Element-	
Type Of Well	Institution	
Depth Drilled	650 '	
Completion Date	3/26/92	
Longitude	-98.629167	
Latitude	29.663056	

P.O. Box 12551, Capitol Station, Austin, TX 78711
1701 Nueces, Austin, TX 78701
512.478.0059 FAX 512.478.1433 e-mail banks@banksinfo.com
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Banks Information Solutions, Inc.

Water Well Report™

DETAILS

		MAP ID
State ID	G0150462A	2
Banks ID	4802902145	
Owner Of Well	LEON SPRINGS ELEMENTARY SCHOOL	
Type Of Well	Public Supply	
Depth Drilled	N/A '	
Completion Date	N/A	
Longitude	-98.628889	
Latitude	29.663333	

		MAP ID
State ID	68-19-6SS	2
Banks ID	4802903194	
Owner Of Well	Lucille Dick	
Type Of Well	Domestic	
Depth Drilled	662 '	
Completion Date	6/26/84	
Longitude	-98.627908	
Latitude	29.662355	

		MAP ID
State ID	68-20-4	3
Banks ID	4802903066	
Owner Of Well	John Milner	
Type Of Well	Domestic	
Depth Drilled	525 '	
Completion Date	5/20/93	
Longitude	-98.621454	
Latitude	29.69165	

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		MAP ID
State ID	G0150439A	4
Banks ID	4802902122	
Owner Of Well	LEON SPRINGS LAND	
Type Of Well	Public Supply	
Depth Drilled	650 '	
Completion Date	7/3/89	
Longitude	-98.628889	
Latitude	29.665278	

		MAP ID
State ID	G0150510A	4
Banks ID	4802902201	
Owner Of Well	LEON SPRINGS DANCE HALL	
Type Of Well	Public Supply	
Depth Drilled	650 '	
Completion Date	7/3/89	
Longitude	-98.629444	
Latitude	29.665556	

		MAP ID
State ID	68-19-6	4
Banks ID	4802903185	
Owner Of Well	Bank of Leon Springs	
Type Of Well	Domestic	
Depth Drilled	650 '	
Completion Date	7/3/89	
Longitude	-98.628621	
Latitude	29.664139	

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DETAILS

		MAP ID
State ID	68-19-621	5
Banks ID	4802901127	
Owner Of Well	Daughtry Properties	
Type Of Well	Public Supply	
Depth Drilled	485 '	
Completion Date	9/1/89	
Longitude	-98.635	
Latitude	29.677222	

		MAP ID
State ID	G0150436A	5
Banks ID	4802902121	
Owner Of Well	AAA STOW-AWAY	
Type Of Well	Public Supply	
Depth Drilled	400 '	
Completion Date	6/13/83	
Longitude	-98.634167	
Latitude	29.6775	

		MAP ID
State ID	68-19-906	6
Banks ID	4802901128	
Owner Of Well	Leon Springs	
Type Of Well	Public Supply	
Depth Drilled	570 '	
Completion Date	12/15/94	
Longitude	-98.635556	
Latitude	29.665833	

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		MAP ID
State ID	G0150441A	6
Banks ID	4802902124	
Owner Of Well	LEON SPRINGS BUSINESS PARK	
Type Of Well	Public Supply	
Depth Drilled	450 '	
Completion Date	N/A	
Longitude	-98.634444	
Latitude	29.665833	

		MAP ID
State ID	G0150441B	6
Banks ID	4802902125	
Owner Of Well	LEON SPRINGS BUSINESS PARK	
Type Of Well	Public Supply	
Depth Drilled	570 '	
Completion Date	12/15/94	
Longitude	-98.634444	
Latitude	29.665833	

		MAP ID
State ID	68-19-9V	6
Banks ID	4802903254	
Owner Of Well	William A. Swinney, Inc.	
Type Of Well	Domestic	
Depth Drilled	400 '	
Completion Date	6/16/77	
Longitude	-98.634332	
Latitude	29.664972	

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DETAILS

		MAP ID
State ID	68-19-2	6
Banks ID	4802903257	
Owner Of Well	Mark Sutherland	
Type Of Well	Domestic	
Depth Drilled	464 '	
Completion Date	4/16/98	
Longitude	-98.63576	
Latitude	29.665567	

		MAP ID
State ID	68-20-108	7
Banks ID	4802900050	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	435 '	
Completion Date	4/6/79	
Longitude	-98.623611	
Latitude	29.742222	

		MAP ID
State ID	68-20-109	7
Banks ID	4802900051	
Owner Of Well	Fairco Water Company	
Type Of Well	Unused	
Depth Drilled	877 '	
Completion Date	8/1/80	
Longitude	-98.623611	
Latitude	29.740556	

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DETAILS

		MAP ID
State ID	G0150216N	7
Banks ID	4802901973	
Owner Of Well	FAIRCO WATER COMPANY	
Type Of Well	Public Supply	
Depth Drilled	435 '	
Completion Date	4/6/78	
Longitude	-98.623333	
Latitude	29.7425	

		MAP ID
State ID	68-19-604	8
Banks ID	4802900023	
Owner Of Well	U. S. Government:	
Type Of Well	Public Supply	
Depth Drilled	550 '	
Completion Date	8/27/58	
Longitude	-98.630556	
Latitude	29.698056	

		MAP ID
State ID	68-19-6	8
Banks ID	4802903124	
Owner Of Well	Buddy Nichols	
Type Of Well	Domestic	
Depth Drilled	425 '	
Completion Date	5/18/82	
Longitude	-98.631815	
Latitude	29.697971	

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		MAP ID
State ID	68-19-6	8
Banks ID	4802903142	
Owner Of Well	Bruce Tschoepe	
Type Of Well	Domestic	
Depth Drilled	500 '	
Completion Date	6/22/88	
Longitude	-98.631753	
Latitude	29.698653	

		MAP ID
State ID	69-19-06	9
Banks ID	4802903111	
Owner Of Well	John White	
Type Of Well	Domestic	
Depth Drilled	480 '	
Completion Date	10/15/86	
Longitude	-98.633087	
Latitude	29.690653	

		MAP ID
State ID	68-19-6F	9
Banks ID	4802903153	
Owner Of Well	Richard Gansle	
Type Of Well	Domestic	
Depth Drilled	412 '	
Completion Date	12/7/81	
Longitude	-98.631635	
Latitude	29.690834	

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DETAILS

		MAP ID
State ID	68-19-620	10
Banks ID	4802901121	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	500 '	
Completion Date	11/7/86	
Longitude	-98.633333	
Latitude	29.692778	

		MAP ID
State ID	68-19-6EE	10
Banks ID	4802903126	
Owner Of Well	E.A. Hermes	
Type Of Well	Domestic	
Depth Drilled	600 '	
Completion Date	7/2/84	
Longitude	-98.631753	
Latitude	29.6933	

		MAP ID
State ID	68-196Z	10
Banks ID	4802903151	
Owner Of Well	William Price	
Type Of Well	Domestic	
Depth Drilled	361 '	
Completion Date	11/28/77	
Longitude	-98.632674	
Latitude	29.692809	

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DETAILS

		MAP ID
State ID	68-20-4	11
Banks ID	4802903067	
Owner Of Well	Willie Raiwesek	
Type Of Well	Domestic	
Depth Drilled	160 '	
Completion Date	11/8/96	
Longitude	-98.603246	
Latitude	29.699478	

		MAP ID
State ID	68-20-707	12
Banks ID	4802901129	
Owner Of Well	The Dominion	
Type Of Well	Irrigation	
Depth Drilled	606 '	
Completion Date	2/25/83	
Longitude	-98.623889	
Latitude	29.665278	

		MAP ID
State ID	68-20-708	12
Banks ID	4802901130	
Owner Of Well	The Dominion	
Type Of Well	Irrigation	
Depth Drilled	688 '	
Completion Date	6/13/83	
Longitude	-98.623056	
Latitude	29.664167	

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DETAILS

State ID	68-19-606	MAP ID
Banks ID	4802900024	13
Owner Of Well	Leon Springs Villa	
Type Of Well	Public Supply	
Depth Drilled	450 '	
Completion Date	6/1/67	
Longitude	-98.631667	
Latitude	29.676667	

State ID	68-19-607	MAP ID
Banks ID	4802900025	13
Owner Of Well	Leon Springs Villa	
Type Of Well	Public Supply	
Depth Drilled	404 '	
Completion Date	2/8/70	
Longitude	-98.6325	
Latitude	29.676389	

State ID	68-19-6FF	MAP ID
Banks ID	4802903202	13
Owner Of Well	Lapaglia	
Type Of Well	Domestic	
Depth Drilled	900 '	
Completion Date	5/4/79	
Longitude	-98.630882	
Latitude	29.677821	

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DETAILS

		MAP ID
State ID	68-19-6	14
Banks ID	4802903106	
Owner Of Well	Emory Alexander	
Type Of Well	Domestic	
Depth Drilled	362 '	
Completion Date	11/5/85	
Longitude	-98.635997	
Latitude	29.693737	

		MAP ID
State ID	58-19-6	14
Banks ID	4802903135	
Owner Of Well	Ed Wiley (D' Spain & Waldeck Bldrs.)	
Type Of Well	Domestic	
Depth Drilled	525 '	
Completion Date	6/17/86	
Longitude	-98.636512	
Latitude	29.696869	

		MAP ID
State ID	68-19-6	14
Banks ID	4802903137	
Owner Of Well	Charlie Lima Corp.	
Type Of Well	Domestic	
Depth Drilled	450 '	
Completion Date	8/26/91	
Longitude	-98.636988	
Latitude	29.694132	

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		MAP ID
State ID	68-19-6	14
Banks ID	4802903139	
Owner Of Well	Ricjard Gansle	
Type Of Well	Domestic	
Depth Drilled	525 '	
Completion Date	12/14/88	
Longitude	-98.635561	
Latitude	29.697226	

		MAP ID
State ID	68-19-6F	14
Banks ID	4802903147	
Owner Of Well	Lamar Samuel Kelley	
Type Of Well	Domestic	
Depth Drilled	360 '	
Completion Date	4/15/82	
Longitude	-98.636124	
Latitude	29.697211	

		MAP ID
State ID	68-19-6AA	14
Banks ID	4802903174	
Owner Of Well	Dr. Adam Adelman	
Type Of Well	Domestic	
Depth Drilled	578 '	
Completion Date	5/24/84	
Longitude	-98.634927	
Latitude	29.693764	

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DETAILS

		MAP ID
State ID	68-19-6AA	14
Banks ID	4802903175	
Owner Of Well	K.N.C. Builders Inc.	
Type Of Well	Domestic	
Depth Drilled	550 '	
Completion Date	3/24/83	
Longitude	-98.635879	
Latitude	29.693883	

		MAP ID
State ID	68-19-6AA	14
Banks ID	4802903176	
Owner Of Well	K.N.C. Builders	
Type Of Well	Domestic	
Depth Drilled	500 '	
Completion Date	12/17/82	
Longitude	-98.636712	
Latitude	29.694596	

		MAP ID
State ID	68-19-6EE	14
Banks ID	4802903207	
Owner Of Well	Charles Swindler	
Type Of Well	Domestic	
Depth Drilled	400 '	
Completion Date	4/19/79	
Longitude	-98.636949	
Latitude	29.695191	

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DETAILS

		MAP ID
State ID	68-19-6Z	15
Banks ID	4802903173	
Owner Of Well	Mrs. Ruth Favor	
Type Of Well	Domestic	
Depth Drilled	375 '	
Completion Date	8/21/81	
Longitude	-98.63338	
Latitude	29.686982	

		MAP ID
State ID	68-19-6	16
Banks ID	4802903128	
Owner Of Well	Karen Fletcher	
Type Of Well	Domestic	
Depth Drilled	525 '	
Completion Date	10/12/90	
Longitude	-98.631872	
Latitude	29.696036	

		MAP ID
State ID	68-19-6	16
Banks ID	4802903132	
Owner Of Well	Ed Poetschke	
Type Of Well	Domestic	
Depth Drilled	550 '	
Completion Date	7/8/91	
Longitude	-98.631515	
Latitude	29.694727	

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DETAILS

		MAP ID
State ID	68-19-6EE	16
Banks ID	4802903146	
Owner Of Well	Bernhard Construction	
Type Of Well	Domestic	
Depth Drilled	525 '	
Completion Date	10/7/83	
Longitude	-98.632674	
Latitude	29.695427	

		MAP ID
State ID	68-19-6EE	16
Banks ID	4802903149	
Owner Of Well	Arthur Mace	
Type Of Well	Domestic	
Depth Drilled	400 '	
Completion Date	5/16/82	
Longitude	-98.633507	
Latitude	29.694237	

		MAP ID
State ID	68--19-6AA	16
Banks ID	4802903177	
Owner Of Well	K.N.C. Builders	
Type Of Well	Domestic	
Depth Drilled	450 '	
Completion Date	6/16/83	
Longitude	-98.634094	
Latitude	29.694002	

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DETAILS

		MAP ID
State ID	68-19-3	17
Banks ID	4802903104	
Owner Of Well	Frank Dunderstadt	
Type Of Well	Domestic	
Depth Drilled	445 '	
Completion Date	11/21/85	
Longitude	-98.632357	
Latitude	29.721196	

		MAP ID
State ID	68-19-617	18
Banks ID	4802901075	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	441 '	
Completion Date	3/29/83	
Longitude	-98.644167	
Latitude	29.691667	

		MAP ID
State ID	68-20-110	19
Banks ID	4802900052	
Owner Of Well	Fairco Water Company	
Type Of Well	Unused	
Depth Drilled	435 '	
Completion Date	12/3/84	
Longitude	-98.623611	
Latitude	29.732222	

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DETAILS

		MAP ID
State ID	68-20-112	19
Banks ID	4802901122	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	500 '	
Completion Date	2/1/89	
Longitude	-98.623889	
Latitude	29.730278	

		MAP ID
State ID	68-19-307	20
Banks ID	4802900010	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	625 '	
Completion Date	3/10/78	
Longitude	-98.635	
Latitude	29.724167	

		MAP ID
State ID	68-19-6	21
Banks ID	4802903105	
Owner Of Well	Emory Alexander	
Type Of Well	Domestic	
Depth Drilled	424 '	
Completion Date	11/18/85	
Longitude	-98.632999	
Latitude	29.704231	

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DETAILS

		MAP ID
State ID	68-19-6	21
Banks ID	4802903133	
Owner Of Well	Fred Friar	
Type Of Well	Domestic	
Depth Drilled	500 '	
Completion Date	7/11/90	
Longitude	-98.631159	
Latitude	29.702579	

		MAP ID
State ID	68-19-6	21
Banks ID	4802903138	
Owner Of Well	Paul Gombert	
Type Of Well	Domestic	
Depth Drilled	500 '	
Completion Date	10/23/91	
Longitude	-98.632586	
Latitude	29.703888	

		MAP ID
State ID	68-19-306	22
Banks ID	4802900009	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	526 '	
Completion Date	2/27/78	
Longitude	-98.631667	
Latitude	29.718889	

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DETAILS

		MAP ID
State ID	69-19-3Y	22
Banks ID	4802903069	
Owner Of Well	Henry May	
Type Of Well	Domestic	
Depth Drilled	360 '	
Completion Date	12/1/87	
Longitude	-98.63188	
Latitude	29.719096	

		MAP ID
State ID	68-19-619	23
Banks ID	4802901080	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	522 '	
Completion Date	7/13/93	
Longitude	-98.640833	
Latitude	29.706111	

		MAP ID
State ID	68-19-313	24
Banks ID	4802901076	
Owner Of Well	Fairco Water Company	
Type Of Well	Unused	
Depth Drilled	740 '	
Completion Date	4/20/90	
Longitude	-98.631944	
Latitude	29.725833	

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DETAILS

		MAP ID
State ID	68-20-401	25
Banks ID	4802900053	
Owner Of Well	U. S. Government	
Type Of Well	Public Supply	
Depth Drilled	451 '	
Completion Date	3/2/40	
Longitude	-98.606389	
Latitude	29.685278	

		MAP ID
State ID	68-20-101	26
Banks ID	4802900045	
Owner Of Well	U. S. Government	
Type Of Well	Public Supply	
Depth Drilled	442 '	
Completion Date	N/A	
Longitude	-98.614167	
Latitude	29.711111	

		MAP ID
State ID	68-19-608	27
Banks ID	4802900026	
Owner Of Well	Leon Springs Villa	
Type Of Well	Public Supply	
Depth Drilled	500 '	
Completion Date	6/3/71	
Longitude	-98.630278	
Latitude	29.671389	

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DETAILS

		MAP ID
State ID	68-19-302	28
Banks ID	4802900006	
Owner Of Well	Fairco Water Company	
Type Of Well	Irrigation	
Depth Drilled	1070 '	
Completion Date	9/29/76	
Longitude	-98.633611	
Latitude	29.730278	

		MAP ID
State ID	68-19-308	28
Banks ID	4802900011	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	612 '	
Completion Date	5/20/77	
Longitude	-98.633889	
Latitude	29.73	

		MAP ID
State ID	68-19-317	29
Banks ID	4802901117	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	505 '	
Completion Date	3/20/89	
Longitude	-98.625833	
Latitude	29.714444	

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DETAILS

		MAP ID
State ID	68-20-402	30
Banks ID	4802900054	
Owner Of Well	Leon Springs Villa	
Type Of Well	Public Supply	
Depth Drilled	435 '	
Completion Date	1/1/33	
Longitude	-98.625	
Latitude	29.676389	

		MAP ID
State ID	68-20-102	31
Banks ID	4802900046	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	485 '	
Completion Date	3/16/78	
Longitude	-98.623611	
Latitude	29.736111	

		MAP ID
State ID	68-19-6EE	32
Banks ID	4802903148	
Owner Of Well	Arvo Neidre	
Type Of Well	Domestic	
Depth Drilled	565 '	
Completion Date	10/29/84	
Longitude	-98.631365	
Latitude	29.703636	

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DETAILS

		MAP ID
State ID	68-19-6MM	32
Banks ID	4802903180	
Owner Of Well	Mr.Ebersole, Builder	
Type Of Well	Domestic	
Depth Drilled	450 '	
Completion Date	6/1/83	
Longitude	-98.630287	
Latitude	29.704947	

		MAP ID
State ID	68-19-6MM	32
Banks ID	4802903181	
Owner Of Well	Mr. Elroy Sicko	
Type Of Well	Domestic	
Depth Drilled	425 '	
Completion Date	8/10/82	
Longitude	-98.630406	
Latitude	29.704709	

		MAP ID
State ID	G0150507A	33
Banks ID	4802902195	
Owner Of Well	HIDDEN SPRINGS ESTATES WATER SYST	
Type Of Well	Public Supply	
Depth Drilled	900 '	
Completion Date	N/A	
Longitude	-98.615833	
Latitude	29.671389	

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DETAILS

		MAP ID
State ID	G0150507B	33
Banks ID	4802902196	
Owner Of Well	HIDDEN SPRINGS ESTATES WATER SYST	
Type Of Well	Public Supply	
Depth Drilled	900 '	
Completion Date	N/A	
Longitude	-98.615556	
Latitude	29.671111	

		MAP ID
State ID	G0150507C	33
Banks ID	4802902197	
Owner Of Well	HIDDEN SPRINGS ESTATES WATER SYST	
Type Of Well	Public Supply	
Depth Drilled	900 '	
Completion Date	N/A	
Longitude	-98.615278	
Latitude	29.671389	

		MAP ID
State ID	G0150507D	33
Banks ID	4802902198	
Owner Of Well	HIDDEN SPRINGS ESTATES WATER SYST	
Type Of Well	Public Supply	
Depth Drilled	900 '	
Completion Date	N/A	
Longitude	-98.615556	
Latitude	29.671667	

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DETAILS

		MAP ID
State ID	G0150243A	34
Banks ID	4802902002	
Owner Of Well	MOORE'S MOBILE HOME PARK	
Type Of Well	Public Supply	
Depth Drilled	496 '	
Completion Date	3/1/68	
Longitude	-98.638333	
Latitude	29.676667	

		MAP ID
State ID	68-19-318	35
Banks ID	4802901118	
Owner Of Well	Fairco Water Company	
Type Of Well	Irrigation	
Depth Drilled	700 '	
Completion Date	9/25/89	
Longitude	-98.636389	
Latitude	29.730833	

		MAP ID
State ID	68-20-103	36
Banks ID	4802900047	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	525 '	
Completion Date	1/11/78	
Longitude	-98.623611	
Latitude	29.725	

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DETAILS

		MAP ID
State ID	G0150494A	37
Banks ID	4802902178	
Owner Of Well	TEN WEST CENTER	
Type Of Well	Public Supply	
Depth Drilled	675 '	
Completion Date	N/A	
Longitude	-98.631667	
Latitude	29.664444	

		MAP ID
State ID	G0150494B	37
Banks ID	4802902179	
Owner Of Well	TEN WEST CENTER	
Type Of Well	Public Supply	
Depth Drilled	705 '	
Completion Date	N/A	
Longitude	-98.632222	
Latitude	29.664722	

		MAP ID
State ID	68-19-9A	37
Banks ID	4802903244	
Owner Of Well	Falcon Center	
Type Of Well	Domestic	
Depth Drilled	705 '	
Completion Date	3/2/84	
Longitude	-98.631953	
Latitude	29.663901	

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DETAILS

		MAP ID
State ID	68-19-9	37
Banks ID	4802903246	
Owner Of Well	Mr. & Mrs. Peterson	
Type Of Well	Domestic	
Depth Drilled	700 '	
Completion Date	9/19/96	
Longitude	-98.633737	
Latitude	29.663663	

		MAP ID
State ID	68-19-9K	37
Banks ID	4802903249	
Owner Of Well	F. Haeri	
Type Of Well	Domestic	
Depth Drilled	625 '	
Completion Date	1/28/81	
Longitude	-98.633142	
Latitude	29.664734	

		MAP ID
State ID	68-19-9K	37
Banks ID	4802903250	
Owner Of Well	Sitterle Homes	
Type Of Well	Domestic	
Depth Drilled	700 '	
Completion Date	7/20/74	
Longitude	-98.631834	
Latitude	29.66295	

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DETAILS

		MAP ID
State ID	68-19-9	37
Banks ID	4802903251	
Owner Of Well	Frank Garcia	
Type Of Well	Domestic	
Depth Drilled	520 '	
Completion Date	12/23/97	
Longitude	-98.631239	
Latitude	29.663307	

		MAP ID
State ID	68-19-9	37
Banks ID	4802903252	
Owner Of Well	Larry Wood	
Type Of Well	Domestic	
Depth Drilled	500 '	
Completion Date	4/17/98	
Longitude	-98.631477	
Latitude	29.664139	

		MAP ID
State ID	68-19-9V	37
Banks ID	4802903253	
Owner Of Well	William A. Swinney	
Type Of Well	Domestic	
Depth Drilled	370 '	
Completion Date	5/6/77	
Longitude	-98.632072	
Latitude	29.664496	

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DETAILS

		MAP ID
State ID	68-19-9C	37
Banks ID	4802903256	
Owner Of Well	William Price	
Type Of Well	Domestic	
Depth Drilled	361 '	
Completion Date	3/1/68	
Longitude	-98.633142	
Latitude	29.663782	

		MAP ID
State ID	68-19-6F	38
Banks ID	4802903162	
Owner Of Well	Roy Gombert	
Type Of Well	Domestic	
Depth Drilled	375 '	
Completion Date	7/26/63	
Longitude	-98.633737	
Latitude	29.706494	

		MAP ID
State ID	68-19-3Q	39
Banks ID	4802903099	
Owner Of Well	Dixie Anne Crosby	
Type Of Well	Domestic	
Depth Drilled	550 '	
Completion Date	4/30/80	
Longitude	-98.628906	
Latitude	29.71332	

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DETAILS

		MAP ID
State ID	68-20-403	40
Banks ID	4802901123	
Owner Of Well	Bexar Metro Water	
Type Of Well	Public Supply	
Depth Drilled	880 '	
Completion Date	4/7/83	
Longitude	-98.618056	
Latitude	29.676667	

		MAP ID
State ID	68-20-404	40
Banks ID	4802901124	
Owner Of Well	Bexar Metro Water	
Type Of Well	Unused	
Depth Drilled	880 '	
Completion Date	4/12/83	
Longitude	-98.618056	
Latitude	29.676389	

		MAP ID
State ID	68-20-405	40
Banks ID	4802901125	
Owner Of Well	Bexar Metro Water	
Type Of Well	Unused	
Depth Drilled	910 '	
Completion Date	2/13/84	
Longitude	-98.617778	
Latitude	29.676389	

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DETAILS

		MAP ID
State ID	68-20-406	40
Banks ID	4802901126	
Owner Of Well	Bexar Metro Water	
Type Of Well	Public Supply	
Depth Drilled	925 '	
Completion Date	2/16/84	
Longitude	-98.617778	
Latitude	29.676667	

		MAP ID
State ID	68-19-316	41
Banks ID	4802901079	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	575 '	
Completion Date	6/30/93	
Longitude	-98.641944	
Latitude	29.712778	

		MAP ID
State ID	68-20-104	42
Banks ID	4802900048	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	525 '	
Completion Date	4/4/78	
Longitude	-98.623611	
Latitude	29.718056	

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DETAILS

		MAP ID
State ID	68-19-311	43
Banks ID	4802900014	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	650 '	
Completion Date	10/3/78	
Longitude	-98.638611	
Latitude	29.715	

		MAP ID
State ID	68-19-6V	44
Banks ID	4802903190	
Owner Of Well	Hendrick & Marchall	
Type Of Well	Domestic	
Depth Drilled	475 '	
Completion Date	6/29/74	
Longitude	-98.644445	
Latitude	29.697333	

		MAP ID
State ID	68-20-1	45
Banks ID	4802903062	
Owner Of Well	Reno Schubert	
Type Of Well	Domestic	
Depth Drilled	560 '	
Completion Date	7/31/84	
Longitude	-98.621369	
Latitude	29.734363	

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DETAILS

		MAP ID
State ID	68-19-303	46
Banks ID	4802900007	
Owner Of Well	Fairco Water Company	
Type Of Well	Public Supply	
Depth Drilled	555 '	
Completion Date	1/8/75	
Longitude	-98.626667	
Latitude	29.729722	

		MAP ID
State ID	68-20-1	47
Banks ID	4802903063	
Owner Of Well	Don Owens	
Type Of Well	Domestic	
Depth Drilled	400 '	
Completion Date	5/30/91	
Longitude	-98.621029	
Latitude	29.742701	

		MAP ID
State ID	68-20-1	47
Banks ID	4802903154	
Owner Of Well	Don Owens	
Type Of Well	Domestic	
Depth Drilled	450 '	
Completion Date	10/8/90	
Longitude	-98.622712	
Latitude	29.740922	

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DETAILS

		MAP ID
State ID	68-19-6F	48
Banks ID	4802903150	
Owner Of Well	Ernest Nicholson	
Type Of Well	Domestic	
Depth Drilled	525 '	
Completion Date	3/14/84	
Longitude	-98.636719	
Latitude	29.700662	

		MAP ID
State ID	68-19-3Q	49
Banks ID	4802903100	
Owner Of Well	Whitey Asher	
Type Of Well	Domestic	
Depth Drilled	450 '	
Completion Date	N/A	
Longitude	-98.634117	
Latitude	29.713891	

		MAP ID
State ID	68-20-1B	50
Banks ID	4802903064	
Owner Of Well	Mark Motts	
Type Of Well	Domestic	
Depth Drilled	390 '	
Completion Date	3/23/82	
Longitude	-98.605458	
Latitude	29.737426	

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DETAILS

		MAP ID
State ID	68-19-602	51
Banks ID	4802900021	
Owner Of Well	U. S. Government:	
Type Of Well	Public Supply	
Depth Drilled	546 '	
Completion Date	9/15/58	
Longitude	-98.629167	
Latitude	29.694722	

		MAP ID
State ID	68-19-603	51
Banks ID	4802900022	
Owner Of Well	U. S. Government:	
Type Of Well	Public Supply	
Depth Drilled	559 '	
Completion Date	8/7/58	
Longitude	-98.627778	
Latitude	29.696667	

		MAP ID
State ID	68-19-3R	52
Banks ID	4802903101	
Owner Of Well	Whitey Asher	
Type Of Well	Domestic	
Depth Drilled	450 '	
Completion Date	11/2/79	
Longitude	-98.641045	
Latitude	29.710397	

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DETAILS

		MAP ID
State ID	68-20-1A	53
Banks ID	4802903065	
Owner Of Well	Department of Agriculture	
Type Of Well	Domestic	
Depth Drilled	360 '	
Completion Date	4/10/79	
Longitude	-98.604522	
Latitude	29.729343	

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Water Well Report™

SUMMARY

Water Well Report™ Research Mapping Protocol

The Banks Information Solutions, Inc. Water Well Report™ is prepared from existing state water well databases and additional file data/records research conducted at Texas' regulatory authorities. Submission of driller's log records upon completion of a drilled water well became mandatory in 1985. The state of Texas has processed these records into several different filing systems within two state regulatory authorities. The water well files, records and map locations are maintained by the Texas Natural Resource Conservation Commission(TNRCC) and the Texas Water Development Board(TWDB). Actual water well site locations of this report are geocoded and geoplotted directly from the drilling records, drilling schedules, and driller's logs and maps submitted by the water well driller and maintained at these two primary water well regulatory authorities. Below is a description of the four filing systems utilized for well drilling records.

Texas Water Development Board (TWDB)

Texas Water Development Board maintains a file system of located water well locations. These well files are water well site locations that have been verified with a field inventory inspection by TWDB personnel. The wells are assigned a State identification Number unique to that well and plotted on county base maps, U.S.G.S. 7.5 minute topographical quadrangle maps, and in-house geographic information system. Records will also include analytical data attached with each drilling record. This is the current protocol for maintaining water well records within the TWDB.

Texas Natural Resource Conservation Commission (TNRCC)

The Texas Natural Resource Conservation Commission maintains a file system of plotted, partially numbered, and un-numbered water well locations. Plotted water well files are water well site locations that have been determined from map information submitted on water well logs and subsequently plotted on TWDB county highway base maps. This type of mapping and filing procedure ceased in June 1986. Partially numbered water well files are water well site locations processed from 1986 through 1990. These wells are provided a State identification Number which establishes the well location somewhere within a 2.5 minute quadrant of a 7.5 minute quadrangle map, but the site location has never been precisely mapped or verified by a State of Texas staff member. Un-numbered water well files are water well site locations that have been processed since June 1990. These well records are filed solely on their county location and are not provided a State identification Number nor are they mapped. This is the current protocol for maintaining water well records within the TNRCC.

Disclaimer

Banks Information Solutions, Inc. has performed a thorough and diligent search of all wells recorded with the Texas Water Development Board and the Texas Natural Resource Conservation Commission. All mapped locations are based on information obtained from the TWDB and the TNRCC. 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 water well driller. Many water well schedules may have never been submitted to the regulatory authority by the water well driller and, thus, may explain the possible unaccountability of private drilled wells. It is uncertain if the above listing provides 100% of the existing well locations within the area of review. Therefore, Banks Information Solutions, Inc. cannot gaurantee the accuracy of the data or well location(s) of those maps and records maintained by Texas' regulatory authorities.

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MAP ID
1

PUBLIC WATER SUPPLY REGULATORY PROGRAM
WATER SYSTEM DATA

DELETE (NOW SERVED BY S.A.W.S.)

ID No. 0150494 Community ___ NTNC X Non-Comm ___
CCN No. NA Superior Y (N) Approved Y (N) Probation Y (N) Region 13
Name of System TEN WEST CENTER County BEXAR
Physical Location 24165 IH-10 WEST
Responsible Official BARBARA RIGGINS Title MANAGER Phone (210) 593-07
Mailing Address C/O FULCRUM PROPERTY GROUP, 9100 W. IH-10, SUITE 230, SAN ANTONIO, TX 7823
Chief Cert Op Name JAMES SOTACK Grade & Type C GW Phone (210) 340-35
2nd Op Req'd? N Other Cert Op Name ___ Grade & Type ___ Total # Cert Ops 1
WS Manager/Superintendent JAMES SOTACK Other Officials Contacted NONE
Surveyed With JAMES SOTACK Area Served RETAIL & OFFICE COMPL
Supplier and Source WAY OUT WEST LTD./GROUND, FOUR WELLS - GLEN ROSE (TWO ARE CAPPED)
Interconnection with another PWS? N Name PWS I/C ___ Type I/C ___
Retail Service Connections 6 Retail Meters NA Retail Population 100/DA
Wholesale Master Meters NA Wholesale Service Connections NA Wholesale Population NA
Charge Y/N N Dist. to and Name of Nearest PWS 1 MILE - S.A.W.S.
Reason for this Survey (Routine, Follow Up, Initial, Enforcement, Complaint, Other) Previous Survey Date 7-30-97
Map Attached ___ Previous Map OK? X Well Operational Status Changed? NO
Description of Supply, Source, Treatment, and Chemicals Used TWO WELLS, SUB. PUMPS, DISCHARGE TO DISTRIB THROUGH ONE PRESSURE TANK, GAS CHLORINATION PRIOR TO PRESSURE TANK. TWO ADDITIONAL WELLS ARE CAPPED. *NOTE*: THIS SYSTEM IS SCHEDULED TO BE SERVED BY S.A.W.S. WITHIN THE NEXT 9 MONTHS
Total Well Cap. 125 gpm 0.180 mgd RW Cap NA gpm ___ n
Treatment Cap. NA gpm ___ mgd Total Svc. Pump Cap. NA gpm ___ n
Total Elevated Storage NA Total Storage Cap. NA Pressure Tank Capacity 0.0024 mg
Maximum Daily Usage $ Date ___ Average Daily Usage $ Time Period ___
Wholesale Contract NA Maximum Purchase Rate NA

MICROBIOLOGICAL Y N
Samples Submitted in Accordance with DWS? X 0 Number of Samples Required 1 Submitted 1
Raw Samples Submitted, if Required? 0 0 Number of Raw Samples ___
Well(s) Surface Water Influenced? 0 X Non-Comm. Dates of Operation ___ Thru ___
Acceptable Sample Siting Plan on File? X 0

CHEMICAL Acceptable Quality? Y/N
Date, Last Chemical Analysis IOC 10-17-96 NO/NO. 4-17-95 RC ___ VOC ___ SOC ___
List UNACCEPTABLE Values ___

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? ___ Date ___

Date of Survey 5-14-98 by [signature]
Date of Approval 5/28/98 By [signature]
Letter Date, if different from Approval Date — Reply Requested 4 Def. Score of this Survey 12
7/28/98

MAP ID
1

PUBLIC WATER SUPPLY REGULATORY PROGRAM
WATER SYSTEM DATA

ID No. 0150494 Community ____ NTNC X Non-Comm ____

CCN No. NA Superior Y (N) Approved Y (N) Probation Y (N) Region 13

Name of System TEN WEST CENTER County BEXAR

Physical Location 24165 IH-10 WEST

Responsible Official BARBARA RIGGINS Title MANAGER Phone (210) 593-07

Mailing Address C/O FULCRUM PROPERTY GROUP, 9100 W. IH-10, SUITE 230, SAN ANTONIO, TX 78230

Chief Cert Op Name JAMES SOTACK Grade & Type C GW Phone (210) 340-352

2nd Op Req'd? N Other Cert Op Name ____ Grade & Type ____ Total # Cert Ops 3

WS Manager/Superintendent JAMES SOTACK Other Officials Contacted NONE

Surveyed With JAMES SOTACK Area Served RETAIL & OFFICE COMPLEX

Supplier and Source WAY OUT WEST LTD./GROUND, FOUR WELLS - GLEN ROSE (TWO ARE CAPPED)

Interconnection with another PWS? N Name PWS I/C ____ Type I/C ____

Retail Service Connections 6 Retail Meters NA Retail Population 100/DAY

Wholesale Master Meters NA Wholesale Service Connections NA Wholesale Population NA

Charge Y/N N Dist. to and Name of Nearest PWS 1 MILE - S.A.W.S.

Reason for this Survey (Routine, Follow Up, Initial, Enforcement, Complaint, Other) Previous Survey Date 7-30-97

Map Attached ____ Previous Map OK? X Well Operational Status Changed? NO

Description of Supply, Source, Treatment, and Chemicals Used TWO WELLS, SUB. PUMPS, DISCHARGE TO DISTRIBU THROUGH ONE PRESSURE TANK, GAS CHLORINATION PRIOR TO PRESSURE TANK. TWO ADDITIONAL WELLS ARE CAPPED. *NOTE*: THIS SYSTEM IS SCHEDULED TO BE SERVED BY S.A.W.S. WITHIN THE NEXT 9 MONTHS

Total Well Cap. 125 gpm 0.180 mgd RW Cap NA gpm ____ mg

Treatment Cap. NA gpm ____ mgd Total Svc. Pump Cap. NA gpm ____ mg

Total Elevated Storage NA Total Storage Cap. NA Pressure Tank Capacity 0.0024 mg

Maximum Daily Usage $ Date ____ Average Daily Usage $ Time Period ____

Wholesale Contract NA Maximum Purchase Rate NA

RECEIVED JUN 01 1998 TNRCC PUBLIC WATER SYSTEM DIVISION FIELD OPERATIONS

MICROBIOLOGICAL	Y	N	
Samples Submitted in Accordance with DWS?	X	0	Number of Samples Required 1 Submitted 1
Raw Samples Submitted, If Required?	~~0~~	~~0~~	Number of Raw Samples ____
Well(s) Surface Water Influenced?	0	X	Non-Comm. Dates of Operation ____ Thru ____
Acceptable Sample Siting Plan on File?	X	0	

CHEMICAL Acceptable Quality? Y / N

Date, Last Chemical Analysis IOC 10-17-96 NO/NO2 4-17-95 RC ____ VOC ____ SOC ____

List UNACCEPTABLE Values ____

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? ____ Date ____

Date of Survey 8-14-98 By [signature]

Date of Approval 5/28/98 By [signature]

Letter Date, If different from Approval Date — Reply Requested 4 Def. Score of this Survey 12

7/28/98

MAP ID
1

I.D. 0150494 · Survey Date 1-14-98

OPERATION AND MAINTENANCE

(Please note: all violations listed below include paragraph numbers from §290 of the Rules and Regulations for PWSs.)

I. OPERATIONAL

		Y	N
Monthly Reports Submitted to TNRCC (if required)	[.46(d)]	N/A	
MOR's Properly Completed?	[.46(d)]	N/A	
Dead End Mains Flushed?	[.46(f)]	X	
New Lines and Repairs Disinfected?	[.46(g)]	X	
Supply of Disinfectant on Hand?	[.46(h)]	X	
Distribution Map Up-to-Date?	[.46(n)]	X	
Ownership Signs Properly Displayed and Maintained?	[.46(w)]	N/A	
Adequate Chemical Storage Provided?	[.42(d)(5)]	X	
ANSI/NSF Approved Chem/Media?	[.42]	X	
Facilities Properly Maintained?	[.46(m) & (p)]		X
If Superior/Approved, Signs Properly Disp. & Maint.?	[.47(b)]	N/A	

II. Storage Tanks

		Y	N
Storage Tanks Properly Covered?	[.43(c)]	N/A	
Tanks Tight Against Leakage?	[.43(c)(6)]		
Vents Properly Installed?	[.43(c)(1)]		
Proper Roof Hatch Provided?	[.43(c)(2)]		
Roof Hatch Kept Locked?	[.43(c)(2)]		
Proper Overflow Provided?	[.43(c)(3)]		
Proper Water Level Indicator Provided?	[.43(c)(4)]	N/A	
Drains Properly Connected?	[.43(c)(7)]		
Inlet and Outlet Properly Located?	[.43(c)(5)]		
Intruder Resistant Fence?	[.43(e)]		
Tanks Properly Inspected, Maintained, Documented?	[.46(p)(1)]		
Below Ground Storage Properly Located?	[.43(b)]		
Inspection Ladder Provided?	[.43(c)]		

III. Pressure Tanks

		Y	N
Accurate Pressure Gauges?	[.43(d)(2)]	X	
Pressure Release Device Provided?	[.43(d)(2)]	X	
Proper Facilities for Air/Water Ratio/Air filter?	[.43(d)(3)]	X	
Air-Water Volume Indicator Provided?	[.43(d)(3)]	X	
Tanks Tight Against Leakage?	[.43(d)(7)]	X	
Routinely Inspected, Maintained, Documented?	[.46(p)(2)]	X	
Fenced or Housed?	[.43(e)]		X
ASME, If Required?	[.43(d)(1)]	N/A	

IV. Distribution

		Y	N
Plumbing Ordinance or Agreement?	[.46(l)]	N/A	
Customer Service Inspection Program?	[.46(j)]		
Backflow Assembly Program, if needed?	[.44(h)4(D)]		
Sewer Lines Properly Located?	[.44(e)]	X	
Minimum Residual Pressure ≥20 PSI?	[.44(d) & .46(u)]	X	
Normal Working Pressure ≥ 35 PSI?	[.44(d) & .46(u)]	X	
Tested psi/Locations 40 PSI @ COURTYARD			
Properly Installed Distribution Piping?	[.44(a)]	X	
Adequate Flush/Gate Valves?	[.44(d)(6)]	X	
Air Release Valves Properly Installed?	[.44(d)(1)]	N/A	
In-Line Booster Pumps in System? Location _____			
In-Line Booster Pumps in System Approved?			
If Yes, Pressure Cut-off ≥20 psi Provided?	[.44(d)(2)&(3)]		

V. Disinfection

		Y	N
Disinfection Equipment Adequate in Capacity?	[.42(e)]	X	
Type Disinfection Used: GAS CHLORINATOR			
Disinfection Equipment Properly Housed?	[.42(e)(10)]	X	
Disinfection Room: Properly Vented?	[.42(e)(7)]	X	
Breathing Apparatus and Ammonia Bottle Provided?	[.42(e)(5)]	X	
Scales Provided?	[.42(e)(4)(D)]	X	
Disinfection Prior to Storage?	[.42(e)(2)(3)]	X	
Adequate Residual Maintained/Recorded?	[.46(f)(1)&(2)]	X	
Mg/L (T/F) Locations 0.5 @ COURTYARD			
Evacuation Plan Copy [illegible] if needed	[.45(e)(11)]	N/A	
DPD Chlorine Test Kit Provided?	[.46(f)(2)]	X	
IF AMMONIA FEED PROVIDED:			
Properly Housed/Vented	[.42(e)(10)]	N/A	
Scales or Gauges Provided?	[.42(e)(4)(D)]	N/A	

MAP ID
1

ID# 0150494 SURVEY DATE 4-14-98

VI. SYSTEM FACILITIES

WELLS (Y / N) OR RAW WATER PUMPS (Y / N)

Entry Pt #	Water Source Code	Owner's Desig.	Location	GPS Lat/Long	Oper. Status	Well Depth	Pump Type	Tested/Est GPM/Date 4-14-98
001	G0150494 A	1	300' N. OF PRESSURE TANK		O	625'	SUB	70
001	G0150494 B	2	ADJACENT TO N. OFFICE BLD		O	705'	SUB	55
	G0150494 C	3	N. SIDE NEXT TO 2nd BLDG		C	675'		
	G0150494 D	4	S. SIDE BETWEEN BLDG'S		C	705'		

STORAGE RESERVOIRS AND PRESSURE TANKS

Type	Capacity	Material	Location	Type	Capacity	Material	Location
P.T.	2,350	STEEL	300' S. OF WELL #1				

SERVICE PUMPS

No.	Output (GPM)	Location	No.	Output (GPM)	Location	No.	Output (GPM)	Location
	NONE							

Emergency Power/Alternate Source Yes / No Describe

Required Well Production Capacity 18 ~~GPM~~ GPPD/Conn. X 100 ~~Conn.~~ PEOP. = 1.25 GPM

Total Well Production Capacity Provided = 125 GPM Adequate? Y X

Required Elevated/Pressure Storage: Gal/Conn. X Conn.= 220 ~~MG~~ GAL

Elevated/Pressure Storage Provided = 0.002 MG Adequate? X

Required Total Storage: Gal/Conn. X Conn.= MG

Total Storage Provided = MG Adequate?

Required Service Pumping Capacity: GPM/Conn. X Conn.= GPM

Service Pump Peaking Factor : MDD/1,440 X (1.25 / 1.85) = GPM Peak Demand

Total Service Pump Capacity = GPM Adequate?

MAP ID

1

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas
WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

1) OWNER JACK HOUTELLING (Name) ADDRESS 25634 HAZY HOLLOW SAN ANTONIO TX 78257 (Street or RFD) (City) (State) (Zip)

2) ADDRESS OF WELL: County BEXAR 24154 BOERNE STAGE ROAD LEON SPRINGS TX (Street, RFD or other) (City) (State) (Zip) GRID # 68-19-9

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

4) PROPOSED USE (Check): ☐ Monitor ☐ Environmental Soil Boring ☐ Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☑ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☑ Yes ☐ No

5) N

6) WELL LOG:
Date Drilling:
Started 2/25 19 97
Completed 3/24 19 97

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
10 5/8	Surface	185
6"	185	508

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

From (ft.)	To (ft.)	Description and color of formation material
0	30	Caliche
30	45	gray limestone
45	70	tan limestone
70	140	gray limestone
140	175	gray clay / limestone Strike
175	240	tan limestone H.S. 0.200 FT
240	250	gray limestone
250	325	lt gray limestone
325	475	white limestone
475	485	shallow gray limestone
485	508	white limestone Confined more water

(Use reverse side if necessary)

8) Borehole Completion (Check): ☑ Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☐ Other
If Gravel Packed give interval ... from ____ ft. to ____ ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8	N	Steel	0	185	.250

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 0 ft. to 185 ft. No. of sacks used 65 sacks
ft. to ____ ft. No. of sacks used Full/Sacks
Method used hydraulic pressure cementing
Cemented by Whiting Well Drilling
Distance to septic system field lines or other concentrated contamination 150' ft.
Method of verification of above distance tape

10) SURFACE COMPLETION
☑ Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☐ Approved Alternative Procedure [Rule 338.44(5)]

11) WATER LEVEL:
Static level 140 ft. below land surface Date 3/24/97
Artesian flow ____ gpm. Date ____

12) PACKERS: NONE

13) TYPE PUMP:
☐ Turbine ☐ Jet ☑ Submersible ☐ Cylinder
☐ Other
Depth to pump bowls, cylinder, jet, etc., 460 ft.

14) WELL TESTS:
Type test: ☑ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: 11 gpm with 60 ft. drawdown after 3 hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☑ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? Chloride Depth of strata 200 ~~180~~
Was a chemical analysis made? ☐ Yes ☑ No

RECEIVED
JUN 1997
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME WHITING WELL DRILLING (Type or Print) WELL DRILLER'S LICENSE NO. 1716 WP

ADDRESS 116 Dodge (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

(Signed) [signature] (Licensed Well Driller) (Signed) ____ (Registered Driller Trainee)

4802903247

X

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

MAP ID

1

96

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13284 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 48-14-
Located on map
Received:

1) OWNER:
Person having well drilled NASR MABARAK (Name) Address 9302 FERNGLEN (Street or RFD) (City) (State)

Landowner SAME (Name) Address SAN ANTONIO, TEXAS 78224 (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County BEXAR, 20 miles in N.W. (N.E., S.W., etc.) direction from SAN ANTONIO (Town)

Locate by sketch map showing landmarks, roads, creeks, hiway number, etc.*

North

(Use reverse side if necessary)

or

Give legal location with distances and directions from adjacent sections or survey lines.

Labor _____ League _____

Block _____ Survey _____

Abstract No. _____

(NW¼ NE¼ SW¼ SE¼) of Section _____

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole 8" in. Depth drilled 305' ft. Depth of completed well 305 ft. Date drilled 8/30/

All measurements made from _____ ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	5	Soil
5	30	Edwards Limes
30	120	Glen Rose
120	128	Slate
128	160	Glen Rose
160	170	Slate
170	305	Glen Rose

(Use reverse side if necessary)

9) Casing:
Type: Old, New, Steel, Plastic, Other

Cemented from 207' ft. to 0' w/ Portland Mix

Diameter (inches)	Setting From (ft.)	To (ft.)	Gage
7"	0	207'	24

10) SCREEN:
Type None

Perforated _____ Slotted _____

Diameter (inches)	Setting From (ft.)	To (ft.)	Slot Size

7) COMPLETION (Check): Straight wall, Gravel packed, Other, Under reamed, Open Hole

8) WATER LEVEL:
Static level 100' ft. below land surface Date 8/30/23

Artesian pressure _____ lbs. per square inch Date _____

Depth to pump bowls, cylinder, jet, etc., _____ ft. below land surface. 252'

11) WELL TESTS:
Was a pump test made? Yes No If yes, by whom?

Yield: _____ gpm with _____ ft. drawdown after _____ hr

Bailer test _____ gpm with _____ ft. drawdown after _____ hr

Artesian flow _____ gpm

Temperature of water _____

12) WATER QUALITY:
Was a chemical analysis made? Yes No

Did any strata contain undesirable water? Yes No

Type of water? _____ depth of strata _____

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 GLEN H. HASKIN (Type or Print) Water Well Drillers Registration No. 935

ADDRESS 114 South ALAMO - SAN ANTONIO - TEXAS 78205 (Street or RFD) (City) (State)

(Signed) Glen H. Haskin (Water Well Driller) HASKIN PUMP SERVICE Inc (Company Name)

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

*Additional instructions on reverse side.

TWDBE-QW-33

4802903248

MAP #1

MAP ID
1

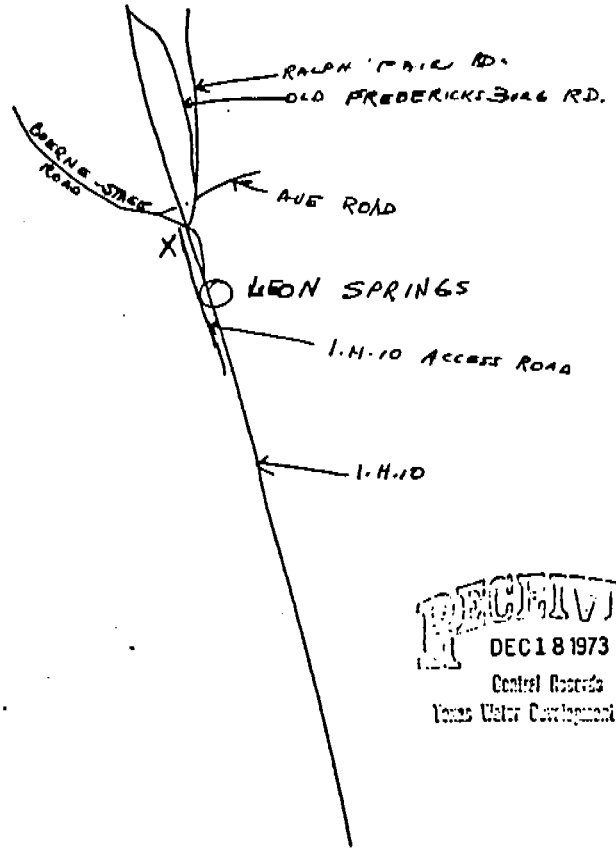
2)LOCATION OF WELL:

The sketch showing the well location must be as accurate as possible, showing landmarks, in sufficient detail so that the well may be plotted on a General Highway Map of the county in which the well is located.

Reference points from which distances are measured and directions given should be of a permanent nature (e.g. highway intersections, center of towns, river and creek bridges, railroad crossings). The distance and direction from the nearest town should always be indicated.

When giving a legal description include a sketch showing location of the well within the described area. e.g. survey abstract.

Information furnished in Section 2) of the TWDBE-GW-53 is very important. Unless the well can be accurately located on a map the value of the other data contained in the Report is greatly reduced.



TO SAN ANTONIO
APP 20 MILES
TO DOWNTOWN

RECEIVED
DEC 18 1973
Central Records
Texas Water Development Board

RECEIVED
SEP 21 1973
TEXAS WATER
DEVELOPMENT BOARD

MAP ID
2

Texas Water Development Board
Well Schedule

State Well No. 68 19 904 Previous Well No. _____ County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 39 48 Long. 098 37 45 Cont. 1

Owner's Well No. 8 Location ____ 1/4 ____ 1/4 Section ____, Block ____, Survey ____

Owner: LEON SPRINGS ELEMENTARY SCHOOL

Driller: HASKIN PUMP SERVICE

Address ____ Town/Ownr. ____

Date Drilled 06 15 1990 Depth 700 Source of Depth Data D Altitude 1135 Source of Alt. Data M

Aquifer Glen Rose - Hosta - Cow Creek 218GRHC Well Type W Use 61015

Well Construction: Const. Method Air Rotary A Casing Material Steel S

Completion Open hole X Screen Material ____

Lift Data: Pump Mfr. ____ Type ____ S No. Stages ____

Bowls Diam. ____ in. Setting ____ ft. Column Diam. ____ in.

Motor Mfr. ____ Fuel or Power ____ E Horsepower ____

Yield: Flow ____ GPM Pump ____ GPM Meas. Rept. Est. ____ Date ____

Performance Test: Date ____ Length of Test ____ Production ____ GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft. Sp.Cap. ____ GPM/ft.

Quality (Remarks) ____

Water Use: Primary ____ P Secondary ____ Tertiary ____

Other Data Available: Water Level M Water Quality N Logs D Other Data

Water Levels: Date 06 06 1990 Meas. 175 drillers; Date ____ Meas. ____; Date ____ Meas. ____

Casing or Blank Pipe (C)
Well Screen or Slotted Zone (S)
Open Hole (O)
Cemented from 0 to 165
Setting (feet)

	Diam. (in.)	From	To
1	6	0	165
2	O	165	700
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

Remarks by Glen TWRCC Date Record Collected or Updated 09 29 1995 (20 max) Reporting Agency 03

Remarks: Well #2.

Aquifer Glen Rose Hosta Cow Creek

Well No. 68-19-904

TD-0004
2/94

MAP ID
2

Please use black ink. Send original copy by certified mail to the Texas Water Commission P.O. Box 13087 Austin, Texas 78711

State of Texas
WATER WELL REPORT
ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Northside Independent School District (Name) 5900 Evers Road (Address) San Antonio (City) Texas (State) 78238 (Zip)

2) LOCATION OF WELL: County Bexar 20 miles in N.W. (N.E., S.W., etc.) direction from San Antonio (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 ☐ Monitor ☒ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other ____

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

6) WELL LOG:
Date Drilling: Started 6/5/ 19 90 Completed 6/15/ 19 90

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
11	Surface	165
8 3/4	165	250
6 1/8	250	700

From (ft.)	To (ft.)	Description and color of formation material
0	2	Top soil
2	20	Lower Edwards Yellow Lime
20	145	Glen Rose Gray
145	162	Yellow Glen Rose
162	690	Light Gray and Dark Gray Glen Rose
690	700	Pine Island Shale

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
6 5/8"		New steel	0	165	Sch40

9) CEMENTING DATA [Rule 319.44(b)]
Cemented from 0 ft. to 165 ft. No. of Sacks Used 90
____ ft. to ____ ft. No. of Sacks Used ____
Method used Pressure cementing
Cemented by Halliburton

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 319.44(c)]
☐ Pitless Adapter Used [Rule 319.44(d)]
☐ Approved Alternative Procedure Used [Rule 319.71]

11) WATER LEVEL:
Static level 175 ft. below land surface Date 6/6/90
Artesian flow ____ gpm. Date ____

12) PACKERS: Type: Burlap Depth: 165'

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

14) WELL TESTS:
Type Test: ☒ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield 150 gpm with ____ ft. drawdown after ____ hrs.

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

RECEIVED JUN 3 1990 TEXAS WATER COMMISSION

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. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Haskin Pump Service, Inc. (Type or Print) Water Well Driller's License No. 935
ADDRESS 15403 Capital Port (Street or RFD) San Antonio (City) Texas (State) 78249 (Zip)
(Signed) Glen H. Haskin (Licensed Water Well Driller) (Signed) ____ (Registered Driller Trainee)
Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only Well No. GB-90-7 Located on map ____

WWD-012 (Rev.01-26-87) TEXAS WATER COMMISSION COPY

MAP #2

MAP ID
2

Texas Water Development Board
Well Schedule

State Well No. 68 19 905 Previous Well No. _____ County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 39 47 Long. 098 37 45 Source 1

Owner's Well No. 3 Location ____ 1/4, ____ 1/4, Section ____, Block ____, Survey ____

Owner Leon Springs Elementary School

Driller Heskin Pump Service

Aquifer Glen Rose-Hosston Cow Creek Tenant/Oper. ____

Date Drilled 03 26 1992 Depth 650 Source of Depth Datum D Altitude 1135 Source of Alt. Datum M

Aquifer ____ 318GRHC Well Type W Use 610/15

Well Construction Const. Method Air Rotary A Casing Material Steel S

Completion Open X Screen Material ____

Lift Data Pump Mfr. ____ Type ____ S No. Stages ____

Bowl Diam. ____ in. Setting ____ ft. Column Diam. ____ in.

Motor Mfr. ____ Fuel or Power ____ E Horsepower ____

Yield Flow ____ GPM Pump ____ GPM Meas. Rept. Est. ____ Date ____

Performance Test Date 3/20/92 Length of Test 9 hrs Production 170 GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown 20 ft. Sp. Cap. ____ GPM/ft.

Quality (Remarks) ____

Water Use Primary ____ P Secondary ____ Tertiary ____

Other Data Available Water Level N Water Quality N Logs D ____ Other Data ____

Water Levels Date ____ Meas. ____ Date ____ Meas. ____ Date ____ Meas. ____

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

	Diam. (in.)	From	To
1	C 08	0	250
2	O	250	660
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

(20 mm)

Reported By OR TWRCC Date Record Collected or Updated 09 29 1995 Reporting Agency 05

Remarks Well #3.

Glen Rose Hosston Cow Creek

Well No. 68-19 905

TWDB-1-4-M
10/95

MAP ID
2

State of Texas
WATER WELL REPORT
ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

Texas Water Well Drillers Board
P. O. Box 13087
Austin, Texas 78711

1) OWNER: LOCK SPRINGS ELEMENTARY SCHOOL (Name) 5900 Evers Road (Address or R.F.D.) San Antonio (City) Texas (State) 78238 (Zip)

2) LOCATION OF WELL: County BEXAR 16 miles in N.W. (N.E., S.W., etc.) direction from SAN ANTONIO, TX (Town)

☐ Legal description:
Survey No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting roads or survey lines _____
☐ See specified map.

Driller must complete the legal description to the right with distance and direction from two intersecting roads or survey lines, or be even more specific and identify the well on an official Courtesy or Half-Inch Texas County Growth Highway Map and attach the map to this form.

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

4) PROPOSED USE (Check): ☐ Domestic ☐ Industrial ☐ Monitor ☒ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other _____

5) DRILLING METHOD (Check): ☐ Driven ☐ Rotary ☐ Air Hammer ☐ Jetted ☐ Bored ☒ Air Rotary ☐ Cable Tool ☐ Other _____

6) WELL LOG:
Date Drilling: Started 3-12 1992; Completed 3-26 1992

Diameter of Hole Dia. (in.)	From (ft.)	To (ft.)
12 3/4	Surface	250
9 3/4	250	660

From (ft.)	To (ft.)	Description and color of formation material
2'	4'	TOP SOIL
4'	176'	UPPER GLENROSE
176'	515'	LOWER GLENROSE
515'	580'	REMARL
580'	650'	COW CREEK

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Gravel, etc. Screen Mfgr., if commercial	Setting (ft.) From	Setting (ft.) To	Slot Opening Screen
8 5/8		NEW STEEL PIPE WALL .322	0	250	

9) CEMENTING DATA (Rule 319.44(b))
Cemented from 0 ft. to 250 ft. No. of Sacks Used 138
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Pressure
Cemented by Haliburton Company

RECEIVED
MAY 04 1992
TEXAS WATER COMMISSION

10) SURFACE COMPLETION
☒ Specified Surface Seal Installed (Rule 319.44(d))
☐ Prior Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:
Static level 55 ft. below land surface Date 3-20-92
Artesian flow _____ gpm. Date _____

12) PACKERS: Type _____ Depth _____

13) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc. _____ ft.

(Use reverse side if necessary)

15) WATER QUALITY:
Did you encounter potentially any strata which contained undesirable water? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☒ Yes ☐ No

14) WELL TESTS:
Type Test: ☒ Pump ☐ Bailer ☐ Jetted ☐ Recovered
Yield: 170 gpm with 20 ft. drawdown after 8 hrs.

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. I understand that failure to complete items 1 thru 15 will result in the logs being rejected for processing and recordation.

COMPANY NAME HASKIN PUMP SERVICE, INC. (Type or Print) Water Well Driller's License No. 82942 W/

ADDRESS 13403 CAPITAL PORT (Street or R.F.D.) SAN ANTONIO (City) TEXAS (State) 78249 (Zip)

(Signed) Terrance C. Johnson (Licensed Water Well Driller) (Signed) (Registered Driller Trainee)

Please attach TERRANCE C. JOHNSON pertinent information, if available.

For TWC use only
Well No. _____
Located on map _____

WWD-012 (Rev.01-30-87) TEXAS WATER COMMISSION COPY

MAP #2

MAP ID 2

MAP #3

WELL PERMIT

Under the provisions of Sec. 41-42, City of San Antonio Code, Permit No. 1682 hereby granted to NORTHSIDE ISD SCHOOL DIST. to drill/plug a private well at 7855 I-11 10 WEST. to a depth of 650' feet, water to be used for SCHOOL. This well is to be drilled/plugged by HOOKER PUMP SERVICE INC.

In consideration for this permit, the established fee of $ Waived based on 650' feet is receipted.

In accepting this permit, the applicant hereby agrees to comply with requirements of the City Ordinance regulating drilling of wells, and to deliver to the City Water Board an accurate log of the well upon completion of construction.

Glen D. Hooker
Signature of Applicant

CITY WATER BOARD

By Lucy Hernandez

Date 3/13/92

Title WATER QUALITY INSPECTOR

- Keep This Permit Posted At Well Site During Construction -

MAP ID
2

WELL LOG

Date APRIL 7, 1992

HASKIN PUMP SERVICE, INC.

15403 Capital Port
San Antonio, Texas
492-2141 78249

Name LEON SPRINGS ELEMENTRY SCHOOL

Location LEON SPRINGS TEXAS

Total Depth 660' Well Capacity 160GPM

Total Pipe 250' Date Started 3-12-92

Drilling Time Date Completed 3-30-92

Kind of Formation GLENROSE Water Level 65'

2' - 4' TOP SOIL

4' - 176' UPPER GLENROSE

176' - 515' LOWER GLENROSE

515' - 580' HENSEL

580' - 650' COW CREEK

Driller TERRANCE JOHNSON

Rig No. #10

MAP #2

MAP ID
2

PUBLIC WATER SUPPLY REGULATORY PROGRAM
WATER SYSTEM DATA

ID No. 0150462 Community ___ NTNC X Non-Comm ___
CCN No. ___ Superior ___ Approved ___ Status? ACTIVE Region 13
Name of System LEON SPRINGS ELEMENTARY SCHOOL County BEXAR
Physical location 2300 BOERNE STAGE ROAD
Responsible Official ED RAWLSON Title SUPERINTENDANT Phone 210-706-8500
Mailing Address 5900 EVERS RD. SAN ANTONIO, TEXAS 78230
Chief Cert Op Name — (TS) Grade & Type — Phone (TS) 210-563-4546
2nd Op Req'd? — Other Cert Op Name — Grade & Type — Total # Cert Ops —
WS Manager/Superintendent TERRY CASEY (TS) Other Officials Contacted ___
Surveyed With TERRY CASEY, EARL JOHNSON Area Served ELEMENTARY SCHOOL
Supplier and Source LEON SPRINGS ELEMENTARY - ONE GROUND WELL - GLENROSE
Interconnection with another PWS? NO Name PWS I/C ___ Type I/C ___
Retail Service Connections — Retail Meters — Retail Population 700 APD
Wholesale Master Meters ___ Wholesale Service Connections ___ Wholesale Population ___
Minimum Charge ? ___ Per ___ Thous. Dist. to and Name of Nearest PWS 1/4 MI TO S.A.W.S.
Reason for this Survey (Routine) Follow Up, Initial, Enforcement, Complaint, Other) Previous Survey Date 8/30/94
Map Attached NO Previous Map OK? YES Well Operational Status Changed? NO
Description of Supply, Source, Treatment, and Chemicals Used ONE WELL SUB. PUMP DISCHARGES TO GROUND STORAGE TANK THROUGH AN ION EXCHANGE WATER SOFTNER. GAS CHLORINATION IS ADDED PRIOR TO STORAGE. WATER IS THEN PUMPED TO DISTRIBUTION BY THREE SERVICE PUMPS AND A 170 GALLON STEEL PRESSURE TANK.

Total Well Cap. 160 gpm 0.230 mgd RW Cap ___ gpm ___ mgd
Treatment Cap. ___ gpm ___ mgd Total Svc. Pump Cap. 200 gpm 0.288 mgd
Total Elevated Storage ___ Total Storage Cap. 25000 GAL. Pressure Tank Capacity 160 Gal.
Maximum Daily Usage ___ Date ___ Average Daily Usage ___ Time Period ___
Wholesale Contract ___ Maximum Purchase Rate ___

RECEIVED 12:50 PM

MICROBIOLOGICAL

	Y	N		
Samples Submitted in Accordance with DWS?	X	☐	Number of Samples Required 12/YR	# Submitted 12/YR
Raw Samples Submitted, If Required?	☐	☑	Number of Raw Samples	
Well(s) Surface Water Influenced?	☐	X	Non-Comm. Dates of Operation ___ Thru ___	
Acceptable Sample Siting Plan on File?	X	☐		

CHEMICAL
Acceptable Quality? YES Date, Last Chemical Analysis IOC 11/2/95 RC ___ VOC 11/2/95 SOC ___
List UNACCEPTABLE Values ___

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? ___ Date ___

RECEIVED APR 17 96 FIELD OPERATIONS DIVISION

Date of Survey 3/19/96 By TOM WHITE
Date of Approval 4-15-96 By Bobby D. Caldwell

Letter Date, if different from Approval Date ___ Reply Requested NO Def. Score of this Survey 7

MAP ID
2

I.D. #: 0150462

OPERATION AND MAINTENANCE

(Please note: all violations listed below include paragraph numbers from §290 of the Rules and Regulations for PWSs.)

I. OPERATIONAL

		Y	N
Monthly Reports Submitted to TNRCC (if Required)?	[.46(d)]	N/A	
Daily Usage Shown?	[.46(d)]		
MOR's Properly Completed?	[.46(d)]		
Dead End Mains Flushed?	[.46(l)]		
New Lines and Repairs Disinfected?	[.46(g)]	X	
Supply of Disinfectant on Hand?	[.46(h)]	X	
Distribution Map Up-to-Date?	[.46(n)]	N/A	
Ownership Signs Properly Displayed and Maintained?	[.46(w)]		
Adequate Chemical Storage Provided?	[.42(d)(6)]		
ANSI/NSF Approved Chem/Media?	[.42]		
Facilities Properly Maintained?	[.46(m) & (p)]	X	
If Superior/Approved, Signs Properly Disp. & Maint.?	[.47(b)]	N/A	
Sanitary facilities available, if needed?	[.42(g)]	X	

II. STORAGE TANKS

		Y	N
Storage Tanks Properly Covered?	[.43(c)]	X	
Tanks Tight Against Leakage?	[.43(c)(6)]	X	
Vents Properly Installed?	[.43(c)(1)]	X	
Proper Roof Hatch Provided?	[.43(c)(2)]	X	
Roof Hatch Kept Locked?	[.43(c)(2)]	X	
Proper Overflow Provided?	[.43(c)(3)]	X	
Proper Water Level Indicator Provided?	[.43(c)(4)]	X	
Drains Properly Connected?	[.43(c)(7)]	X	
Inlet and Outlet Properly Located?	[.43(c)(5)]	X	
Intruder Resistant Fence?	[.43(e)]	X	
Tanks Properly Inspected, Maintained, Documented?	[.46(p)(1)]	X	
Below Ground Storage Properly Located?	[.43(b)]	N/A	
Inspection Ladder Provided?	[.43(c)]	X	

III. PRESSURE TANKS

		Y	N
Accurate Pressure Gauges?	[.43(d)(2)]	X	
Pressure Release Device Provided?	[.43(d)(2)]	X	
Proper Facilities for Air/Water Ratio?	[.43(d)(3)]	N/A	
Air-Water Volume Indicator Provided?	[.43(d)(3)]	N/A	
Tanks Tight Against Leakage?	[.43(d)(7)]	X	
Routinely Inspected, Maintained, Documented?	[.46(p)(2)]	X	
Fenced or Housed?	[.43(e)]	X	
ASME, if Required?	[.43(d)(1)]	N/A	

IV. DISTRIBUTION

		Y	N
Plumbing Ordinance or Agreement?	[.46(i)]	N/A	
Customer Service Inspections Recorded?	[.46(j)]		
Backflow Assembly Report Recorded, if needed?	[.44(h)(4)(D)]		
Sewer Lines Properly Located?	[.44(e)]	X	
Minimum Residual Pressure ≥ 20 PSI?	[.44(d) & .46(u)]	X	
Normal Working Pressure ≥ 35 PSI?	[.44(d) & .46(u)]	X	
Tested psi/Locations 45 psi East of Admin Bldg.			
Properly Installed Distribution Piping?	[.44(a)]	X	
Adequate Flush/Gate Valves?	[.44(d)(6)]	N/A	
Air Release Valves Properly Installed?	[.44(d)(1)]		
In-Line Booster Pumps in System? Location _____			
In-Line Booster Pumps in System Approved?			
If Yes, Pressure Cut-off ≥ 20 psi Provided?	[.44(d)(2)&(3)]	X	

V. DISINFECTION

		Y	N
Disinfection Equipment Adequate in Capacity?	[.42(e)]	X	
Type Disinfection Used: GAS CHLORINATION			
Disinfection Equipment Properly Housed?	[42(e)(6)(8)]	X	
Disinfection Room Properly Vented?	[.42(e)(7)]	X	
Breathing Apparatus and Ammonia Bottle Provided?	[.42(e)(5)]	X	
Scales Provided?	[.42(e)(4)(D)]	X	
Disinfection Prior to Storage?	[.42(e)(2)(3)]	X	
Adequate Residual Maintained/Recorded?	[.46(f)(1)(2)]		X
Mg/L (T/P)/Locations 0.9mg/L East of Admin. Bldg.			
DPD Chlorine Test Kit Provided?	[.46(f)(2)]	X	
IF AMMONIA FEED PROVIDED:			
Properly Housed/Vented?	[.42(e)(10)]	N/A	
Scales or Gauges Provided?	[.42(e)(4)(D)]	N/A	

MAP ID
2

I.D. # 0150462

VI. SYSTEM FACILITIES

Number of Connections 700 APD

WELLS (Y/N) OR RAW WATER PUMPS (Y/N)

Entry Pt. #	Water Source Code	Owner's Desig.	Location	Oper. Status	Well Depth	Pump Type	Rated GPM	Tested GPM/Date
001	C	3#	NEXT SIDE OF SCHOOL ARTALOIT	O	650'	SUB.	160	
	A	1	TO G.S.TANK.	P				
	B	2		P				

STORAGE RESERVOIRS AND PRESSURE TANKS

Type	Capacity	Material	Location
GROUND STORAGE	25000 GALLONS	STEEL	BEHIND SCHOOL
PRESSURE TANK	160 GALLONS	STEEL	IN BOILER ROOM

SERVICE PUMPS

No.	Output (GPM)	Location	No.	Output (GPM)	Location	No.	Output (GPM)	Location
1	40	BOILER ROOM						
2	80	BOILER ROOM						
3	80	BOILER ROOM						

Emergency Power? N (Y/N) Describe: _____

Required Well Production Capacity 30 GPPD ~~GPM~~/Conn. X 700 PPD ~~Conn.~~ = 14.6 GPM

Total Well Production Capacity Provided = 160 GPM Adequate? ..... Y X N

Required Elevated/Pressure Storage: _____ Gal/Conn. X _____ Conn. = 220 GAL. MIN. ~~MG~~ *

* WAIVER BY V.R.B. (11-18-91)

Elevated/Pressure Storage Provided = 160 GAL. ~~MG~~ Adequate? X

Required Ground/~~Total~~ Storage: 0.5 Gal/Conn. X 2/024 Gal. Conn. = 0.009 MG

Ground/Total Storage Provided = 0.025 MG Adequate? X

Required Service Pumping Capacity: 3 GPM/Conn. X 14.6 ~~Conn.~~ = 44 GPM

Service Pump Peaking Factor: _____ MDD/1,440 X _____ = _____ GPM Peak Demand

Total Service Pump Capacity = 200 GPM Adequate? X

MAP ID
2

I.D. # 0150700

GROUND W. .R SOURCE AND WATER SYST. . DEFICIENCIES

VII. GROUND WATER SOURCE

A. SANITARY

		Y	N			Y	N
Well or pump room protected from flooding?	[.41(c)(3)(H)]	X	_	Sewage treatment plant ≥ 500 ft.?	[.41(c)(1)(C)]	X	_
Livestock Prohibited within 50 ft. of well?	[.41(c)(1)(D)]	X	_	Animal pens or landfill ≥ 500 ft.?	[.41(c)(1)(C)]	X	_
Sanitary sewer or septic tank ≥ 50 ft.?	[.41(c)(1)(A)]	X	_	Sewage irrigated land ≥ 500 ft.?	[.41(c)(1)(C)]	X	_
Septic Tank drainfields ≥ 150 ft.?	[.41(c)(1)(A)]	X	_	UST or liquid transmission pipeline ≥ 150'?	[.41(c)(1)(A)]	X	_
Drainage ditch or liftstation ≥ 300 ft.?	[.41(c)(1)(B)]	X	_	Abandoned wells ≤ 1/4 mi. plugged?	[.41(c)(1)(E)]	X	_

B. CONSTRUCTION

		Y	N			Y	N
Well cased 18" above ground level?	[.41(c)(3)(B)]	X	_	Well meter provided?	[.41(c)(3)(N)]	✓	A
Proper pressure cement?	[.41(c)(3)(C)]	X	_	Well blow-off properly installed?	[.41(c)(3)(L)]	X	_
Proper concrete sealing block?	[.41(c)(3)(J)]	X	_	Well unit fenced or housed?	[.41(c)(3)(O)]	X	_
Well head sealed?	[.41(c)(3)(K)]	X	_	Well site properly drained?	[.41(c)(3)(I)]	X	_
Casing vent properly installed?	[.41(c)(3)(K)]	X	_	All weather road provided?	[.41(c)(3)(P)]	X	_
Air release devices properly installed?	[.41(c)(3)(Q)]	X	_	Sanitary easement(s) recorded?	[.41(c)(1)(F)]	X	_
Suitable sampling tap?	[.41(c)(3)(M)]	X	_				

VIII. ADDITIONAL WATER SYSTEM DEFICIENCIES AND TAC REFERENCE NUMBERS:

_____

_____

_____

_____

IX. RATING DEFICIENCY SCORE

A. Certified Operator(s) (If Required)

1. None Surface	10 Pt.s	___
2. None Ground	4 Pt.s	4
3. Only One When Two Required	4 Pt.s	___
4. Improper Certificate	4 Pt.s	___

B. MCL Violations

1. Microbiological:		
Failure to Sample	4/Mon.	___
MCL Violation	10/Mon.	___
2. Primary standards	10/Vio.	___
3. Secondary Standards	2/Vio.	___
4. Turbidity:		
Failure to Report	4/Mon.	___
MCL Violation	10/Mon.	___

C. Distribution

Pressure < 20 psi	10 Pt.s	___
Pressure < 35 psi	4 Pt.s	___
Distribution Problems	2 Pt.s	___
Treated Water Protection	3 Pt.s	3
Disinfection Provided But Residual < 0.2 mg/l Free Chlorine or 0.5 mg/l Chloramine	4 Pt.s	___

D. Design Deficiencies

1. Ground Water:		
No Disinfection	10 Pt.s	___
Improper Well Location	4 Pt.s	___
No Easement	4 Pt.s	___
Well Construction Deficiencies	3/item	___
2. Surface Water:		
No Disinfection	20 Pt.s	___
No Filtration	20 Pt.s	___
Excess Filter Rate	4 Pt.s	___
Inadequate Chemical Feed	4 Pt.s	___
Inadequate Detention Time	4 Pt.s	___
3. General:		
Production Deficient	3 or 4 Pt.s	___
Storage Deficient:		
Elevated or Pressure	4 Pt.s	___
Total Storage < 70% of Required	4 Pt.s	___

TOTAL (A + B + C + D) = 7

MAP ID

2

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. 68-19-658
Located on map 785
Received: 6/7/85

1) OWNER Lucille Dick (Name) Address Rt. 8 Box 553 (Street or RFD) San Antonio (City) TX (State) 78229 (Zip)

2) LOCATION OF WELL: County Bexar ¼ miles in E (N.E., S.W., etc.) direction from Leon Springs, TX (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.

#4

☐ Legal description:
Section No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting section or survey lines _____

☒ See attached map. mapon 68-19-46

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 6-26-84

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8	Surface	219
6	219	662

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

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8	N	steel .156	0	219	

CEMENTING DATA
Cemented from surface ft. to 219 ft.
Method used surface
Cemented by Louis Bergmann & Sons (Company or Individual)

9) WATER LEVEL:
Static level 395 ft. below land surface Date 6-26-84
Artesian flow _____ gpm. Date _____

10) PACKERS: Type Depth

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

12) WELL TESTS: ☐ Type Test: ☐ Pump ☒ Bailer ☐ Jetted ☐ Estimated
Yield: 20+ gpm with 153 ft. drawdown after ½ hrs.

(Use reverse side if necessary)

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? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☐ No

RECEIVED JUN - 5 1985 DEPT. OF WATER RESOURCES

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 Glenn Marquardt (Type or Print) Water Well Drillers Registration No. 1937

ADDRESS 135 South Pecan (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

(Signed) Glenn Marquardt (Water Well Driller) LOUIS BERGMANN & SONS (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

4802903194

MAP ID
3

copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711

Please use black ink.

...l OWNER: *Confidentiality ...nvilege Notice on Reverse Side*

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER JOHN MILNER (Name) 16607 Blanco Rd,Ste705,San Antonio,TX (Street or RFD) (City) (State) 78232 (Zip)

2) LOCATION OF WELL: County BEXAR, 11 miles in NORTH (NE, SW, etc.) direction from SAN ANTONIO (Town)

Driller must complete the legal description below 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 ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

5) DRILLING METHOD (Check): ☐ Drive ☐ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Bored ☒ Air Rotary ☐ Cable Tool ☐ Other _____

6) WELL LOG:
Date Drilling:
Started 05/18/93
Completed 05/20/93

DIAMETER OF HOLE		
Dia. (in.)	From (ft.)	To (ft.)
8-3/4	Surface	242'
6-1/8	242'	525'

From (ft.)	To (ft.)	Description and color of formation material

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6-5/8	N	STEEL	0'	242'	

9) CEMENTING DATA [Rule 267.44(1)]
Cemented from 0 ft. to 242 ft. No. of Sacks Used _____
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Ready Mix Slurry
Cemented by [illegible]

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 267.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 267.44(3)(A)]
☐ Pitless Adapter Used [Rule 267.44(3)(B)]
☐ Approved Alternative Procedure Used [Rule 267.71]

11) WATER LEVEL:
Static level 275 ft. below land surface Date 5-2-93
Artesian flow _____ gpm. Date _____

12) PACKERS: BURLAP Type Depth 241

13) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☒ Estimated
Yield: 20 gpm with 0 ft. drawdown after 1 hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☐ No

RECEIVED SEP 09 1993 TEXAS WATER COMMISSION

I (we) certify that this well was drilled (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME HASKIN PUMP SERVICE (Type or print) WELL DRILLER'S LICENSE NO. 2327

ADDRESS 15403 Capital Port (Street or RFD) San Antonio (City) Texas (State) 78249 (Zip)

(Signed) Glen D. Haskin (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

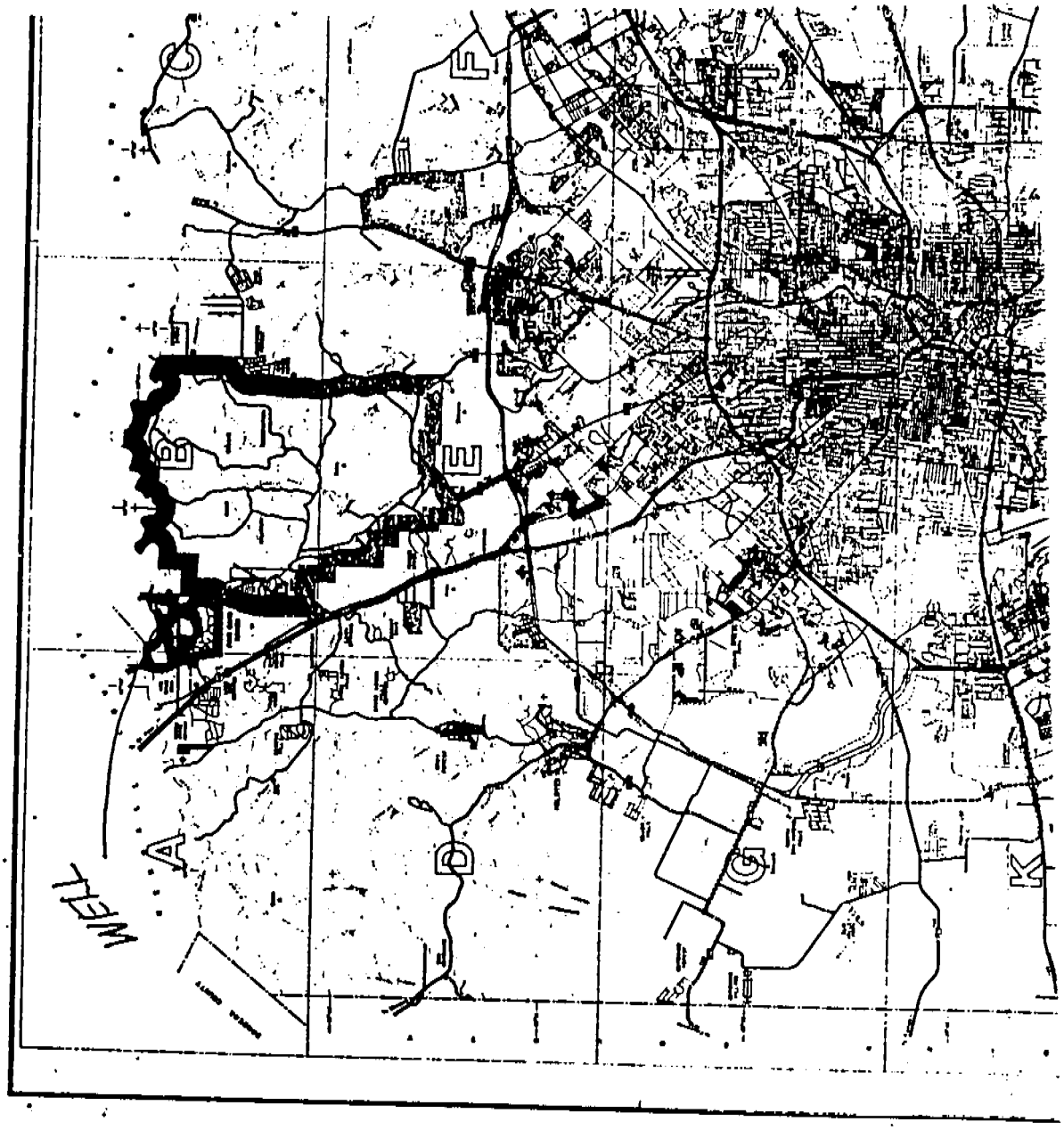
Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only: Well No. _____ Located on map 68-20-

TWC-0199 (Rev. 05-18-90) 3066 TEXAS WATER COMMISSION COPY

MAP #3

MAP ID
3



MAP ID
4

PUBLIC 'ATER SUPPLY REGULATORY 'OGRAM

WATER SYSTEM DATA

ID No. 0150439 Community ___ NTNC ___ Non-Comm X
CCN No. N/A Superior Y(N) Approved Y(N) Probation Y(N) Region 13
Name of System Leon Springs Land County Bexar
Physical location 24059 Old Fredericksburg Rd
Responsible Official Rich Luders Title OWNER Phone 210-698-7177
Mailing Address PO Box 691365, San Antonio, TX 78269
Chief Cert Op Name Jess Mayfield Grade & Type C-GW Phone 210-828-0525
2nd Op Req'd? NO Other Cert Op Name — Grade & Type — Total # Cert Ops —1
WS Manager/Superintendent Jess Mayfield Other Officials Contacted —
Surveyed With Jess Mayfield Area Served Restaurants & Office
Supplier and Source Self / one well - Glenrose
Interconnection with another PWS? NO Name PWS I/C — Type I/C —
Retail Service Connections 6 Retail Meters 0 Retail Population 450 PPD
Wholesale Master Meters — Wholesale Service Connections — Wholesale Population —
ChargeY/N N/A Dist. to and Name of Nearest PWS 0.25mi - Leon Springs Mobile Villa - 0150012
Reason for this Survey (Routine, Follow Up, Initial, Enforcement, Complaint, Other) Previous Survey Date 03/21/96
Map Attached NO Previous Map OK? Yes Well Operational Status Changed? NO
Description of Supply, Source, Treatment, and Chemicals Used One well, (submp) discharges into two ground storage tanks. Two service pumps take suction from ground storage and discharge to distribution thru three pressure tanks. Gas Chlorination prior to storage.

Total Well Cap. 75 gpm 0.108 mgd RW Cap ___ gpm ___ mgd
Treatment Cap. ___ gpm ___ mgd Total Svc. Pump Cap. 80 gpm 0.1152 mgd
Total Elevated Storage ___ Total Storage Cap. 0.0064 MG Pressure Tank Capacity 265 gal
Maximum Daily Usage ___ Date ___ Average Daily Usage ___ Time Period ___
Wholesale Contract ___ Maximum Purchase Rate ___

MICROBIOLOGICAL	Y	N	
Samples Submitted in Accordance with DWS?	■	□	Number of Samples Required 1/month # Submitted 1/month
Raw Samples Submitted, if Required?	□	□	Number of Raw Samples ___
Well(s) Surface Water Influenced?	□	■	Non-Comm. Dates of Operation ___ Thru ___
Acceptable Sample Sitng Plan on File?	■	□	

CHEMICAL
Acceptable Quality? Y Date, Last Chemical Analysis IOC 08/24/95 NO/NO 04/12/95 RC ___ VOC ___ SOC ___
List UNACCEPTABLE Values ___

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? ___ Date ___

Date of Survey 03/13/98 By Robert L. Reed, Jr. 05/04/98
Date of Approval 5-7-98 By Bobby D. Caldwell
Letter Date, if different from Approval Date ___ Reply Requested 06/08/98 Def. Score of this Survey 3

MAP ID
4

I.D. #: 0150439 Survey Date 03/ 96 Num

OPERATION AND MAINTENANCE

(Please note: all violations listed below include paragraph numbers from §290 of the Rules and Regulations for PWSs.)

I. OPERATIONAL

		Y	N			Y
Monthly Reports Submitted to TNRCC (if Required)?	[.46(d)]	N/A		Distribution Map Up-to-Date?	[.46(n)]	X
MOR's Properly Completed?	[.46(d)]			Ownership Signs Properly Displayed and Maintained?	[.46(w)]	N/
Dead End Mains Flushed?	[.46(l)]			Adequate Chemical Storage Provided?	[.42(d)(6)]	
New Lines and Repairs Disinfected?	[.46(g)]	X		ANSI/NSF Approved Chem/Media?	[.42]	
Supply of Disinfectant on Hand?	[.46(h)]	X		Facilities Properly Maintained?	[.46(m) & (p)]	X
				If Superior/Approved, Signs Properly Disp. & Maint.?	[.47(b)]	N/

II. STORAGE TANKS

Storage Tanks Properly Covered?	[.43(c)]	X		Proper Water Level Indicator Provided?	[.43(c)(4)]	X
Tanks Tight Against Leakage?	[.43(c)(6)]	X		Drains Properly Connected?	[.43(c)(7)]	X
Vents Properly Installed?	[.43(c)(1)]	X		Inlet and Outlet Properly Located?	[.43(c)(5)]	X
Proper Roof Hatch Provided?	[.43(c)(2)]	X		Intruder Resistant Fence?	[.43(e)]	X
Roof Hatch Kept Locked?	[.43(c)(2)]	X		Tanks Properly Inspected, Maintained, Documented?	[.46(p)(1)]	X
Proper Overflow Provided?	[.43(c)(3)]	X		Below Ground Storage Properly Located?	[.43(b)]	N/
				Inspection Ladder Provided?	[.43(c)]	X

III. PRESSURE TANKS

Accurate Pressure Gauges?	[.43(d)(2)]	X		Tanks Tight Against Leakage?	[.43(d)(7)]	X
Pressure Release Device Provided?	[.43(d)(2)]	X		Routinely Inspected, Maintained, Documented?	[.46(p)(2)]	X
Proper Facilities for Air/Water Ratio/ Airfilter?	[.43(d)(3)]	N/A		Fenced or Housed?	[.43(e)]	X
Air-Water Volume Indicator Provided?	[.43(d)(3)]			ASME, if Required?	[.43(d)(1)]	N/

IV. DISTRIBUTION

Plumbing Ordinance or Agreement?	[.46(l)]	N/A		Properly Installed Distribution Piping?	[.44(a)]	X
Customer Service Inspection Program?	[.46(j)]			Adequate Flush/Gate Valves?	[.44(d)(6)]	N/
Backflow Assembly Program, if needed?	[.44(h)(4)(D)]			Air Release Valves Properly Installed?	[.44(d)(1)]	
Sewer Lines Properly Located?	[.44(e)]	X		In-Line Booster Pumps in System? Location _____		
Minimum Residual Pressure ≥ 20 PSI?	[.44(d) & .46(a)]	X		In-Line Booster Pumps in System Approved?		
Normal Working Pressure ≥ 35 PSI?	[.44(d) & .46(a)]	X		If Yes, Pressure Cut-off ≥ 20 psi Provided?	[.44(d)(2)&(3)]	
Tested psi/Locations 37 psi Rudy's BBQ - Kitchen						

V. DISINFECTION

Disinfection Equipment Adequate in Capacity?	[.42(e)]	X		Adequate Residual Maintained/Recorded?	[.46(f)(1)(2)]	X
Type Disinfection Used: Gas Chlorination				Mg/L (T&F)/Locations 0.8mg/L - Rudy's BBQ - Kitchen		
Disinfection Equipment Properly Housed?	[.42(e)(6)(B)]	X		Evacuation Plan Cl2/NH3?If needed	[.42(e)(11)]	N/
Disinfection Room Properly Vented?	[.42(e)(7)]	X		DPD Chlorine Test Kit Provided?	[.46(f)(2)]	X
Breathing Apparatus and Ammonia Bottle Provided?	[.42(e)(5)]	X		IF AMMONIA FEED PROVIDED:		
Scales Provided?	[.42(e)(4)(D)]	X		Properly Housed/Vented?	[.42(e)(10)]	N/
Disinfection Prior to Storage?	[.42(e)(2)(B)]	X		Scales or Gauges Provided?	[.42(e)(4)(D)]	

MAP ID
4

I.D. # 0150439 Survey Da' 03/13/98

GROUND WATER SOURCE AND WATER SYSTEM DEFICIENCIES

VII GROUND WATER SOURCE

GUI? Y N

A. SANITARY

		Y	N			Y	N
Well or pump room protected from flooding?	[.41(c)(3)(H)]	X	_	Sewage treatment plant ≥ 500 ft.?	[.41(c)(1)(C)]	X	_
Livestock Prohibited within 50 ft. of well?	[.41(c)(1)(D)]	X	_	Animal pens or landfill ≥ 500 ft.?	[.41(c)(1)(C)]	X	_
Sanitary sewer, septic tank, cemetery ≥ 50 ft.?	[.41(c)(1)(A)]	X	_	Sewage irrigated land ≥ 500 ft.?	[.41(c)(1)(C)]	X	_
Septic Tank drainfields ≥ 150 ft.?	[.41(c)(1)(A)]	X	_	UST or liquid transmission pipeline ≥ 150'?	[.41(c)(1)(A)]	X	_
Drainage ditch or liftstation ≥ 300 ft.?	[.41(c)(1)(B)]	X	_	Abandoned wells ≤ 1/4 mi. plugged?	[.41(c)(1)(E)]	X	_

B. CONSTRUCTION

Sanitary easement(s) recorded?	[.41(c)(1)(F)]	X	_	Suitable sampling tap?	[.41(c)(3)(M)]	X	_
Well cased 18" above ground level?	[.41(c)(3)(B)]	X	_	Well meter provided?	[.41(c)(3)(N)]	X	_
Proper pressure cement?	[.41(c)(3)(C)]	X	_	Well blow-off properly installed?	[.41(c)(3)(L)]	N/A	
Proper concrete sealing block?	[.41(c)(3)(J)]	X	_	Well unit fenced or housed?	[.41(c)(3)(O)]	X	_
Well head sealed?	[.41(c)(3)(K)]	X	_	Well site properly drained?	[.41(c)(3)(I)]	X	_
Casing vent properly installed?	[.41(c)(3)(K)]	_	X	All weather road provided?	[.41(c)(3)(P)]	X	_
Air release devices properly installed?	[.41(c)(3)(Q)]	X	_				

VIII. ADDITIONAL WATER SYSTEM DEFICIENCIES AND TAC REFERENCE NUMBERS:

No screen on well vent

IX. RATING DEFICIENCY SCORE

A. Certified Operator(s) (If Required)

1. None Surface	10 Pts	____
2. None Ground	4 Pts	____
3. Only One When Two Required	4 Pts	____
4. Improper Certificate	4 Pts	____

B. MCL Violations

1. Microbiological: –		
Failure to Sample	4/Mon.	____
MCL Violation	10/Mon.	____
2. Primary standards	10/Vio.	____
3. Secondary Standards	2/Vio.	____
4. Turbidity:		
Failure to Report	4/Mon.	____
MCL Violation	10/Mon.	____

C. Distribution

Pressure < 20 psi	10 Pts	____
Pressure < 35 psi	4 Pts	____
Distribution Problems	2 Pts	____
Treated Water Protection	3 Pts	____
Disinfection Provided But Residual < 0.2 mg/l Free Chlorine or 0.5 mg/l Chloramine	4 Pts	____

D. Design Deficiencies

1. Ground Water:		
No Disinfection	10 Pts	_
Improper Well Location	4 Pts	_
No Easement	4 Pts	_
Well Construction Deficiencies	3/item	_
2. Surface Water:		
No Disinfection	20 Pts	_
No Filtration	20 Pts	_
Excess Filter Rate	4 Pts	_
Inadequate Chemical Feed	4 Pts	_
Inadequate Detention Time	4 Pts	_
3. General:		
Production Deficient	4 Pts	_
Storage Deficient:		
Elevated or Pressure	4 Pts	_
Total Storage Deficient	4 Pts	_

TOTAL (A + B + C + D) = 3

MAP ID
4

PUBLIC WATER SUPPLY REGULATORY PROGRAM

WATER SYSTEM DATA

ID No. 0150510 Community ___ NTNC ___ Non-Comm X

CCN No. • Superior • Approved • Probation • Region 13

Name of System Leon Springs Dance Hall County Bexar

Physical location 24135 IH-10 West

Responsible Official Richard Luders Title Co-Owner Phone 210-698-7177

Mailing Address P.O. Box 691365, San Antonio, TX 78277

Chief Cert Op Name Jess Mayfield Grade & Type C-GW Phone 210-828-0525

2nd Op Req'd? • Name • Grade & Type • Total # Cert. Ops. 1

WS Manager/Superintendent Jess Mayfield Other Officials Contacted Richard Luders

Surveyed With Jess Mayfield Area Served Dance Hall and Bank

Supplier and Source Self / ground, one well Edwards

Interconnection w/other PWS? No Name PWS I/C • Type I/C •

Retail Service Connections 2 Retail Meters • Retail Population 400 PPD

Wholesale Master Meters • Wholesale Service Connections • Wholesale Population •

Charge ? No Dist. to and Name of Nearest PWS 100 yds - Leon Springs Land (0150439)

Reason for this Survey (Routine, Follow Up, Initial, Enforcement, Complaint, Other) Routine Previous Survey Date 03/21/96

Map Attached No Previous Map OK? Yes Well Operational Status Changed? No

Description of Supply, Source, Treatment, and Chemicals Used:

One well, sub pump, discharges into one ground storage tank. One service pump takes suction from ground storage and discharges to distribution through one pressure tank. Gas chlorination prior to storage.

Total Well Cap.	20 gpm	0.028 mgd		RAW Cap.	0 gpm	0 mgd	
Treatment Cap.	0 gpm	0 mgd		Total Svc. Pump Cap.	40 gpm	0.057 mgd	
Total Elevated Storage			Total Storage Cap.	0.004 MG		Pressure Tank Cap.	315 Gals.
Maximum Daily Usage	•	Date •	Average Daily Usage	•		Time Period	•
Wholesale Contract	•		Maximum Purchase Rate	•			

MICROBIOLOGICAL

	Y	N				
Samples Submitted per DWS?	X		Number of Samples Required	1/mo	# Submitted	1/mo
Raw Samples Submitted, if Required?	•	•	Number of Raw Samples Required	•	# Submitted	•
Well(s) Surface Water Influenced?		X	Non-Comm Dates of Operation	•	Thru	•
Acceptable Sample Siting Plan on File?	X					

CHEMICAL

Acceptable Quality? Yes Date, Last Analysis IOC 04/04/96 NO_2/NO_3 04/12/95 RC ___ VOC ___ SOC ___

List UNACCEPTABLE Values •

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? • Date •

Date of Survey 6/21/99 By Robert L. Reed Jr. Report Date: 03/17/99

Date of Approval 3/17/99 By

Letter Date, if different from Approval Date ___ Reply Requested No Def. Score of this Survey 0

*= Not Applicable UN=Unknown NO= Not Observed

MAP ID
4

I.D. No.:	0150510	Survey Date:	01/21/99

OPERATION AND MAINTENANCE

(Please note: all violations listed below include paragraph numbers from §290 of the Rules and Regulations for PWSs.)

I. OPERATIONAL

		Y	N			Y	N
Monthly Reports Submitted to TNRCC (if Required)?	[46,d]	*	*	Distribution Map Up-to-Date?	[46,n]	X	
MOR's Properly Completed?	[46,d]	*	*	Ownership Signs Properly Displayed and Maintained?	[46,w]	X	
Dead End Mains Flushed?	[46,l]	X		Adequate Chemical Storage Provided?	[42,d,6]	X	
New Lines and Repairs Disinfected?	[46,g]	X		ANSI/NSF Approved Chem/Media?	[42]	X	
Supply of Disinfectant on Hand?	[46,h]	X		Facilities Properly Maintained?	[46,m&p]	X	
		*	*	If Superior/Approved, Signs Properly Disp. & Maint.	[47,b]	*	*

II. STORAGE TANKS

Storage Tanks Properly Covered?	[43,c]	X		Proper Water Level Indicator Provided?	[43,c,4]	X	
Tanks Tight Against Leakage?	[43,c,6]	X		Drains Properly Connected?	[43,c,7]	X	
Vents Properly Installed?	[43,c,1]	X		Inlet and Outlet Properly Located?	[43,c,5]	X	
Proper Roof Hatch Provided?	[43,c,2]	X		Intruder Resistant Fence?	[43,e]	X	
Roof Hatch Kept Locked?	[43,c,2]	X		Tanks Properly Inspected, Maintained, Docs.	[46,p,1]	X	
Proper Overflow Provided?	[43,c,3]	X		Below Ground Storage Properly Located?	[43,b]	*	*
				Inspection Ladder Provided?	[43,c]	*	*

III. PRESSURE TANKS

Accurate Pressure Gauges?	[43,d,2]	X		Tanks Tight Against Leakage?	[43,d,7]	X	
Pressure Release Device Provided?	[43,d,2]	X		Routinely Inspected, Maintained, Documented?	[46,p,2]	X	
Proper Facilities for Air/Water Ratio/Air filter?	[43,d,3]	*	*	Fenced or Housed?	[43,e]	X	
Air-Water Volume Indicator Provided?	[43,d,3]	*	*	ASME, if Required?	[43,d,1]	*	*

IV. DISTRIBUTION

Plumbing Ordinance or Agreement?	[46,i]	*	*	Properly Installed Distribution Piping?	[44,a]	X	
Customer Service Inspection Program?	[46,j]	*	*	Adequate Flush/Gate Valves?	[44,d,6]	X	
Backflow Assembly Report Recorded, if needed?	[44,h,4,D]	*	*	Air Release Valves Properly Installed?	[44,d,1]	*	*
Sewer Lines Properly Located?	[44,e]	X		In-Line Booster Pumps in System? **	[44,d,2]	*	*
Minimum Residual Pressure ≥ 20 PSI?	[44,d&46,u]	X		In-Line Booster Pumps in System Approved?	[44,d,2]	*	*
Normal Working Pressure ≥ 35 PSI?	[44,d&46,u]	X		If Yes, Pressure Cut-off ≥ 20 psi Provided?	[44,d,2&3]	*	*
Tested psi/Locations: 49 psi - South side of Bank				**Location:			

V. DISINFECTION

Disinfection Equipment Adequate in Capacity?	[42,c]	X		Adequate Residual Maintained/Recorded?	[46,f,1,2]	X	
Type Disinfection Used: Gas chlorination				**Mg/L ,T/F/Locations: 0.71 mg/l - South side of Bank**			
Disinfection Equipment Properly Housed?	[42,e,6,8]	X		Evacuation Plan Cl_2NH_3? If needed	[42,e,11]	*	*
Disinfection Room Properly Vented?	[42,e,7]	X		DPD Chlorine Test Kit Provided?	[46,f,2]	X	
Breathing Apparatus and Ammonia Bottle Provided?	[42,e,5]	X		IF AMMONIA FEED PROVIDED:			
Scales Provided?	[42,e,4,D]	X		Properly Housed/Vented?	[42,e,10]	*	*
Disinfection Prior to Storage?	[42,e,2,3]	X		Scales or Gauges Provided?	[42,e,4,D]	*	*

* = Not applicable U = Unknown NO = Not Observed

MAP ID
4

I.D. #	0150510	Survey Date:	01/21/99

VI. SYSTEM FACILITIES

Number of Connections 400 PPD

WELLS

Entry Pt. #	Water Source Code	Owner's Desig.	Location	GPS Lat/Long	Oper. Status	Well Depth	Pump Type	Tested/Est GPM/Date
001	A	1	NE Corner of Property		O	650'	sub	20 S

STORAGE RESERVOIRS AND PRESSURE TANKS

Type	Capacity (MG)	Material	Location
Ground	0.004	Concrete	Well Site
PT	315 Gals.	Steel	Well Site

SERVICE PUMPS

No.	Output GPM	Location	No.	Output GPM	Location	No.	Output GPM	Location
1	40	Well Site						

Emergency Power /Alternate Source? No (Y/N) Describe: *

SYSTEM CAPACITIES

					Required		Provided		Y	N
Well Production	18	GPPD X	400	PPD =	5	GPM	20	GPM	X	
Pressure Storage		Gal/Conn X		Conn =	220 Gals.	Min	315	Gals.	X	
Ground Storage	0.5	X	[illegible] Gals.	MDD =	0.0050	MG	0.004	MG	X	
Service Pumping Cap.	3	X	5 GPM	MDD =	15	GPM	40	GPM	X	
Service Pump Peaking Factor		MDD/1,440 X	1.25	**		GPM		GPM		

** Factor = 1.25 or 1.85, MDD Listed as gallons.

MAP ID
4

I.D. #	0150510	Survey Date:	01/21/99

GROUND WATER SOURCE AND WATER SYSTEM DEFICIENCIES

VII. GROUND WATER SOURCE GUI? Y (N)

A. SANITARY

		Y	N			Y	N
Well/pump room protected from flooding?	[41,c,3,H]	X		Sewage Treatment plant ≥ 500 ft.?	[41,c,1,C]	X	
Livestock prohibited within 50 ft. of well?	[41,c,1,D]	X		Animal pens or landfill ≥ 500 ft.?	[41,c,1,C]	X	
Sanitary sewer, septic tank,cemetery ≥ 50 ft.?	[41,c,1,A]	X		Sewage irrigated land ≥ 500 ft.?	[41,c,1,C]	X	
Septic tank drainfields ≥ 150 ft.?	[41,c,1,A]	X		UST or liquid transmission pipeline ≥ 150 ft.?	[41,c,1,A]	X	
Drainage ditch or liftstation ≥ 300 ft.?	[41,c,1,B]	X		Abandoned wells ≤ 1/4 mi. plugged?	[41,c,1,E]	X	

B. CONSTRUCTION

Sanitary easement(s)recorded?	[41,c,1,F]	X		Suitable sampling tap?	[41,c,3,M]	X	
Well cased 18" above ground level?	[41,c,3,B]	X		Well meter provided?	[41,c,3,N]	X	
Proper pressure cement?	[41,c,3,C]	X		Well blow-off properly installed?	[41,c,1,L]	X	
Proper concrete sealing block?	[41,c,3,J]	X		Well unit fenced or housed?	[41,c,1,O]	X	
Well head sealed?	[41,c,3,K]	X		Well site properly drained?	[41,c,3,I]	X	
Casing vent properly installed?	[41,c,3,K]	X		All weather road provided?	[41,c,3,P]	X	
Air release devices properly installed?	[41,c,3,Q]	*	*				

VIII. ADDITIONAL WATER SYSTEM DEFICIENCIES AND TAC REFERENCES :

IX. RATING DEFICIENCY SCORE

A. Certified Operator(s) If Required

1. None Surface	10 Pt.s	
2. None Ground	4 Pt.s	
3. Only one when two required	4 Pt.s	
4. Improper certification	4 Pt.s	

B. MCL Violations

1. Microbiological:		
Failure to sample	4/mo	
MCL violation	10/vio	
2. Primary standards	10/vio	
3. Secondary standards	2/vio	
4. Turbidity:		
Failure to report	4/mo	
MCL violation	10/mo	

C. Distribution

Pressure < 20 psi	10 Pt.s	
Pressure < 35	4 Pt.s	
Distribution problems	2 Pt.s	
Treated water protection	3 Pt.s	
Disinfection provided, but residual < 0.2 mg/l Free Chlorine or 0.5 mg/l Chloramine	4 Pt.s	

D. Design

1. Ground Water		
No disinfection	10 Pt.s	
Improper well location	4 Pt.s	
No easement	4 Pt.s	
Well construction deficiencies	3/item	
2. Surface Water:		
No disinfection	20 Pt.s	
No filtration	20 Pt.s	
Excess filter rate	4 Pt.s	
Inadequate chemical feed	4 Pt.s	
Inadequate detention time	4 Pt.s	
3. General:		
Production Deficient	4 Pt.s	
Service Pump Deficient	2 Pt.s	
Storage deficient:		
Elevated or Pressure	4 Pt.s	
Total storage Deficient	4 Pt.s	

TOTAL, A + B + C + D = 0

MAP ID
4

Please use black ink. Send original copy by certified mail to the Texas Water Commission P.O. Box 13087 Austin, Texas 78711

State of Texas
WATER WELL REPORT
ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Bank of Leon Springs (Name) Address 24164 IH 10 West, San Antonio, Texas 78257 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar .2 miles in S (N.E., S.W., etc.) direction from Leon Springs (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 ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other _____

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

6) WELL LOG:
Date Drilling: Started 7-3 19 89 Completed _____ 19 ___

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	312
6"	312	650

From (ft.)	To (ft.)	Description and color of formation material
0	2	topsoil
2	4	caliche
4	14	cream colored gravel
14	23	cream lime
23	27	cream chalky lime
27	33	cream colored lime
33	43	tan lime
43	47	cream chalky lime
47	50	tan lime
50	52	gray lime
52	61	tan lime
61	64	gray lime
64	78	gray shaley lime
78	126	light gray limestone
126	156	light gray lime & shaley limestone
156	215	gray shaley limestone
215	260	white light gray limestone with calcite
260	302	light gray limestone
302	312	white cream limestone
312	321	light gray limestone
321	322	gray shaley limestone
322	335	gray limestone
335	340	cream lime
340	347	cream gray lime
347	351	cream colored limestone
351	359	gray lime

(Use reverse side if necessary) (OVER)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8"		steel casing 314 156 wall	0-	312	

9) CEMENTING DATA (Rule 319.44(b))
Cemented from 0 ft. to 312 ft. No. of Sacks Used 2.25
_____ ft. to _____ ft. No. of Sacks Used _____
Method used 8-sk grout
Cemented by H. W. Schwope & Sons, Inc.

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed (Rule 319.44(c))
☐ Pitless Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:
Static level 335 ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12) PACKERS: Type Depth

13) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc. _____ ft.
10S20-27 2hp Grundfos submersible

14) WELL TESTS: pump set @ 504' 1 1/4" galv.
Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 30 gpm with 650 ft. drawdown after ____ hrs.

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

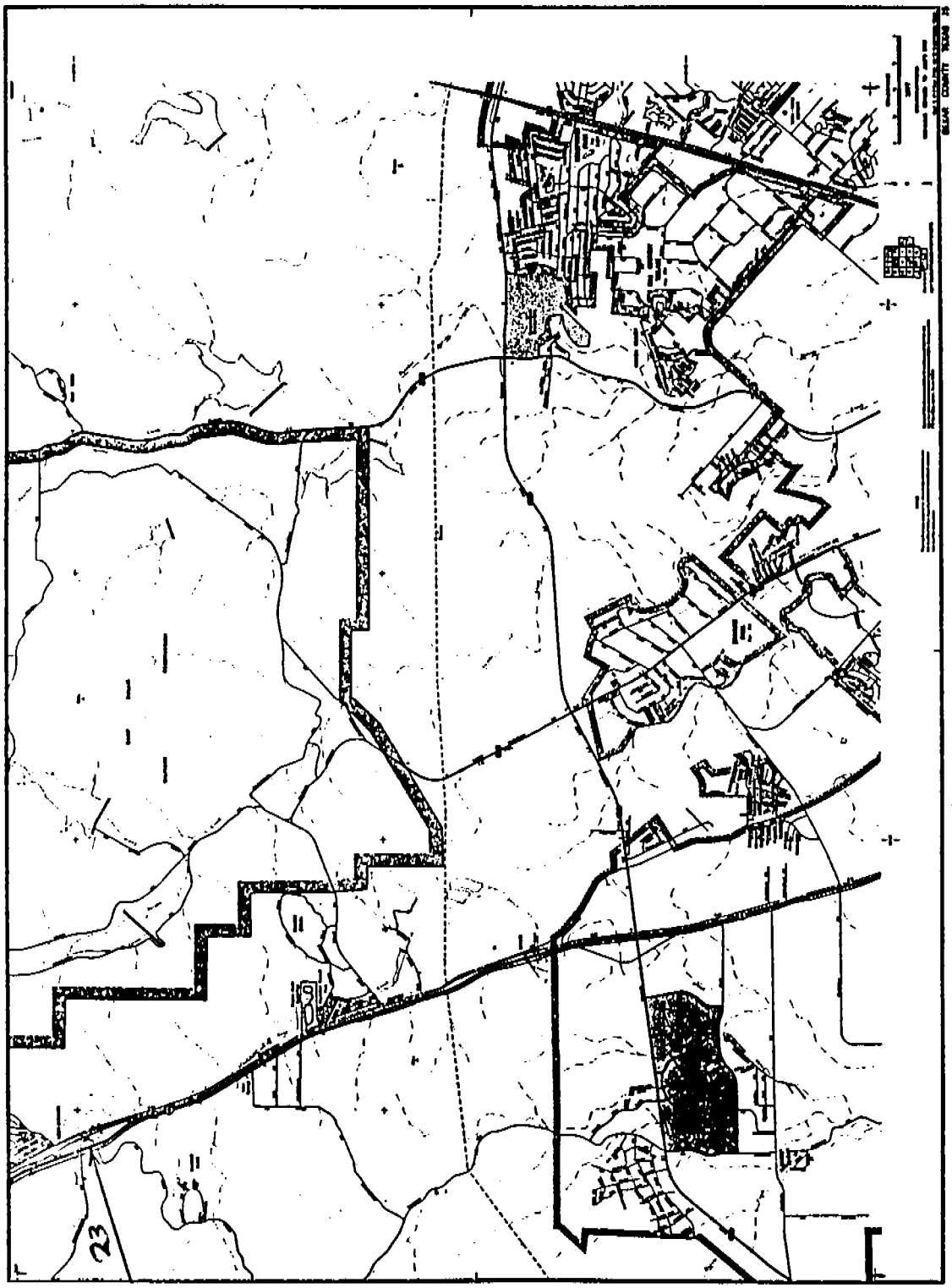
I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H. W. Schwope & Sons, Inc (Type or Print) Water Well Driller's License No. 1568
ADDRESS PO Box 364 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)
(Signed) _____ (Signature) _____ (Registered Driller Trainee)
Please attach electrical log, chemical analysis, and other pertinent information, if available.
For TWC use only: Well No. _____ Located on map _____

TWC-0393 (Rev. 06-10-86) TEXAS WATER COMMISSION COPY

4802903185

MAP ID
4



MAP ID
5

Texas Water Development Board
Well Schedule

State Well No. 68 19 621 Previous Well No. County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 40 55 Long. 098 38 46 Source 1 Accuracy 30

Owner's Well No. _____ Location ____ 1/4 ____ 1/4 ____ Section ____ Block ____ Survey ____

Owner Daughtry Proper Aids Driller Geothermal Drilling

Address _____ Tenant/Oper. Jess Mayfield (210) 977-8140

Date Drilled 09 01 1989 Depth 485 Source of Depth Data D Altitude 1165 Source of Alt. Datum M

Aquifer 680' 215CCAK Well Type W Use

Well Construction Const. Method Air Rotary A Casing Material steel S 0150936 TRRC

Completion open hole X Screen Material

Lift Data Pump Mfr. _____ Type Sub S No. Stages ____

Bowls Diam. ____ in. Setting ____ ft. Column Diam. ____ in.

Motor Mfr. _____ Fuel or Power elec. E Horsepower

Yield Flow ____ GPM Pump 25 GPM Meas. Est. Bailer Date '89

Performance Test Date ____ Length of Test ____ Production ____ GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft. Sp.Cap. ____ GPM/ft.

Quality (Remarks _____

Water Use Primary PS P Secondary ____ Tertiary ____

Other Data Available Water Level WL Water Quality W Logs D Other Data

Water Levels Date 09 01 1989 Meas. 266 7-07

Date ____ Meas. ____

Date ____ Meas. ____

Recorded by D. Coker Date Record Collected or Updated 06 11 1997 Reporting Agency 01

Remarks Reported yield 25 GPM in 1989.

Number _____

Well No. _____

6819-621

Casing or Blank Pipe (C) Well Screen or Slotted Zone (S) Open Hole (O) Concerned Zone			
Diam. (in.)	From	To	Setting (feet)
6	0	294	
2	294	485	

MAP ID
5

State of Texas
WATER WELL REPORT

Texas Water Well Drillers Board
P.O. Box [illegible]
Austin, Texas [illegible]

ATTENTION OWNER: Confidentiality Privilege Waived on Surface Use

1) OWNER: DAUGHTREY Properties ADDRESS: 25300 IH-10 W. Leon Springs TX, TX

2) LOCATION OF WELL: County: BEXAR 2 miles in N.W. direction from LEON Springs

Legal description

Section No. ____ Block No. ____ Township ____
Abstract No. ____ Survey Name ____
Distance and direction from two intersecting section or survey lines ____

Use reverse side.

3) TYPE OF WORK: Drilling ☑ Deepening ☐ Reconditioning ☐ Plugging ☐

4) PROPOSED USE: Domestic ☐ Municipal ☐ Irrigation ☐ Industrial ☐ Test well ☐ Other ☐ Water Supply ☑

5) RAILING REMOVED: Other ☐ Cased Pulled ☐ Air Hammer ☐ Jetted ☐ Bored ☐ Shot Pulled ☑ Other ☐

6) WELL LOG: Date Drilling Started 9-27 Completed 9-7

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
[illegible]	Surface	[illegible]
5.9	20.4	[illegible]

7) COMPLETION: Open Hole ☑ Straight Wall ☐ Underreamed ☐ Gravel Packed ☐ Other ☐

If Gravel Packed give interval ... from ____ ft. to ____ ft.

From (ft.)	To (ft.)	Description and color of formation material
0	30	white caliche
30	50	blue shale
50	60	orange limes
60	80	white limes
80	100	speckled limes
100	200	white limes
200	225	gray limes
225	240	brown limes
240	280	varied tan limes
280	295	brown white clays
295	325	white limestone
325	[illegible]	black limestone & gravel
350	360	gray lime
360	445	tan lime
445	455	[illegible] lime

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

Dia. (in.)	Weight or Gauge	Kind, Thickness, etc. (Steel, Plastic, etc. Screens Mfg., # of connections)	Setting (ft.) From	Setting (ft.) To	Slot Size (Screens)
5.9	[illegible]	Steel	0	294'	

9) CEMENTING DATA (Rule 318.6(b)(6))

Cemented from ____ ft. to ____ ft. No. of Sacks Used ____
____ ft. to ____ ft. No. of Sacks Used ____
Method used ____
Cemented by B.J. Titan Services

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed (Rule 318.6(b)(4))
☐ Pitless Adapter Used (Rule 318.6(b)(5))
☐ Approved Alternative Completion Used (Rule 318.7)

11) WATER LEVEL: Static level (266') ft. below land surface Date ____
Artesian flow ____ gpm. Date ____

12) PACKERS: Type ____ Depth ____

RECEIVED
NOV 28 1989
TEXAS WATER COMMISSION

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

14) WATER QUALITY: Did you encounter water other than fresh, potable water? ☐ Yes ☑ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of report ____ Depth of water ____
Was a chemical analysis made? ☐ Yes ☐ No

15) WELL TESTS: Type Test: Pump ☐ Bailer ☐ Jetted ☐ Flowing ☑
Yield: 25 gpm with ____ ft. drawdown after ____ hrs.

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. I understand that failure to complete items 1 thru 15 will result in the log of this well being returned for completion and resubmittal.

COMPANY NAME: Courtney Drilling Water Well Driller's License No. 2546
ADDRESS: P.O. Box 1454 Boerne TX 78006
Signature: ____ Signature: ____
Registered Water Well Driller Registered Driller Trainee
Print clearly the name, address, and other pertinent information, if available.
Our Well No. BC-26-7
Location on map ____

TWC-512 (Rev. 01-30-87) — TEXAS WATER COMMISSION COPY

c/o Jess Mayfield
210/977-8440

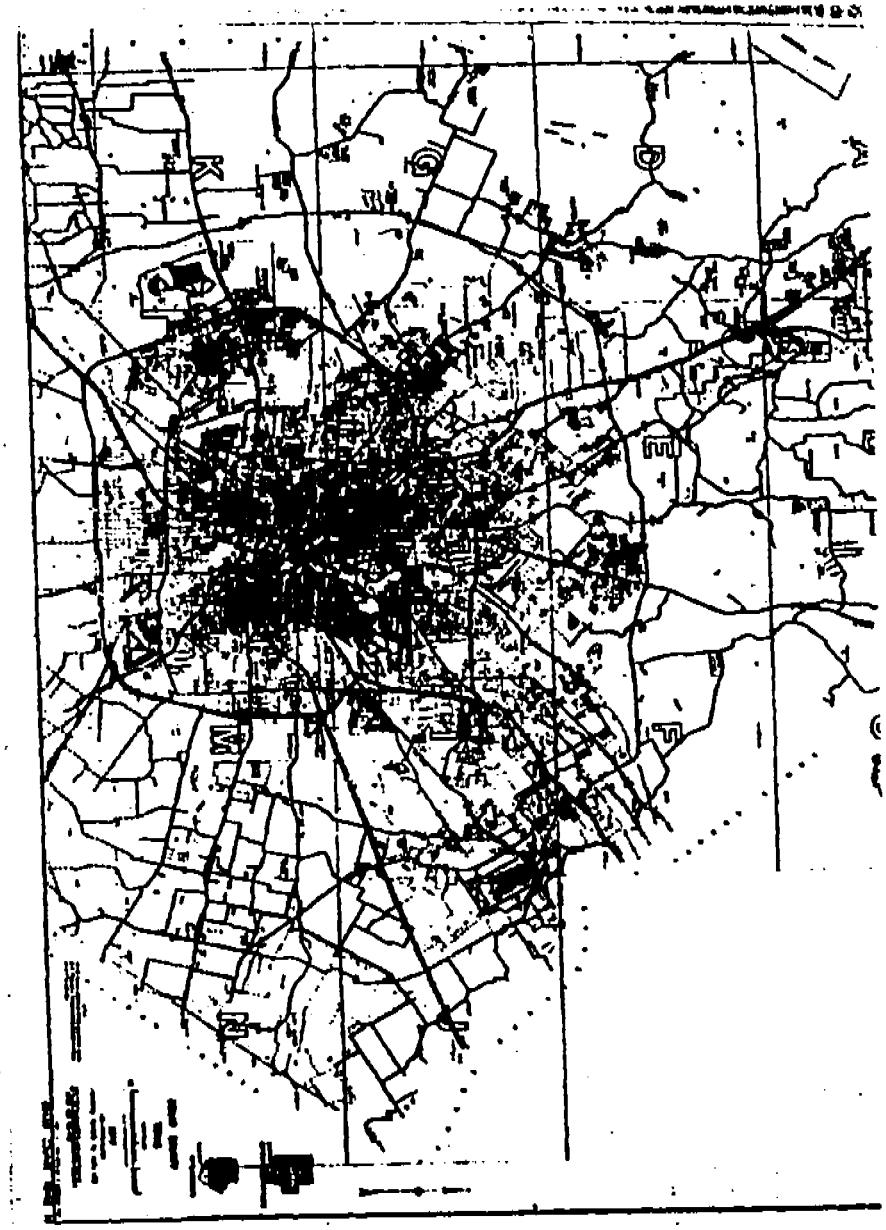
I-10 (Cary Stanley) Shopping Center (Pico) behind

TRCC
050436

6819-621

MAP #5

MAP ID
5

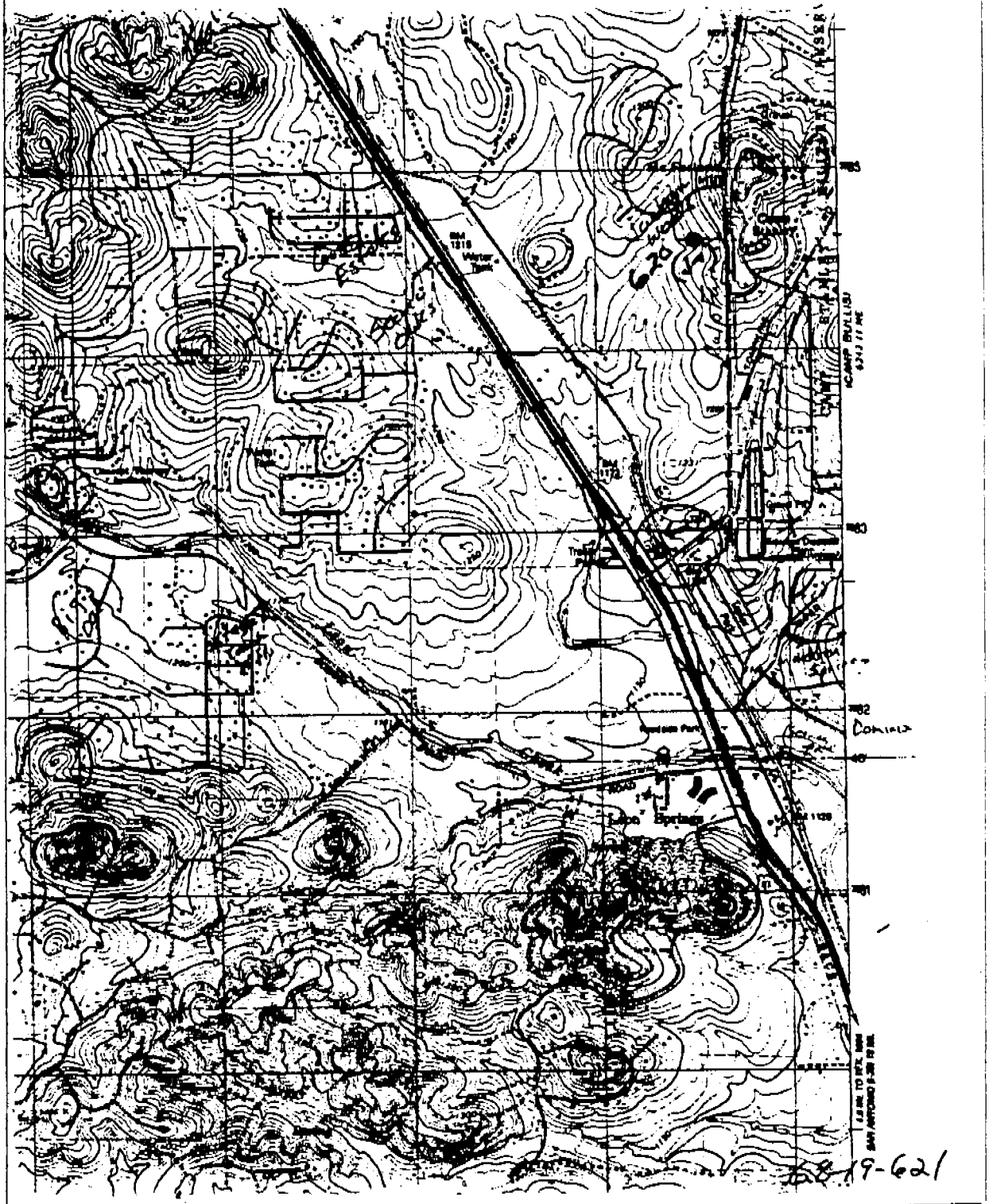


[redacted]

CB19-621

MAP #5

MAP ID
5



MAP # 5

MAP ID
5

PUBLIC WATER SUPPLY REGULATORY PROGRAM

WATER SYSTEM DATA

ID No. 0150436 Community * NTNC * Non-Comm X

CCN No. * Superior * Approved * Probation * Region 13

Name of System AAA STOW-AWAY County Bexar

Physical location IH 10 West and Ralph Fair Road

Responsible Official Hank Daughtry, Jr. Title Owner Phone 210 / 698-2001

Mailing Address 25300 IH 10 West, San Antonio,TX 78257

Chief Cert Op Name Jess Mayfield (JM) Grade & Type C - GW Phone 210 / 828-0525

2nd Op Req'd? No Name * Grade & Type * Total # Cert. Ops. 1

WS Manager/Superintendent JM Other Officials Contacted *

Surveyed With JM Area Served Strip center and PICO gas station

Supplier and Source Self / Ground - one "Edwards" well

Interconnection w/other PWS? No Name PWS I/C * Type I/C *

Retail Service Connections 3 Retail Meters * Retail Population 200 PPD

Wholesale Master Meters * Wholesale Service Connections * Wholesale Population *

Charge ? No Dist. to and Name of Nearest PWS 1 mile to Leon Springs Villa

Reason for this Survey (Routine, Follow Up, Initial, Enforcement, Complaint, Other) Routine Previous Survey Date 3-19-96

Map Attached No Previous Map OK? Yes Well Operational Status Changed? No

Description of Supply, Source, Treatment, and Chemicals Used:

One well (sub) fills one ground storage (GS) tank. One service pump sucks GS and discharges to distribution against two pressure tanks. Hypo CL2 at well.

Total Well Cap. 20 gpm 0.0288 mgd RAW Cap. 0 gpm 0 mgd

Treatment Cap. 0 gpm 0 mgd Total Svc. Pump Cap. 20 gpm 0.0288 mgd

Total Elevated Storage * Total Storage Cap. 0.0025 mg Pressure Tank Cap. 0.00026 mg

Maximum Daily Usage * Date * Average Daily Usage * Time Period *

Wholesale Contract * Maximum Purchase Rate *

MICROBIOLOGICAL	Y	N
Samples Submitted per DWS?	X	
Raw Samples Submitted, if Required?	*	*
Well(s) Surface Water Influenced?		X
Acceptable Sample Siting Plan on File?	X	

Number of Samples Required 1 # Submitted 1

Number of Raw Samples Required * # Submitted *

Non-Comm Dates of Operation * Thru *

CHEMICAL

Acceptable Quality? Yes Date, Last Analysis IOC 3-19-96 NO_2/NO_3 * RC * VOC * SOC *

List UNACCEPTABLE Values *

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? * Date *

Date of Survey 10-25-98 By Richard A. Deitemeyer Report Date 11-5-98

Date of Approval 11/9/98 By

Letter Date, if different from Approval Date — Reply Requested Yes Def. Score of this Survey 20

*= Not Applicable UN=Unknown NO= Not Observed

MAP ID
5

I.D. No.:	0150436	Survey Date:	10-28-98

OPERATION AND MAINTENANCE

(Please note: all violations listed below include paragraph numbers from §290 of the Rules and Regulations for PWSs.)

I. OPERATIONAL

		Y	N			Y	N
Monthly Reports Submitted to TNRCC (if Required)?	[46,d]	*	*	Distribution Map Up-to-Date?	[46,n]	X	
MOR's Properly Completed?	[46,d]	*	*	Ownership Signs Properly Displayed and Maintained?	[46,w]	*	*
Dead End Mains Flushed?	[46,l]	X		Adequate Chemical Storage Provided?	[42,d,6]	X	
New Lines and Repairs Disinfected?	[46,g]	X		ANSI/NSF Approved Chem/Media?	[42]	X	
Supply of Disinfectant on Hand?	[46,h]	X		Facilities Properly Maintained?	[46,m&p]	X	
		*	*	If Superior/Approved, Signs Properly Disp. & Maint.	[47,b]	*	*

II. STORAGE TANKS

Storage Tanks Properly Covered?	[43,c]	X		Proper Water Level Indicator Provided?	[43,c,4]		X
Tanks Tight Against Leakage?	[43,c,6]	X		Drains Properly Connected?	[43,c,7]	X	
Vents Properly Installed?	[43,c,1]	X		Inlet and Outlet Properly Located?	[43,c,5]	X	
Proper Roof Hatch Provided?	[43,c,2]	X		Intruder Resistant Fence?	[43,c]	X	
Roof Hatch Kept Locked?	[43,c,2]	X		Tanks Properly Inspected, Maintained, Docs.	[46,p,1]	X	
Proper Overflow Provided?	[43,c,3]	X		Below Ground Storage Properly Located?	[43,b]	*	*
				Inspection Ladder Provided?	[43,c]	*	*

III. PRESSURE TANKS

Accurate Pressure Gauges?	[43,d,2]	X		Tanks Tight Against Leakage?	[43,d,7]	X	
Pressure Release Device Provided?	[43,d,2]		X	Routinely Inspected, Maintained, Documented?	[46,p,2]	X	
Proper Facilities for Air/Water Ratio/Air filter?	[43,d,3]	X		Fenced or Housed?	[43,c]	X	
Air-Water Volume Indicator Provided?	[43,d,3]	X		ASME, if Required?	[43,d,1]	*	*

IV. DISTRIBUTION

Plumbing Ordinance or Agreement?	[46,i]	*	*	Properly Installed Distribution Piping?	[44,a]	X	
Customer Service Inspection Program?	[46,j]	*	*	Adequate Flush/Gate Valves?	[44,d,6]	X	
Backflow Assembly Report Recorded, if needed?	[44,h,4,D]	*	*	Air Release Valves Properly Installed?	[44,d,1]	*	*
Sewer Lines Properly Located?	[44,c]	X		In-Line Booster Pumps in System? **	[44,d,2]	*	*
Minimum Residual Pressure ≥ 20 PSI?	[44,d&46,u]	X		In-Line Booster Pumps in System Approved?	[44,d,2]	*	*
Normal Working Pressure ≥ 35 PSI?	[44,d&46,u]	X		If Yes, Pressure Cut-off ≥ 20 psi Provided?	[44,d,2&3]	*	*

Tested 68 psi Locations: Lawn hose bib

**Location:

V. DISINFECTION

Disinfection Equipment Adequate in Capacity?	[42,e]	X		Adequate Residual Maintained/Recorded?	[46,f,1,2]		X
Type Disinfection Used: Hypochlorination				CL2 0.0 Mg/L/P Locations: PICO restroom			
Disinfection Equipment Properly Housed?	[42,e,6,8]	X		Evacuation Plan Cl_2NH_3? If needed	[42,e,11]	*	*
Disinfection Room Properly Vented?	[42,e,7]	*	*	DPD Chlorine Test Kit Provided?	[46,f,2]	X	
Breathing Apparatus and Ammonia Bottle Provided?	[42,e,5]	*	*	IF AMMONIA FEED PROVIDED:			
Scales Provided?	[42,e,4,D]	*	*	Properly Housed/Vented?	[42,e,10]	*	*
Disinfection Prior to Storage?	[42,e,2,3]	X		Scales or Gauges Provided?	[42,e,4,D]	*	*

* = Not applicable U = Unknown NO = Not Observed

MAP ID
5

I.D.	0150436	Survey Date:	10-28-98

VI. SYSTEM FACILITIES

Number of Connections 200 PPD

WELLS

Entry Pt. #	Water Source Code	Owner's Desig.	Location	GPS Lat/Long	Oper. Status	Well Depth	Pump Type	Tested/Est GPM/Date
001	A	1	Well house behind south end of strip ctr	*	O	400	Sub	20 EST

STORAGE RESERVOIRS AND PRESSURE TANKS

Type	Capacity (MG)	Material	Location
Ground	0.0025	Concrete	Beside well house
P.T.	0.00022	Steel	In well house
P.T.	0.000042		

SERVICE PUMPS

No.	Output GPM	Location	No.	Output GPM	Location	No.	Output, GPM	Location
1	20	In well house						

Emergency Power /Alternate Source? No (Y/N) Describe: *

SYSTEM CAPACITIES

	Required	Provided		Y	N
Well Production	18 GPPPD x 200 PPD = 3 GPM	20	GPM	X	
Emergency Storage	0.00022 (min) MG	0.00026	MG	X	
Total Storage	55 x 18 x 200 = 0.0215 MG	0.0025	MG	X	
Service Pumping Cap.	3 x 3 GPM =9 GPM	20	GPM	X	

** Factor = 1.25 or 1.85, MDD Listed as gallons.

MAP ID
5

I.D. N	0150436	Survey Date:	10-28-98

GROUND WATER SOURCE AND WATER SYSTEM DEFICIENCIES

VII. GROUND WATER SOURCE GUI7 (N)

A. SANITARY

		Y	N			Y	N
Well/pump room protected from flooding?	[41,c,3,H]	X		Sewage Treatment plant ≥ 500 ft.?	[41,c,1,C]	X	
Livestock prohibited within 50 ft. of well?	[41,c,1,D]	X		Animal pens or landfill ≥ 500 ft.?	[41,c,1,C]	X	
Sanitary sewer, septic tank,cemetery ≥ 50 ft.?	[41,c,1,A]	X		Sewage irrigated land ≥ 500 ft.?	[41,c,1,C]	X	
Septic tank drainfields ≥ 150 ft.?	[41,c,1,A]	X		UST or liquid transmission pipeline ≥ 150 ft.?	[41,c,1,A]		X
Drainage ditch or liftstation ≥ 300 ft.?	[41,c,1,B]	X		Abandoned wells ≤ 1/4 mi. plugged?	[41,c,1,E]	X	

B. CONSTRUCTION

Sanitary easement(s)recorded?	[41,c,1,F]		X	Suitable sampling tap?	[41,c,3,M]	X	
Well cased 18" above ground level?	[41,c,3,B]	X		Well meter provided?	[41,c,3,N]	X	
Proper pressure cement?	[41,c,3,C]	X		Well blow-off properly installed?	[41,c,1,L]	X	
Proper concrete sealing block?	[41,c,3,J]	X		Well unit fenced or housed?	[41,c,1,O]	X	
Well head sealed?	[41,c,3,K]	X		Well site properly drained?	[41,c,3,I]	X	
Casing vent properly installed?	[41,c,3,K]		X	All weather road provided?	[41,c,3,P]	X	
Air release devices properly installed?	[41,c,3,Q]	*	*				

VIII. ADDITIONAL WATER SYSTEM DEFICIENCIES AND TAC REFERENCES :

IX. RATING DEFICIENCY SCORE

A. Certified Operator(s) If Required

1. None Surface	10 Pt.s	
2. None Ground	4 Pt.s	
3. Only one when two required	4 Pt.s	
4. Improper certification	4 Pt.s	

B. MCL Violations

1. Microbiological:		
Failure to sample	4/mo	
MCL violation	10/vio	
2. Primary standards	10/vio	
3. Secondary standards	2/vio	
4. Turbidity:		
Failure to report	4/mo	
MCL violation	10/mo	

C. Distribution

Pressure < 20 psi	10 Pt.s	
Pressure < 35	4 Pt.s	
Distribution problems	2 Pt.s	
Treated water protection	3 Pt.s	6
Disinfection provided, but residual < 0.2 mg/l Free Chlorine or 0.5 mg/l Chloramine	4 Pt.s	4

D. Design

1. Ground Water		
No disinfection	10 Pt.s	
Improper well location	4 Pt.s	
No easement	4 Pt.s	4
Well construction deficiencies	3/item	6
2. Surface Water:		
No disinfection	20 Pt.s	
No filtration	20 Pt.s	
Excess filter rate	4 Pt.s	
Inadequate chemical feed	4 Pt.s	
Inadequate detention time	4 Pt.s	
3. General:		
Production Deficient	4 Pt.s	
Service Pump Deficient	2 Pt.s	
Storage deficient:		
Elevated or Pressure	4 Pt.s	
Total storage Deficient	4 Pt.s	

TOTAL, A + B + C + D = 20

MAP ID
6

Texas Water Development Board
Well Schedule

State Well No. 68 19 906 Previous Well No. _____ County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 27 57 Long. 098 38 00 Source Code 1

Owner's Well No. _____ Location ___ 1/4 ___ 1/4 Section ___ Block ___ Survey ___

Owner: Lone Star Airlines Park
Driller: Water Well Drilling

Address 24123 Boerne Stage Rd. 78255 Tenant/Oper. Frank Bohman, Mgr.

Date Drilled 12 15 1996 Depth 570 Source of Depth Data 0 Altitude 1140 Source of Alt. Data 4

Aquifer 5P Edwards Well Type 1 Use 49 18 10

Well Construction: Const. Method cable tool 6 Casing Material steel 5

Completion open hole 1 Screen Material _____

Lift Data: Pump Mfr. _____ Type Sub 5 No. Stages _____

Bowls Diam. _____ in. Setting 357 ft. Column Diam. _____ in.

Motor Mfr. _____ Fuel or Power elec 2 Horsepower _____

Yield: Flow _____ GPM Pump _____ GPM Meas. Rep. Est. _____ Date _____

Performance Test: Date 12/15/96 Length of Test 24 hrs Production 50 GPM

Static Level 125 ft. Pumping Level 171 ft. Drawdown 46 ft. Sp. Cap. 1.08 GPM/ft.

Quality (Remarks) _____

Water Use: Primary PS 4 Secondary _____ Tertiary _____

Other Data Available: Water Level 4 Water Quality 1 Log 0 Other Data _____

Water Levels:
Date 7 06 11 1996 Meas. 125 7-07
Date (*) 12 15 1996 Meas. 171 78 airline (62 ft)
Date _____ Meas. _____

*Mr. Bohman says this can't be right.

Recorded By D. Clar Date Record Collected or Updated 08 17 1996 (DD mm) Reporting Agency 01

Remarks: Reported yield 50 gpm with 46 feet drawdown after pumping 36 hours in 1996.

Well No. 68.19.906

0150441

Casing or Blank Pipe (C) Well Screen or Natural Zone (S) Open Hole (O) Cemented Seal Setting (Feet)									
Diam. (In.)			Form			To			
6	6	6				0	8	0	0
0			8	0	0	5	7	0	

MAP ID
6

Send orig. & copy by certified mail to: TNRCC, P.O. Box 13087, Austin, TX 78711-3087

Please use black ink.

ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

State of Texas WELL REPORT 2937 57 09838 08 (3D)

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER: LEON SPRINGS BUSINESS PARK (Name) ADDRESS: 24123 BOERNE STAGE RD S. A. TX 78255 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County: BEXAR, ___ ___ miles in W (NE, SW, etc.) direction from LEON SPRINGS (Town)

Driller must complete the legal description below 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

Frank Bohner, Hydr.

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

4) PROPOSED USE (Check): ☐ Domestic ☐ Industrial ☐ Monitor ☒ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG: Date Drilling: Started 9/15 19 94; Completed 12/15 19 94

Dia. (in.)	From (ft.)	To (ft.)
10	Surface	200
6	200	570

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

From (ft.)	To (ft.)	Description and color of formation material
0-6 topsoil		
6-20 caliche		
20-23 blue clay		
23-126 gray lime		
126-190 gray clay		
190-195 gray lime		
195-205 white lime		
205-300 gray lime		
300-355 lt gray		
355-370 white		
370-385 gray lime		
385-525 lt gray		
525-540 sandy tan		
540-550 gray lime		
550-570 blue gray		

more H2S at 525-540

(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 Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8		steel	0	200	.280

9) CEMENTING DATA (Rule 287.44(1)): Cemented from 0 ft. to 200 ft. No. of Sacks Used 88; ___ ft. to ___ ft. No. of Sacks Used ___

Method used: Halliburton pressure

Cemented by: WHITING WELL DRILLING

10) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Reciprocating ☐ Cylinder ☐ Other ___

Depth to pump bowls, cylinder, jet, etc. 357 ft.

11) WELL TESTS: Type Test: ☒ Pump ☐ Bailer ☐ Jetted ☐ Recovery; Yield: 50 gpm with 46 ft. drawdown after 36 hrs.

12) WATER QUALITY: Did you knowingly penetrate any strata which contained undesirable constituents? ☐ Yes ☒ No. If yes, note "REPORT OF UNDESIRABLE WATER"

Type of water? low chlor. Depth of strata 333-348

Was a chemical analysis made? ☐ Yes ☒ No

13) SURFACE COMPLETION: ☒ Specified Surface Slab Installed (Rule 287.44(3)(A)) ☐ Specified Steel Sleeve Installed (Rule 287.44(3)(A)) ☐ Pitless Adapter Used (Rule 287.44(3)(B)) ☐ Approved Alternative Procedure Used (Rule 287.71)

FOWH Manifold Airline Vent

14) WATER LEVEL: Static level 125 ft. below land surface Date 12/15/94; Artesian flow ___ gpm. Date ___

(62#) (32#)

15) PACKERS: Type ___ Depth ___

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME: WHITING WELL DRILLING (Type or print) WELL DRILLER'S LICENSE NO. 1716 WP

ADDRESS: 116 DODGE RD. (Street or RFD) BOERNE TEXAS (City) 78006 (Zip)

(Signed) [signature] (Licensed Well Driller) (Signed) ___ (Registered Driller Trainee)

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

For TNRCC use only: Well no. 68-19-9 Located on map ___

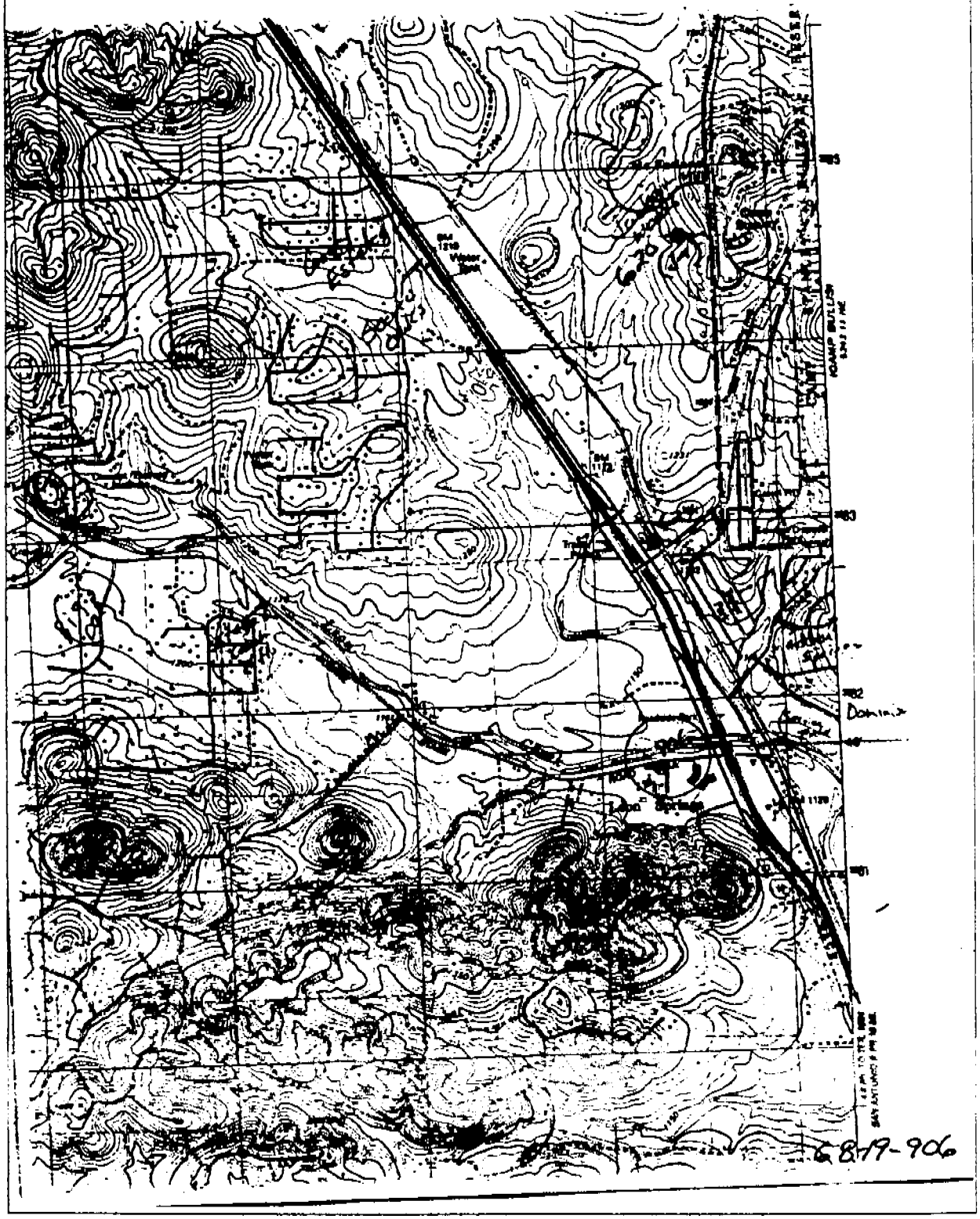
TNRCC-0199 (Rev. 05-15-93)

TNRCC COPY

X 68-19-9

MAP#6

MAP ID
6



MAP#6

MAP ID
6

PUBLIC WATER SUPPLY REGULATORY PROGRAM

WATER SYSTEM DATA

ID No. 0150441 Community ___ NTNC X Non-Comm ___

CCN No. • Superior • Approved • Probation • Region 13

Name of System Leon Springs Business Park & Office Park County Bexar

Physical location 24123 Boerne Stage Rd., San Antonio, TX

Responsible Official Frank Bohman Title Property Manager Phone 210-698-0670

Mailing Address 24123 Boerne Stage Rd., STE 301, San Antonio, TX 78255

Chief Cert Op Name Lee Whiting Grade & Type B-GW Phone 830-981-4260

2nd Op Req'd? No Name • Grade & Type • Total # Cert. Ops. 1

WS Manager/Superintendent Lee Whiting Other Officials Contacted •

Surveyed With Frank Bohman Area Served Business Park

Supplier and Source Self / ground one well - Cow Creek

Interconnection w/other PWS? No Name PWS I/C • Type I/C •

Retail Service Connections 4 Retail Meters • Retail Population 90 PPD

Wholesale Master Meters • Wholesale Service Connections • Wholesale Population •

Charge ? No Dist. to and Name of Nearest PWS 750' - SAWS (0150018)

Reason for this Survey (Routine, Follow Up, Initial, Enforcement, Complaint, Other) Routine Previous Survey Date 06/11/96

Map Attached No Previous Map OK? Yes Well Operational Status Changed? No

Description of Supply, Source, Treatment, and Chemicals Used:

One well, sub pump, discharges to one ground storage tank. Two service pumps take suction from storage and discharge to distribution through one pressure tank. Hypochlorination prior to storage.

Total Well Cap. 50 gpm 0.072 mgd RAW Cap. 0 gpm 0 mgd

Treatment Cap. 0 gpm 0 mgd Total Svc. Pump Cap. 80 gpm 0.1152 mgd

Total Elevated Storage ___ Total Storage Cap. 0.005 Pressure Tank Cap. 315 Gals.

Maximum Daily Usage • Date • Average Daily Usage • Time Period •

Wholesale Contract • Maximum Purchase Rate •

MAR 25 1999

MICROBIOLOGICAL

	Y	N
Samples Submitted per DWS?	X	
Raw Samples Submitted, if Required?	•	•
Well(s) Surface Water Influenced?		X
Acceptable Sample Siting Plan on File?	X	

Number of Samples Required 1/mo # Submitted 1/mo

Number of Raw Samples Required • # Submitted •

Non-Comm Dates of Operation • Thru •

CHEMICAL

Acceptable Quality? Yes Date, Last Analysis IOC 09/15/98 NO_2/NO_3 ___ RC ___ VOC 09/15/98 SOC ___

List UNACCEPTABLE Values •

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? • Date •

Date of Survey 01/21/99 By Robert L. Reed, Jr. Report Date: 03/13/99

Date of Approval 3/23/99 By ___

Letter Date, if different from Approval Date — Reply Requested Yes April 19, 1999 Def. Score of this Survey 3

•= Not Applicable UN=Unknown NO= Not Observed

MAP ID
6

I.D. No.:	0150441	Survey Date:	01/21/99

OPERATION AND MAINTENANCE

(Please note: all violations listed below include paragraph numbers from §290 of the Rules and Regulations for PWSs.)

I. OPERATIONAL

		Y	N			Y	N
Monthly Reports Submitted to TNRCC (if Required)?	[46,d]	*	*	Distribution Map Up-to-Date?	[46,n]	X	
MOR's Properly Completed?	[46,d]	*	*	Ownership Signs Properly Displayed and Maintained?	[46,w]	X	
Dead End Mains Flushed?	[46,l]	X		Adequate Chemical Storage Provided?	[42,d,6]	X	
New Lines and Repairs Disinfected?	[46,g]	X		ANSI/NSF Approved Chem/Media?	[42]	X	
Supply of Disinfectant on Hand?	[46,h]	X		Facilities Properly Maintained?	[46,m&p]	X	
		*	*	If Superior/Approved, Signs Properly Disp. & Maint.	[47,b]	*	*

II. STORAGE TANKS

Storage Tanks Properly Covered?	[43,c]	X		Proper Water Level Indicator Provided?	[43,c,4]		X
Tanks Tight Against Leakage?	[43,c,6]	X		Drains Properly Connected?	[43,c,7]	X	
Vents Properly Installed?	[43,c,1]	X		Inlet and Outlet Properly Located?	[43,c,5]	X	
Proper Roof Hatch Provided?	[43,c,2]	X		Intruder Resistant Fence?	[43,e]	X	
Roof Hatch Kept Locked?	[43,c,2]	X		Tanks Properly Inspected, Maintained, Docs.	[46,p,1]	X	
Proper Overflow Provided?	[43,c,3]	X		Below Ground Storage Properly Located?	[43,b]	*	*
				Inspection Ladder Provided?	[43,c]	*	*

III. PRESSURE TANKS

Accurate Pressure Gauges?	[43,d,2]	X		Tanks Tight Against Leakage?	[43,d,7]	X	
Pressure Release Device Provided?	[43,d,2]	X		Routinely Inspected, Maintained, Documented?	[46,p,2]	X	
Proper Facilities for Air/Water Ratio/Air filter?	[43,d,3]	*	*	Fenced or Housed?	[43,e]	X	
Air-Water Volume Indicator Provided?	[43,d,3]	*	*	ASME, if Required?	[43,d,1]	*	*

IV. DISTRIBUTION

Plumbing Ordinance or Agreement?	[46,i]	*	*	Properly Installed Distribution Piping?	[44,a]	X	
Customer Service Inspection Program?	[46,j]	*	*	Adequate Flush/Gate Valves?	[44,d,6]	X	
Backflow Assembly Report Recorded, if needed?	[44,h,4,D]	*	*	Air Release Valves Properly Installed?	[44,d,1]	*	*
Sewer Lines Properly Located?	[44,e]	X		In-Line Booster Pumps in System? **	[44,d,2]	*	*
Minimum Residual Pressure ≥ 20 PSI?	[44,d&46,u]	X		In-Line Booster Pumps in System Approved?	[44,d,2]	*	*
Normal Working Pressure ≥ 35 PSI?	[44,d&46,u]	X		If Yes, Pressure Cut-off ≥ 20 psi Provided?	[44,d,2&3]	*	*
Tested psi/Locations: 49 psi - SE corner of Bldg.				**Location:			

V. DISINFECTION

Disinfection Equipment Adequate in Capacity?	[42,c]	X		Adequate Residual Maintained/Recorded?	[46,f,1,2]	X	
Type Disinfection Used: Hypochlorination				Mg/L ,T/F/Locations: 1.16 mg/l - SE corner of Bldg			
Disinfection Equipment Properly Housed?	[42,e,6,8]	*	*	Evacuation Plan Cl_2,NH_3? If needed	[42,e,11]	*	*
Disinfection Room Properly Vented?	[42,e,7]	X		DPD Chlorine Test Kit Provided?	[46,f,2]	X	
Breathing Apparatus and Ammonia Bottle Provided?	[42,e,5]	*	*	IF AMMONIA FEED PROVIDED:			
Scales Provided?	[42,e,4,D]	*	*	Properly Housed/Vented?	[42,e,10]	*	*
Disinfection Prior to Storage?	[42,e,2,3]	X		Scales or Gauges Provided?	[42,e,4,D]	*	*

* = Not applicable U = Unknown NO = Not Observed

MAP ID
6

I.D.!	0150441	Survey Date:	01/21/99

VI. SYSTEM FACILITIES

Number of Connections 90 PPD

WELLS

Entry Pt. #	Water Source Code	Owner's Desig.	Location	GPS Lat/Long	Oper. Status	Well Depth	Pump Type	Tested/Est. GPM/Date
001	B	2	100' NW of Bldg		O	570'	sub	50 S

STORAGE RESERVOIRS AND PRESSURE TANKS

Type	Capacity (MG)	Material	Location
Ground	0.005	Concrete	N End of Bldg
PT	315 Gals.	Steel	N End of Bldg

SERVICE PUMPS

No.	Output GPM	Location	No.	Output GPM	Location	No.	Output GPM	Location
1	40	N End of Bldg						
2	40	N End of Bldg						

Emergency Power /Alternate Source? No (Y/N) Describe: *

SYSTEM CAPACITIES

					Required		Provided		Y	N
Well Production	18	GPPD X	90	PPD =	1.13	GPM	50	GPM	X	
Pressure Storage		Gal/Conn X		Conn =	[illegible] Gals	Min.	315	Gals.	X	
Ground Storage	0.5	X	[illegible]	MDD =	[illegible]	Gals.	0.005	[illegible]	X	
Service Pumping Cap.	[illegible]	X	1.13	MDD =	3.39	GPM	80	[illegible]	X	
Service Pump Peaking Factor		MDD/1,440 X	1.25	**		GPM		GPM		

** Factor = 1.25 or 1.85, MDD Listed as gallons.

MAP ID
6

I.D.!	0150441	Survey Date:	01/21/99

GROUND WATER SOURCE AND WATER SYSTEM DEFICIENCIES

VII. GROUND WATER SOURCE GUI? Y (N)

A. SANITARY

		Y	N			Y	N
Well/pump room protected from flooding?	[41,c,3,H]	X		Sewage Treatment plant ≥ 500 ft.?	[41,c,1,C]	X	
Livestock prohibited within 50 ft. of well?	[41,c,1,D]	X		Animal pens or landfill ≥ 500 ft.?	[41,c,1,C]	X	
Sanitary sewer, septic tank,cemetery ≥ 50 ft.?	[41,c,1,A]	X		Sewage irrigated land ≥ 500 ft.?	[41,c,1,C]	X	
Septic tank drainfields ≥ 150 ft.?	[41,c,1,A]	X		UST or liquid transmission pipeline ≥ 150 ft.?	[41,c,1,A]	X	
Drainage ditch or liftstation ≥ 300 ft.?	[41,c,1,B]	X		Abandoned wells ≤ 1/4 mi. plugged?	[41,c,1,E]	X	

B. CONSTRUCTION

Sanitary easement(s)recorded?	[41,c,1,F]	X		Suitable sampling tap?	[41,c,3,M]	X	
Well cased 18" above ground level?	[41,c,3,B]	X		Well meter provided?	[41,c,3,N]	X	
Proper pressure cement?	[41,c,3,C]	X		Well blow-off properly installed?	[41,c,1,L]	*	*
Proper concrete sealing block?	[41,c,3,J]	X		Well unit fenced or housed?	[41,c,1,O]	X	
Well head sealed?	[41,c,3,K]	X		Well site properly drained?	[41,c,3,I]	X	
Casing vent properly installed?	[41,c,3,K]	X		All weather road provided?	[41,c,3,P]	X	
Air release devices properly installed?	[41,c,3,Q]	*	*				

VIII. ADDITIONAL WATER SYSTEM DEFICIENCIES AND TAC REFERENCES :

IX. RATING DEFICIENCY SCORE

A. Certified Operator(s) If Required

1. None Surface	10 Pt.s	
2. None Ground	4 Pt.s	
3. Only one when two required	4 Pt.s	
4. Improper certification	4 Pt.s	

B. MCL Violations

1. Microbiological:		
Failure to sample	4/mo	
MCL violation	10/vio	
2. Primary standards	10/vio	
3. Secondary standards	2/vio	
4. Turbidity:		
Failure to report	4/mo	
MCL violation	10/mo	

C. Distribution

Pressure < 20 psi	10 Pt.s	
Pressure < 35	4 Pt.s	
Distribution problems	2 Pt.s	
Treated water protection	3 Pt.s	3
Disinfection provided, but residual < 0.2 mg/l Free Chlorine or 0.5 mg/l Chloramine	4 Pt.s	

D. Design

1. Ground Water		
No disinfection	10 Pt.s	
Improper well location	4 Pt.s	
No easement	4 Pt.s	
Well construction deficiencies	3/item	
2. Surface Water:		
No disinfection	20 Pt.s	
No filtration	20 Pt.s	
Excess filter rate	4 Pt.s	
Inadequate chemical feed	4 Pt.s	
Inadequate detention time	4 Pt.s	
3. General:		
Production Deficient	4 Pt.s	
Service Pump Deficient	2 Pt.s	
Storage deficient:		
Elevated or Pressure	4 Pt.s	
Total storage Deficient	4 Pt.s	

TOTAL, A + B + C + D = 3

MAP ID
6

PUBLIC WATER SUPPLY REGULATORY PROGRAM
WATER SYSTEM DATA

ID No. 0150441 Community ___ NTNC X Non-Comm ___

CCN No. ___ Superior ___ Approved ___ Status? ACTIVE Region 13

Name of System LEON SPRINGS BUSINESS & OFFICE PARK County BEXAR

Physical location 24123 BOERNE STAGE ROAD

Responsible Official FRANK BOHMAN Title ___ Phone 210-698-0670

Mailing Address 24123 BOERNE STAGE ROAD, SUITE 301, SAN ANTONIO, TEXAS 78255

Chief Cert Op Name LEE WHITING Grade & Type B-GW Phone 210-981-4240

2nd Op Req'd? NO Other Cert Op Name ___ Grade & Type ___ Total # Cert Ops 1

WS Manager/Superintendent LEE WHITING Other Officials Contacted ___

Surveyed With FRANK BOHMAN Area Served BUSINESS PARK

Supplier and Source LEON SPRINGS BUSINESS PARK / GROUND ONE WELL

Interconnection with another PWS? NO Name PWS I/C ___ Type I/C ___

Retail Service Connections 4 Retail Meters ___ Retail Population 90

Wholesale Master Meters ___ Wholesale Service Connections ___ Wholesale Population ___

Minimum Charge ? ___ Per ___ Thous. Dist. to and Name of Nearest PWS ___

Reason for this Survey (Routine) Follow Up Initial Enforcement Complaint Other) Previous Survey Date 4/19/95

Map Attached NO Previous Map OK? YES Well Operational Status Changed? YES

Description of Supply, Source, Treatment, and Chemicals Used WELL #2, SUB. PUMP, DISCHARGES TO ONE GROUND STORAGE TANK, SERVICE PUMP TAKES SUCTION FROM STORAGE AND DISCHARGES TO DISTRIBUTION THROUGH ONE PRESSURE TANK. HYPOCHLORINATION IS PRIOR TO GROUND STORAGE. NOTE * WELL #1 IS NO LONGER OWNED OR USED BY LEON SPRINGS BUSINESS PARK. IT IS UNDER THE CAR WASH OWNERS CONTROL.

Well Cap. 50 gpm 0.072 mgd RW Cap. ___ gpm ___ mgd

Equipment Cap. ___ gpm ___ mgd Total Svc. Pump Cap. 80 gpm 0.115 mgd

Total Elevated Storage ___ Total Storage Cap. 0.005 mg Pressure Tank Capacity 315 gal.

Maximum Daily Usage ___ Date ___ Average Daily Usage ___ Time Period ___

Wholesale Contract ___ Maximum Purchase Rate ___

MICROBIOLOGICAL

	Y	N	
Samples Submitted in Accordance with DWS?	☐	☒	Number of Samples Required 1/mo Submitted 11/yrs
Raw Samples Submitted, if Required?	☐	☐	Number of Raw Samples ___
Well(s) Surface Water Influenced?	☐	☒	Non-Comm. Dates of Operation ___ Thru ___
Acceptable Sample Siting Plan on File?	☐	☒	MISSED SAMPLE FOR DECEMBER 95'

CHEMICAL

Acceptable Quality? Y Date, Last Chemical Analysis IOC 11/2/95 RC ___ VOC 11/2/95 SOC 11/2/95

List UNACCEPTABLE Values FLUORIDES 2.4 mg/L

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? ___ Date ___

Date of Survey 6/11/96 By DON WHITE

Date of Approval 7-3-96 By Gary D. Caldwell

Letter Date, if different from Approval Date ___ Reply Requested YES Def. Score of this Survey 19

8-3-96

MAP ID
6

I.D. #: 0150441

OPERATION AND MAINTENANCE

(Please note: all violations listed below include paragraph numbers from §290 of the Rules and Regulations for PWSs.)

I. OPERATIONAL

		Y	N
Monthly Reports Submitted to TNRCC (if Required)?	[.46(d)]	N/A	
Daily Usage Shown?	[.46(d)]	✓	
MOR's Properly Completed?	[.46(d)]	✓	
Dead End Mains Flushed?	[.46(l)]	✓	
New Lines and Repairs Disinfected?	[.46(g)]	✓	
Supply of Disinfectant on Hand?	[.46(h)]	✓	
Distribution Map Up-to-Date?	[.46(n)]	N/A	
Ownership Signs Properly Displayed and Maintained?	[.46(w)]	N/A	
Adequate Chemical Storage Provided?	[.42(d)(6)]	✓	
ANSI/NSF Approved Chem/Media?	[.42]	N/A	
Facilities Properly Maintained?	[.46(m) & (p)]	✓	
If Superior/Approved, Signs Properly Disp. & Maint.?	[.47(b)]	N/A	
Sanitary facilities available, if needed?	[.42(g)]	✓	

II. STORAGE TANKS

		Y	N
Storage Tanks Properly Covered?	[.43(c)]	✓	
Tanks Tight Against Leakage?	[.43(c)(6)]	✓	
Vents Properly Installed?	[.43(c)(1)]	✓	
Proper Roof Hatch Provided?	[.43(c)(2)]	✓	
Roof Hatch Kept Locked?	[.43(c)(2)]	✓	
Proper Overflow Provided?	[.43(c)(3)]		✓
Proper Water Level Indicator Provided?	[.43(c)(4)]		✓
Drains Properly Connected?	[.43(c)(7)]	✓	
Inlet and Outlet Properly Located?	[.43(c)(5)]	✓	
Intruder Resistant Fence?	[.43(e)]	✓	
Tanks Properly Inspected, Maintained, Documented?	[.46(p)(1)]	✓	
Below Ground Storage Properly Located?	[.43(b)]	N/A	
Inspection Ladder Provided?	[.43(c)]		✓

III. PRESSURE TANKS

		Y	N
Accurate Pressure Gauges?	[.43(d)(2)]	✓	
Pressure Release Device Provided?	[.43(d)(2)]	✓	
Proper Facilities for Air/Water Ratio?	[.43(d)(3)]	N/A	
Air-Water Volume Indicator Provided?	[.43(d)(3)]	✓	
Tanks Tight Against Leakage?	[.43(d)(7)]	✓	
Routinely Inspected, Maintained, Documented?	[.46(p)(2)]	✓	
Fenced or Housed?	[.43(e)]	✓	
ASME, if Required?	[.43(d)(1)]	✓	

IV. DISTRIBUTION

		Y	N
Plumbing Ordinance or Agreement?	[.46(i)]	N/A	
Customer Service Inspections Recorded?	[.46(j)]	✓	
Backflow Assembly Report Recorded, if needed?	[.44(h)(4)(D)]	✓	
Sewer Lines Properly Located?	[.44(e)]	✓	
Minimum Residual Pressure ≥ 20 PSI?	[.44(d) & .46(u)]	✓	
Normal Working Pressure ≥ 35 PSI?	[.44(d) & .46(u)]	✓	
Properly Installed Distribution Piping?	[.44(a)]	✓	
Adequate Flush/Gate Valves?	[.44(d)(6)]	N/A	
Air Release Valves Properly Installed?	[.44(d)(1)]	✓	
In-Line Booster Pumps in System? Location _____		✓	
In-Line Booster Pumps in System Approved?		✓	
If Yes, Pressure Cut-off ≥ 20 psi Provided?	[.44(d)(2)&(3)]	✓	

Tested psi/Locations 52 psi at S.E. CORNER BLDG

V. DISINFECTION

		Y	N
Disinfection Equipment Adequate in Capacity?	[.42(e)]	✓	
Type Disinfection Used: HYPOCHLORINATION			
Disinfection Equipment Properly Housed?	[42(e)(6)(8)]	✓	
Disinfection Room Properly Vented?	[.42(e)(7)]	N/A	
Breathing Apparatus and Ammonia Bottle Provided?	[.42(e)(5)]	✓	
Scales Provided?	[.42(e)(4)(D)]	✓	
Disinfection Prior to Storage?	[.42(e)(2)(3)]	✓	
Adequate Residual Maintained/Recorded?	[.46(f)(1)(2)]		✓
Mg/L (T/F)/Locations <0.01 mg/L at S.E. CORNER BLDG.			
DPD Chlorine Test Kit Provided?	[.46(f)(2)]	✓	
IF AMMONIA FEED PROVIDED:			
Properly Housed/Vented?	[.42(e)(10)]		
Scales or Gauges Provided?	[.42(e)(4)(D)]		

MAP ID
6

I.D. # 0150441

VI. SYSTEM FACILITIES

Number of Connections 80 PPD

WELLS (Y/N) OR RAW WATER PUMPS (Y/N)

Entry Pt. #	Water Source Code	Owner's Desig.	Location	Oper. Status	Well Depth	Pump Type	Rated GPM	Tested GPM/Date
001	B	2	100' N OF WELL #1	O	570'	SUB.	50	

STORAGE RESERVOIRS AND PRESSURE TANKS

Type	Capacity	Material	Location
GROUND	5000 Gal.	Concrete	North end - Lansing Bldg.
P.T.	315	STEEL	IN ROOM ADJ. TO STORAGE

SERVICE PUMPS

No.	Output (GPM)	Location	No.	Output (GPM)	Location	No.	Output (GPM)	Location
1	40	ADJACENT TO STORAGE						
2	40	"						

Emergency Power? N (Y/N) Describe: _____

Required Well Production Capacity 1.8 G/P/D ~~GPM/Conn.~~ X 80 P/D ~~Conn.~~ = 1 GPM

Total Well Production Capacity Provided = 50 GPM Adequate? ..... Y X

~~Required Elevated~~/Pressure Storage: _____ Gal/Conn. X _____ Conn. = 220 gal. min. ~~MG~~

~~Elevated~~/Pressure Storage Provided = 315 gal. MG Adequate? X

Required Ground/~~Total~~ Storage: 0.5 Gal/Conn. X 1440 gal. Conn. = 720 gal. ~~MG~~

Ground/Total Storage Provided = 0.005 MG Adequate? X

Required Service Pumping Capacity: 3 GPM/Conn. X 1 Conn. = 3 GPM

Service Pump Peaking Factor: _____ MDD/1,440 X _____ = _____ GPM Peak Demand

Total Service Pump Capacity = 80 GPM Adequate? X

MAP ID
6

I.D. # 0150441

GROUND WATER SOURCE AND WATER SYSTEM DEFICIENCIES

VII. GROUND WATER SOURCE

A. SANITARY

		Y	N			Y	N
Well or pump room protected from flooding?	[.41(c)(3)(H)]	✓	_	Sewage treatment plant ≥ 500 ft.?	[.41(c)(1)(C)]	✓	_
Livestock Prohibited within 50 ft. of well?	[.41(c)(1)(D)]	✓	_	Animal pens or landfill ≥ 500 ft.?	[.41(c)(1)(C)]	✓	_
Sanitary sewer or septic tank ≥ 50 ft.?	[.41(c)(1)(A)]	✓	_	Sewage irrigated land ≥ 500 ft.?	[.41(c)(1)(C)]	✓	_
Septic Tank drainfields ≥ 150 ft.?	[.41(c)(1)(A)]	✓	_	UST or liquid transmission pipeline ≥ 150'?	[.41(c)(1)(A)]	✓	_
Drainage ditch or liftstation ≥ 300 ft.?	[.41(c)(1)(B)]	✓	_	Abandoned wells ≤ 1/4 mi. plugged?	[.41(c)(1)(E)]	✓	✓

B. CONSTRUCTION

Well cased 18" above ground level?	[.41(c)(3)(B)]	✓	_	Well meter provided?	[.41(c)(3)(N)]	✓	_
Proper pressure cement?	[.41(c)(3)(C)]	✓	_	Well blow-off properly installed?	[.41(c)(3)(L)]	✓	✓
Proper concrete sealing block?	[.41(c)(3)(J)]	✓	_	Well unit fenced or housed?	[.41(c)(3)(O)]	✓	_
Well head sealed?	[.41(c)(3)(K)]	✓	_	Well site properly drained?	[.41(c)(3)(I)]	✓	_
Casing vent properly installed?	[.41(c)(3)(K)]	✓	_	All weather road provided?	[.41(c)(3)(P)]	✓	_
Air release devices properly installed?	[.41(c)(3)(Q)]	✓	_	Sanitary easement(s) recorded?	[.41(c)(1)(F)]	✓	_
Suitable sampling tap?	[.41(c)(3)(M)]	✓	_				

VIII. ADDITIONAL WATER SYSTEM DEFICIENCIES AND TAC REFERENCE NUMBERS:

_____

_____

_____

_____

IX. RATING DEFICIENCY SCORE

A. Certified Operator(s) (If Required)

1. None Surface	10 Pt.s	___
2. None Ground	4 Pt.s	___
3. Only One When Two Required	4 Pt.s	___
4. Improper Certificate	4 Pt.s	___

B. MCL Violations

1. Microbiological:		
Failure to Sample	4/Mon.	4
MCL Violation	10/Mon.	___
2. Primary standards	10/Vio.	___
3. Secondary Standards	2/Vio.	2
4. Turbidity:		
Failure to Report	4/Mon.	___
MCL Violation	10/Mon.	___

C. Distribution

Pressure < 20 psi	10 Pt.s	___
Pressure < 35 psi	4 Pt.s	___
Distribution Problems	2 Pt.s	___
Treated Water Protection	3 Pt.s	3
Disinfection Provided But Residual < 0.2 mg/l Free Chlorine or 0.5 mg/l Chloramine	4 Pt.s	___

D. Design Deficiencies

1. Ground Water:		
No Disinfection	10 Pt.s	10
Improper Well Location	4 Pt.s	___
No Easement	4 Pt.s	___
Well Construction Deficiencies	3/item	___
2. Surface Water:		
No Disinfection	20 Pt.s	___
No Filtration	20 Pt.s	___
Excess Filter Rate	4 Pt.s	___
Inadequate Chemical Feed	4 Pt.s	___
Inadequate Detention Time	4 Pt.s	___
3. General:		
Production Deficient	3 or 4 Pt.s	___
Storage Deficient:		
Elevated or Pressure	4 Pt.s	___
Total Storage < 70% of Required	4 Pt.s	___

TOTAL (A + B + C + D) = 19

MAP ID

6

9V

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

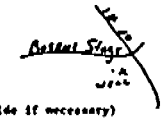
For TWDB use only
Well No. 68-19-9V
Located on map no.
Received: 9 7
JK

1) OWNER:
Person having well drilled William A. Swinney, Inc. (Name) Address Route 10 Box 78, San Antonio, Texas (Street or RFD) (City) (State)

Landowner same (Name) Address (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County Bexar, 2 miles in west (N.E., N.W., etc.) direction from Leon Springs (town)

Locate by sketch map showing landmarks, roads, streams, hiway number, etc.*



(Use reverse side if necessary)

or

Give legal location with distances and directions from adjacent sections or survey lines.

Labor _____ League _____
Block _____ Survey _____
Abstract No. _____
(NW¼ NE¼ SW¼ SE¼) of Section 22206 Cielo Vista

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole 8¼ in. Depth drilled 400 ft. Depth of completed well 400 ft. Date drilled 06-16-77
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	20	Rocks, light brown lime
20	35	Gray shale
35	50	Light gray lime
50	70	Yellow lime
70	95	Gray shale and lime
95	190	Light gray lime
190	280	Dark gray lime and shale
280	310	Gray lime and shale
310	350	Light gray lime
350	400	Gray shale

(Use reverse side if necessary)

9) Casing:
Type: Old, New, Steel, Plastic, Other
Cemented from 0 ft. to 110 ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
6	0	110	Sch 40

10) SCREEN:
Type _____
Perforated, Slotted
Diameter (inches), Setting from (ft.), Setting To (ft.), Slot Size

7) COMPLETION (Check): Straight wall, Gravel packed, Other, Under reamed, Open Hole

8) WATER LEVEL:
Static level 200 ft. below land surface Date 06-16-77
Artesian pressure _____ lbs. per square inch Date _____
Depth to pump bowls, cylinder, jet, etc. 336 ft. below land surface.

11) WELL TESTS:
Was a pump test made? Yes No If yes, by whom?
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.
Bailer test 15 gpm with 0 ft. drawdown after 1 hrs.
Artesian flow _____ gpm
Temperature of water unknown

12) WATER QUALITY:
Was a chemical analysis made? Yes No
Did any strata contain undesirable water? Yes No
Type of water? Glenrose depth of strata 120-190, 280-350

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 Charles D. Junek (Type or Print) Water Well Drillers Registration No. 1683

ADDRESS 7206 Moss Creek (Street or RFD) San Antonio (City) Texas (State)

(Signed) Charlie Junek (Water Well Driller) Charlie Junek Drilling Company (Company Name)

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

Additional instructions on reverse side.

4802903254 MAP#6

MAP ID

6

ATTENTION OWNER: Confidentiality Privilege Notice on reverse side of Well Owner's copy (pink)

State of Texas
WELL REPORT

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
512-463-7880

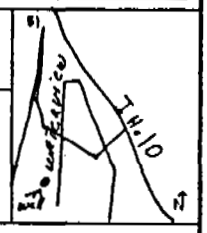
1) OWNER Mark Sutherland (Name) ADDRESS 1880 Nixon Dr. (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

2) ADDRESS OF WELL'S LOCATION: County Bexar 15 28840 Waterview (Street, RFD or other) Balcones (City) TX (State) (Zip) Long. ____ Lat. ____ Grid # 68-19-2

3) TYPE OF WORK (Check): [x] New Well [ ] Deepening [ ] Reconditioning [ ] Plugging

4) PROPOSED USE (Check): [ ] Monitor [ ] Environmental Soil Boring [x] Domestic [ ] Industrial [ ] Irrigation [ ] Injection [ ] Public Supply [ ] De-watering [ ] Testwell
If Public Supply well, were plans submitted to the TNRCC? [ ] Yes [ ] No

5)



6) WELL LOG:
Date Drilling:
Started 4/14 1998
Completed 4/16 1998

DIAMETER OF HOLE		
Dia. (in.)	From (ft.)	To (ft.)
7 7/8	Surface	200
5 7/8	200	464

7) DRILLING METHOD (Check): [ ] Driven [x] Air Rotary [ ] Mud Rotary [ ] Bored [ ] Air Hammer [ ] Cable Tool [ ] Jetted [ ] Other ____

From (ft.)	To (ft.)	Description and color of formation material
0	28	Tan lime
28	58	Gray lime Shale st.
58	275	Lt. gray lime
275	310	Tan lime few intermitten fos.
310	340	Lt. gray lime
340	360	Gray lime
360	373	Lt. gray lime
373	410	Lt. Brown lime few intermitten fos
410	460	Lt. Brown lime
460	464	Shale

(Use reverse side of Well Owner's copy, if necessary)

8) Borehole Completion (Check): [x] Open Hole [ ] Straight Wall [ ] Underreamed [ ] Gravel Packed [ ] Other ____
If Gravel Packed give interval from ____ ft. to ____ ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
5"	New	Plastic	5	200	

9) CEMENTING DATA
Cemented from 0 ft. to 100 ft. No. of sacks used 14
180 ft. to 200 ft. No. of sacks used 3
Method used Pressure Cemented
Cemented by Driller
Distance to septic system field lines or other concentrated contamination ____ ft.
Method of verification of above distance ____

13) [ ] Well plugged within 48 hours

Casing left in well: From (ft)	To (ft)	Cement/bentonite placed in well: From (ft)	To (ft)	Sacks used:

14) TYPE PUMP:
[ ] Turbine [ ] Jet [x] Submersible [ ] Cylinder
[ ] Other ____
Depth to pump bowls, cylinder, jet, etc., 441 ft.

10) SURFACE COMPLETION
[x] Specified Surface Slab Installed
[ ] Specified Steel Sleeve Installed
[ ] Pitless Adapter Used
[ ] Approved Alternative Procedure Used

OCT 14 1998

15) WELL TESTS:
Type test: [ ] Pump [ ] Bailer [x] Jetted [ ] Estimated
Yield: 12 gpm with ____ ft. drawdown after 1 hrs.

11) WATER LEVEL:
Static level 240 ft. below land surface Date 4/16/98
Artesian flow ____ gpm. Date ____

16) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
[ ] Yes [x] No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? ____ Depth of strata ____
Was chemical analysis made? [ ] Yes [ ] No

12) PACKERS:

	Type	Depth
1	Rubber	200'

I certify that I drilled this well (or the well was drilled under my direct supervision) and that each and all of the statements herein are true and correct. I understand that failure to complete Items 1 thru 16 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Utility Water Inc. (Type or print) WELL DRILLER'S LICENSE NO. 2872 W

ADDRESS 2810 Thousand Oaks #138 (Street or RFD) San Antonio (City) TX (State) 78232 (Zip)

(Signed) ____ (Licensed Well Driller) (Signed) 4802903257 (Registered Driller Trainee)

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

MAP ID
7

#12

Surface Kgrl

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer(s) Kcgs (Sub ccrk) Project No. 6029 State Well No. 68-20-108

Field No./Owner's Well No. 12 County (BX) Bexar (015)

1. Location: ___ ¼, ___ ¼, Section ___, Block ___, Survey ___, Lat. ___, Long. ___

2. Owner: Fair Oaks Subd. Address: Rt 4 Box 4995 Boerne Tx 78006

Tenant (other): David Buchanan (Supt) Address: Same 512 755-4299

Driller: Lewis Bergmann & Sons Address: 135 S. Acme St Boerne Tx 78006

3. Land Surface Elevation: 1253 ft. above msl determined by Topo

4. Drilled: 4-6 1979; Dug, Cable Tool, Rotary, Air, ___

11 *5. Depth: Rept. 435 ft. Meas. ___ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. Jacuzzi Type Sub

No. Stages ___, Bowls Diam. ___ in., Setting 375 ft.

Column Diam. 3 in., Length Tailpipe ___ ft.

8. Motor: Mfr. ___ Fuel Elect. HP 20

9. Yield: Flow ___ gpm, Pump 50 gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date ___ Length of Test ___ Made by ___

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production ___ gpm Specific Capacity ___ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) ___

Analyses

Date ___ Laboratory ___ TDS ___ Sp Cond ___

Date ___ Laboratory ___ TDS ___ Sp Cond ___

12. Other data available (as circled): Pumping Test, Power & Yield Test, Drillers Log, Formation Samples, Geophysical Log(s) ___

CASING, BLANK PIPE & WELL SCREEN Cemented From ___ ft. to ___ ft.			
Diam. (in.)	Type	Setting (feet) From	To
8⅝	Steel	0	224
open	hole	224	435

13. Water Level(s): 197.58 ft. rept. meas. 8-13 1987 above below (type) Hot Pipe Hole which is 2.0 ft. above below Land Surface

___ ft. rept. meas. ___ 19___ above below ___ which is ___ ft. above below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) ___

15. Recorded by: Rec. Mahr Source of data: Obs, Drlrs Date: 8-12-87

16. Remarks: Birdjire Sat 323 (Bexar)

#11 Drilled to 527 Caved Back to 435

17. Location or Sketch:

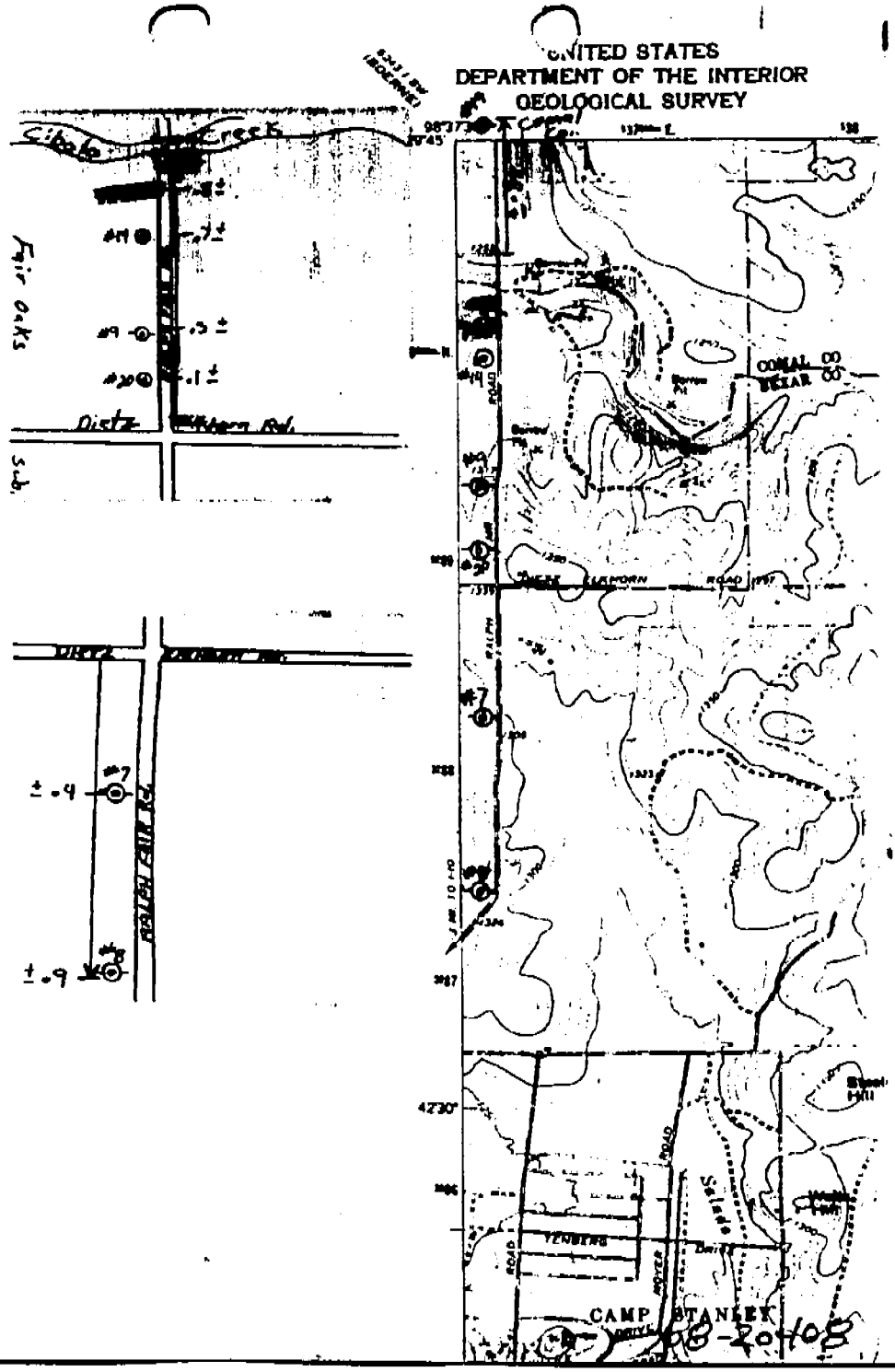
TWDB-0308 (Rev. 12-11-85)

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. 68-20-108

MAP#7

MAP ID
7


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Cibolo Creek
Fair Oaks
Dietz
Kitchen Rd.
Golden Fair Rd.
COMAL CO
BEXAR CO
CAMP STANLEY
#7
#9
#20
±.9
±.3
±.1

MAP#7

MAP ID
7

RECEIVED
MAY 31 1979
DEPT. OF WATER RESOURCES

State of Texas

Original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

For TWDB use only: Well No. 68-19-1N; Located on map; Received: 7-20-79

OWNER: Person having well drilled: Fain Oaks Water Co. Address: Pt B Box 542 Boerne Tex (Name) (Street or RFD) (City) (State)

Landowner: Same (Name) Address (Street or RFD) (City) (State)

LOCATION OF WELL: County: Bexar; 7 miles in S.E. direction from Boerne (N.E., N.W., etc.) (Town)

Locate by sketch map showing landmarks, roads, streams, hiway number, etc.*

Now F.M. just completed in Dec. 1978

.10 from creek

(Use reverse side if necessary)

Sketch map: Well #1, Creek, N

Give legal location with distances and directions from nearest political or survey lines: See map on 68-20-1A

Labor: League: Block: Survey: Abstract No.: (NW, NE, SW, SE) of Section:

1) TYPE OF WORK (Check): (New Well) Deepening; Reconditioning; Plugging

4) PROPOSED USE (Check): Domestic; Industrial; (Municipal); Irrigation; Test Well; Other

3) TYPE OF WELL (Check): (Rotary); Driven; Dug; Cable; Jetted; Bored

6) WELL LOG: Diameter of hole 8 in. Depth drilled 527 ft. Depth of completed well 488 ft. Date drilled 4-6-79

All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material

9) Casing: Type: Old; New; (Steel); Plastic; Other. Connected from 0 ft. to 224 ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
8 5/8	0	224	

10) SCREEN: Type: Arrow. Perforated; Slotted

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot Size

RECEIVED

7) COMPLETION (Check): (Straight wall); Gravel packed; Other; Under reamed; (Open Hole)

8) WATER LEVEL: Static level 76 ft. below land surface Date 4-6-79

Artesian pressure ____ lbs. per square inch Date ____

Depth to pump bowls, cylinder, jet, etc. ____ ft. below land surface.

11) WELL TESTS: Was a pump test made? Yes; (No) If yes, by whom?

Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

Bailer test ____ gpm with ____ ft. drawdown after ____ hrs.

Artesian flow ____ gpm. Well will be acidized & tested at later date

Temperature of water ____

12) WATER QUALITY: Was a chemical analysis made? Yes; No

Did any strata contain undesirable water? Yes; No.

Type of water: Fresh; depth of strata ____

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: Louis Bergmann & Sons (Type or Print) Water Well Drillers Registration No. 1927

ADDRESS: 135 3 Leon (Street or RFD) Boerne (City) Tex (State) 78006

(Signed) Glen P. Marquardt (Water Well Driller) Louis Bergmann & Sons (Firm or Name)

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

*Additional instructions on reverse side.

68-20-10B

MAP#7

MAP ID

7

Pilot hole 5-24-5-26. 1978
Completed 4-6-79

FAIR OAKS WATER CO. Well #12

0-13	Surface & gravel
13-34	Soft white rock
34-37	med soft white rock w/red clay
37-39	very porus yellow rock
39-56 5	soft yellow white rock
56-67	med soft yellow rock
67-72	med soft porus light yellow rock
72-74	very hard white rock
74-82	very hard porus rock
82-94	hard white rock
94-97	med hard porus white rock
97-115	hard light brown rock
115-140	hard white rock
140-188	med hard light blue rock
188-210	med soft porus yellow white rock
210-227	hard light blue rock
227-245	soft white rock (water)
245-261	med soft yellow white rock
261-265	med hard very porus rock
265-277	hard light blue gray rock
277-278	very porus rock
278-301	med hard blue rock
301-310	hard gray shell rock
310-323	med hard green shale & rock
323-327	med hard white rock
327-328	very hard very porus white rock
328-355	hard very porus white rock (water 75 gpm
355-362	hard gray rock
362-378	hard white rock-slightly porus

Baker Co.
68-19-3N

RECEIVED
AUG 2 '79
DWR

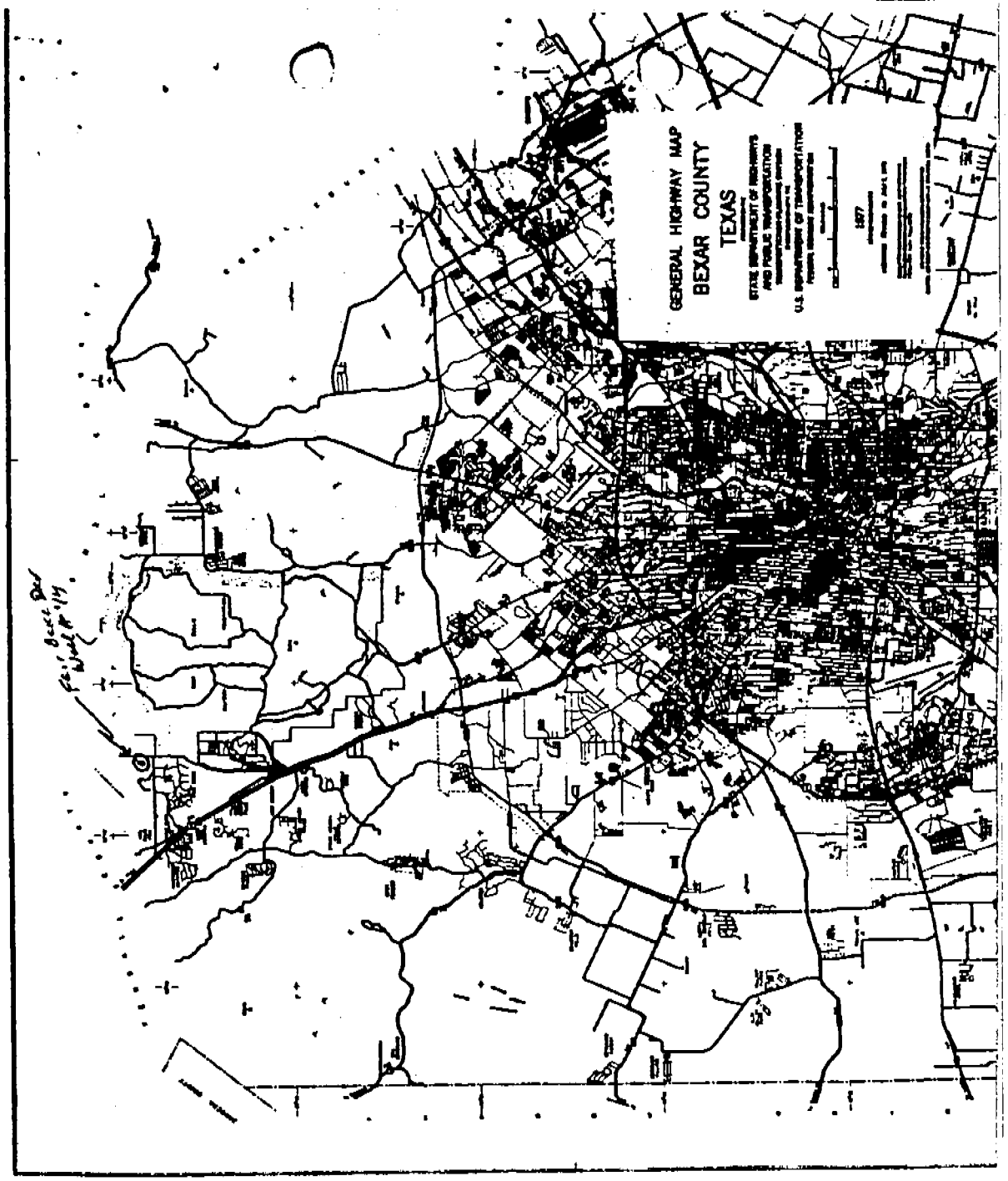
378-392	hard gray white rock
392-396	hard very porus white rock
396-410	hard gray white rock
410-415	hard light blue shell rock
415-424	soft blue shale
424-430	med hard light blue rock & shale
430-441	soft blue shale-oily green-caves badly
441-450	med soft blue shale
450-475	hard gray rock with soft spots
475-503	hard gray white rock-slightly porus
503-527	hard light blue rock & shale

Reamed with 12" bit to 224, casing - set 224'
6 5/8 OD steel casing, pressure cemented by
Halliburton
Water Level 76'
Caved back to 435'.

68-20-108

MAP#7

MAP ID
7



MAP #7

MAP ID
7

TEXAS WATER DEVELOPMENT BOARD

Surface Kgru

WELL SCHEDULE

Aquifer(s) Kgru - Kaho (Edwards) Project No. 6029 State Well No. 68-20-109

Field No./Owner's Well No. #14 County (BX) Bexar (015)

1. Location: ___ ¼, ___ ¼, Section ___, Block ___, Survey ___, Lat. ___, Long. ___

2. Owner: Fair Oaks Subd. Address: Rt 4 Box 4495 Boerne TX 78006

Tenant (other): David Bickman Address: Same 512-755-4294

Driller: Layne Texas Address: PO Box 9469 Houston TX 77261

3. Land Surface Elevation: 1265 ft. above msl determined by Topo

4. Drilled: 8-1 19 80 ; Dug, Cable Tool, Rotary, Air, Mud

5. Depth: Rept. 877 ft. Meas. ___ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. ___ Type ___

No. Stages ___, Bowls Diam. ___ in., Setting ___ ft.

Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Mfr. ___ Fuel ___ HP. ___

9. Yield: Flow ___ gpm, Pump ___ gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date ___ Length of Test ___ Made by ___

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production ___ gpm Specific Capacity ___ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) ___

Analyses

Date ___ Laboratory ___ TDS ___ Sp Cond ___

Date ___ Laboratory ___ TDS ___ Sp Cond ___

12. Other data available (as circled): Pumping Test, Power & Yield Test, Drillers Log,

Formation Samples, Geophysical Log(s) ___

13. Water Level(s) 378.88 ft. rept. meas. 8-13 19 87 above/below (type) Top of Casing which is 3.0 ft. above/below Land Surface

___ ft. rept. meas. ___ 19 ___ above/below ___ which is ___ ft. above/below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) ___

15. Recorded by: Ron Mahy Source of data: ___ Date 8-13-87

16. Remarks: Pump pulled at the time (Water level was measured by) respondent. It is equipped

17. Location or Sketch:

CASING, BLANK PIPE & WELL SCREEN Cemented From 0 ft. to 690 ft.			
Diam. (in.)	Type	Setting (feet) From	To
8 5/8	Steel	0	690
open	Hole	690	877

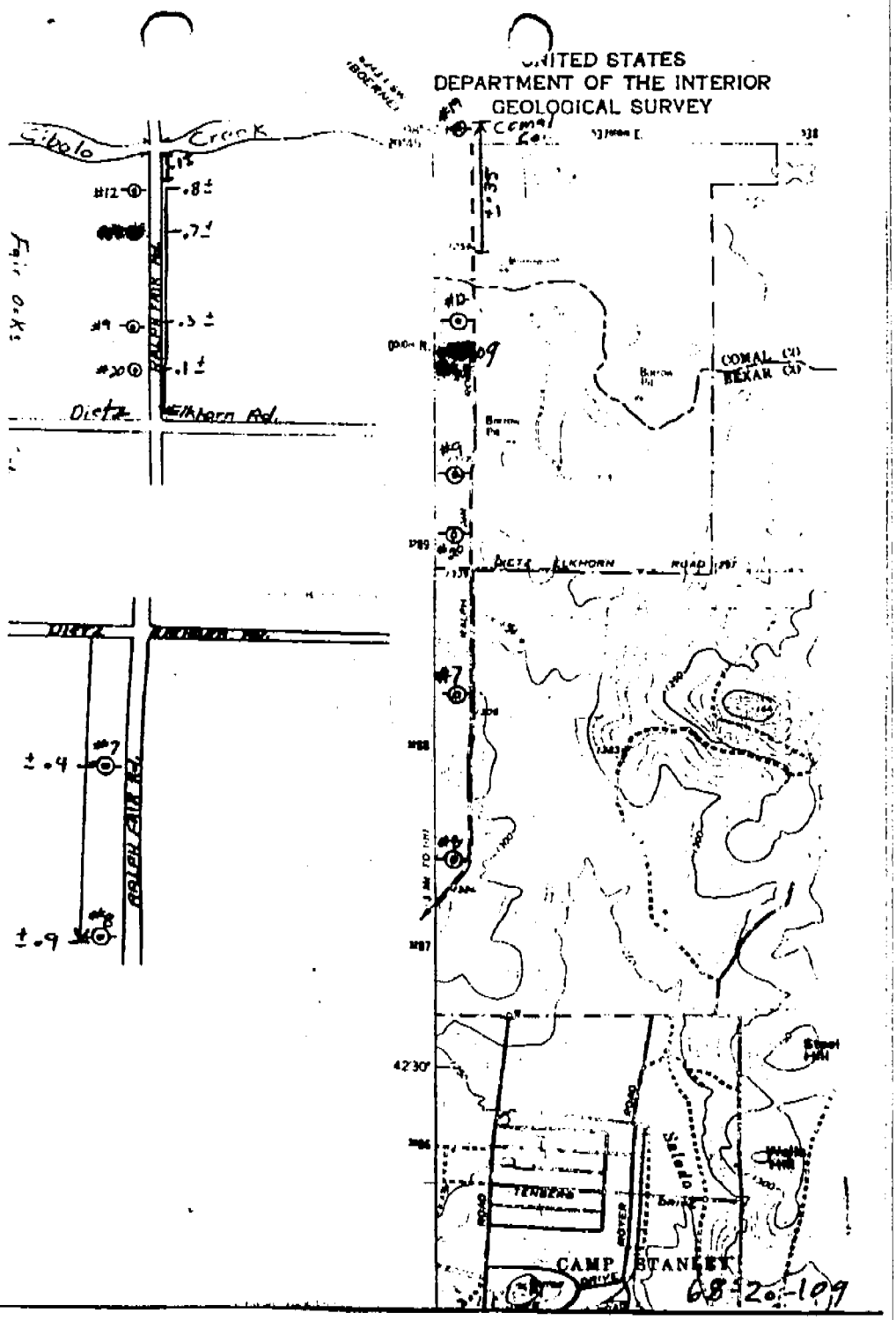
TWDB-0308 (Rev. 12-11-86)

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. 68-20-109

MAP #7

MAP ID
7


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Cibolo Creek
Dietz Elkhorn Rd.
COMAL
BEXAR
CAMP STANLEY
Salado
68-20-109

MAP #7

MAP ID

7

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. 68-20-109 Located on map YES Received: 7-21-82

1) OWNER: Fairbanks Dal Corp c/o R. E. Fair (Name) Address: Box 4485 (Street or RFD) Houston (City) Texas (State) 77001 (Zip)

2) LOCATION OF WELL: County: Baker ___ miles in ___ (N.E., S.W., etc.) direction from ___ (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: Well #1 Date drilled 8/1/80

Dia. (in.)	From (ft.)	To (ft.)
12	Surface	690
7 7/8	690	2770

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

From (ft.)	To (ft.)	Description and color of formation material
		See attached log

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfgr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
12	N	Black Steel Csg	0	690	
7 7/8		Open hole	690	2770	

CEMENTING DATA: Cemented from Surf ft. to 690 ft. Method used Pressure Cement. Cemented by ___ (Company or Individual)

9) WATER LEVEL: Static level — ft. below land surface Date ___ Artesian flow ___ gpm. Date ___

10) PACKERS: Type Depth None

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

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

13) WELL TESTS: ☐ Type Test ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated Yield: — gpm with ___ ft. drawdown after ___ hrs.

RECEIVED JUL 21 1982 DEPT. OF WATER RESOURCES

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: Leland Lawson (Type or Print) Water Well Drillers Registration No. 2 K

ADDRESS: Box 845 (Street or RFD) Houston (City) Texas (State) 77001 (Zip)

(Signed) Leland Lawson (Water Well Driller) Layne Texas Co. (Company Name)

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

TDWR-6302 (Rev. 1-12-78) DEPARTMENT OF WATER RESOURCES COPY 68-20109

MAP#7

MAP ID
7

BANKS INFORMATION SOLUTIONS, INC.

P.O. Box 12851 Capitol Station ■ Austin, Texas 78711 512/478-0059

WATER WELL SEARCH

DRILLERS LOG NOT AVAILABLE

MAP ID
8

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer: L. Glen Rose / Hensell / Cow Creek

Field No. _____ Owner's Well No. #11

State Well No. 68-19-604

County: Bexar

1. Location: ___ 1/4, ___ 1/4 Sec. ___ Block ___ Survey ___
Lat. 29° 41' 53" Long. 98° 32' 50" El. 0.3 Alt. 3?

2. Owner: Garvo Stanley Address: ___
Lessee: Vigil Fields Address: ___
Driller: ___ Address: ___

3. Elevation of 450 to 1335 ft. above msl, determined by Topo

4. Drilled 8-22 1958; Dug, Cable Tool, Rotary, ___

5. Depth: Rept. 550 ft. Meas. ___ ft.

6. Completion: Open Hole, Straight Well, Underreamed, Gravel Packed ___

7. Pump: Mfgr. ___ Type Submersible
No. Stages ___, Bowls Diam. ___ in., Setting 525 ft.
Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Fuel Elec. Make & Model ___ HP. 15

9. Yield: Flow ___ gpm, Pump 20 gpm, Meas., Rept., Est.

10. Performance Test: Date ___ Length of Test ___ Made by ___
Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.
Production ___ gpm Specific Capacity ___ gpm/ft.

11. Water Level: ___ ft. rept. meas. 19__ above/below ___ which is ___ ft. above/below surface.
___ ft. rept. meas. 19__ above/below ___ which is ___ ft. above/below surface.
___ ft. rept. meas. 19__ above/below ___ which is ___ ft. above/below surface.
___ ft. rept. meas. 19__ above/below ___ which is ___ ft. above/below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used. ___

13. Quality: (Remarks on taste, odor, color, etc.) ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, in file
Formation Samples, Pumping Test, ___

15. Record by: Jobo Ashworth Date 2-10 1976
Source of Data E-log, ground step, field visit

16. Remarks: ___
Step at ground surface and all casing essentially rusted.

CASING & WELL PIPE

Cemented From ___ ft. to ___ ft.

Diam. (in.)	Type	Setting, ft. From	To
	Steel	unknown	

WELL SCREEN

Screen Openings ___

Diam. (in.)	Type	Setting, ft. From	To

TWDBE-WD-G

(Sketch)

See 68-19-602

AY 68-19-604

1.1m: SINL
.5m: WICH

MAP ID

8

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*

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER BUDDY NICHOLS (Name) Address (Street or RFD) Jackson Woods, Off Camp (City) (State or Zip)

2) LOCATION OF WELL: County Bexar 24 miles in N.W. (N.E., S.W., etc.) direction from San Antonio, Stanley Rd (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 ☐ Drive ☐ Bored ☒ Air Rotary ☐ Cable Tool ☐ Jetted ☐ Other _____

6) WELL LOG:

Date drilled 5/18/82

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
	Surface	
8 3/4	0	202'
6"	202'	425'

From (ft.)	To (ft.)	Description and color of formation material
0 -	2	Top Soil
2 -	25	Brown & White Lime
25 -	51	Gray Lime
51 -	80	Brown Lime
80 -	103	Gray Lime
103 -	160	Light Gray & White Lime
160 -	235	Gray Lime
235 -	285	White Lime
285 -	320	Brown Lime
320 -	340	Light Gray & White Lime
340 -	415	Brown & White Lime
415 -	420	Dark Gray Lime
420 -	425	Soft Dark Gray Lime/Shale

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
6"	New	Steel	0	202'	.188 wall

CEMENTING DATA
Cemented from 0 ft. to 202' ft.
Method used Ready-Mix Slurry
Cemented by Schoenfeld (Company or Individual)

9) WATER LEVEL:
Static level 290' ft. below land surface Date 5/18/82
Artesian flow 40-50 gpm. Date 5/19/82

10) PACKERS: Type Depth
NONE

11) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., 300' ft.

12) WELL TESTS: NONE
☐ Type Test ☐ Pump ☐ Bailer ☐ Other Gas Air
Yield 40-50 gpm with _____ ft. drawdown after _____ hrs.

13) WATER QUALITY:
Did you encounter any strata containing undesirable water? ☐ Yes ☒ No
If yes, show depth of UNDESIRABLE WATER
Type of water _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☐ No

RECEIVED
MAY 31 1982
TEXAS WATER COMMISSION

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.

COMPANY NAME HASKIN PUMP SERVICE, INC. (Type or Print) Water Well Driller's License No. GLEN D. HASKIN, 2327

ADDRESS 15403 CAPITAL PORT, (Street or RFD) SAN ANTONIO, (City) TX (State) 78249 (Zip)

(Signed) Glen D. Haskin (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

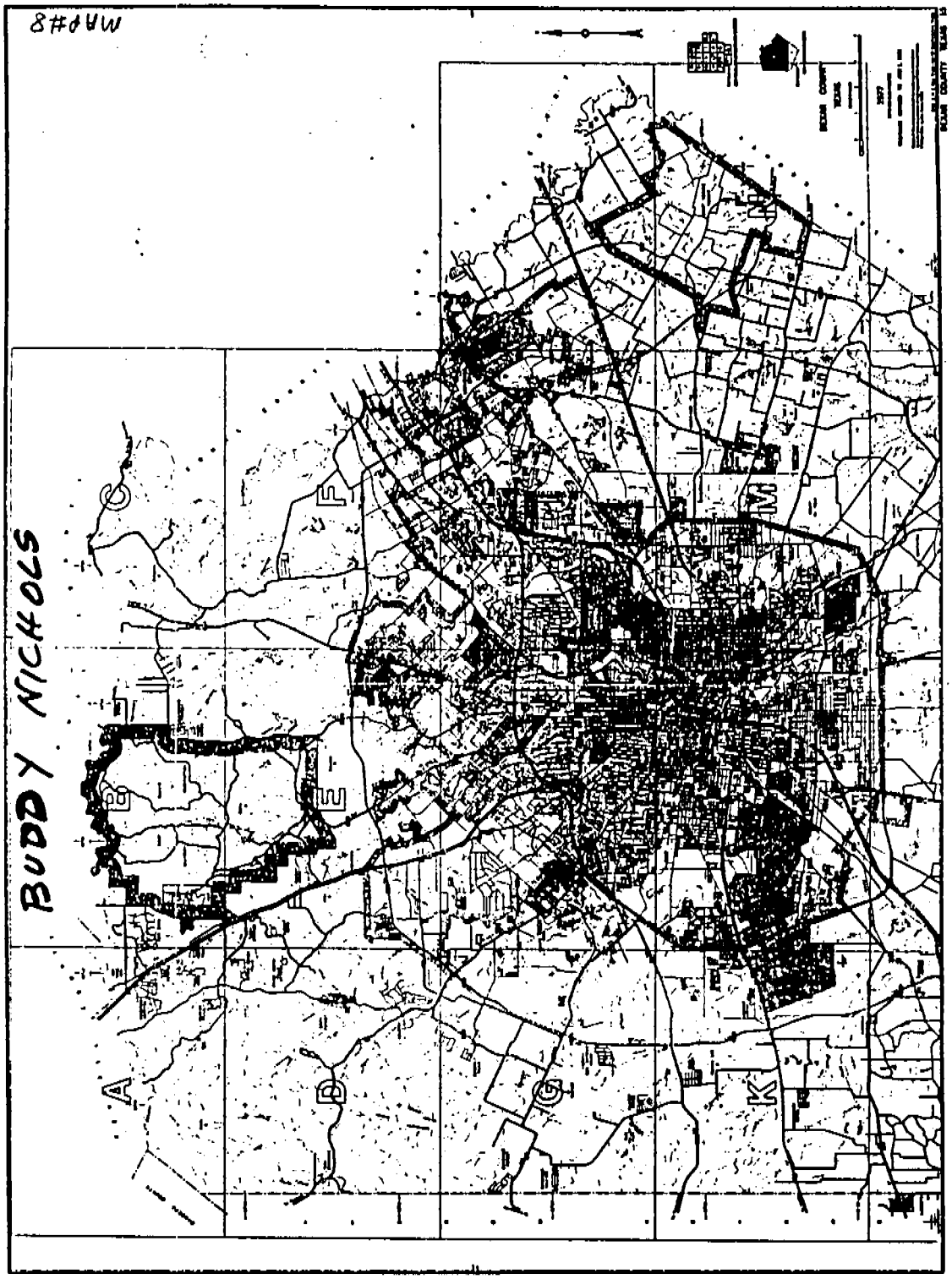
For TDWR use only Well No. 68-79-6 Located on map _____

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

TDWR 0710 (Rev. 5-27-82) DEPARTMENT OF WATER RESOURCES COPY

4802903124

MAP ID
8



MAP ID

8

Please use black ink. Send original copy by certified mail to the Texas Water Commission P.O. Box 13087 Austin, Texas 78711

State of Texas
WATER WELL REPORT

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Bruce Tschoepe (Name) Address _____ (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar N miles in N (N.E., S.W., etc.) direction from Leon Springs (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 ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other _____

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

6) WELL LOG:
Date Drilling: Started 6/20 1988 Completed 6/22 1988

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
	Surface	
8¾	0	200
5⅝	200	500

From (ft.)	To (ft.)	Description and color of formation material
0	-2	Topsoil
2	-15	grey lime
15	-40	grey shale
40	-62	yellow lime & clay
62	-140	grey lime
140	-149	white lime
149	-200	grey & white lime
200	-230	red shale
230	-300	TAN lime
300	385	TAN SANDSTONE
385	-420	lt. lime & water
420	-460	SANDSTONE
460	-500	lt. lime

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
8⅝	New	steel	0	200	
5⅝					

9) CEMENTING DATA (Rule 319.44(b))
Cemented from 0 ft. to 200 ft. No. of Sacks Used _____
_____ ft. to _____ ft. No. of Sacks Used _____
Method used grout
Cemented by Ingram Ready Mix

10) SURFACE COMPLETION
☑ Specified Surface Slab Installed (Rule 319.44(c))
☐ Pitless Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:
Static level 311 ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12) PACKERS: Type Depth

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

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☐ Flowing ☐ Estimated
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☑ No
If yes, submit "WATER QUALITY REPORT"
Type of water? _____ Depth to strata _____
Was chemical analysis made? ☐ Yes ☐ No

RECEIVED
DEC 28 1988
TEXAS WATER COMMISSION

(Use reverse side if necessary)

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Courtney Drilling (Type or Print) Water Well Driller's License No. #2541

ADDRESS P.O. Box 1454 (Street or RFD) Boerne (City) Tx (State) 78006 (Zip)

(Signed) _____ (Licensed Water Well Driller) (Signed) Donald Kleyhamer (Registered Driller Trainee)

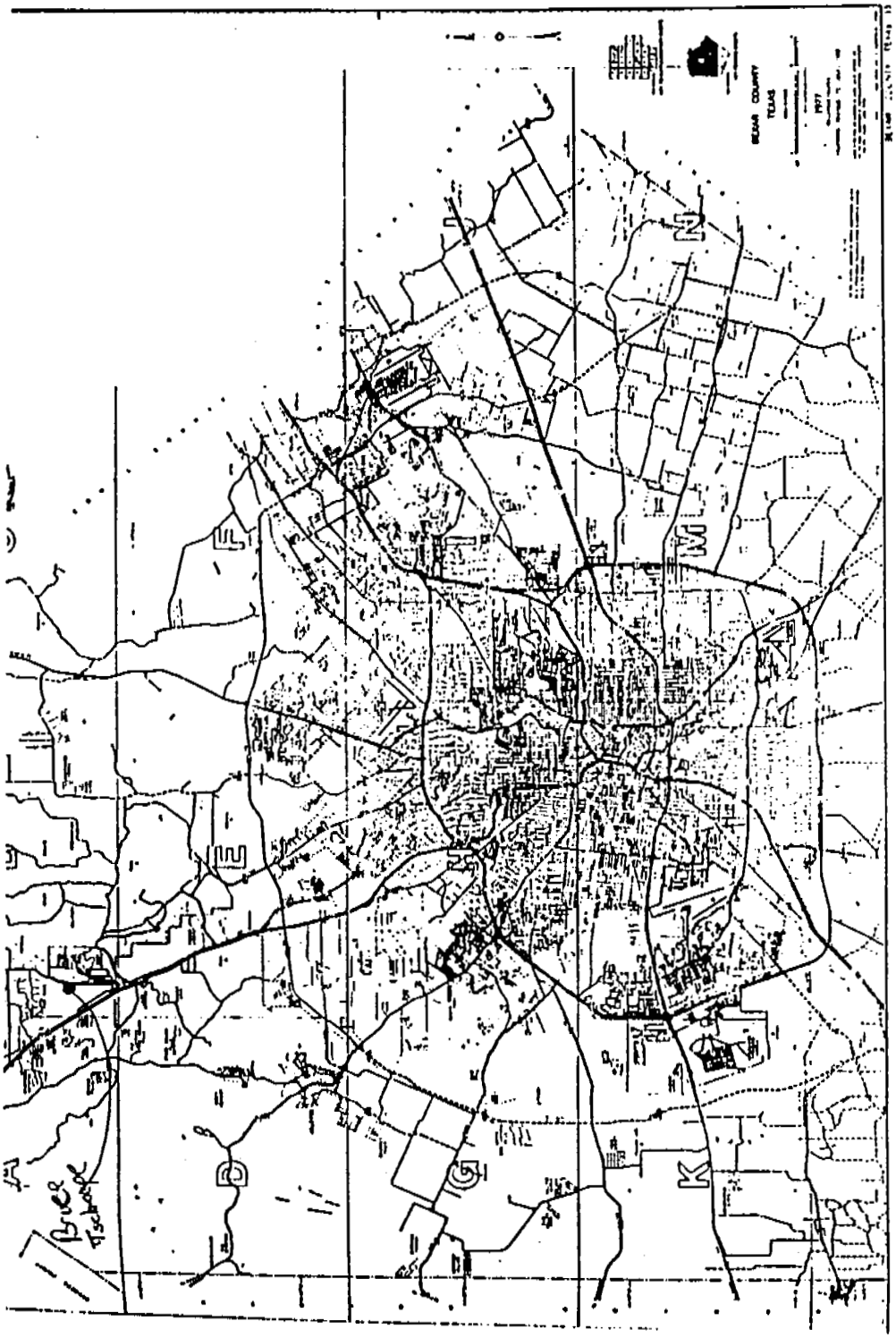
Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only
Well No. 68-19-6
Located on map _____

WWD-012 (Rev.01-30-87) TEXAS WATER COMMISSION COPY

4802903142

MAP ID
8



.7m : SINL
.5m : WIEL

MAP ID

9

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*

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER John White (Name) Address 7751 Mountain Trail (Street or RFD) Boerne (City) Tx (State) 78006 (Zip)

2) LOCATION OF WELL: County Bexar 2 miles in north (N.E. S.W. etc.) direction from Leon Springs (Town)

well located in Jackson Woods Subdivision, off Ralph Fair Road.

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 10-15-86

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
8-3/4	Surface	190
6-1/8	190	480

From (ft.)	To (ft.)	Description and color of formation material
0	2	soil and rocks
2	20	brown lime
20	47	grey lime
47	190	cave at 40'. no returns until 190', 10ft cave 135 to 145'.
190	220	white lime
220	240	brown lime
240	290	grey lime
290	320	grey lime and shale
320	380	brown lime
380	430	grey shale
430	480	brown lime - Calcreek

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6-5/8	new	steel	0	190	.188 well

CEMENTING DATA
Cemented from 0 ft. to 190 ft.
Method used grout poured from top
Cemented by Charlie Junek Drilling (Company or Individual)

9) WATER LEVEL:
Static level 170 ft. below land surface Date 10-15-86
Artesian flow _____ gpm. Date _____

10) PACKERS: Type rubber Depth 190'

11) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc. 375 ft.

12) WELL TESTS:
☐ Type Test ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield 70 gpm with 0 ft. drawdown after 1 hrs.
good jet, clear water.

RECEIVED
OCT 23 1986
TEXAS WATER COMMISSION

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? _____ Depth of strata 320-340
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.

COMPANY NAME Charlie Junek Drilling (Type or Print) Water Well Driller's License No. 1683

ADDRESS 6200 Grissom Road (Street or RFD) San Antonio (City) Texas (State) 78238 (Zip)

(Signed) Charlie Junek (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TDWR use only: Well No. 68-79-6 Located on map _____

TDWR 0302 (Rev. 8-27-82) DEPARTMENT OF WATER RESOURCES COPY 4802903111

MAP ID
9

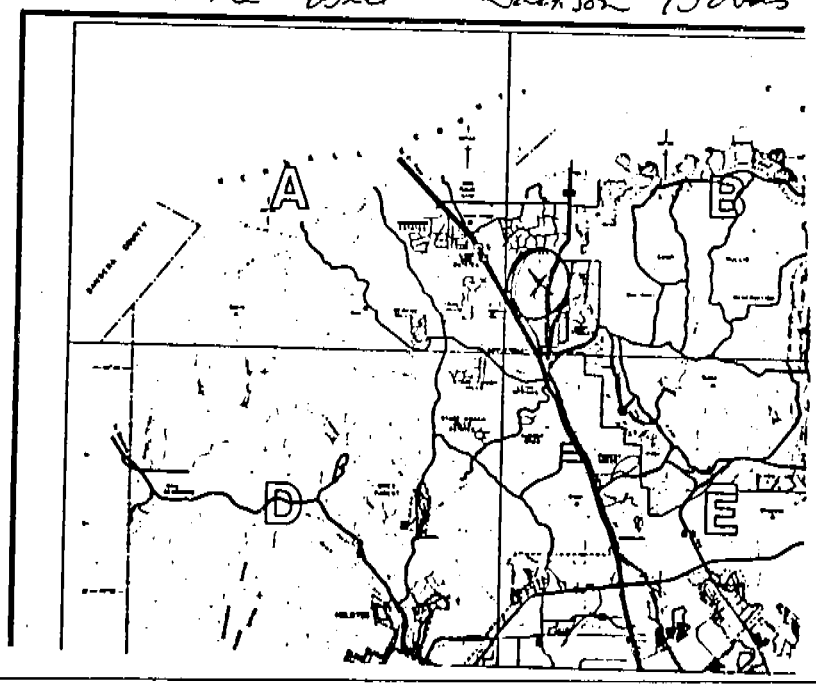
IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING PRIVILEGE OF CONFIDENTIALITY

The Water Well Drillers Board and the Department of Water Resources are concerned that some persons having water wells drilled may not be aware of the confidentiality privilege provision of Section 5 of the Water Well Drillers Act. Section 5, the Reporting of Well Logs, reads as follows:

> "Every registered water well driller drilling, deepening, or otherwise altering a water well within this State shall make and keep, or cause to be made and kept, a legible and accurate well log, and within sixty (60) days from the completion or cessation of drilling, deepening or otherwise altering such a water well, shall deliver or transmit by certified mail a copy of such well log to the Commission, and the owner thereof or the person having had such well drilled. The well log required herein shall at the request in writing to the Commission, by certified mail, by the owner or the person having such well drilled be held as confidential matter and not made of public record."

The last sentence specifies the means whereby you can, if you wish, assure that logs of your wells will be kept confidential. Please note that the term "Commission" in the above-quoted section and elsewhere in the Water Well Drillers Act now properly means the Texas Department of Water Resources (P. O. Box 13087; Austin, Texas 78711).

John White well - Jackson Woods



MAP ID
9

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. 68-19-6E
Located on map
Received:

1) OWNER Richard Gansle (Name) Address 8710 Tamarisk (Street or RFD) San Antonio (City) Tx (State) 7824 (Zip)

2) LOCATION OF WELL: County Bexar 3 miles in north (N.E., S.W., etc.) direction from Leon Springs (Town)

Well located on Lot 741, Jackson Woods Subdivision

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 12-07-81

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
6	Surface	175
6	175	412

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

From (ft.)	To (ft.)	Description and color of formation material
0	2	Dirt and loose rock
2	20	Caliche
20	40	Gray lime
40	60	Dark gray lime and shale
60	75	Blue gray lime and shale
75	85	Yellow clay and lime
85	135	Gray lime
135	150	Yellow lime
150	160	Dark gray lime and shale
160	175	Yellow lime
175	210	Gray lime (water at 190')
210	230	Yellow lime
230	235	Blue lime and shale
235	265	Gray lime
265	275	Blue lime and shale
275	310	Yellow lime
310	335	Blue lime
335	350	Dark gray lime and shale
350	375	Yellow lime and sand (water)
375	390	Blue lime
390	412	Black shale

(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 Mfr., if commercial	Setting (ft.) From	To
7-3/16	New	steel	0	172

CEMENTING DATA
Cemented from 0 ft. to 172
Method used Grout poured from top
Cemented by Charlie Junek Drilling (Company or Individual)

9) WATER LEVEL:
Static level 240 ft. below land surface Date 12-07-81
Artesian flow _____ gpm. Date _____

10) PACKERS: Type rubber Depth 172'

11) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., 378 ft.

12) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? Chemical Depth of strata? 190' and 375'
Was chemical analysis made? ☐ Yes

13) WELL TESTS: ☐ Jetted Test ☐ Pump ☒ Bailer ☐ Jetted ☐ Estimated
Yield 30 gpm with 0 ft. drawdown after 3 hrs.

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.

AUG 31 1982

NAME Charlie Junek (Type or Print) Water Well Drillers Registration No. 1683

ADDRESS 7206 Moss Creek (Street or RFD) San Antonio (City) Texas (State) 78238 (Zip)

(Signed) [signature] (Water Well Driller) Charlie Junek Drilling Co. (Company Name)

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

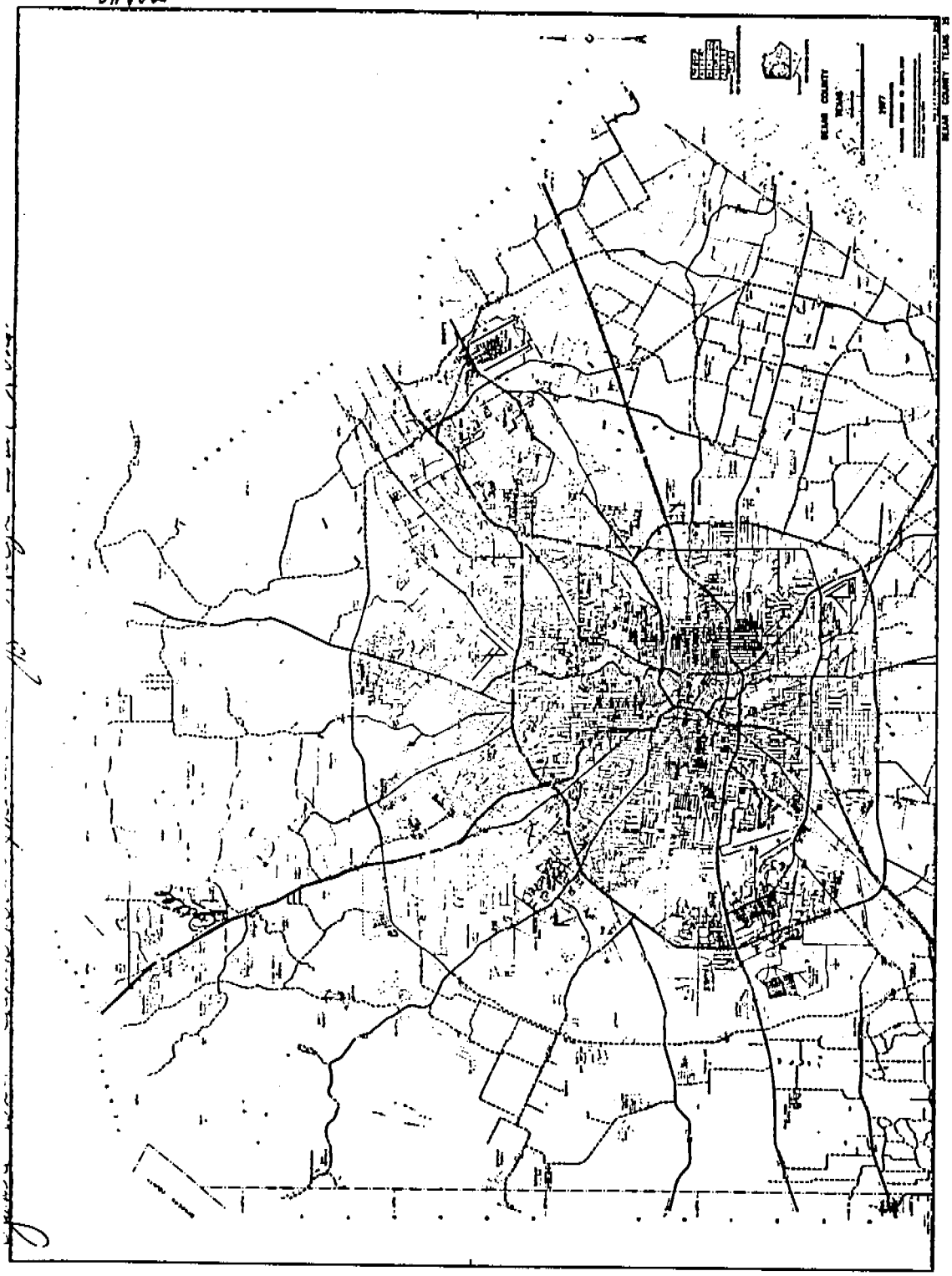
9382 (Rev. 1-12-79)

DEPARTMENT OF WATER RESOURCES COPY

4802903153

MAP #9

MAP ID
9



MAP ID
10

Texas Water Development Board
Well Schedule

State Well No. 68 19 620 Previous Well No. County Bexar 029
River Basin San Antonio 17 Zone 1 Lat. 29 47 37 Long. 098 32 00 Source 3 Accuracy 3-0
Owner's Well No. J-1 Location ___ 1/4, ___ 1/4, Section ___, Block ___, Survey ___
Jackson Woods

Owner Aaired Water Company Driller Lewis Bergmann & Sons

Address P.O. Box 449 Boerne, 78006 Tenant (Opt.) Paul Broussard

Date Drilled 11 07 1986 Depth 500 Source of Depth Data D Altitude 1265 Source of Alt. Data M

Aquifer 210CCRK (28) Well Type W Use 277575T

Well Construction Const. Method Air Rotary A Casing Material steel S 0150216

Completion open hole X Screen Material ___

Lift Data Pump Mfr. ___ Type Sub S No. Stages ___

Bowls Diam. ___ in. Setting 441 ft. Column Diam. ___ in.

Motor Mfr. ___ Fuel or Power elec E Horsepower 15-20 15.00

Yield Flow ___ GPM Pump ___ GPM Meas. Rept. Est. ___ Date ___

Performance Test Date ___ Length of Test ___ Production ___ GPM

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft. Sp. Cap. ___ GPM/ft.

Quality (Remarks) ___

Water Use Primary PS P Secondary ___ Tertiary ___

Other Data Available Water Level W Water Quality W Logs L Other Data

Water Levels Date ___ Meas. ___ Date ___ Meas. ___ Date ___ Meas. ___

Equipped w/ airline = 435'

Recorded by D. Coker Date Record Entered or Updated 05 26 97 Reporting Agency 01

Remarks: Owner's #J-1 well. Cemented to 297 feet.

Casing or Blank Pipe (C) / Well Screen or Slotted Zone (S) / Open Hole (O) / Cemented from 0 to 297	Diam. (in.)	From (ft.)	To (ft.)
1	C 8	0	297
2	O	297	500
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

(20 max.)

Aquifer ___
Well No. 68-19 620

MAP ID

10

.9m. N15L
.4m. W16L

Please use black ink. Send original copy by certified mail to the Texas Water Commission P.O. Box 13087 Austin, Texas 78711

State of Texas
WATER WELL REPORT
ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Fair Oaks Water Co. J-1 (Name) Rt. 4 Box 4495 (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

2) LOCATION OF WELL: County Bexar 2.2 miles in N (N.E., S.W., etc.) direction from Leon Springs (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 ☐ Monitor ☒ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other _____

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

6) WELL LOG:
Date Drilling: Started 10-28 19 86 Completed 11-7 19 86

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
12¼	Surface	300
8	300	500

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED
		8

Jackson Woods

SE 15 HP

Air line

87 41 34

3D 98 2800

RECEIVED
JAN - 7 1987
TEXAS WATER COMMISSION

(Use reverse side if necessary)

7) BOREHOLE COMPLETION: ☐ Open Hole ☒ Straight Wall ☐ Underreamed ☐ Gravel Packed ☐ Other _____
(If Gravel Packed give interval . . . from _____ ft. to _____ ft.

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
5/8	N	steel .332	0	297	

9) CEMENTING DATA (Rule 319.44(b))
Cemented from 0 ft. to 297 ft. No. of Sacks Used _____
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Pressure cemented
Cemented by Haliburton Services

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed (Rule 319.44(a))
☐ Pitless Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:
Static level _____ ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12) PACKERS: Type _____ Depth _____

13) TYPE PUMP: ☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc. _____ ft.

14) WELL TESTS:
Type Test: ☐ Pump ☒ Bailer ☐ Jetted ☐ Estimated
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

5) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME LOUIS BERGMANN & SONS (Type or Print) Water Well Driller's License No. 1937

ADDRESS 135 South Pecan (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

Signed Louis Bergmann Jr. (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TWC use only: Well No. GB-79-6 Located on map _____

VC-0302 (Rev. 08-10-86) TEXAS WATER COMMISSION COPY

68-19-620

MAP # 10

MAP ID
10

FAIR OAKS J-1

kson Wood Subd. Leon Springs, TX

[illegible]	med hard caliche & rock layers
[illegible]	med hard white gray rock-water +30 gpm
[illegible]	med soft blue shale
[illegible]	med hard gray rock
[illegible]-51	med soft blue gray rock & shale
51-56	med hard gray rock
56-58	med soft yellow clay very soft-porous
58-61	med hard yellow rock-traces of clay
61-68	med hard blue gray rock
68-97	med hard layer gray rock
97-116	med hard gray rock
116-121	med hard white yellow rock
121-138	med hard lt gray rock
138-148	med soft blue gray shale & rock
148-159	med hard layer yellow rock
159-194	med hard gray rock
194-208	med hard layer gray rock
208-219	med hard gray rock
219-224	med soft gray yellow rock-little water
224-235	med soft white yellow rock
235-253	med hard gray rock
253-258	med hard blue gray rock
258-302	med hard layer gray rock
302-322	med hard gray rock
322-335	med soft layer gray rock
335-338	med hard gray rock
338-344	med soft gray yellow rock
344-349	med hard yellow rock water
349-360	soft yellow rock-water
360-384	med soft yellow rock water
384-393	med hard porous yellow rock-water
393-400	med hard gray rock
400-409	med hard blue gray rock
409-419	med soft blue rock & shale
419-424	med hard gray rock
424-426	hard gray rock
426-436	med hard gray rock
436-443	med hard blue gray rock
443-444	hard gray green rock-trace shale
444-445	med hard gray green rock-some shale
445-446	hard brown rock
446-453	med hard porous brown rock

68-19-620

MAP #10

MAP ID
10

6 med hard white rock
53 med soft porous white rock
70 med hard white rock-porous spots
73 med hard white gray rock
75 med soft white gray rock
79 med hard white gray rock
88 med hard brown rock
500 med hard white gray rock

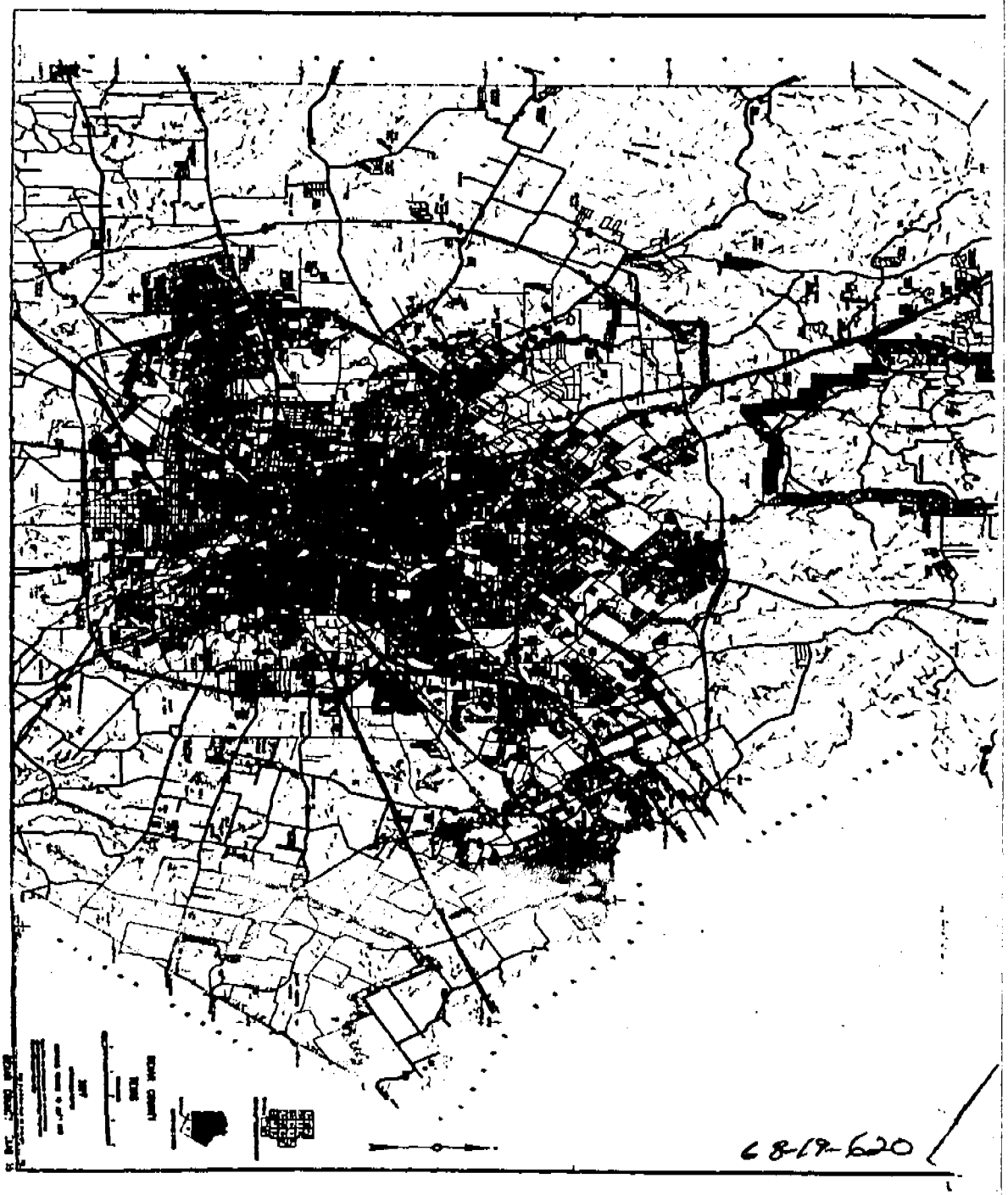
Total Depth: 500'
Static Water Level:
Test:
Casing: 299 ft. 5/8" OD steel .332

E. Rust:bm

68-19-620

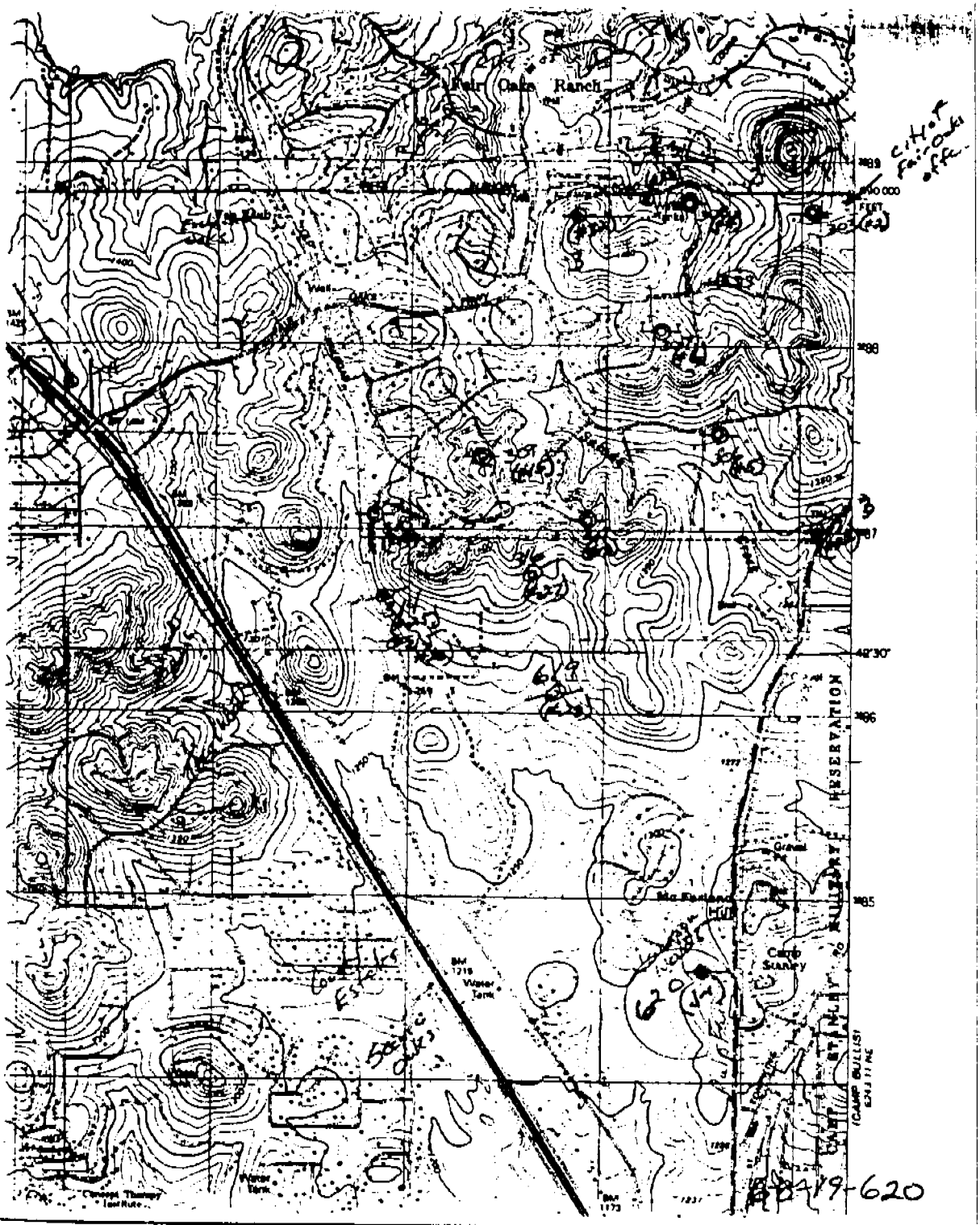
MAP #10

MAP ID
10



MAP#10

MAP ID
10



MAP #10

MAP ID
10

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*

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER E A Hermes (Name) Address 2335 Nashwood (Street or RFD) San Antonio (City) Tx (State) 78232 (Zip)

2) LOCATION OF WELL: County Bexar ___ miles in ___ (N.E., S.W., etc.) ___ direction from ___ (Town)

well located on Fawn Mountain, Jackson Woods Subdivision, off Ralph Fair Road.

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. 10B-10-1EE

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

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

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

6) WELL LOG: Date drilled 07-02-84

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
8¼	Surface	200
6¼	200	600

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

From (ft.)	To (ft.)	Description and color of formation material
0	1	Top soil
1	15	Yellow lime
15	105	Blue lime and shale
105	120	Brown lime
120	170	Blue shale and lime
170	205	Yellow lime
205	375	White lime
375	390	Brown lime
390	440	Yellow lime
440	495	Blue lime and shale
495	550	White lime
550	580	Brown lime
580	600	Blue shale

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6-5/8	new	steel	0	205	.188 wall

CEMENTING DATA
Cemented from 0 ft. to 205 ft.
Method used Grout poured from top
Cemented by Charlie Junek Drilling (Company or Individual)

9) WATER LEVEL:
Static level 395 ft. below land surface Date 07-02-84
Artesian flow ___ gpm. Date ___

10) PACKERS: Type rubber Depth 205

11) TYPE PUMP: ☐ Turbine ☐ Jet XX Submersible ☐ Cylinder ☐ Other ___
Depth to pump, bowls, cylinder, jet, etc. 441 ft.

12) WELL TESTS: ☐ Type Test: ☐ Pump XX Bailer ☐ Jetted ☐ Estimated
Yield 12 gpm with 0 ft. drawdown after 1 hrs.

RECEIVED AUG 29 1984 DEPT. OF WATER RESOURCES

(Use reverse side if necessary)

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? CHEMICAL Depth of strata 400-425
Was a chemical analysis made? ☐ Yes XX 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.

COMPANY NAME Charlie Junek Drilling (Type or Print) Water Well Driller's License No. 1685

ADDRESS 7206 Moss Creek (Street or RFD) San Antonio (City) Texas (State) 78238 (Zip)

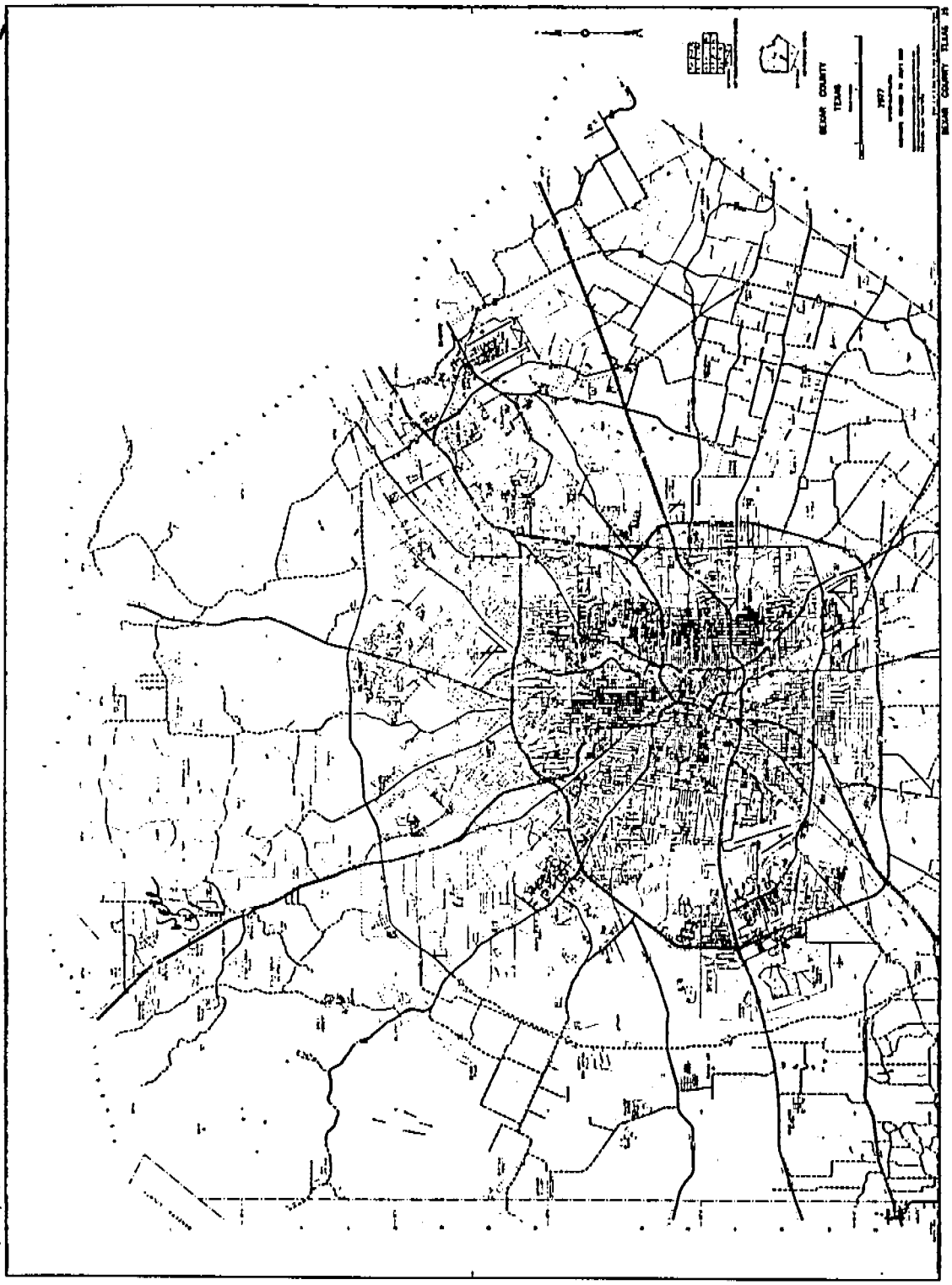
(Signed) [signature] (Licensed Water Well Driller) (Signed) [signature] (Registered Driller Trainee)

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

For TDWR use only
Well No. 6B-10-1EE
Located on map 1-10 MM1

TDWR 6032 (Rev. 5-27-83) DEPARTMENT OF WATER RESOURCES COPY 4802903120

MAP ID
10



14W

SA Alamo, Jackson Woods

MAP ID
10

67

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

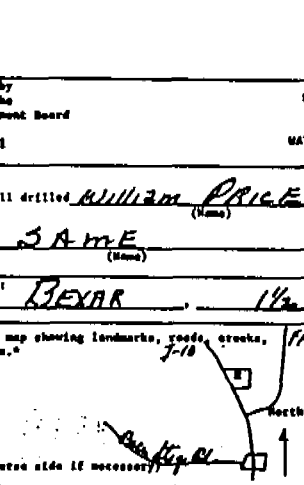
For TWDB use only
Well No. 65-14-62
Located on map
Received: 78 yes
26

1) OWNER:
Person having well drilled WILLIAM PRICE (Name) Address RT. 1 (Street or RFD) BOERNE (City) TEXAS (State)

Landowner SAME (Name) Address (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County BEXAR, 1½ miles in NW (N.E., N.W., etc.) direction from LEON SPRINGS (Town)

Locate by sketch map showing landmarks, roads, streams, hiway number, etc.*



(Use reverse side if necessary)

or Give legal location with distances and directions from adjacent sections or survey lines.

Labor _____ League _____
Block _____ Survey _____
Abstract No. _____
(NW¼ NE¼ SW¼ SE¼) of Section _____

3) TYPE OF WORK (Check): New Well ✓ Deepening; Reconditioning; Plugging

4) PROPOSED USE (Check): Domestic; Industrial; Municipal; Irrigation; Test Well; Other

5) TYPE OF WELL (Check): Rotary; Driven; Dug; Cable; Jetted; Bored

6) WELL LOG:
Diameter of hole 8¾ 6¾ in. Depth drilled 361 ft. Depth of completed well 361 ft. Date drilled 11-28-77
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	29	caliche
29	108	blue shale & rock
108	125	yellow rock
125	168	blue & gray rock & shale
168	198	yellow rock
198	215	white & yellow rock
215	264	blue gray rock
264	275	yellow rock
275	316	white rock (water)
316	340	blue rock & shale
340	343	yellow rock
343	361	(illegible) rock & shale

7) COMPLETION (Check): Straight well ✓; Gravel packed; Other; Under reamed; Open Hole

8) WATER LEVEL:
Static level 128 ft. below land surface Date 11-28-77
Artesian pressure _____ lbs. per square inch Date _____
Depth to pump bowls, cylinder, jet, etc., _____ ft. below land surface.

9) Casing:
Type: Old; New ✓; Steel ✓; Plastic; Other
Cemented from 0 ft. to 200 ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
6¾	0	200	.239

10) SCREEN:
Type _____
Perforated; Slotted

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot Size

11) WELL TESTS:
Was a pump test made? Yes; No ✓ If yes, by whom?
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.
Bailer test 26 gpm with 26 ft. drawdown after 24 hrs.
Artesian flow _____ gpm
Temperature of water _____

12) WATER QUALITY:
Was a chemical analysis made? Yes; No ✓
Did any strata contain undesirable water? Yes; No
Type of water? _____ depth of strata _____

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 WALTER BERGMANN (Type or Print) Water Well Drillers Registration No. 282

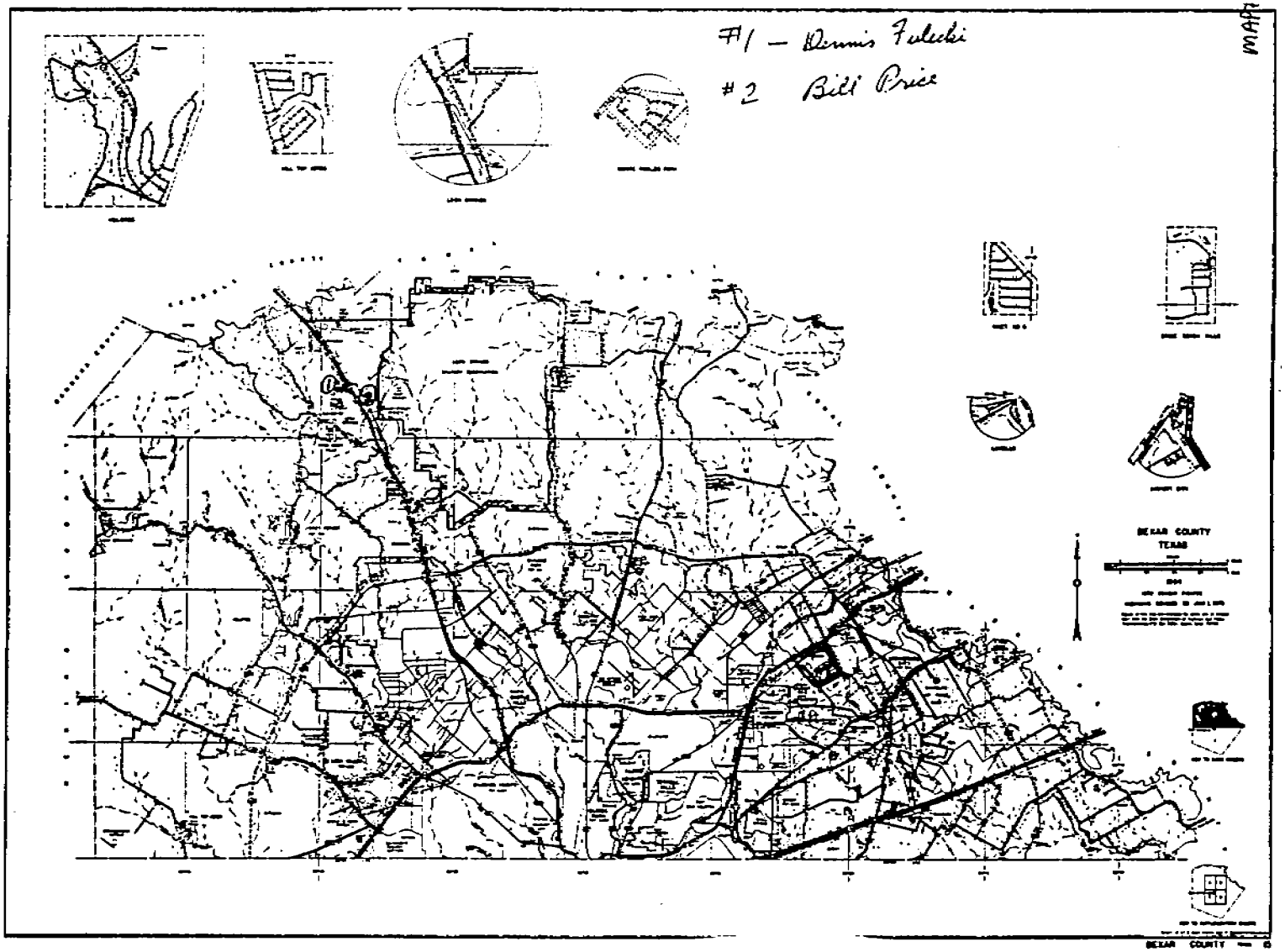
ADDRESS DRAWER R (Street or RFD) BOERNE (City) TEXAS (State)

(Signed) Walter Bergmann (Water Well Driller) LEWIS BERGMANN & SONS (Company Name)

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

*Additional instructions on reverse side.

4802903151


#1 – Dennis Fulecki
#2 Bill Price
MAP
BEXAR COUNTY
TEXAS
BEXAR COUNTY

MAP ID
10

MAP ID
11

ATTENTION OWNER: *Confidentiality Privilege Notice on on reverse side of Well Owner's copy (pink)*

State of Texas
WELL REPORT

Texas Water Well Drillers Advisory Council
MC 177
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

1) OWNER: Willie Rawlsek (Name) ADDRESS: 4330 Ruthlee San Antonio Tx. 78263 (Street or RFD) (City) (State) (Zip)

2) ADDRESS OF WELL: County: Bexar; Same Address (Street, RFD or other) (City) (State) (Zip); GRID #: 68-20-4

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

4) PROPOSED USE (Check): ☐ Monitor ☐ Environmental Soil Boring ☒ Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No

5) 8

6) WELL LOG:
Date Drilling: Started 11-7- 19 86; Completed 11-8- 19 86.

DIAMETER OF HOLE		
Dia. (in.)	From (ft.)	To (ft.)
7 7/8	Surface	160.

7) DRILLING METHOD (Check): ☐ Driven ☐ Air Rotary ☒ Mud Rotary ☐ Bored ☐ Air Hammer ☐ Cable Tool ☐ Jetted ☐ Other

N

From (ft.)	To (ft.)	Description and color of formation material
0	20	Top Soil.
20	64	Blue Shale
64	80	Shale
80	120	Blue Sand
120	140	Blue Shale
140	142	Rock.
142	152	Sand
152	160	Shale.

(Use reverse side of Well Owner's copy, if necessary)

8) Borehole Completion (Check): ☐ Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☐ Other
If Gravel Packed give interval ... from ____ ft. to ____ ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
4	N	PVC.	0	160.	
			140	160	20Th

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 0 ft. to 15 ft. No. of sacks used 4
ft. to ____ ft. No. of sacks used ____
Method used: Sile
Cemented by: Horton Bros Drilling
Distance to septic system field lines or other concentrated contamination 170 ft.
Method of verification of above distance: Measure

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☒ Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL:
Static level 70. ft. below land surface Date 11-9-86
Artesian flow ____ gpm. Date ____

12) PACKERS: Type ____ Depth ____

13) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other
Depth to pump bowls, cylinder, jet, etc., 120. ft.

14) WELL TESTS:
Type test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 15. gpm with 0 ft. drawdown after 1. hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? ____ Depth of strata ____
Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED
JUN - 1997
GROUNDWATER & NATURAL RESOURCE CONSERVATION COMMISSION

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME: Horton Bros Drilling (Type or print) WELL DRILLER'S LICENSE NO.: 37.

ADDRESS: 6395 FM 467. (Street or RFD) Seguin (City) TX (State) 78155 (Zip)

(Signed) Roland Harbold 3067 (Licensed Well Driller) (Signed) [illegible] (Registered Driller Trainee)

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

MAP ID
12

Texas Water Development Board
Well Schedule

State Well No. 68 20 707 Previous Well No. _____ County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 39 55 Long. 098 37 26 Source Code 1 30

Owner's Well No. (#2) _____ Location ____ 1/4, ____ 1,4, Section ____, Block ____, Survey ____

Farthest North well (#1 on switchbox), north of main barn

Owner The Dominion

Driller Malkin Pump Service, Inc.

Address _____ Tenant/Oper. _____

Date Drilled 02 25 1983 Depth 606 Source of Depth Datum D Altitude 1120 Source of Alt. Datum [illegible]

Aquifer GR Con Creek 21KCCRK Well Type W User _____

Well Construction Const. Method Air Rotary A Casing Material steel S

Completion open hole K Screen Material _____

Lift Data Pump Mfr. _____ Type Sucker S No. Stages _____

Bowls Diam. _____ in. Seating _____ ft. Column Diam. _____ in.

Motor Mfr. _____ Fuel or Power elec E Horsepower _____

Yield Flow ____ GPM Pump 100 GPM Meas. driller Date 2-14-83

Performance Test Date _____ Length of Test _____ Production _____ GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft. Sp.Cap. ____ GPM/ft.

Quality (Remarks _____

Water Use Primary Irr. I Secondary _____ Tertiary _____

Other Data Available Water Level W Water Quality N Logs D Other Data _____

Water Levels	Date 06 16 1977	Meas. 139	dd	1-01
	Date 02 25 1983	Meas. 275		2-07
	Date	Meas.		

Casing or Blank Pipe (C) / Well Screen or Slotted Zone (S) / Open Hole (O)	Diam. (in.)	From	To
C	08	0	562
O		562	606

Cemented from 0 to 562 Setting (feet)

Received By D. Coker Date Record Created or Updated 06 16 1977 (20 max.) Reporting Agency 017

Remarks: Reported yield 100 GPM in 1983.

Hole PSP +1.8

Aquifer _____

Well No. 68-20-707

MAP ID
12

6 m: SWL
3 m: EWL

State of Texas
WATER WELL REPORT
ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

Completed copy by registered mail to the Texas Department of Water Resources P.O. Box 13087 Austin, Texas 78711

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

OWNER THE DOMINION #2 (Name) Address 12042 Blanco Rd., (Street or RFD) San Antonio, (City) Tx (State) 78216 (Zip)

LOCATION OF WELL: County Bexar 20 miles in N.W.N (N.E., S.W., etc.) direction from San Antonio (Town)

[ ] Legal description: Section No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting section or survey lines _____

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

[x] See attached map.

TYPE OF WORK (Check): [x] New Well [ ] Deepening [ ] Reconditioning [ ] Plugging

4) PROPOSED USE (Check): [ ] Domestic [ ] Industrial [x] Public Supply [ ] Irrigation [ ] Test Well [ ] Other _____

5) DRILLING METHOD (Check): [ ] Mud Rotary [ ] Air Hammer [ ] Driven [ ] Bored [x] Air Rotary [ ] Cable Tool [ ] Jetted [ ] Other _____

WELL LOG. Date drilled 2/25/83

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
	Surface	
10 1/2	0.	562'
6"	562'	606'

7) BOREHOLE COMPLETION: [x] Open Hole [x] Straight Wall [ ] Underreamed [ ] Gravel Packed [ ] Other _____
If Gravel Packed give interval ... from _____ ft. to _____ ft.

From (ft.)	To (ft.)	Description and color of formation material
0 -	3	Top Soil
3 -	20	Gravel & Red Clay
20 -	30	White Lime
30 -	57	Gray Lime
57 -	61	White Lime
61 -	70	Brown Lime
70 -	124	Gray Lime
124 -	241	Gray Lime & Black Streak 180' Water
241 -	325	Gray Lime & Brown Lime
325 -	469	Brown Lime
469 -	499	Brown & White Lime
499 -	550	Gray Lime
550 -	599	Brown Lime Light
599 -	606	Dark Gray Lime

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
85/8	New	Steel	0	562	.352 wall

CEMENTING DATA
Cemented from 562' ft. to 0 ft.
Method used Pressure Method
Cemented by Halliburton (Company or Individual)

9) WATER LEVEL:
Static level 275' ft. below land surface Date 2/25/83
Artesian flow 100 gpm. Date 3/14/83

10) PACKERS: Type NONE Depth

11) TYPE PUMP NOT KNOWN
[ ] Turbine [ ] Jet [ ] Submersible [ ] Cylinder [ ] Other _____
Depth to pump bowls, cylinder, jet, etc. _____ ft.

12) WELL TESTS: [ ] Yield Test: [x] Pump [ ] Bailer [ ] Jetted [ ] Estimated
Yield _____ gpm with _____ ft. drawdown after _____ hrs.

RECEIVED

WATER COMMISSION

(Use reverse side if necessary)

WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? [ ] Yes [x] No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
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.

COMPANY NAME HASKIN PUMP SERVICE (Type or Print) Water Well Driller's License No. RUDOLF BIEDERMANN 936

ADDRESS 15603 CAPITAL PORT, (Street or RFD) SAN ANTONIO, (City) TX (State) 78249 (Zip)

(Signed) Rudolf Biedermann (Licensed Water Well Driller) (Signed) _____ (Apprentice Driller Trainee)

For TDWR use only: Well No. 68-20-7 Location on map _____

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

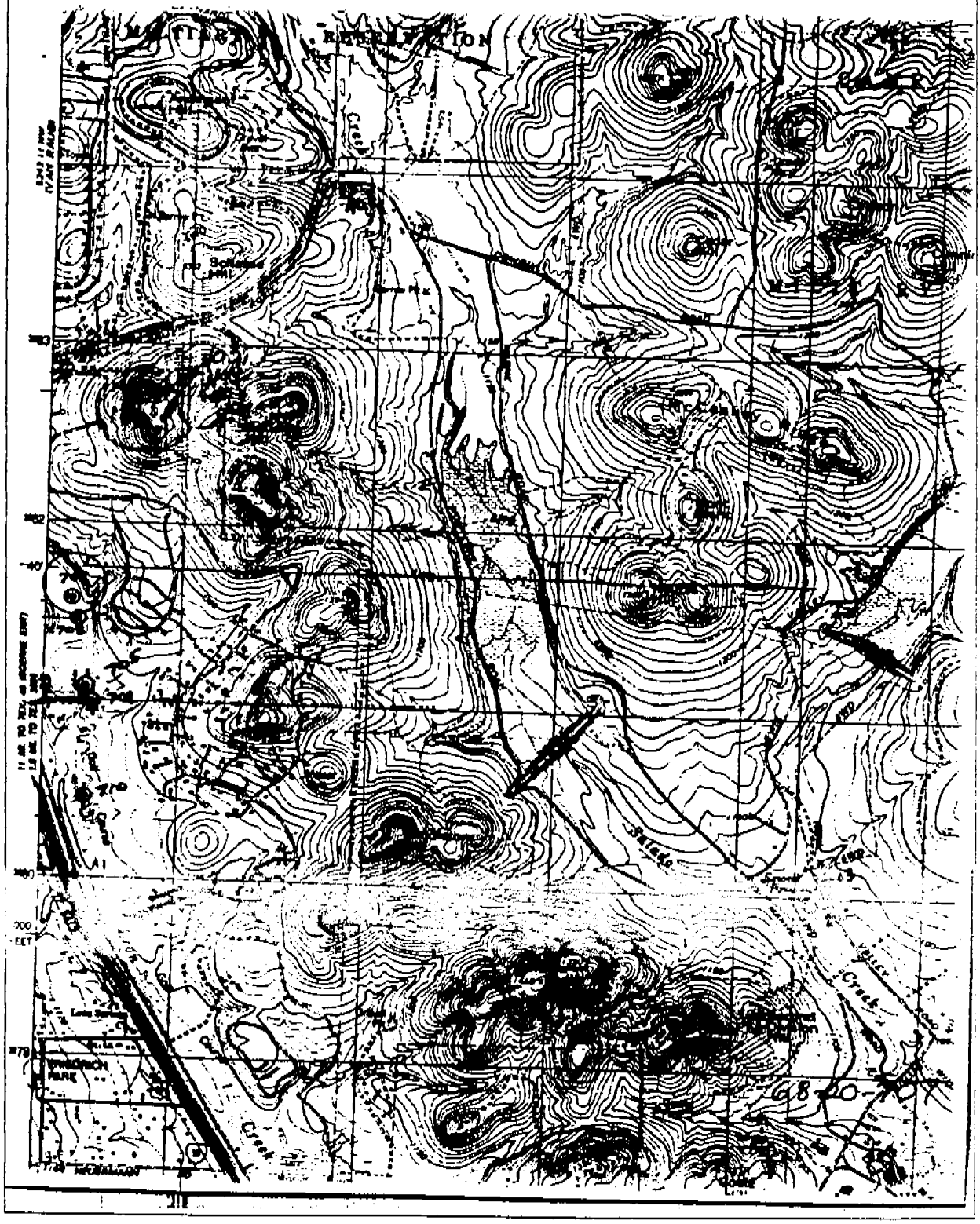
TD 0002 (Rev. 5-27-83)

DEPARTMENT OF WATER RESOURCES COPY

68-20-207

MAP #12

MAP ID
12



MAP #12

MAP ID
12

Texas Water Development Board
Well Schedule

State Well No. 68 20 708 Previous Well No. _____ County Bexar 029

River Basin ~~Rio Grande~~ San Antonio 19 Zone 1 Lat. 29 39 57 Long. 098 57 28 Source 7

Owner's Well No. (#3) Location ____ 1/4, ____ 1.4, Section ____, Block ____, Survey ____

#5 on mailbox, north off main farm.

Owner: The Dominion

Driller: Haskie Pump Service, Inc.

Address: _____ Tenant/Oper. _____

Date Drilled 06 13 1983 Depth 688 Source of Depth Datum D Altitude 1123 Source of Alt. Datum

Aquifer: Glen 219GLEN Well Type W Use

Well Construction: Const. Method Air Rotary A Casing Material steel S

Completion: Open hole X Screen Material _____

Lift Data: Pump Mfr. _____ Type Submersible S No. Stages _____

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

Motor Mfr. _____ Fuel or Power elec. E Horsepower _____

Yield: Flow ____ GPM Pump 15-20 GPM Meas. Driller Date 6-20-83

Performance Test: Date _____ Length of Test _____ Production _____ GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft. Sp.Cap. ____ GPM/ft.

Quality (Remarks): _____

Water Use: Primary Irr. I Secondary _____ Tertiary _____

Other Data Available: Water Level M Water Quality W Logs D Other Data

	Date	Meas.	
	06 16 1997	140	90 2-01
Water Levels	06 13 1983	525	7-07

Casing or Blank Pipe (C)
Well Screen or Slotted Zone (S)
Open Hole (O)
Completed from 0 to 605
Setting (ft.)

	Diam. (in.)	From	To	
1	08	0	605	C
2		605	688	O
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Recorded By: D. Coker Date Record Collected or Updated 06 16 1997 (20 mark) Reporting Agency 61

Remarks: Reported yield 15-20 gpm in 1983.

+2.10' Alt to MSP

Aquifer _____

Well No. _____

68-20-708

MAP ID
12

1.2 m. SW
4 m. Lwn

State of Texas
WATER WELL REPORT

Texas Water Well Drillers Board
P. O. Box 13087
Austin, Texas 78711

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

OWNER THE DOMINION WELL #3 (Name) Address 12042 Blanco Rd, #123, (Street or RFD) San Antonio, (City) Tx (State) 78216 (Zip)

LOCATION OF WELL: County Bexar 22 miles of N - N.W. (N.E., S.W., etc.) direction from San Antonio (Town)

[ ] Legal description: Section No. ____ Block No. ____ Township ____ Abstract No. ____ Survey Name ____ Distance and direction from two intersecting section or survey lines ____

[X] See attached map.

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

TYPE OF WORK (Check): [X] New Well [ ] Deepening [ ] Reconditioning [ ] Plugging

4) PROPOSED USE (Check): [ ] Domestic [ ] Industrial [X] Public Supply [ ] Irrigation [ ] Test Well [ ] Other ____

5) DRILLING METHOD (Check): [ ] Mud Rotary [ ] Air Hammer [ ] Driven [ ] Bored [X] Air Rotary [ ] Cable Tool [ ] Jetted [ ] Other ____

WELL LOG: Date drilled 6/13/83

DIAMETER OF HOLE

Dia (in.)	From (ft.)	To (ft.)
	Surface	
10 3/4	0	605'
6"	605'	688'

7) BOREHOLE COMPLETION: [X] Open Hole [X] Straight Wall [ ] Underreamed [ ] Gravel Packed [ ] Other ____ If Gravel Packed give interval ... from ____ ft. to ____ ft.

From (ft.)	To (ft.)	Description and color of formation material
0	3	Top Soil
3	15	Red Clay & Gravel
15	25	Brown & Gray Lime
25	43	Soft Gray Lime
43	68	Brown Lime
68	92	Gray Lime
92	94	Gray Shale
94	133	Brown Lime
133	136	Gray Lime
136	150	Brown Shale
150	183	Gray Lime & Shale
183	190	Anyhydrate & Gray Lime
190	210	Red Shale
210	240	Gray Lime
240	250	Brown Shale
250	280	Brown Lime
280	325	Gray Lime
325	350	Brown Lime
350	385	Gray Lime w/ Black Streak
385	397	Gray & Brown Shale
397	420	Gray Lime
420	444	Gray Lime & Shale
444	540	Brown Lime
540	598	Gray Lime
598	688	Coarse

Water @ 60', 183', and 325'

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
8	New	Steel	0	605'	32#

CEMENTING DATA: Cemented from 605' ft. to 0 ft. Method used Pressure Method. Cemented by Halliburton (Company or Individual)

9) WATER LEVEL: Static level 525' ft. below land surface Date 6/13/83. Artesian flow 15-20 gpm. Date 6/30/83

10) PACKERS: Type NONE Depth

11) TYPE PUMP: NOT KNOWN [ ] Turbine [ ] Jet [ ] Submersible [ ] Cylinder [ ] Other ____ Depth to pump bowls, cylinder, jet, etc. ____ ft.

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

WATER QUALITY: Did you knowingly penetrate any strata containing water? [ ] Yes [X] No. If yes, submit "REPORT OF UNDESIRABLE WATER". Type of water? ____ Depth to strata ____ Was a chemical analysis made? [ ] Yes [ ] No

RECEIVED MAY 20 1987 TEXAS WATER COMMISSION

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.

COMPANY NAME HASKIN PUMP SERVICE, INC. (Type or Print) Water Well Driller's License No. GLEN H. HASKIN, 935

ADDRESS 15403 CAPITAL PORT, (Street or RFD) SAN ANTONIO, (City) TX (State) 78249 (Zip)

(Licensed Water Well Driller) (Signature)

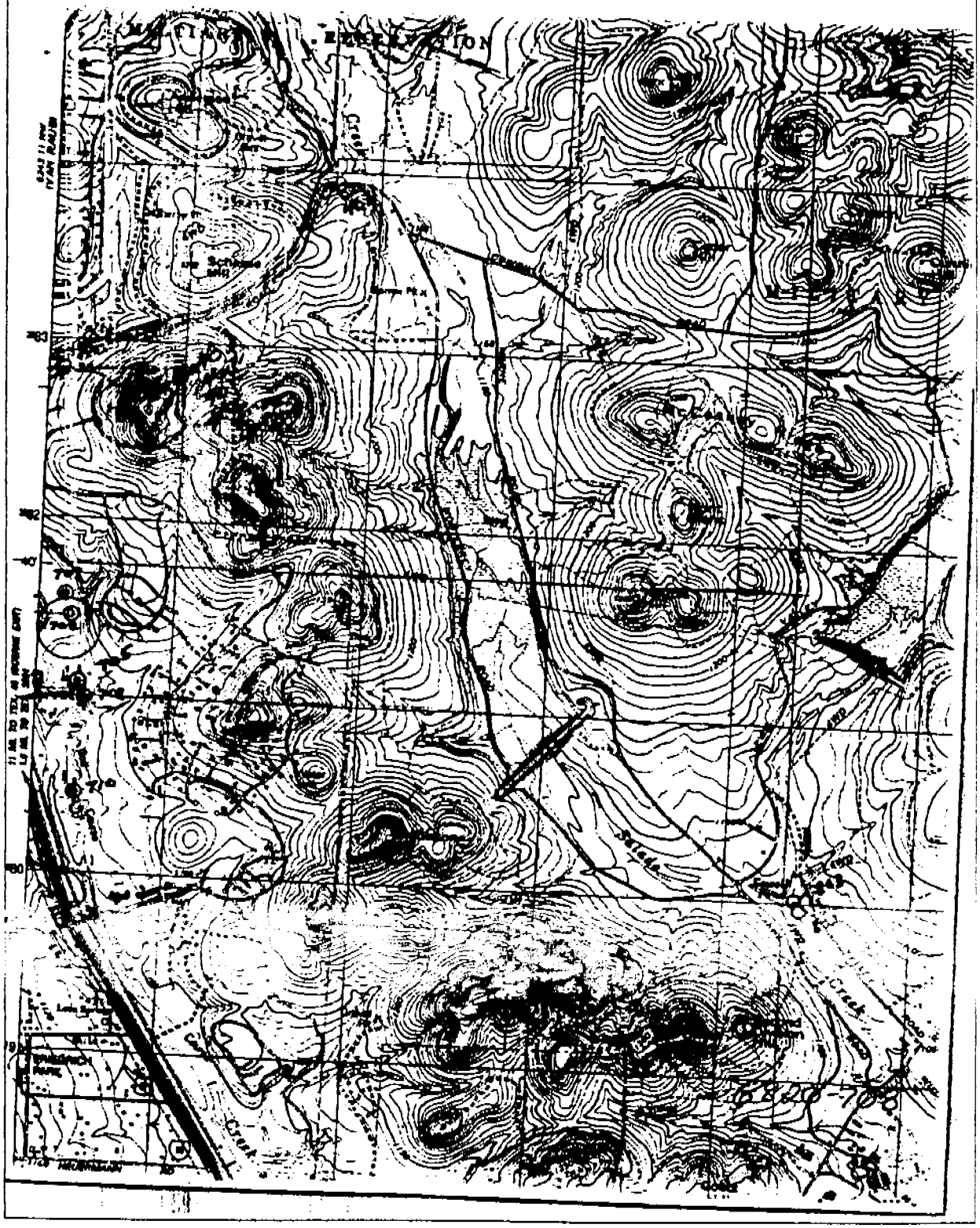
If you attach electric log, chemical analysis, or other pertinent information, it is preferable.

Form WWD-1 (Rev. 8-77-85) DEPARTMENT OF WATER RESOURCES COPY

For TDWR Use Only: Well No. 68-20-7 Located on map 6820-208

MAP #12

MAP ID
12



MAP #12

MAP ID
13

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer: Cow Creek Field No. _____ State Well No. 68-19-606

Owner's Well No. 2 County: Bexar

1. Location: ___ 1/4 ___ 1/4 Sec. ___, Block ___ Survey ___
25300 Fabrenthold

2. Owner: Leon Springs Utility Water Co. Address: 25211 Ada Mae, Leon Springs
~~Owner~~ Harold E. Newman Address: 25202 Iron Rock Parkway, Leon Springs
Driller: Hasbro Royal Service Inc. Address: ___

3. Elevation of 450 to 1170 ft. above msl, determined by Topo

4. Drilled: June 19 67; Dug, Cable Tool, Rotary, ___

5. Depth: Rept. 415 ft. Meas. ___ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed ___

7. Pump: Mfr. ___ Type Submersible
No. Stages ___, Bowls Diam. ___ in., Setting ___ ft.
Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Fuel Elec. Make & Model ___ HP 10

9. Yield: Flow ___ gpm, Pump ___ gpm, Meas., Rept., Est.

10. Performance Test: Date ___ Length of Test ___ Made by ___
Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.
Production ___ gpm Specific Capacity ___ gpm/ft.

11. Water Level: 275 ft. rept. meas. June 19 67 above/below DL which is ___ ft. above/below surface.
___ ft. rept. meas. 19 above/below ___ which is ___ ft. above/below surface.
___ ft. rept. meas. 19 above/below ___ which is ___ ft. above/below surface.
___ ft. rept. meas. 19 above/below ___ which is ___ ft. above/below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used, ___

13. Quality: (Remarks on taste, odor, color, etc.) ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___

14. Other data available on circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test, ___

15. Record by: John Ashworth Date 2-12 19 76
Source of Data: Owner, Field visit

16. Remarks:
Leon Springs Mobile Home Utile

CASING & BLANK PIPE — Cemented From 0 ft. to 348 ft.

Diam. (in.)	Type	Setting, ft. From	To
7 o.d.	Steel	0	348

WELL SCREEN — Screen Openings

Diam. (in.)	Type	Setting, ft. From	To
	open hole	348	415

TWDBE-WD-2 (Sketch)

See 68-20-402 AY 68-19-606

MAP ID
13

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Laboratories
1100 West 49th Street
Austin, Texas 78756

TDWR ONLY
Organization No. _____ Lab No. _____
Work No. _____

CHEMICAL WATER ANALYSIS REPORT

County 015 BEXAR
State Well No. 68-19-606
Well No. 2
Date Collected 01-24-68

Send report to:
Data Collection and Evaluation Section
Texas Department of Water Resources
P.O. Box 13087
Austin, Texas 78711

Analysis copied from Texas Department of Health Files

Owner LEON SPRINGS MOBILE HOME VILLA Send copy to owner Sample No. ☐ By CSP
Address _____ Well Location _____
Date Drilled 1968 Depth 450 ft. WBP _____ Source (type of well) _____
Producing intervals _____ Water level _____ ft. Sample depth _____ ft.
Sampled after pumping _____ hrs. Yield _____ GPM Temperature ____ °F ____ °C
Point of collection _____ Appearance ☐ clear ☐ turbid ☐ colored ☐ other
Use _____ Remarks _____

(FOR LABORATORY USE ONLY)

KEY PUNCHER

CHEMICAL ANALYSIS

Laboratory No. _____ Date Received _____ Date Reported 2-26-68

		MG/L	ME/L
Silica	00955		
Calcium	00910	137	
Magnesium	00920	KEY PUNCHER	
Sodium	00929	12	
Total			
☐ Potassium	00937		
*☐ Manganese	01055	<0.05	
☐ Boron	01022		
*☐ Total Iron	01045	0.04	
☐ (other) _____			

%Na _____
SAR _____
RSC _____

Specific Conductance (micromhos/cm³) 00095 _____
Diluted Conductance (micromhos/cm³): _____ x _____ = 835

		MG/L	ME/L
Carbonate	00445	0	
Bicarbonate	00440	423	
Sulfate	00945	18	
Chloride	00940	17	
Fluoride	00951	0.3	
Nitrate	71850	29.00	
pH	00403	7.8	
Total			
[1] Dissolved Solids (residue at 180°C)	70300		650
Phenolphthalein Alkalinity as $CaCO_3$	00415		0
Total Alkalinity as $CaCO_3$	00410		347
Total Hardness as $CaCO_3$	00900		387
[2] Nitrogen Cycle			
Ammonia - N	00610		
Nitrite - N	00615		
Nitrate - N	00620		
Organic Nitrogen	00605		

Analyst _____ Checked By _____

* ☐ " items will be analyzed if checked.

[1] The bicarbonate reported in this analysis can be converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure used in the computation of dissolved solids.
[2] Nitrogen cycle requires separate sample.
* Total Iron and Manganese require separate sample.

TWDB 0146 (Rev. 04 07 66)

MAP #13

MAP ID
13

REQUEST FOR CHEMICAL ANALYSIS OF WATER
TEXAS STATE DEPARTMENT OF HEALTH LABORATORIES
1100 WEST 49th STREET AUSTIN, TEXAS 78756

IMPORTANT - READ CAREFULLY:
All reports must be signed by the person requesting the analysis. Chemical analyses on the two samples of water from public supplies the combination of which is requested by a private citizen. If the supply being sampled is of public interest and not presently serving the public, an explanation of the reason for requesting the analysis should be furnished under "Remarks" or by attach ing a separate explanatory sheet. Please complete the form only typewritten (black ribbon) or print legibly using dark pencil or black ink. A ball point pen should not be used.

Send report to:

Lone Star Water Company
26618 San Antonio Parkway
San Antonio, Texas 78230

LOCATION: United City Estates, Sta
COUNTY: Bexar
DATE COLLECTED: 7/19/72
OWNERSHIP OF SUPPLY:
Bexar City Estates, Inc.
A. J. Sauer

IF FROM WELL
Depth
Age
Well No. 2

POINT OF COLLECTION
Raw Supply: Well head
Plant Discharge
Distribution
Other

PHYSICAL APPEARANCE
Color: Clear
Turbid
Colored
Odor

IF SURFACE SUPPLY
Name of source

REMARKS:

Signature of Public Officer (Water Utility Official, or another responsible person requesting the analysis)

SAN ANTONIO METROPOLITAN HEALTH DISTRICT
Environmental Sanitation Division
611 W. Rosser Street
San Antonio, Texas 78204

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS REPORT
(Values reported are for elements or compounds)

Laboratory No. 252829
Date Received JUL 27 1972

	Milligrams per Liter		Milligrams per Liter		Milligrams per Liter
Calcium	107	Carbonate	0	Dissolved solids	550
Magnesium	16	Bicarbonate	355	Percent Sodium	
Sodium	9	Sulfate	24	Alkalinity as $CaCO_3$	0
Manganese	<0.05	Chloride	16	Total Alkalinity as $CaCO_3$	291
Iron	<0.02	Fluoride	0.3	Total Hardness as $CaCO_3$	353
		Nitrate	6		

pH 7.4
Diluted Conductance Micromhos at 25° C 680

68-19-606

MAP #13

MAP ID
13

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer: Cow Creek Field No. _____ State Well No. 68-19-402

Owner's Well No. #3 County: Bexar

1. Location: ___ 1/4 ___ 1/4 Sec. _____, Block _____ Survey _____
Fairchild circle and Dawn Mere Drive

2. Owner: Leon Springs Mobile Home Villa Address: 4211 Old Mac, Leon Springs
Manager: Harold E. Newman Address: 2202 Fredericksburg Rd. Parkway
Driller: Hasten Pump & Service Inc. Address: _____

3. Elevation of 1450 is 1140 ft. above msl, determined by Tape

4. Drilled: _____ 19 70, Dug, Cable Tool, Rotary _____

5. Depth: Rept. 404 ft. Meas. _____ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed _____

7. Pump: Mfgr. _____ Type Submersible
No. Stages _____, Bowls Diam. ___ in., Setting _____ ft.
Column Diam. _____ in., Length Tailpipe _____ ft.

8. Motor: Fuel Elec Make & Model _____ HP 7½

9. Yield: Flow ___ gpm, Pump ___ gpm, Meas., Rept., Est. _____

10. Performance Test: Date _____ Length of Test _____ Made by _____
Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.
Production _____ gpm Specific Capacity _____ gpm/ft.

11. Water Level: _____ ft. rept./meas. _____ 19 _____ above/below _____ which is _____ ft. above/below surface.
_____ ft. rept./meas. _____ 19 _____ above/below _____ which is _____ ft. above/below surface.
_____ ft. rept./meas. _____ 19 _____ above/below _____ which is _____ ft. above/below surface.
_____ ft. rept./meas. _____ 19 _____ above/below _____ which is _____ ft. above/below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used. _____

13. Quality: (Remarks on taste, odor, color, etc.) _____
Temp. ___ °F, Date sampled for analysis _____ Laboratory _____
Temp. ___ °F, Date sampled for analysis _____ Laboratory _____
Temp. ___ °F, Date sampled for analysis _____ Laboratory _____

14. Other data available or similar: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test _____

15. Record by: John Ashworth Date 2-12 19 76
Source of Data Owner, Field visit

16. Remarks: _____

CASING & MAIN PIPE

Cemented From _____ ft. to _____ ft.

Diam. (in.)	Type	Setting, ft. From	To
7 op	Steel	0	312

WELL SCREEN

Screen Openings _____

Diam. (in.)	Type	Setting, ft. From	To
	open hole	312	404

TWDBE-WD-E

(Sketch)

See 68-20-402

AY 68-19-607.

MAP ID
13

#3

TEST FOR CHEMICAL ANALYSIS OF WATER

TEXAS STATE DEPARTMENT OF HEALTH LABORATORIES

1100 WEST 49th STREET AUSTIN TEXAS 78756

IMPORTANT - READ CAREFULLY

[redacted]

LOCATION [illegible]

COUNTY [redacted]

DATE COLLECTED [redacted]

OWNERSHIP OF SUPPLY

[illegible] WATER SYSTEM

IF FROM WELL

[redacted]

POINT OF COLLECTION

[redacted]

Plant Discharge

Distribution

Other

PHYSICAL APPEARANCE

Clear

Cloudy

Odor

IF SURFACE SUPPLY

REMARKS [illegible]

[illegible]

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS REPORT

(Values reported are for minerals in solution)

Laboratory No. 2164 1514 Date received SEP 15 1971 Date Reported SEP 24 1971

	Milligrams per Liter		Milligrams per Liter		Milligrams per Liter
Calcium	327	Carbonate	0	Dissolved solids	1650
Magnesium	162	Bicarbonate	333	Phenolphthalein	
Sodium	14	Sulphate	800	Alkalinity as $CaCO_3$	0
Manganese	<0.05	Chloride	11	Total Alkalinity as $CaCO_3$	333
Iron	<0.0	Fluoride	3.6	Total Hardness as $CaCO_3$	1240
		Nitrate	<0.4		

pH 7.3 Dilated Conductance Micromhos 2880

[illegible]

68-19-607

MAP #13

MAP ID
13

REQUEST FOR CHEMICAL ANALYSIS OF WATER
TEXAS STATE DEPARTMENT OF HEALTH LABORATORIES
1100 WEST 49th STREET AUSTIN, TEXAS

IMPORTANT - READ CAREFULLY

W. B. Smith
25211 Ada Mae
San Antonio, Texas 78228

LOCATION
COUNTY Bexar
DATE COLLECTED 11-10-71
OWNERSHIP OF SUPPLY:
Leon Springs Mobile Villa

IF FROM WELL
Depth
Type Percent
Well No. 1

POINT OF COLLECTION
Raw Supply at well
Plant Discharge
Distribution
Other

VISUAL APPEARANCE

IF SURFACE SUPPLY
Name of Source

REMARKS

D. W. Finlayson, R.S.
(Signature)

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS REPORT
(Values reported are in mg/L unless otherwise noted)

212119

Date Received DEC 1

DEC 21

Calcium
Magnesium
Sodium
Potassium
Iron
Carbonate
Bicarbonate
Sulphate
Chloride
Fluoride
Nitrate
Total Hardness as $CaCO_3$

6 oz bottle

7.7

Dissolved Conductance

68-19-607

MAP #13

MAP ID
13

REQUEST FOR CHEMICAL ANALYSIS OF WATER
TEXAS STATE DEPARTMENT OF HEALTH LABORATORIES
1100 WEST 49th STREET AUSTIN, TEXAS 78756

IMPORTANT – READ CAREFULLY:
Not responsible until signed by the person requesting the analysis. Chemical analyses are limited to samples of water from public supplies the evaluation of which is required by a proper official. If the supply being sampled is of public interest and not primarily serving the public, an explanation of the reason for requesting the analysis should be furnished under "Remarks" or by attaching a separate explanatory sheet. Please complete this form with typewriter (black ribbon) or some permanent writing with pencil or black ink. A ball point pen should not be used.

Send report to:

Lone Star Villa Water Company
2818 San Pedro Parkway
San Antonio, Texas 78235

LOCATION Lone Star Subdivision Lone Star Villa
COUNTY Bexar
DATE COLLECTED 7/4/73
OWNERSHIP OF SUPPLY:
Lone Star Villa Water Company
Donald L. Jones

IF FROM WELL
Depth
Age
Well No. 7

POINT OF COLLECTION
Raw Supply Well Head
Plant Discharge
Distribution
Other

PHYSICAL APPEARANCE
Clear Okay
Turbid
Colored
Odor

IF SURFACE SUPPLY
Name of source

REMARKS

Signature of Public Official, Water Utility Official or authorized representative requesting the analysis

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS REPORT
(Values reported are for a month in solution)

Laboratory No. 2528826
Date Received JUL 27 1973
Date Reported

	Milligrams per Liter		Milligrams per Liter		Milligrams per Liter
Calcium	87	Carbonate	0	Dissolved solids	570
Magnesium	31	Bicarbonate	388	Phenolphthalein	
Sodium	15	Sulphate	18	Alkalinity as $CaCO_3$	6
Manganese	<0.05	Chloride	19	Total Alkalinity as $CaCO_3$	318
Iron	<0.02	Fluoride	0.6	Total Hardness as $CaCO_3$	346
		Nitrate	15		

pH 7.5
Diluted Conductance Micromho/cm 750

RECOMMENDED LIMITS FOR DRINKING WATER IN MILLIGRAMS PER LITER

IRON	1.0	FLUORIDE	0.6 - 1.0
MANGANESE	0.05	NITRATE	45
SULPHATE	250	TOTAL SOLIDS	500
CHLORIDE	250		

68-19-607

MAP#13

MAP ID

13

RECEIVED

JUN 20 1979

DEPT. OF WATER RESOURCES

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

For TDWR use only
Well No. 68-79-677
Located on map Lice.
Received: 7-1-79

Engineers - Auburn and Associates - 774 Isom Road - San Antonio, Texas 78216

1) OWNER Lapaglia (Name) Address (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar, 16 miles in NNW (N.E., S.W., etc.) direction from San Antonio (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): XX New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

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

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

6) WELL LOG:

Date drilled 5-4-79

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
14"	Surface	30'
12"	30'	410'
6"	410'	900'

From (ft.)	To (ft.)	Description and color of formation material
0	75	Brown Lime
75	400	No Circulation
~~400~~	~~500~~	~~Gray Lime~~
500	600	Gray, Brown and White Lime
600	700	Gray, Brown and White Lime
~~700~~	~~725~~	~~Light Brown Lime and Flint~~
725	750	Light Brown Lime and Flint
750	800	Gray Lime
800	900	Brownish-White Lime and Sand

(Use reverse side if necessary)

7) BOREHOLE COMPLETION: XX Open Hole XXX Straight Well ☐ Underreamed ☐ Gravel Packed ☐ Other _____
If Gravel Packed give interval . . . from _____ ft. to _____ ft.

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

CEMENTING DATA
Cemented from 410' ft. to 0' ft.
Method used Pressure Method
Cemented by Halliburton Company (Company or Individual)

9) WATER LEVEL: (estimated)
Static level 400 ft. below land surface Date 5-4-79
Artesian flow _____ gpm. Date _____

10) PACKERS: Type Depth
NONE

11) TYPE PUMP: Pump has not been installed yet.
☐ Turbin ☐ Jet ☐ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc. _____ ft.

12) WELL TESTS: None made
☐ 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 XX No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes XX 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 Rudolf Biedermann (Type or Print) Water Well Drillers Registration No. 936

ADDRESS 15403 Capital Port, San Antonio, Texas 78249 (Street or RFD) (City) (State) (Zip)

(Signed) Rudolf Biedermann (Water Well Driller) Haskin Pump Service, Inc. (Company Name)

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

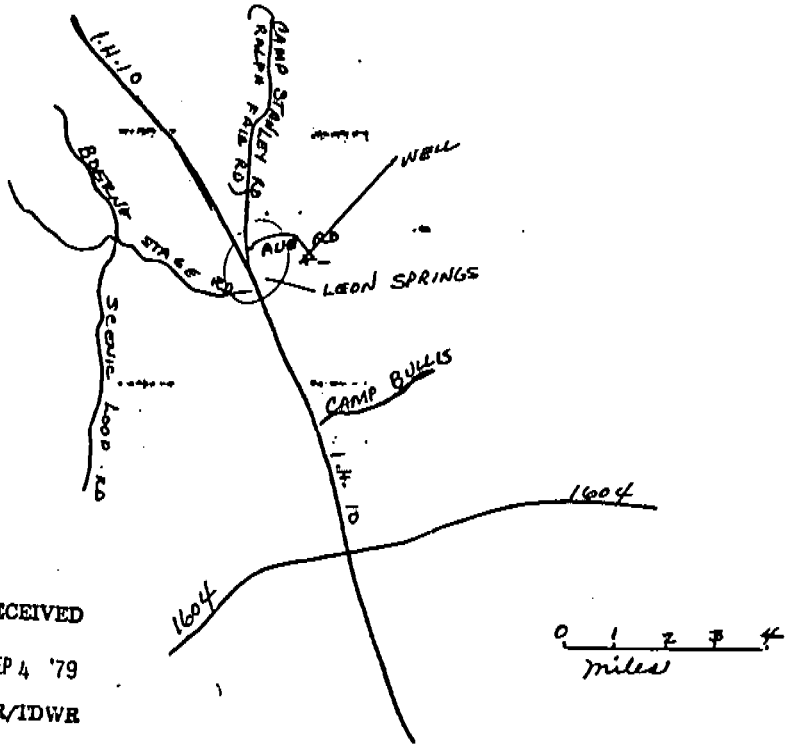
*Additional instructions on reverse side.

TWR 0549

4802903202

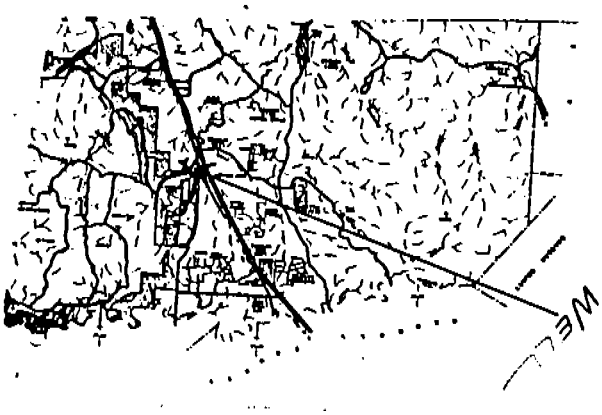
MAP #13

MAP ID
13



RECEIVED
SEP 4 '79
CR/IDWR

TO SAN ANTONIO



RECEIVED
JUN 1 1979
DEPT. OF
WATER RESOURCES

MAP# 13

.7 mi: SINK
.6 mi: WELL

MAP ID

14

Please use black ink.
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

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Emory Alexander (Name) Address 801 Petterson Avenue, San Antonio, Texas 78209 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL:
County Bexar _____ miles in _____ (N.E., S.W., etc.) direction from _____ (Town) off Hwy 1863 -West of Radar Tower on Lower Smithson Valley Road (at house)

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 _____

#15 ☐ See attached map. on 68-20-6

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 11-5-85

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
6 3/4"	Surface	362
6"	362	625

From (ft.)	To (ft.)	Description and color of formation material
0	1	black topsoil
1	2	yellow caliche
2	27	cream colored glassy hard limestone
27	39	yellow caliche & cream colored limestone
39	44	blue sticky shale
44	60	gray & black speckled limestone (shaley)
60	63	cream colored limestone
63	67	light gray limestone
67	120	cream colored limestone (some water)
120	177	gray limestone
177	185	blue sticky shale
185	196	gray shaley limestone
196	238	light gray limestone
238	312	porous yellow honeycomb (poor circulation)
312	337	tannish gray limestone
337	362	light gray limestone
362	390	light gray shaley limestone
390	412	light tannish gray limestone
412	460	light gray limestone & oyster shell
460	475	light gray limestone (water)
475	536	gray limestone
536	560	dark blue gray sandstone
560	580	gray limestone
580	589	gray green shaley limestone
589	598	gray limestone
598	613	dark gray limestone
613	625	light gray limestone

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8"		steel casing 364'	0	362	
		188 wall			

9) CEMENTING DATA (Rule 319.44(b))
Cemented from 0 ft. to 362 ft.
_____ ft. to _____ ft.
Method used grout
Cemented by H. W. Schwope & Sons, Inc.

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed (Rule 319.44(c)) customer refused
☐ Pitless Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:
Static level 350 ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12) PACKERS: Type _____ Depth _____

13) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc. _____ ft.

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 15 gpm with _____ ft. drawdown after _____ hrs.

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

TEXAS WATER COMMISSION
APR 20 1987

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. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H. W. Schwope & Sons, Inc (Type or Print) Water Well Driller's License No. 1566

ADDRESS PO Box 364 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

(Signed) [signature] (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

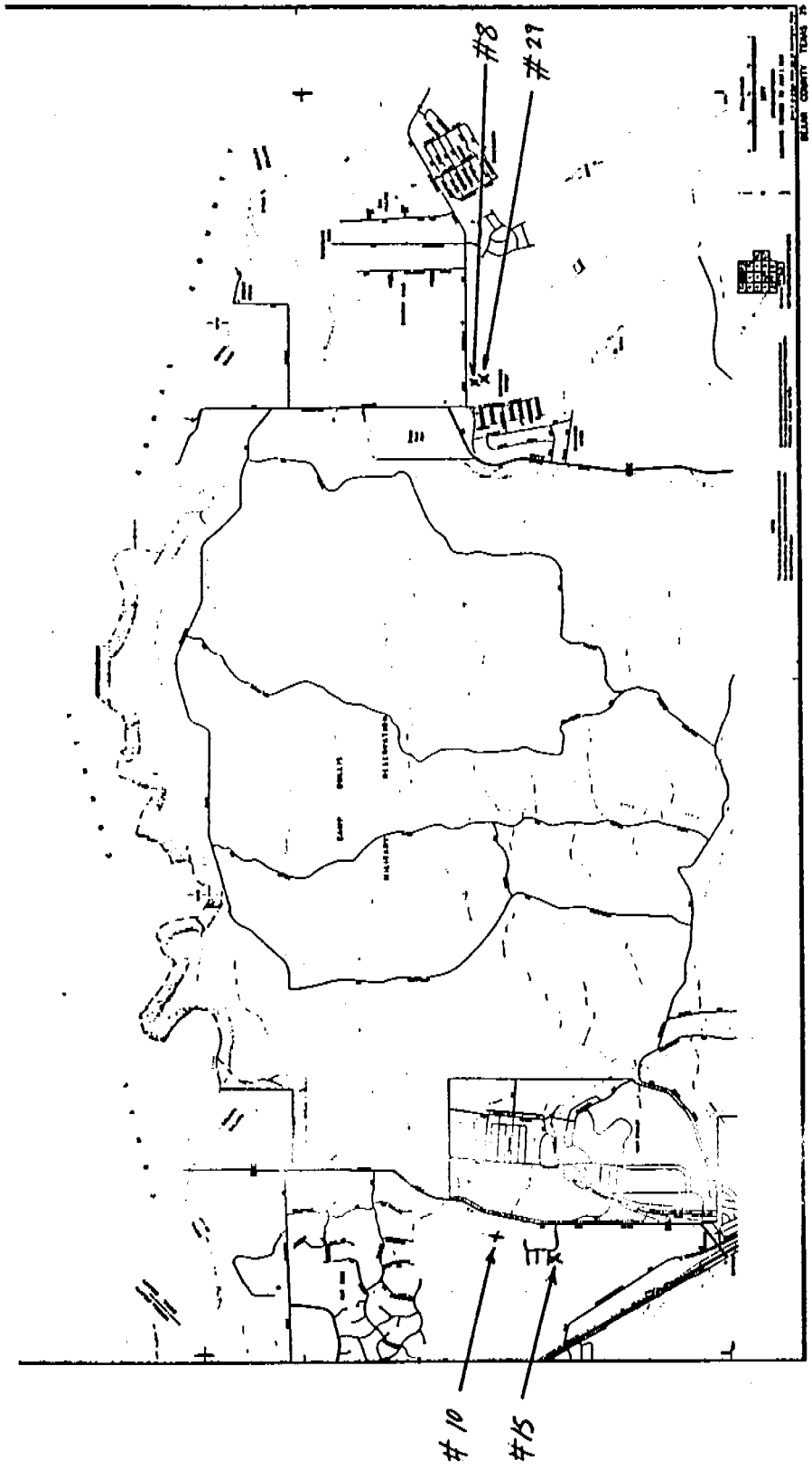
Please attach electric log, chemical analysis, and other pertinent information, if available.

For TDWR use only
Well No. 68-19-6
Located on map _____

4802903106

DEPARTMENT OF WATER RESOURCES COPY

MAP ID
14



MAP ID
14

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. 68-79-6
Located on map
Received:

1) OWNER Ed Wiley (Ed Spain & Waldeck Bldrs.) Address c/o 126 Cottonwood, Boerne, Texas 78006 (Name) (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar 2 miles in N (N.E., S.W., etc.) direction from Leon Springs (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. #3

☐ Legal description: Section No. ____ Block No. ____ Township Jackson W8888
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 6-17-86

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8 3/4"	Surface	237
6"	237	525

From (ft.)	To (ft.)	Description and color of formation material
0-24		yellow caliche & cream limestone
24-35		blue gray shale
35-52		yellow clay & limestone layers
52-60		gray shaley limestone
60-70		yellow cream colored limestone
70-82		gray limestone
82-90		tannish gray limestone
90-100		dark gray shaley limestone
100-107		cream colored limestone
107-112		light gray limestone
112-130		cream colored limestone
130-185		white limestone (little water)
185-210		cream colored limestone
210-237		light gray limestone
237-257		blue gray lime
257-273		light gray lime (little water)
273-302		gray lime
302-337		blue gray lime
337-341		brownish gray lime
341-420		cream colored lime (water over 40' gpm)
420-448		blue gray lime
448-455		greenish gray chalky limestone
455-462		gray limestone & oyster shells
462-476		white limestone (Cow Creek)
476-494		tan limestone
494-509		brown-tan sandstone
509-523		gray limestone
523-525		green limestone (Pine Island Shale)

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
6 5/8"		steel casing	0	237	
		239 feet			

CEMENTING DATA
Cemented from 0 ft. to 237 ft.
Method used Readymix Grout- 7sk.
Cemented by Ingram (Company or Individual)

9) WATER LEVEL:
Static level 175 ft. below land surface Date ____
Artesian flow ____ gpm. Date ____

10) PACKERS: Type Depth

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

12) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 55 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? ____ Depth of strata ____
Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED AUG 10 1987 TEXAS WATER COMMISSION

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 H. W. Schwope & Sons, Inc. (Type or Print) Water Well Drillers Registration No. 1566

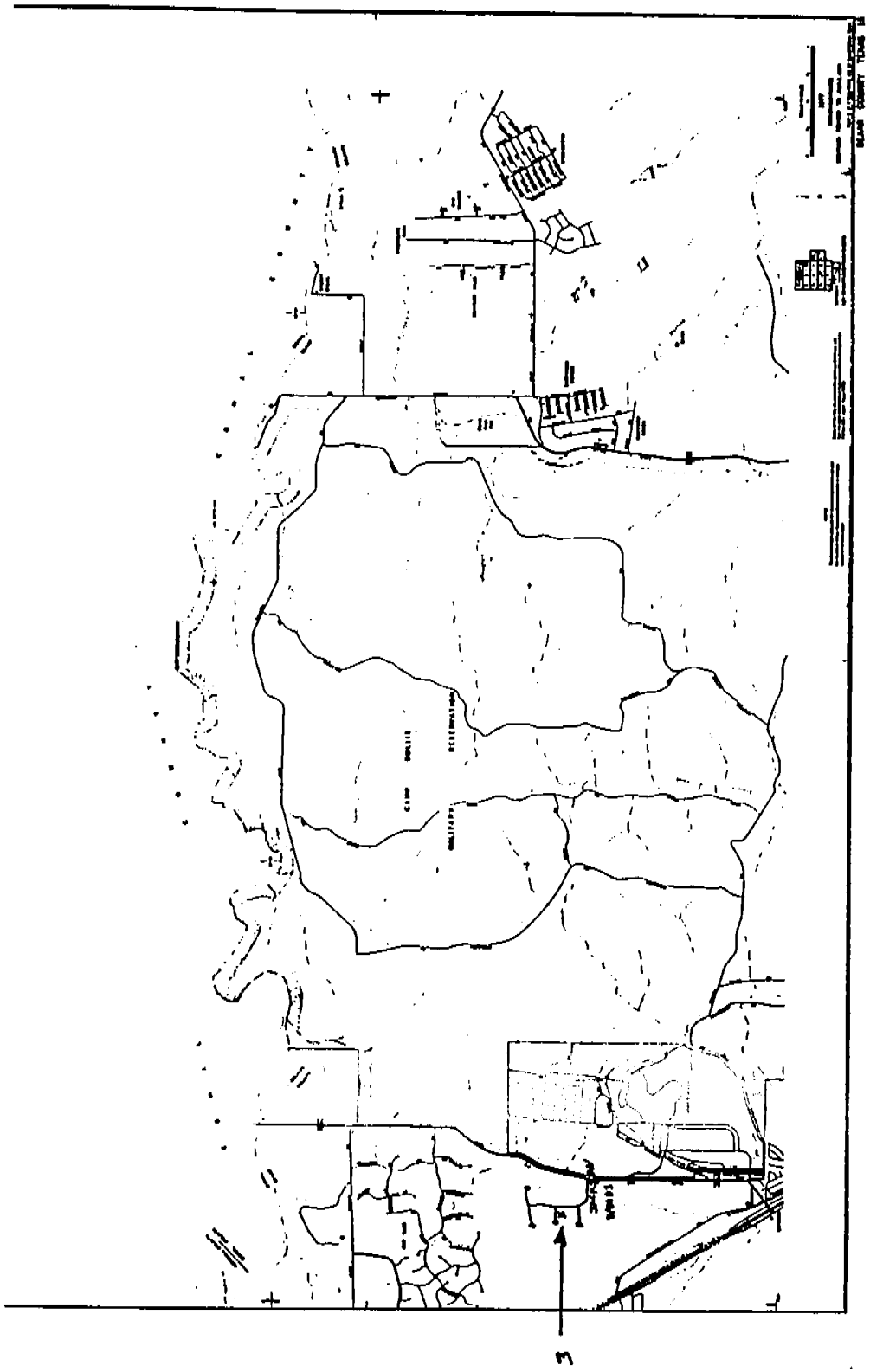
ADDRESS PO Box 364 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

(Signed) [signature] (Water Well Driller) ____ (Company Name)

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

TDWR-0319 (Rev. 1-12-79) DEPARTMENT OF WATER RESOURCES COPY 4802903135

MAP ID
14



MAP ID
14

Send original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711 — Please use black ink.

ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER (Name): Charlie Lima Corp. ADDRESS (Street or RFD): 24123 Boerne Stage Rd. #320 (City) San Antonio (State) Tex. (Zip) 78255

2) LOCATION OF WELL: County: Bexar . 3½ miles in W. (NE, SW, etc.) direction from Leon Springs, Tex. (Town)
I-H 10 West

Driller must complete the legal description below 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: 10.043 Acres Of Land Out Of Survey #29 Bexar County Texas
Section No. _____ Block No. _____ Township _____ Abstract No. 528 Survey Name T.M. Mccullock
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 ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG: Date Drilling: Started 8-23 1991 Completed 8-26 1991

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
7 7/8	Surface	450

7) BOREHOLE COMPLETION: ☐ Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☐ Other Cased To Bottom
If Gravel Packed give interval ... from _____ ft. to _____ ft.

From (ft.)	To (ft.)	Description and color of formation material
		Surface-3' Black Soil
		3'-27' Rock,Caliche
		27'-41' Med.Gray Sandstone
		41'-120' Rock,Caliche
		120'-275' Med.Gray Sandstone
		275'-400' Light Gray Sandstone
		400'-410' Dark Gray Sandstone
		410'-420' Med.Gray Sandstone
		420'-450' Rock,Med.Gray Sandstone
		1st. Water At 260' App. 30 P.M.
		2nd.Water At 415'

(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 Mfg., if commercial	Setting (ft.) From	To	Gage Casing Screen
5	N	Sch.40PVC 18"A.G	-450'		
		Perforated Last	200'		

9) CEMENTING DATA [Rule 287.44(1)]
Cemented from Surface to 250 ft. No. of Sacks Used App. 11yds
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Hand Mix
Cemented by D.K.Drilling Co.

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 287.44(2)(A)]
☐ Pitless Adapter Used [Rule 287.44(3)(B)]
☐ Approved Alternative Procedure Used [Rule 287.71]

11) WATER LEVEL: Static level 280 ft. below land surface Date 8-26-91
Artesian flow _____ gpm. Date _____

12) PACKERS: Type: 5" Neoprene Depth: 250'

13) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., 360' ft.

14) WELL TESTS: Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 35 gpm with 10 ft. drawdown after 2 hrs.

15) WATER QUALITY: Did the drilling penetrate any strata which contained undesirable constituents? ☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? Glenrose Depth of strata 200
Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED FEB 05 1992 TEXAS WATER COMMISSION

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME (Type or print) D.K.Drilling Co. WELL DRILLER'S LICENSE NO. 2045

ADDRESS (Street or RFD) P.O. Box 998 (City) Bandera (State) Texas (Zip) 78003

(Signed) Dale Heitz Sr. (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TWC use only: Well No. _____ Located on map 12-13-6

WWD-012 (Rev. 09/21/88)

TEXAS WATER COMMISSION COPY

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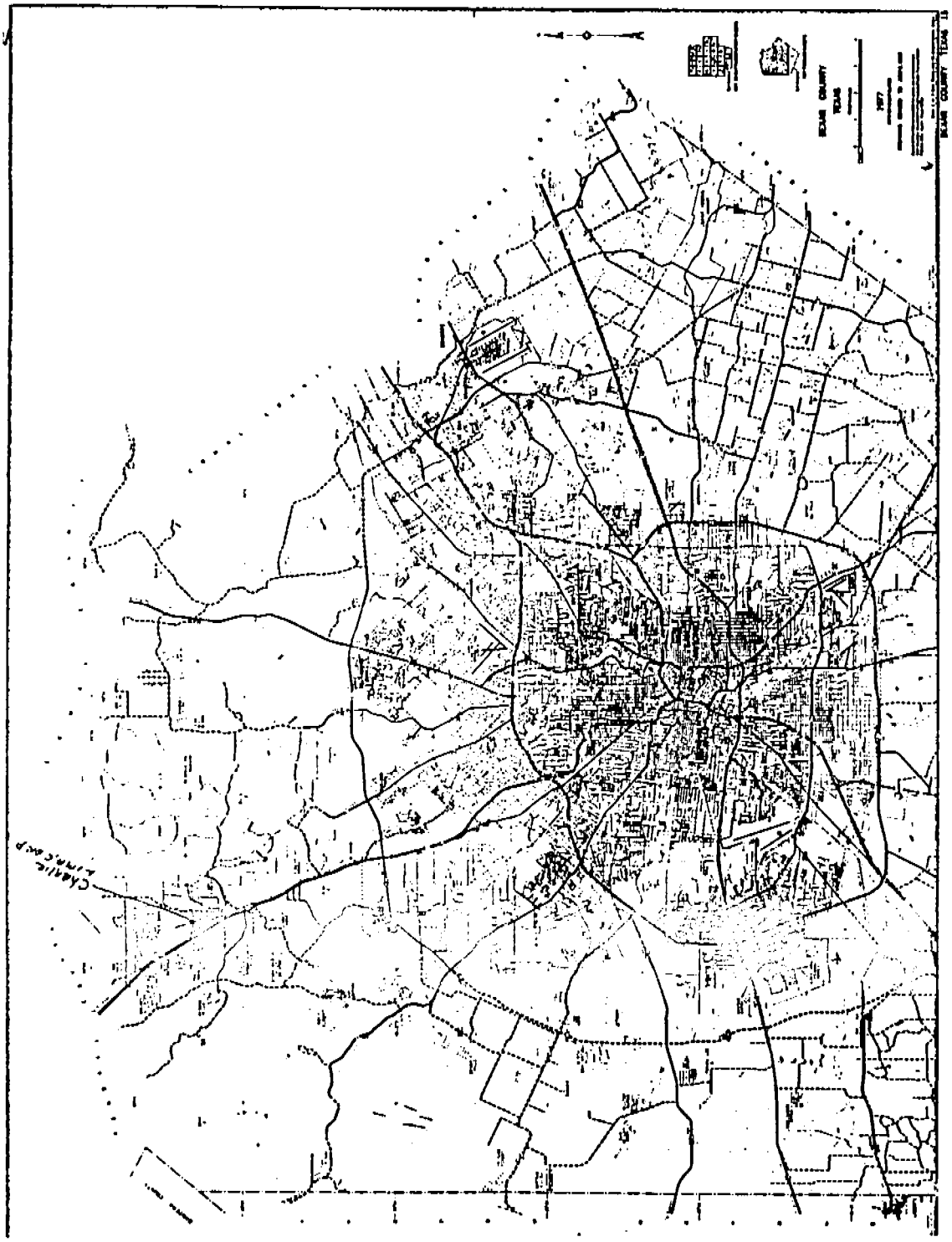
MAP ID
14



MAP ID
14

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. 68-19-6A
Located on map Yes DLP
Received:

1) OWNER Dr. Jack Adelman (Name) Address 24457 Boerne Stage Road (Street or RFD) San Antonio (City) TX (State) 78229 (Zip)

2) LOCATION OF WELL: County Bexar 1½ miles in W (N.E., S.W., etc.) direction from Leon Springs (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.

#2

☐ Legal description:
Section No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting section or survey lines _____

☒ See attached map. Map on 68-19-2NN

3) TYPE OF WORK (Check): X ☒ 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 5-24-84

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
8"	Surface	230
6	230	578

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

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8	N	steel	0	230	.156

CEMENTING DATA
Cemented from surface ft. to 230 ft.
Method used gravity
Cemented by Louis Bergmann & Sons (Company or Individual)

9) WATER LEVEL:
Static level 355 ft. below land surface Date 6-7-84
Artesian flow _____ gpm. Date _____

10) PACKERS: Type Depth

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OCT 22 1984
DEPT. OF WATER RESOURCES

(Use reverse side if necessary)

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

12) WELL TESTS: ☐ Type Test: ☐ Pump ☒ Bailer ☐ Jetted ☐ Estimated
Yield: 16 gpm with 45 ft. drawdown after 50 minutes

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? _____ Depth of strata _____
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 Glenn Marquardt (Type or Print) Water Well Drillers Registration No. 1937

ADDRESS 135 South Pecan (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

(Signed) Glenn Marquardt (Water Well Driller) LOUIS BERGMANN & SONS (Company Name)

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

TDWR 0592 (Rev. 1-12-79) DEPARTMENT OF WATER RESOURCES COPY 4802903174

MAP ID

14

Please use black ink. Send original copy by certified mail to the Texas Water Commission P.O. Box 13087 Austin, Texas 78711

State of Texas
WATER WELL REPORT
ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Richard Gangle (Name) Address 26766 Fawn Mountain Road (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

2) LOCATION OF WELL: County Bexar 4 miles in N (N.E., S.W., etc.) direction from Leon Springs (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 Jackson Woods
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 ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other ____

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

6) WELL LOG:
Date Drilling: Started 12-14- 1988 Completed 12-14 1988

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
6"	Surface	

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

From (ft.)	To (ft.)	Description and color of formation material
		(original 409')
		409-412 cream colored lime
		412-452 blue sandstone
		452-463 blue green sandstone
		463-465 greenish shale
		465-508 top of Cow Creek white lime porous - more water)
		508-525 gray lime

(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 Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen

9) CEMENTING DATA (Rule 319.44(b))
Cemented from ____ ft. to ____ ft. No. of Sacks Used ____
____ ft. to ____ ft. No. of Sacks Used ____
Method used ____
Cemented by ____

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed (Rule 319.44(c))
☐ Pitless Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:
Static level 357' ft. below land surface Date ____
Artesian flow ____ gpm. Date ____

12) PACKERS: Type Depth

13) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other ____
Depth to pump bowls, cylinder, jet, etc. ____ ft.
reinstalled 1 1/2hp Pumpco set @ 462'

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☐ Flowing ☐ Artesian
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No
If yes, explain: HISTORY OF UNDESIRABLE WATER
Type of water? ____ Depth of strata ____
Was chemical analysis made? ☐ Yes ☒ No

RECEIVED NOV 2 1988 TEXAS WATER COMMISSION

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. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H. W. Schwope & Sons, Inc (Type or Print) Water Well Driller's License No. 1566

ADDRESS PO Box 364 (Street or RFD) Boerne, (City) Texas (State) 78006 (Zip)

(Signed) John C. Schwope (Licensed Water Well Driller) (Signed) ____ (Registered Driller Trainee)

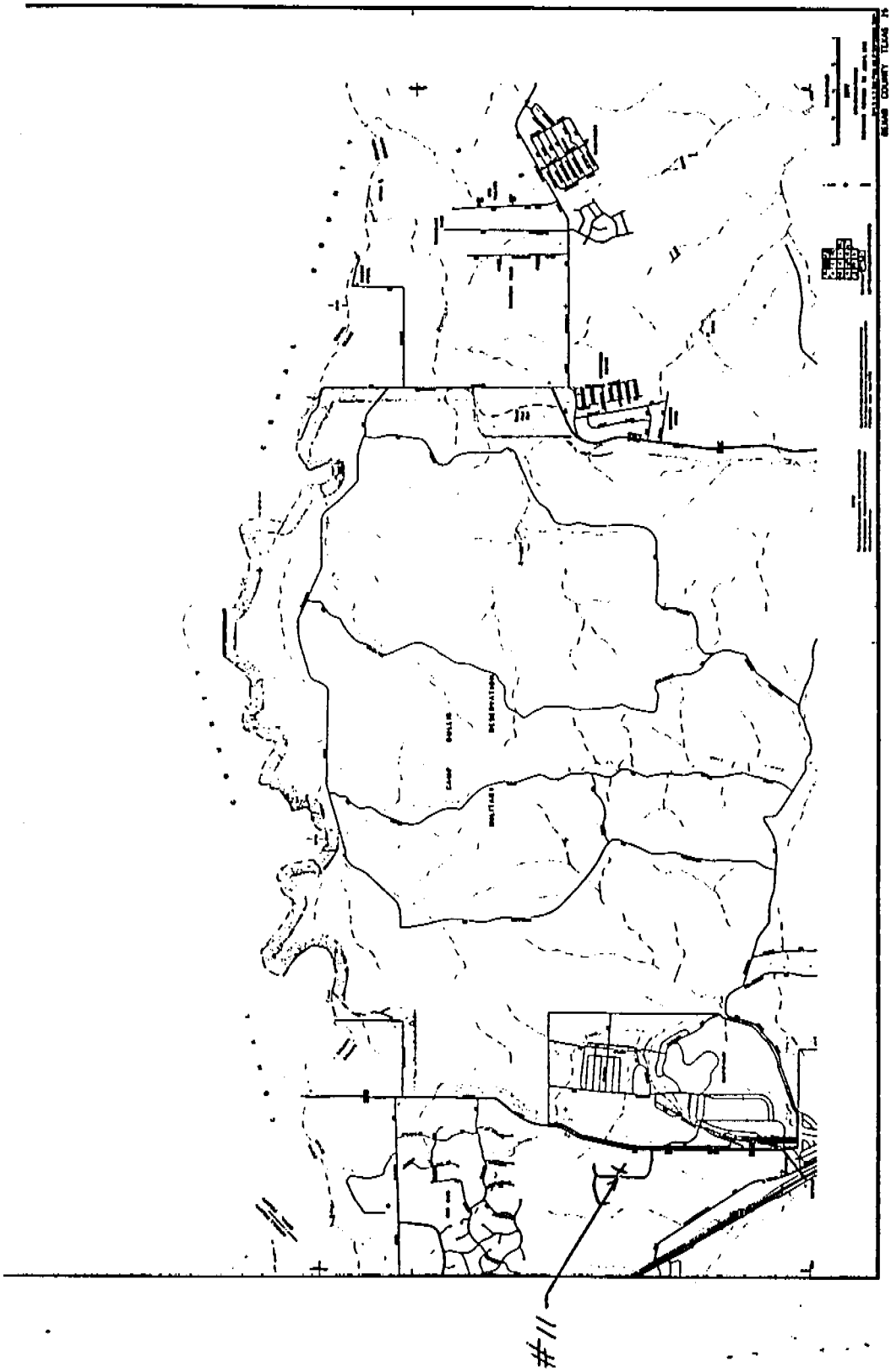
Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only Well No. 68-19-6 Located on map ____

WWD-012 (Rev.01-28-87) TEXAS WATER COMMISSION COPY

4802903139

MAP ID
14



MAP ID

14

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

For TDWR use only
Well No. 68-19-60F
Located on map 185
Received: 7-15-82

1) OWNER Lamar Samuel Kelley (Name) Address San Antonio, Texas (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar, 2 miles in N.E. (N.E., S.W., etc.) direction from Leon Springs (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 ____
Lot No. 24 Jackson Woods Sub.
☒ 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 4/15/82

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
	Surface	
7 3/8	0	180
4 3/4	180	360

From (ft.)	To (ft.)	Description and color of formation material
0	2	red soil
2	15	rock
5	10	caliche
10	20	gray shale
20	28	caliche
28	80	gray limestone
80	105	sandy creme limestone
105	150	hard limestone
150	154	cave
154	180	hard limestone
180	190	soft limestone
190	225	light limestone water
225	235	lt, gray limestone
235	245	hard gray limestone
245	255	light sandy limestone
255	270	light gray
270	290	sandy limestone water
290	300	darker gray
300	310	sandy limestone
310	360	light limestone

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
			0	180	

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CEMENTING DATA
Cemented from 0 ft. to 180 ft.
Method used hand mix
Cemented by Boerne Ranch Realty (Company or Individual)

9) WATER LEVEL: Static level 189 ft. below land surface Date 4/15/82
Artesian flow ____ gpm. Date ____

10) PACKERS: Type rubber Depth 176

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

12) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☒ Estimated
Yield: 15 gpm with ____ ft. drawdown after ____ hrs.

13) WATER QUALITY:
Did you knowingly penetrate any strata which contained unacceptable water? ☐ Yes ☐ No
If yes, submit "REPORT OF UNUSABLE WATER"
Type of water? Fresh Depth of strata 2 - 180 feet
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 Cliff Lewis (Type or Print) Water Well Drillers Registration No. 1866

ADDRESS 463 S. Main (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

(Signed) Cliff Lewis (Water Well Driller) ____ (Company Name)

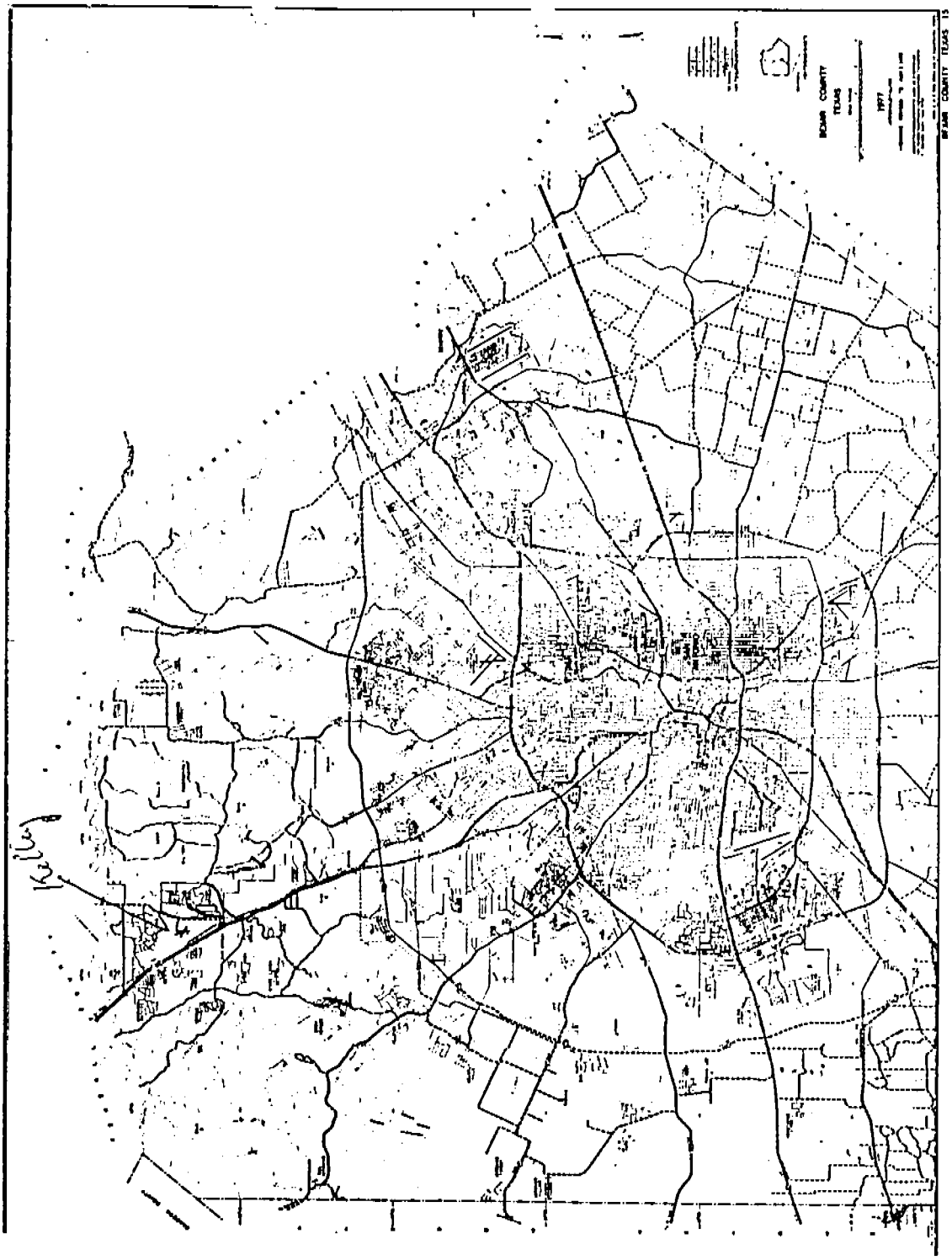
Please attach electric log, chemical analysis, and other pertinent information, if available.

*Additional instructions on reverse side.

Trace name

4802903147

MAP ID
14



MAP ID

14

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*

Dup

For TDWR use only
Well No. 68-19-2NN
Located on map Yes DLF
Received:

1) OWNER Dr. Jack Adelman (Name) Address 24457 Boerne Stage Road San Antonio, TX (Street or RFD) (City) (State) (Zip) 78229

2) LOCATION OF WELL: County Bexar 1½ miles in W (N.E., S.W., etc.) direction from Leon Springs (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. Map on 68-19-2NN

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 5-24-84

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8"	Surface	230
6	230	578

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

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8	N	steel	0	230	156

CEMENTING DATA
Cemented from surface ft. to 230 ft.
Method used gravity
Cemented by Louis Bergmann & Sons (Company or Individual)

9) WATER LEVEL:
Static level 355 ft. below land surface Date 6-2-84
Artesian flow _____ gpm. Date _____

10) PACKERS: Type Depth

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

12) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☐ No
If yes, describe "PENETRATED UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was blank casing used? ☐ Yes ☐ No

13) WELL TESTS: ☐ Pump test ☐ Bailer ☐ Jetted ☐ Estimated
Yield 16 gpm with 45 ft. drawdown after 60 minutes

(Use reverse side if necessary)

RECEIVED
OCT 22 1984
DEPT. OF WATER RESOURCES

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 Glenn Marquardt (Type or Print) Water Well Drillers Registration No. 1937

ADDRESS 135 South Pecan (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

(Signed) Glenn Marquardt by B Marquardt (Water Well Driller) LOUIS BERGMANN & SONS (Company Name)

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

TDWR 0382 (Rev. 1-12-79) DEPARTMENT OF WATER RESOURCES COPY 4802903174

MAP ID

14

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*

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER K.C.N. Builders Inc. (Name) Address Rt. 8, Box 542 AB (Street or RFD) San Antonio (City) Tex (State) 78229 (Zip)

2) LOCATION OF WELL: County [redacted] Bexar 14 miles in west (N.E., S.W., etc.) direction from Leon Springs (Town)

C M #7

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: Cross Mtn. Ranch Subd Lot 7

☒ See attached map. Map on CR.10-6 PP

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 3/24/83

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8-3/4	Surface	123
6	123	550

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

From (ft.)	To (ft.)	Description and color of formation material
0-	25	Hard brn L/S first 3', then caliche w/ strks yellow clay
25-	50	Caliche w/brn L/S ledges w/firm gray shale last 10'
50-	75	Firm gray shale w/gray L/S ledges
75-	100	Firm med gray shale
100-	120	Med gray shale first 5', then gray L/S
120-	150	Firm gray L/S w/flintrock ledges
150-	175	Firm gray L/S
175-	200	Firm gray L/S w/strks firm gray shale
200-	225	Firm gray L/S w/brn L/S ledges
225-	250	Firm gray L/S w/strks firm gray shale
250-	275	Firm gray L/S w/brn & yellow L/S ledges
275-	300	Firm brn L/S w/gray L/S last 6'
300-	325	Firm gray & Brn L/S
325-	400	Firm brn L/S w/[illegible] gray L/S ledges
400-	425	Firm brn L/S w/mult frac last 10'
425-	450	Firm brn L/S w/gray L/S last 8'
450-	475	Firm gray L/S first 13', then brn L/Sw/fr[illegible]
475-	500	Firm brn L/S
500-	525	Firm brn L/S w/mult frac last 5'
525-	550	Firm brn L/S first 6', then firm gray L/S w/soft gray shale last 9'

(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 Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6-5/8	N	Plastic	123	1 above ground	sch40

CEMENTING DATA
Cemented from 123 ft. to surface ft.
Method used grout
Cemented by Hill Country Water, Inc (Company or Individual)

9) WATER LEVEL:
Static level 350 ft. below land surface Date 3/24/83
Artesian flow ____ gpm. Date ____

10) PACKERS: Type: 1 vinyl Depth: 123'

11) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other ____
Depth to pump bowls, cylinder, jet, etc., 483 ft.

12) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 15 gpm with ____ ft. drawdown after ____ hrs.

13) WATER QUALITY:
Did you knowingly penetrate any strata which contained unpotable water? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? good Depth of strata 50'
Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED OCT 25 1984 DEPT. OF WATER RESOURCES

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.

COMPANY NAME HILL COUNTRY WATER, INC (Type or Print) Water Well Driller's License No. 1430 Charlie A. Kuhn

ADDRESS P.O. Box 21 (Street or RFD) Bulverde, (City) Texas (State) 78163 (Zip)

(Signed) Charlie Kuhn (Licensed Water Well Driller) (Signed) ____ (Registered Driller Trainee) Dup

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

For TDWR use only: Well No. 48-18-CAA Located on map 9a-bd

TDWR 0512 (Rev. 5-27-82) DEPARTMENT OF WATER RESOURCES COPY

4802903175

(2)

MAP ID

14

Send original copy by registered 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*

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER K.C.N. Builders, Inc. (Name) Address Rt. 8 Box 542 AB (Street or RFD) San Antonio (City) Tex (State) 78229 (Zip)

2) LOCATION OF WELL: County Bexar 2 miles in northwest (N.E., S.W., etc.) direction from Leon Springs (Town)
26726 Orchid Trail

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 _____
Trail wood Subd.
☒ See attached map. Map on 68-19-6PP

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 12/17/82

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8-3/4	Surface	106
6	106	500

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

From (ft.)	To (ft.)	Description and color of formation material
0- 25		Caliche w/hard brn L/S ledges & soft gray shale last 5'
25- 50		Med soft gray shale w/firm gray L/S last 3'
50- 75		Med soft gray shale w/gray L/S ledges
75-100		Firm med gray shale first 6', then gray L/S (firm)
100-150		Firm gray L/S
150-200		Firm gray L/S w/brn L/S ledges (small)
200-225		Firm gray L/S
225-275		Firm gray L/S w/strks firm gray shale
275-300		Firm gray L/S w/brn L/S last 15'
300-325		Firm gray L/S w/brn L/S ledges
325-350		Firm brn L/S
350-375		Firm brn L/S w/fract
375-400		Porous brn L/S first 5', then firm gray shale w/gray L/S ledges
400-425		Firm gray L/S w/brn L/S ledges 422'-423'
425-450		Firm gray L/S w/lt gray L/S ledges
450-475		Firm brn & lt gray L/S
475-500		Firm gray L/S

(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 Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6-5/8	N	Plastic	106	1 above ground	sch40

CEMENTING DATA
Cemented from 106 ft. to surface ft.
Method used grout
Cemented by Hill Country Water, Inc. (Company or Individual)

9) WATER LEVEL: Static level 275 ft. below land surface Date 12/82
Artesian flow _____ gpm. Date _____

10) PACKERS: 1 Type vinyl Depth 106'

11) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., 420 ft.

12) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield 32-22 gpm with _____ ft. drawdown after _____ hrs.

13) WATER QUALITY: DEPTH OF
Did you encounter water bearing formations other than the main water? ☐ Yes ☐ No WATER RESOURCES
If yes, submit "REPORT OF UNDESIRABLE WATER"
Top of water? 55-75 Depth of strata 150'
Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED OCT 12 1984

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.

COMPANY NAME Hill Country Water, Inc. (Type or Print) Water Well Driller's License No. 2100 Dale L. Kuhn

ADDRESS P.O. Box 21 (Street or RFD) Bulverde, Texas (City) (State) 78163 (Zip)

(Signed) _____ (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TDWR use only: Well No. 68-19-6AA Located on map Yes

TDWR 0282 (Rev. 5-27-82) DEPARTMENT OF WATER RESOURCES COPY

4802903176

MAP ID

14

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

MAY 3 1979

State of Texas

WATER WELL REPORT

DEPT. OF WATER RESOURCES

For TDWR use only
Well No. 67-17-616
Located on map 116
Received: 5-29-81

1) OWNER Charles Swindler (Name) Address 7718 Misty Park (Street or RFD) San Antonio (City) Tx (State) 78250 (Zip)

2) LOCATION OF WELL: County Bexar, 3 miles in north (N.E., S.W., etc.) direction from Leon Springs (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 04-19-79

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
8¼	Surface	400

From (ft.)	To (ft.)	Description and color of formation material
0	1	Dirt and loose rock
1	4	Clay and gravel
4	20	Caliche
20	30	Blue shale and lime
30	45	Gray lime
45	65	Dark blue lime
65	75	Yellow clay
75	90	Gray lime and clay
90	120	Gray lime and shale
120	160	Yellow lime
160	190	Gray lime
190	210	Yellow lime
210	280	Gray lime
280	310	Yellow lime
310	330	Blue lime
330	345	Blue shale and lime
345	398	Yellow lime
398	400	Black shale and sand

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
7	new	steel	0	140	23# .317wall

CEMENTING DATA
Cemented from 0 ft. to 140 ft.
Method used Grout poured from top
Cemented by Charlie Junek Drilling Co. (Company or Individual)

9) WATER LEVEL:
Static level 165 ft. below land surface Date 04-19-79
Artesian flow ____ gpm. Date ____

10) PACKERS: Type canvas Depth 140

11) TYPE PUMP: ☐ Turbin ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other ____
Depth to pump bowls, cylinder, jet, etc. 336 ft.

12) WELL TESTS. ☐ Type Test: ☒ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: 10 gpm with 0 ft. drawdown after 1 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? Glenrose Depth of strata 310-345
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 Charlie Junek (Type or Print) Water Well Drillers Registration No. 1683

ADDRESS 7205 Moss Creek (Street or RFD) San Antonio (City) Texas (State) 78238 (Zip)

(Signed) Charlie Junek (Water Well Driller) Charlie Junek Drilling Company (Company Name)

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

*Additional instructions on reverse side.

480290 3207

2) LOCATION OF WELL:

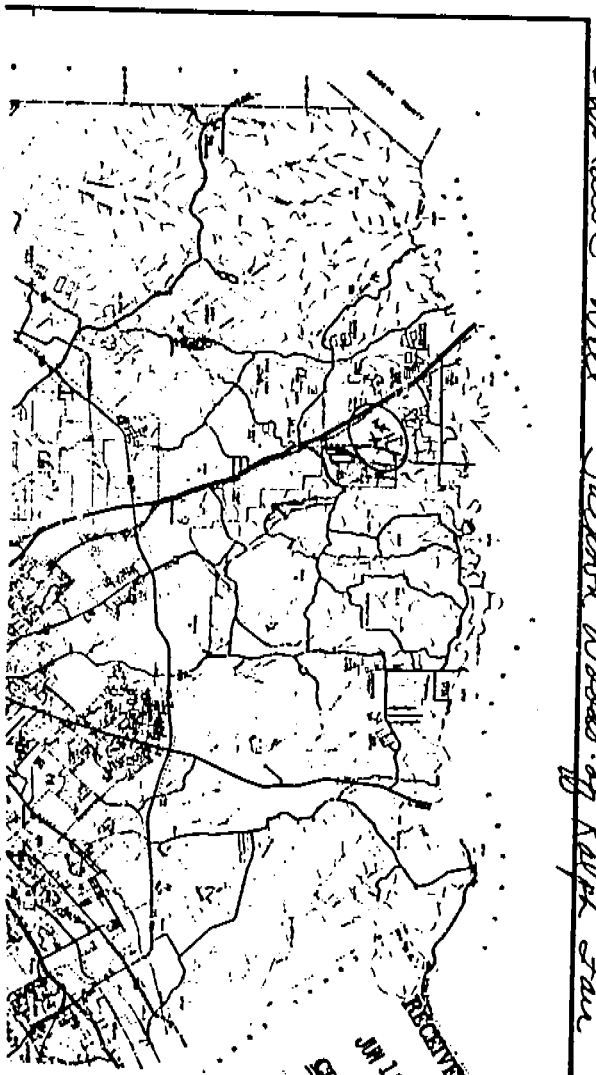
The sketch showing the well location must be as accurate as possible, showing landmarks, in sufficient detail so that the well may be plotted on a General Highway Map of the county in which the well is located.

Reference points from which distances are measured and directions given should be of a permanent nature (e.g. highway intersections, center of towns, river and creek bridges, railroad crossings). The distance and direction from the nearest town should always be indicated.

When giving a legal description include a sketch showing location of the well within the described area e.g. survey abstract.

Information furnished in Section 2 of the TDWR-0392 is very important. Unless the well can be accurately located on a map the value of the other data contained in the Report is greatly reduced.

Swimmer Well - Jackson Woods off Ralph Fair



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JUN 18 79
TWDB

MAP ID

14

MAP ID

15

67 Dup

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State of Texas
WATER WELL REPORT

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

For TDWR use only
Well No. 68-19-62
Located on map
Received: 6-2-83

1) OWNER Mrs. Ruth Favor (Name) Address Rt. 8 Box 617 (Street or RFD) San Antonio (City) TX (State) 78229 (Zip)

2) LOCATION OF WELL: County Bexar 1½ miles in north (N.E., S.W., etc.) direction from Camp Stanley (Red River Arsenal)

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.

3

☐ 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 8-21-81

Dia. (in.)	From (ft.)	To (ft.)
8"	Surface	80
6"	80	375

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mat., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8	N	Sch. 40 PVC	0	80	

CEMENTING DATA
Cemented from 0 ft. to 80 ft.
Method used gravity
Cemented by Louis Bergmann & Sons (Company or Individual)

9) WATER LEVEL:
Static level 225 ft. below land surface Date 8-21-81
Artesian flow _____ gpm. Date _____

10) PACKERS: Type Depth

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

12) WELL TESTS: ☐ Type Test: ☐ Pump ☒ Bailer ☐ Jetted ☐ Estimated
Yield: 18 gpm with 95 ft. drawdown after 1 hrs.

(Use reverse side if necessary)

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? _____ Depth of strata _____
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.

AUG 31 1982

NAME Glenn L. Marquardt (Type or Print) Water Well Drillers Registration No. 1937

ADDRESS 135 South Pecan (Street or RFD) Boerne, (City) Texas (State) 78006 (Zip)

(Signed) Glenn Marquardt (Water Well Driller) LOUIS BERGMANN & SONS (Company Name)

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

TDWR 0302 (Rev. 1-12-79) DEPARTMENT OF WATER RESOURCES COPY

4802903173

MAP ID
16

Original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711 #7

ATION OWNER: Confidentiality Privilege Notice on Reverse Side

State of Texas
WELL REPORT

Texas Water Wells
P.O. Box 13...
Austin, Texas 787...

1) OWNER Karen Fletcher (Name) ADDRESS 26837 Fawn Mountain (Street or RFD) Boerne (City) Texas (State) (Zip)

2) LOCATION OF WELL: County Bexar 2 miles in N (NE, SW, etc.) direction from Leon Springs (Town)

Driller must complete the legal description below 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 Jackson Woods
Distance and direction from two intersecting section or survey lines ____
☐ SEE ATTACHED MAP #7

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

4) PROPOSED USE (Check): ☒ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG: Date Drilling: Started 10-9 19 90 Completed 10-12 19 90

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	170
6"	170	525

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

From (ft.)	To (ft.)	Description and color of formation material
0-1		topsoil
1-8		cream colored marly caliche
8-19		yellow lime & caliche (lost little return at 8')
19-22		blue shale
22-54		layers of gray lime & blue shale
54-56		cream colored lime
56-74		blue gray shaley lime
74-96		gray lime
96-104		cream colored lime

(Use reverse side if necessary) (over)

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	To	Gage Casing Screen
6 5/8"		steel casing 172' 156 wall	0	170	

9) CEMENTING DATA (Rule 267.44(1)) Cemented from 0 ft. to 170 ft. No. of Sacks Used 150 yds. ____ ft. to ____ ft. No. of Sacks Used ____ Method used Back grout Cemented by H. W. Schwope & sons, Inc.

10) SURFACE COMPLETION ☒ Specified Surface Slab Installed (Rule 267.44(2)(A)) owner ☐ Pitless Adapter Used (Rule 267.44(3)(B)) ☐ Approved Alternative Procedure Used (Rule 267.71)

11) WATER LEVEL: Static level ____ ft. below land surface Date ____ Artesian flow ____ gpm Date ____

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12) PACKERS: Type ____ Depth ____

13) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other 1 1/2hp Wahrrol 10251520B Depth to pump bowls, cylinder, jet, etc. ser @ 462 ft.

14) WELL TESTS: Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated Yield: 30 gpm with 525 ft. drawdown after ____ hrs.

15) WATER QUALITY: Did the drilling penetrate any strata which contained undesirable constituents? ☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER" Type of water? ____ Depth of strata ____ 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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H. W. Schwope & Sons, Inc. (Typed or Print) WELL DRILLER'S LICENSE NO. 1566

ADDRESS PO Box [illegible] (No.) Boerne (City) Texas (State) 78006

(Signed) [signature] (Licensed Well Driller) (Signed) ____ (Registered Driller Trainee)

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

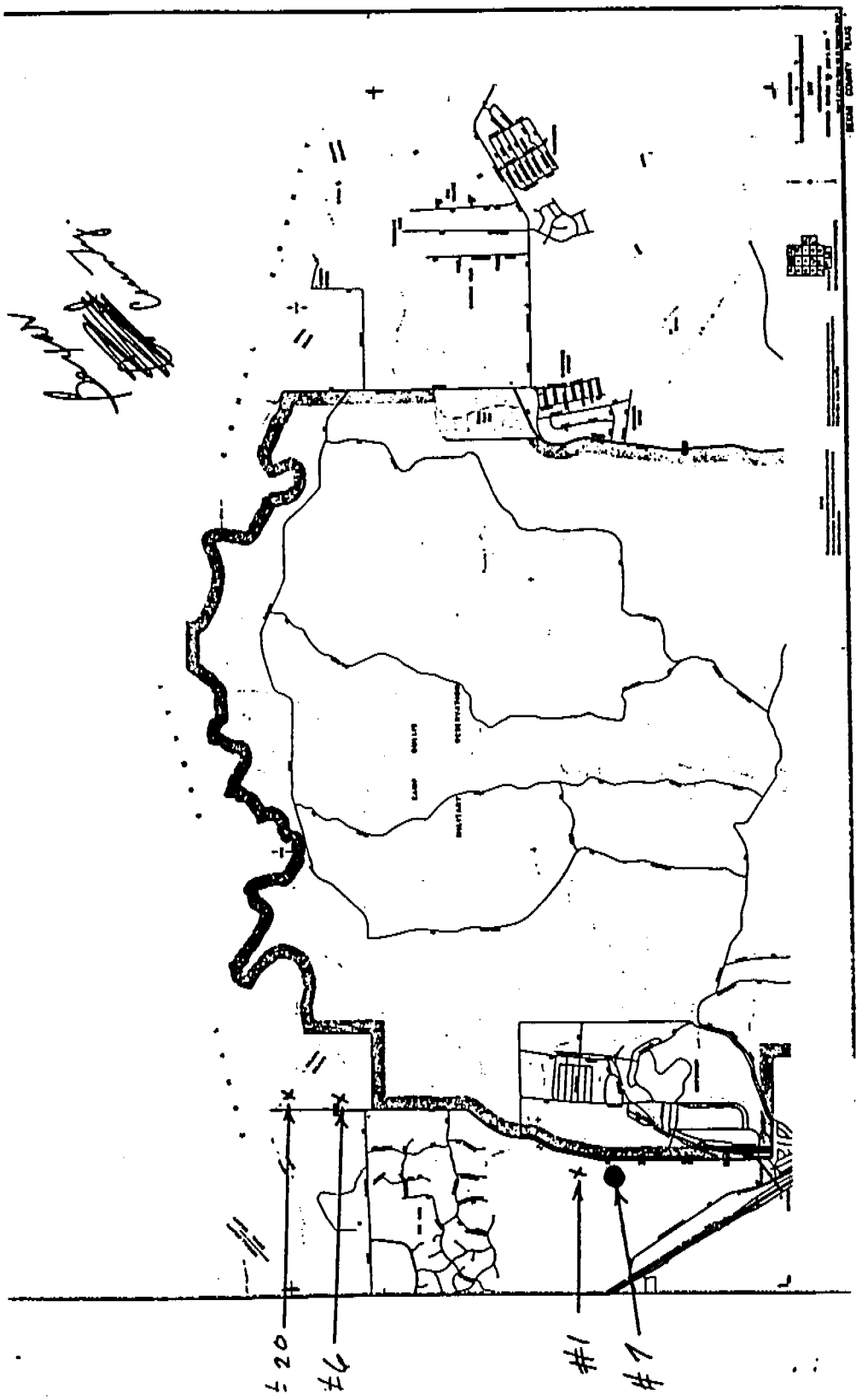
For TWC use only: Well No. ____ Located on map 68-17-6

WWD-012 (Rev. 09/21/88)

TEXAS WATER COMMISSION COPY

4802903128

MAP ID
16



MAP ID

16

Send original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711 — *Please use black ink.*

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER: Ed Poetschke (Name) — c/o Kay Anders Custom Builder — ADDRESS: 12626 Blanco Road, #2306, San Antonio (Street or RFD) (City) Texas (State) 78216 (Zip)

2) LOCATION OF WELL: County Bexar, 2 miles in NE (NE, SW, etc.) direction from Leon Springs (Town)

Driller must complete the legal description below 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: Lot Section No. ____ Block No. 28 Township ____ Abstract No. ____ Survey Name Jackson Woods

Distances and direction from two intersecting section or survey lines ____

☐ SEE ATTACHED MAP #1 26531 FAWN MTN.

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

4) PROPOSED USE (Check): ☒ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG: Date Drilling: Started 6-28 19 91; Completed 7-8 19 91

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	187
6"	187	550

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

From (ft.)	To (ft.)	Description and color of formation material
0-1		topsoil & loose rock
1-4		yellow marly caliche
4-6		cream colored lime & caliche
6-12		cream colored caliche
12-13		brownish yellow clay
13-16		cream colored caliche
16-18		gray lime & shale
18-21		blue gray shale
21-22		cream colored lime
22-47		gray shale & lime

(Use reverse side if necessary) (OVER)

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6	5/8"	steel casing	0	187	
		156 wall 189'			

9) CEMENTING DATA (Rule 287.44(1)): Cemented from 0 ft. to 187 ft. No. of Sacks Used 150 yds. ____ ft. to ____ ft. No. of Sacks Used ____ Method used 8-sk grout Cemented by H. W. Schwope & Sons, Inc.

10) SURFACE COMPLETION: ☒ Specified Surface Slab Installed (Rule 287.44(2)(A)) ☐ Pitless Adapter Used (Rule 287.44(3)(B)) ☐ Approved Alternative Procedure Used (Rule 287.71)

11) STATIC LEVEL: Static level 74 ft. below land surface Date ____ Artesian flow ____ gpm. Date ____

12) PACKERS: Type ____ Depth ____

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

14) WELL TESTS: Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Other ____ Yield: 60 gpm with ____ ft. drawdown after ____ hrs.

15) WATER QUALITY: Did the drilling penetrate any strata which contained undesirable constituents? ☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER" Type of water? ____ Depth of strata ____ Was a chemical analysis made? ☐ Yes ☐ No

RECEIVED JUL 1 1991 TEXAS WATER COMMISSION

I certify that this well was drilled under my supervision and that each and all of the statements herein are true to the best of my knowledge and belief. It is my intent that failure to complete items 1 through 15, inclusive, or filing false information, may be grounds for revocation of license.

COMPANY NAME (Type or print) H. W. Schwope & Sons, Inc. WELL DRILLER'S LICENSE NO. 1568

ADDRESS PO Box 364 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

(Signed) George Schwope (Licensed Well Driller) (Signed) ____ (Registered Driller Trainee)

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

For TWC use only: Well No. ____ Located on map 68-79-6

WWD-012 (Rev. 09/21/88)

TEXAS WATER COMMISSION COPY

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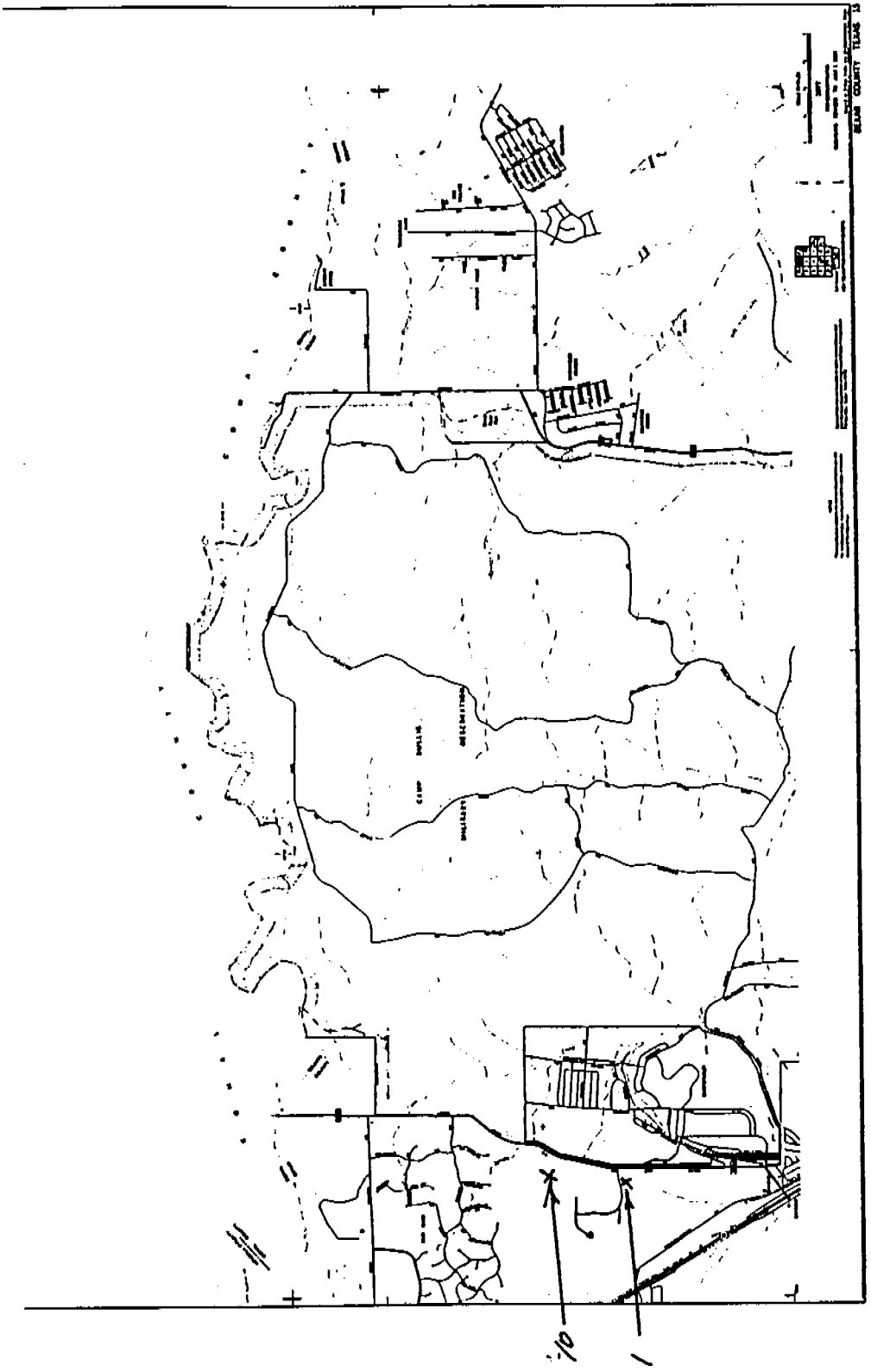
MAP ID
16



MAP ID
16

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*

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER Bernhard Construction Co. (Name) Address Route 4, Box 4770 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

2) LOCATION OF WELL: County Bexar 2 miles in North (N.E., S.W., etc.) direction from Leon Springs (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 Jackson Woods
Abstract No. ____ Survey Name ____
Distance and direction from two intersecting section or survey lines ____
☐ See attached map. #13.

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 10-7-83

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	160
6 1/8	160	525

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

From (ft.)	To (ft.)	Description and color of formation material
0	2	topsoil
2	16	caliche & white chalky limestone
16	21	sticky blue shale
21	42	gray shale & layers of gray limestone
42	49	dark blue shale & limey shale
49	56	yellow honeycomb limestone & yellow clay
56	61	dark blue shale
61	109	light gray shale with layers of light gray limestone
109	132	cream colored limestone with cream colored clay pockets
132	149	white cream limestone
149	160	gray limestone
160	213	light gray-tan limestone
213	227	cream colored limestone
227	234	gray limestone
234	259	light gray limestone
259	265	cream colored limestone
265	333	light gray limestone
333	361	cream yellow limestone
361	392	yellow/orange limestone
(6 gpm)		some water Lower Glenrose
392	423	dark blue/gray sandstone
423	[illegible]	[illegible] limestone
[illegible]	457	[illegible] limestone with [illegible] shale
457	[illegible]	[illegible] limestone (Cow Creek water)
482	501	[illegible]

(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	To	Gage Casing Screen
6 5/8		set 162 ft. of 188	0	160	
		well new steel casing			

CEMENTING DATA
Cemented from 0 ft. to 160 ft.
Method used Grout
Cemented by H. W. Schwope & Sons, Inc. (Company or Individual)

9) WATER LEVEL: Static level 320 ft. below land surface Date ____
Artesian flow ____ gpm. Date ____

10) PACKERS: Type Depth

11) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other 10HP2025B Zhp Hydrol
Depth to pump bowls, cylinder, jet, etc., ____ ft.

12) WATER QUALITY: (see reverse)
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? ____ Depth of strata ____
Was a chemical analysis made? ☐ Yes ☒ No

13) TEST DATA: ☐ Type: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 20 gpm with 525 ft. drawdown after ____ hrs.

RECEIVED JUL 24 1984 DEPT. OF WATER RESOURCES

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.

COMPANY NAME H. W. Schwope & Sons, Inc. (Type or Print) Water Well Driller's License No. 1568

ADDRESS PO Box 364 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

(Signed) Henry Schwope (Licensed Water Well Driller) (Signed) ____ (Registered Driller Trainee)

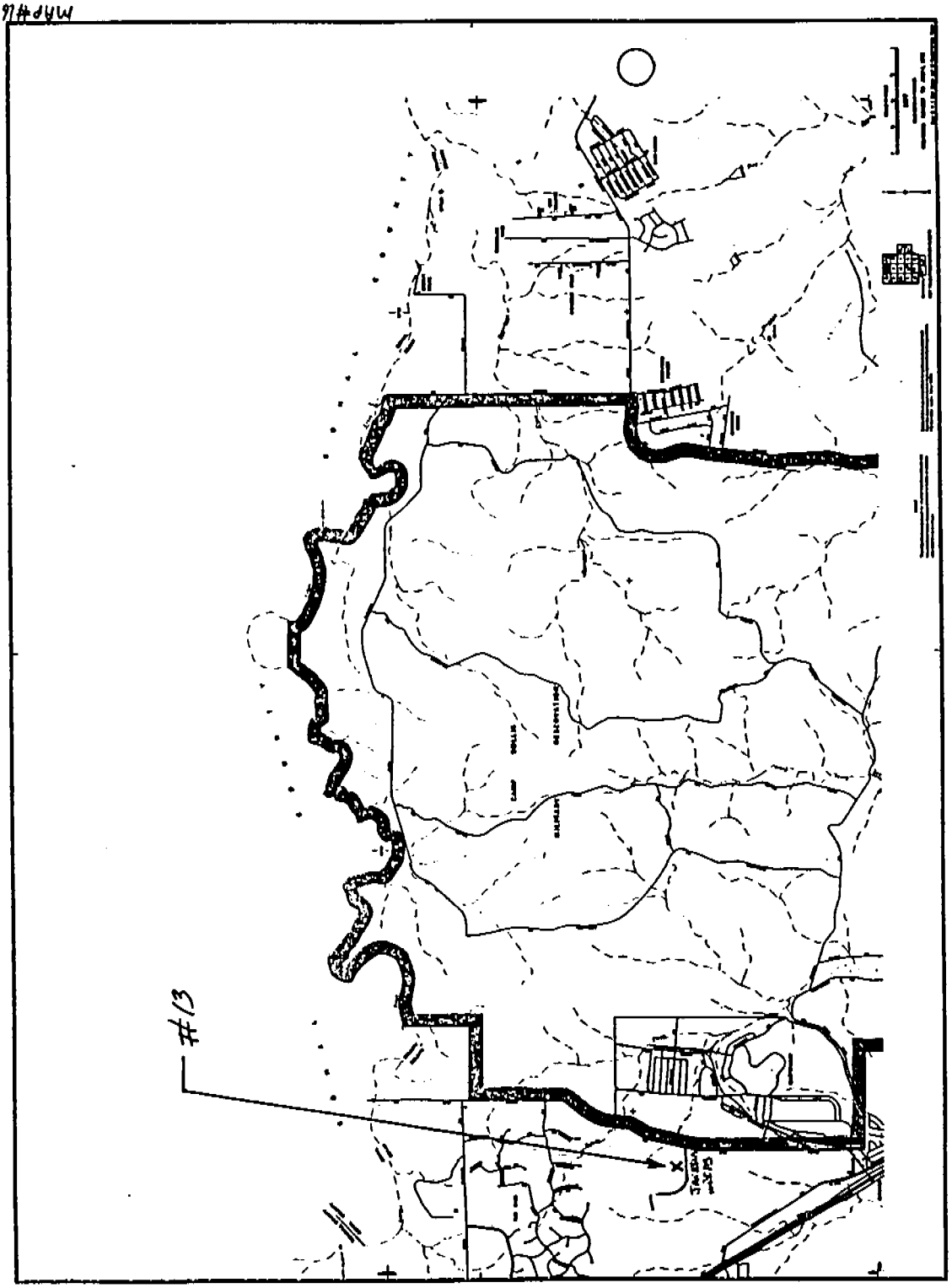
Please attach electric log, chemical analysis, and other pertinent information, if available.

For TDWR use only. Well No. GB-74-6EE Located on map 28Kt.f.h.

TDWR 0707 (Rev. 5-27-82) DEPARTMENT OF WATER RESOURCES COPY 4802903146

MAP ID
16

MAP #16



MAP ID

16

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. 18-19-608
Located on map
Received:

1) OWNER Arthur Face (Name) Address 202 Five Oaks (Street or RFD) San Antonio (City) Texas (State) 78200 (Zip)

2) LOCATION OF WELL:
County Bexar 3 miles in nbrth (N.E.S.W.etc.) direction from Leon Springs (Town)
well located in Jackson Woods Subdivision off Relph Fair Road

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 05-16-82

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8¼	Surface	200
6	200	400

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

From (ft.)	To (ft.)	Description and color of formation material
0	2	Black dirt
2	12	Clay and gravel
12	25	Yellow lime
25	65	Blue gray lime
65	95	Yellow lime
95	165	Coarse white lime (water)
165	180	Yellow lime with clay pockets (water)
180	200	Blue lime and shale
200	300	Gray lime
300	315	Dark gray lime and shale
315	335	Yellow lime and sand (water)
335	355	White lime and sand
355	385	Yellow lime
385	400	Black shale

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
7-3/6		steel	0	202	wall
	new				

CEMENTING DATA
Cemented from 0 ft. to 202 ft.
Method used Grout poured from top
Cemented by Charlie Junek Drilling (Company or Individual)

9) WATER LEVEL:
Static level 235 ft. below land surface Date 05-17-82
Artesian flow _____ gpm. Date _____

10) PACKERS: Type rubber Depth 202

11) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc. 336 ft.

12) WELL TESTS: ☐ Type Test: ☐ Pump ☒ Bailer ☐ Jetted ☐ Estimated
Yield: 10 gpm with 0 ft. drawdown after 1½ hrs.

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JUL 12 1982
DEPT. OF WATER RESOURCES

(Use reverse side if necessary)

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? Glenrose Depth of strata 95-165 & 165-180, 315-335
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 Charlie Junek (Type or Print) Water Well Drillers Registration No. 1653

ADDRESS 7206 Moss Creek (Street or RFD) San Antonio (City) Texas (State) 78238 (Zip)

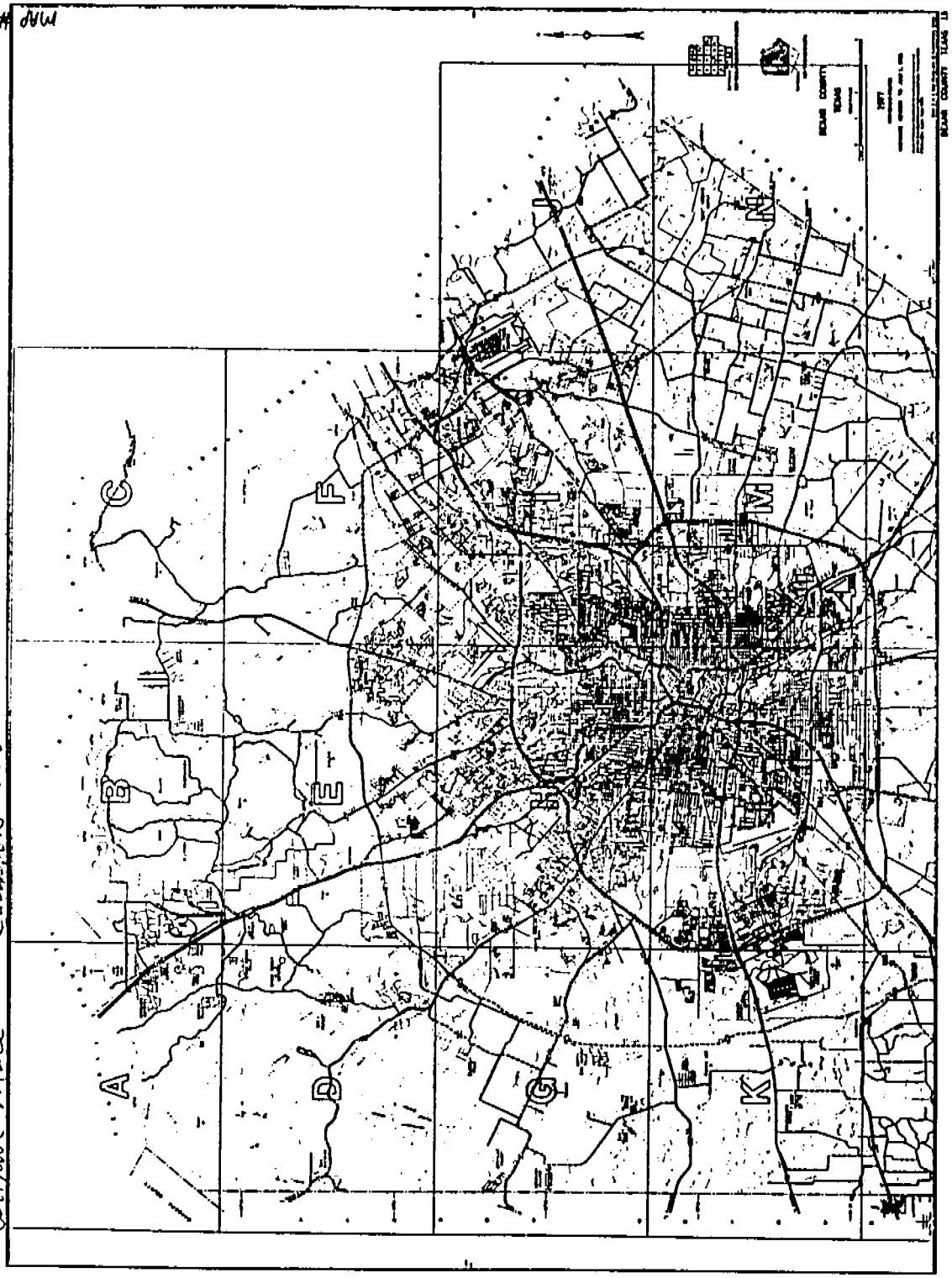
(Signed) Charlie Junek (Water Well Driller) Charlie Junek Drilling Company (Company Name)

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

TDWR 0-7-79 (Rev. 1-12-79) DEPARTMENT OF WATER RESOURCES COPY

4802903149

MAP ID
16



Arthur Mace - Indian Nods

MAP #16

MAP ID

16

(2)

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*

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER K.C.N. Builders (Name) Address Rt. 8, Box 542 AB (Street or RFD) San Antonio (City) Texas (State) 78229 (Zip)

2) LOCATION OF WELL: County Bexar 14 miles in north (N.E., S.W., etc.) direction from Leon Springs (Town)
Fawn Mtn Dr. Lot 14

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 _____
Fawn Mtn.Drives Lot 14 Jackson Woods
☒ See attached map. Map ex 68- M-6 PP

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 6/16/83

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8-3/4	Surface	100
6	100	450

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

From (ft.)	To (ft.)	Description and color of formation material
0- 25		Caliche first 10', then firm med gray shale
25- 50		Med soft gray shale
50- 75		Med soft gray shale w/firm gray L/S last 6'
75-100		Firm gray L/S w/strks yellow clay, then brn L/S last 11'
100-125		Firm brn L/S w/gray L/S last 10'
125-150		Firm gray L/S w/strks firm gray shale, then brn-yellow L/S last 7'
150-175		Firm brn L/S w/fract
175-200		Firm brn LS first 6', then firm gray shale w/gray L/S ledges
200-225		Firm lt gray L/S
225-250		Firm lt gray L/S w/firm white brn L/S last 6'
250-275		Firm lt gray L/S w/gray L/S last 5'
275-300		Firm brn L/S w/gray & lt gray L/S last 10'
300-325		Firm lt gray & brn L/S w/gray L/S last 7'
325-350		Firm gray & lt gray L/S
350-375		Firm gray L/S first 12', then firm brn L/S
375-400		Firm brn L/S
400-425		Firm brn L/S w/gray L/S last 10'
425-450		Firm gray & dk gray L/S w/strks firm gray shale

(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
6-5/8	N	Plastic	100	1 above ground	sch40

CEMENTING DATA
Cemented from 100 ft. to surface ft.
Method used grout
Cemented by Hill Country Water (Company or Individual)

9) WATER LEVEL:
Static level 150 ft. below land surface Date 6/83
Artesian flow _____ gpm. Date _____

10) PACKERS: 1 Type vinyl Depth 100'

11) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., 441 ft.

12) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? good Depth of strata 300'
Was a chemical analysis made? ☐ Yes ☒ No

13) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 15 gpm with _____ ft. drawdown after _____ hrs.

RECEIVED OCT 25 1984 DEPT. OF WATER RESOURCES

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.

COMPANY NAME HILL COUNTRY WATER, INC. (Type or Print) Water Well Driller's License No. 1430 Charlie A. Kuhn

ADDRESS P.O. Box 21 (City) Bulverde (State) Texas (Zip) 78163

(Signed) Charlie Kuhn (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TDWR use only: Well No. 58-19-614 Located on map 1-5-PK

TDWR 0702 (Rev. 9-27-82)

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480290317 7

MAP ID

17

Please use black ink.
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*

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER Frank Duderstadt Jr (Name) Address 7735 Mountain Trail (Street or RFD) San Antonio (City) Texas (State) (Zip)

2) LOCATION OF WELL County Bexar 24 miles in Northwest (N.E., S.W., etc.) direction from San Antonio (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 _____

#4. ☒ 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 11/21/85

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	214
6 ¼	214	445

From (ft.)	To (ft.)	Description and color of formation material
0	3	Black Top Soil
3	27	Glenrose Yellow
27	82	Blue
82	106	Yellow
106	229	Blue
229	260	Gray
260	420	Blue
420	445	Black

1st water - 250
2nd " - 320

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FEB 22 1990
TEXAS WATER COMMISSION

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen

9) CEMENTING DATA (Rule 319.44(b))
Cemented from 0 ft. to 214 ft.
_____ ft. to _____ ft.
Method used poured
Cemented by Braendle Water Well

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed (Rule 319.44(c))
☐ Pitless Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:
Static level 260 ft. below land surface Date 11/21/85
Artesian flow _____ gpm. Date _____

12) PACKERS: Type Depth
N/A

13) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc., 399 ft.

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

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☒ Estimated
Yield: 30 gpm with _____ ft. drawdown after 1 hrs.

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. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Braendle Water Well (Type or Print) Water Well Driller's License No. 2206

ADDRESS Rt 1 Box 25B (Street or RFD) Helotes (City) Texas (State) 78023 (Zip)

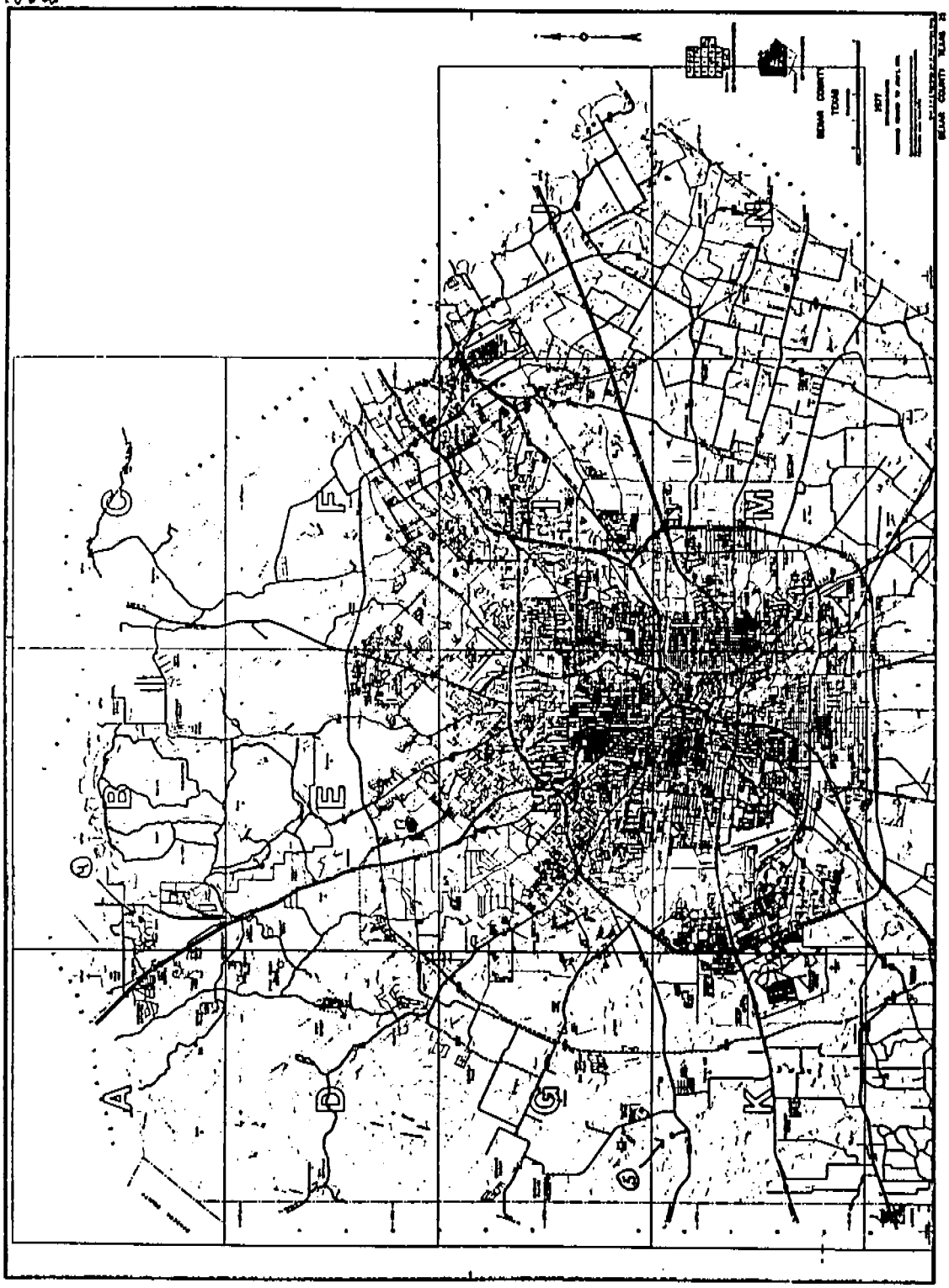
(Signed) _____ (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TDWR use only
Well No. 68-79-3
Located on map _____

4802903104 DEPARTMENT OF WATER RESOURCES COPY

MAP ID
17



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18

TEXAS WATER DEVELOPMENT BOARD

Surface Impl

WELL SCHEDULE

Aquifer(s) Kscs (SAN SABA) Project No. 6029 State Well No. 68-19-617

Field No./Owner's Well No. #17 County (AN) Bexar 015

1. Location: ¼, ¼, Section, Block, Survey, Lat., Long.

2. Owner: Fair Oaks Schl Address: Rt 4 Box 4495 Boerne Tx 78006

Manager (other): David Buchanan (Supt) Address: Same 512-255-9324

Driller: Louis Bergmann & Sons Address: 135 S. Rose St. Boerne Tx 78006

3. Land Surface Elevation: 1212 ft. above msl determined by Topo

4. Drilled: 3-29 1988; Dug, Cable Tool, Rotary, Air

5. Depth: Rept. 441 ft. Meas. ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. Type Sub

No. Stages, Bowls Diam. in., Setting 378 ft.

Column Diam. in., Length Tailpipe ft.

8. Motor: Mfr. 170-195 Fuel Elec HP 20

9. Yield: Flow gpm, Pump gpm, Meas., Rept., Est. Date

10. Performance Test: Date Length of Test Made by

Static Level ft. Pumping Level ft. Drawdown ft.

Production gpm Specific Capacity gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.)

Analyses

Date Laboratory TDS Sp Cond

Date Laboratory TDS Sp Cond

12. Other data available (or circled): Pumping Test, Power & Yield Test, Drillers Log, Formation Samples, Construction Log(s)

CASING, BLANK PIPE & WELL SCREEN

Cemented From 0 ft. to 240 ft.

Diam. (in.)	Type	Setting (feet) From	to
8⅝	Steel	0	240
open	hole	240	441

13. Water level(s): 82.2 ft. meas. 8-12 1987 Kotzebue which is 82 ft. above/below Land Surface

ft. rept. meas. 19 above/below which is ft. above/below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.)

15. Recorded by: Ron Muhr Source of data: Obs, D-Log Date: 9-3-87

16. Remarks: Air Line Set 375

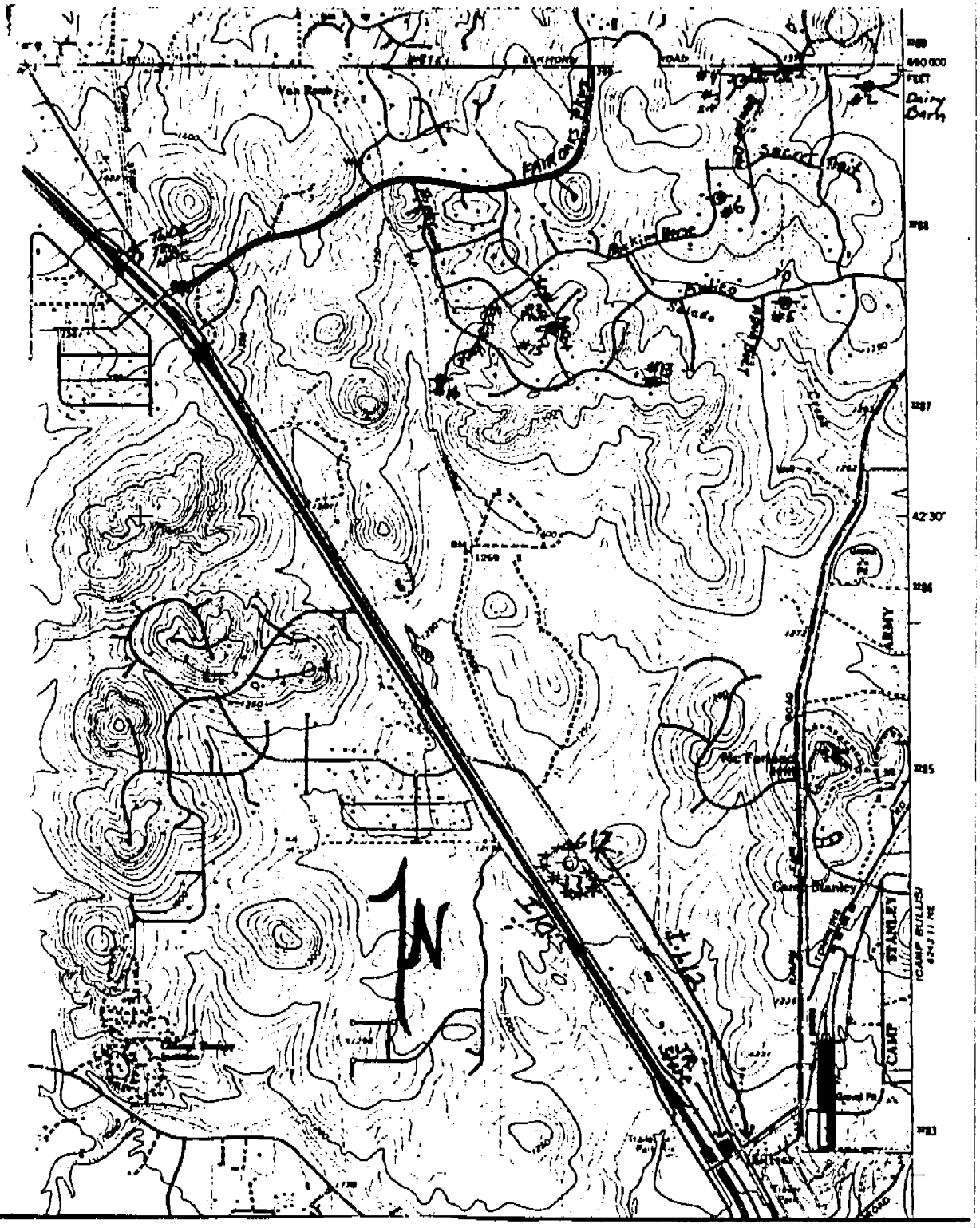
17. Location or Sketch:

TWDB-0308 (Rev. 12-11-85)

W/L Obs. Well W/Q Obs. Well

State Well No. 68-19-617

MAP ID
18



MAP #18

MAP ID
18

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. 68-19-617
Located on map 28
Resolved: C.F.S.

1) OWNER Fair Oaks Ranch (Name) Address Rt. 4 Box 4495 (Street or RFD) Boerne, TX (City) (State) 78006 (Zip)

2) LOCATION OF WELL: County Bexar 12 miles in N (N.E., S.W., etc.) direction from Leon Springs (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-State Texas County General Highway Map and attach the map to this form. #2

☐ 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 3-29-83

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
12	Surface	240
8	240	441

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

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
8 5/8	N	steel .250	0	240	

CEMENTING DATA
Cemented from surface ft. to 240 ft.
Method used pressure
Cemented by Geofrac (Company or Individual)

9) WATER LEVEL: Static level 190 ft. below land surface Date 3-29-83
Artesian flow ____ gpm. Date ____

10) PACKERS: Type ____ Depth ____

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(Use reverse side if necessary)

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

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

13) WELL TESTS: none
☐ Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

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 Glenn L. Marquardt (Type or Print) Water Well Drillers Registration No. 1937

ADDRESS 135 South Pecan (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

(Signed) Glenn Marquardt (Water Well Driller) LOUIS BERGMANN & SONS (Company Name)

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

TDWR-[illegible] (Rev. 1-18-79) DEPARTMENT OF WATER RESOURCES COPY 68-19-617

MAP #18

MAP ID
18

IMPORTANT NOTICE FOR PERSONS
HAVING WELLS DRILLED CONCERNING

BEXAR FAIR OAKS RANCH ½ mi N-Leon Spring
Old Fred. Rd. P. Pfeiffer Field-Leon Springs

0-17	surface-gravel-seep water
17-19	soft blue shale
19-22	med soft white rock
22-28	med soft gray rock
28-31	med hard blue gray shale & rock
31-43	med hard gray rock
43-46	med hard dark yellow rock & shale
46-88	med hard white & lt yellow rock
88-112	med hard gray blue rock-oily
112-146	med hard lt yellow rock
146-155	med hard lt gray rock
155-165	med hard porous lt yellow rock
165-184	med hard lt gray & white rock layer
184-196	med hard lt blue rock
196-250	hard & med hard white rock,
250-269	med hard gray rock
269-278	hard porous lt yellow white rock
278-320	med hard very porous yellow white rock-water
320-358	med hard lt blue rock cave 28-29
358-362	med hard gray blue rock
362-366	hard very porous gray rock
366-373	hard porous gray white rock
373-375	soft sticky blue-dark blue very oily
375-377	med hard porous gray blue rock
377-383	very hard tough drill-white rock
383-416	med hard very porous white rock-Cowrea
416-424	med hard very porous brown rock
424-441	med hard porous white rock-cow ore :- more water
441-444	med hard gray white rock

Total Depth: 450
Water Level: 190
Test:
Casing: 240' .250 steel casing 8 5/8" OD

MAP #18

MAP ID
19

TEXAS WATER DEVELOPMENT BOARD

Surface Kgru

WELL SCHEDULE

Aquifer(s) Kgru-Kahc-Kcaa (SAB, ABHG) Project No. 6029 State Well No. 68-20-110

Field No./Owner's Well No. #20 County (AV) Bexar (015)

1. Location: ___ ___, ___ ___, Section ___, Block ___, Survey ___, Lat. ___, Long. ___

2. Owner: Fair Oaks Subd. Address: RH4 Box 4495 Bernie Tx 78006

Tenant (other): David (Buck) Burkowski (Sam) Address: 512-255-4249

Driller: Lewis Bergmann & Sons Address: 135 S. Pecan St Boerne Tx 78006

3. Land Surface Elevation: 1325 ft. above msl determined by Topo

4. Drilled: 12-3 1984; Dug, Cable Tool, Rotary, Air

2* 5. Depth: Rept. 435 ft. Meas. ___ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. ___ Type Sub

No. Stages ___, Bowls Diam. ___ in., Setting 420 ft.

Column Diam. 3 in., Length Tailpipe ___ ft.

8. Motor: Mfr. ___ Fuel Elect HP 20

9. Yield: Flow ___ gpm, Pump 109 gpm, Meas., Rept., Est. Flow Stop Date 8-13

10. Performance Test: Date ___ Length of Test ___ Made by ___

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production ___ gpm Specific Capacity ___ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) ___

Analyses

Date ___ Laboratory ___ TDS ___ Sp Cond ___

Date ___ Laboratory ___ TDS ___ Sp Cond ___

12. Other data available (as circled): Pumping Test, Power & Yield Test, Drillers Log, Formation Samples, Geophysical Log(s) ___

CASING, BLANK PIPE & WELL SCREEN Cemented From ___ ft. to ___ ft.			
Diam. (in.)	Type	Setting (feet) From	To
8 5/8	Steel	0	553
plug	Set at	435	and
csg	Dynamited		

2* 13. Water Level: 256.6 ft. rept. meas. 8-13-87 (Date) Static Level 20 ft. above below Land Surface

___ ft. rept. meas. ___ 19__ above below which is ___ ft. above below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) ___

15. Recorded by: Ron Ashe Source of data: Obs, Supeq, D-Log Date: 8-23-87

*16. Remarks: Air Line Setting 415

2* Well Shut off for 1 hr, then est 15 ft of Spotty Tape before max Static

Well Probably 15 ft higher

17. Location or Sketch:

2* Drilled to 780 plugged to 435 + Dynamited

TWDB-0308 (Rev. 12-11-85)

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. 68-20-110

MAP ID

19

Please use black ink.
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

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER Fair Oaks Ranch #20 (Name) Address Rt. 4 Box 4495 (Street or RFD) Boerne, TX (City) (State) 78006 (Zip)

2) LOCATION OF WELL: County Bexar 6.2 325 yards SE N (N.E., S.W., etc.) direction from Boerne Dietz Elkorn Road (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-Basic 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 _____

#2

☒ See attached map. Map on B.S.-in-Sel

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 11-5-1984

Dia. (in.)	From (ft.)	To (ft.)
12	Surface	539
8	539	780

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
8 5/8	N	steel	0	539	

9) CEMENTING DATA [Rule 319.44(b)]
Cemented from surface ft. to 539 ft.
_____ ft. to _____ ft.
Method used pressure
Cemented by Halliburton Services

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed [Rule 319.44(d)]
☐ Pitless Adapter Used [Rule 319.44(d)]
☐ Approved Alternative Procedure Used [Rule 319.71]

11) WATER LEVEL:
Static level _____ ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12) PACKERS: Type Depth

13) TYPE PUMP: ☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc. _____ ft.

14) WELL TESTS: Type Test: ☐ Pump ☒ Bailer ☐ Jetted ☐ Estimated
Yields _____ gpm with _____ ft. drawdown after _____ hrs.
Dry Hole

RECEIVED
OCT 10 1985
TEXAS WATER COMMISSION

(Use reverse side if necessary)

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
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. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Louis Bergmann & Sons (Type or Print) Water Well Driller's License No. 1937

ADDRESS 135 South Pecan (Street or RFD) Boerne, (City) TX (State) 78006 (Zip)

(Signed) Glenn Marquardt (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee) Dry

For TDWR Use Only: Well No. GR-20-110 Located on map _____

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

TDWR 0192 (12/29/83) DEPARTMENT OF WATER RESOURCES COPY

GR-20-110

MAP #19

MAP ID

19

...ir Oaks #20

Ralph Fair Rd.-325 yds N of Diets Elkhorn Road

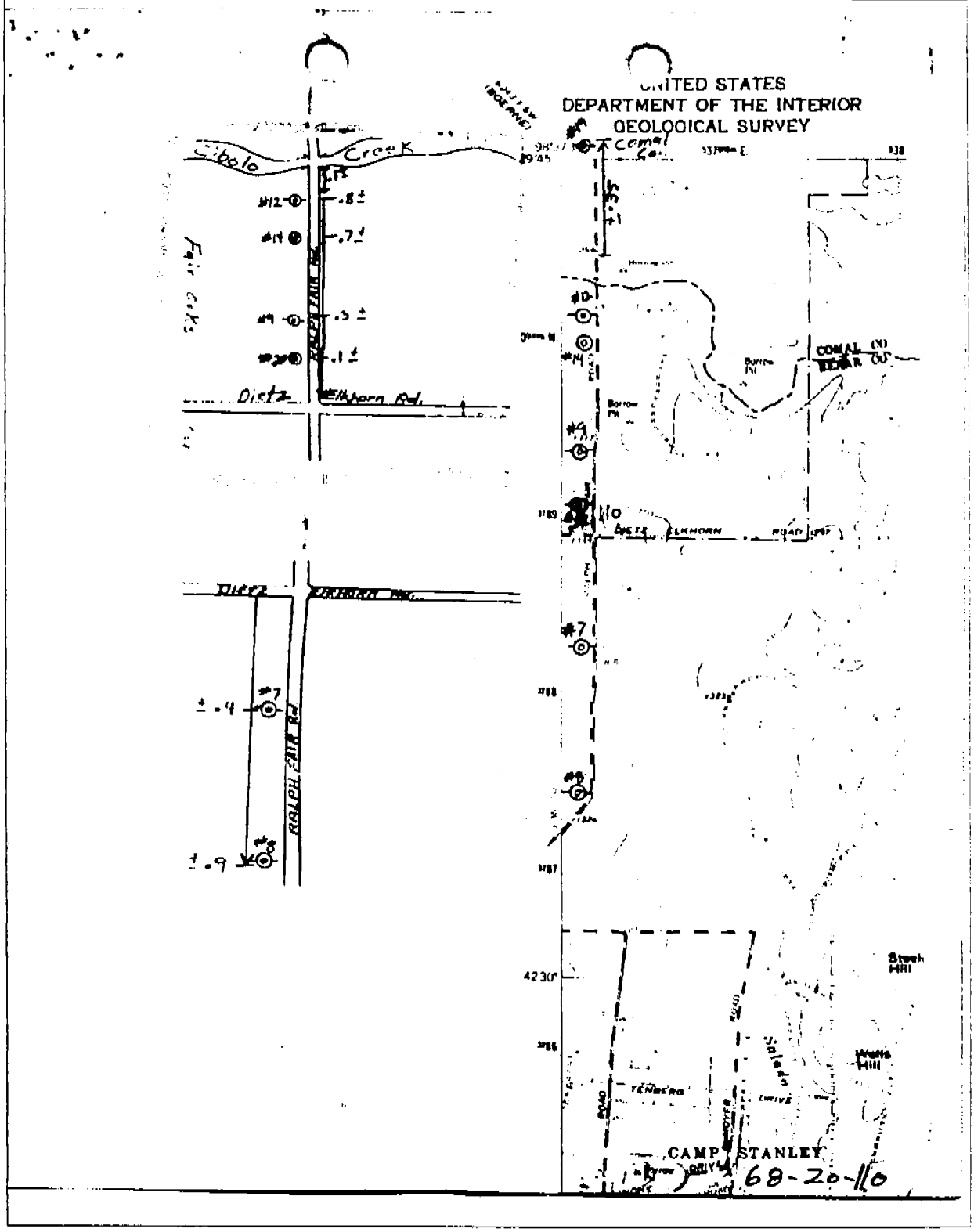
0-2 surface soil
2-9 med hard white rock
9-10 med hard caliche
10-30 med soft blue shale
30-32 med hard gray white rock
32-40 med soft blue shale
40-55 med hard gray white rock
55-57 med hard blue rock
57-70 med hard white gray rock
70-75 med soft gray shale
75-87 med soft yellow clay & med hard white rock layers
87-90 med soft blue gray shale
90-98 med hard white yellow rock
98-121 med soft & med hard white yellow rock
121-124 med soft blue gray shale
124-142 med soft yellow white rock
142-151 med soft white gray rock
151-163 med soft yellow rock-porous lost returns
163-180 very hard yellow rock " " "
180-190 med hard-no returns
190-200 med soft " "
200-235 med soft " "
235-240 med hard "
240-290 med hard rock-no returns
290-327 med soft porous & very porous rock
327-341 med soft rock-slt. porous
341-365 med hard very porous rock & med porous
365-378 med-hard very porous rock-WATER rock
378-412 med soft slt. porous rock to 383-no returns-good surge @ 383 but no returns
412-415 med soft sticky
415-430 hard porous rock
430-444 soft & med soft
444-451 med hard porous rock
451-458 soft shale?-no returns
458-468 med soft "
468-496 med hard & med soft layers-no returns
496-503 med hard slt porous or soft layers-no RT
503-507 soft sticky shale-pressure up
507-510 soft rock
510-541 soft rock-water
541-542 hard rock
542-545 med hard

542-545 med hard
545-558 med soft blue gray shale w/soft spots some green shale
558-565 med soft & sticky blue green shale
565-571 med soft gray rock
571-586 med hard gray rock
586-590 med hard porous gray blue rock
590-600 med hard lt brown rock
600-610 med hard porous spots
610-620 med hard lt blue & brown rock
620-632 med hard lt blue rock
632-650 med hard porous lt blue rock-shell pieces
650-674 med hard lt brown rock w/white pieces
674-680 med hard porous gray rock
680-693 med hard gray rock w/mica pieces
693-708 med hard porous lt gray rock
708-747 med hard porous pink & gray sandstone
747-753 med hard pink & lt gray rock
753-765 med hard porous pink & lt gray rock
765-770 med hard lt gray rock & pink rock
770-780 med hard porous lt gray rock

68-20-110

MAP #19

MAP ID
19



MAP #19

MAP ID
19

Texas Water Development Board
Well Schedule

State Well No. 68 20 112 Previous Well No. _____ County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 43 49 Long. 098 37 26 Source of Coord. 1

Owner's Well No. #21 Location ___ 1/4 ___ 1/4, Section ___, Block ___, Survey ___

Rita Elkhoia - R. Fair

Owner Fairco Water Company

Driller Louis Bergdorf Sons

Address Box 4495 Boerne Tenant Paul Broussard

Date Drilled 02 01 1989 Depth 500 Source of Depth Datum D Altitude 1318 Source of Alt. Datum Est

Aquifer 210CCAK (28) Well Type W Use 877575

Well Construction Const. Method Air Rotary A Casing Material steel S

0850216

Completion open hole X Screen Material _____

Lift Data Pump Mfr. _____ Type Sub. S No. Stages _____

Bowls Diam. _____ in. Setting 420 ft. Column Diam. _____ in.

Motor Mfr. _____ Fuel or Power elec E Horsepower 20.00 15-20

Yield Flow ___ GPM Pump ___ GPM Meas. Rept. Est. ___ Date ___

Performance Test Date ___ Length of Test ___ Production ___ GPM

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft. Sp.Cap. ___ GPM/ft.

Quality (Remarks) _____

Water Use Primary PS P Secondary _____ Tertiary _____

Other Data Available: Water Level W, Water Chemistry W, Log D, Other Data

Water Levels: Date 02 01 ___ Meas. 00.00 7-07; Date ___ Meas. ___; Date ___ Meas. ___

Equipped w/air line = 415'

Casing or Blank Pipe (C), Well Screen or Screened Zone (S), Open Hole (O), Cemented from 0 to 300, Setting (feet)

	Dia. (in.)	From	To
1	C 08	0	300
2	O	300	500

Recorded By D. Coker Date Record Collected (mo. day yr.) 05 08 1997 (20 max) Reporting Agency 01

Remarks: Owner's well #21. Cemented from 0 to 300 feet.

Aquifer _____ Well No. 68-20-112

MAP ID

19

State of Texas
WATER WELL REPORT

Texas Water Well Drillers Board
P.O. Box 26027
Austin, Texas 78711

ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

11 OWNER: Fair Oaks Water Co Well #2 (Name) Box 4495 (Mailing Address) Boerne, TX (City) 78006 (State) (Zip)

12 LOCATION OF WELL: County Kendall — Dirk Elementary & Cougar Ridge Rd (Nearest Intersection) — Fair Oaks (Nearest Town)

Legal Description: Section No. ____ Block No. ____ Township ____ Abstract No. ____ Survey Name ____ Distance and direction from two intersecting roads or county lines ____

#3

13 Use assigned map: 40 68-2-2

14 TYPE OF WORK (Check): ☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

15 PROPOSED USE (Check): ☐ Domestic ☐ Industrial ☐ Irrigation ☒ Public Supply ☐ Test Well ☐ Injection ☐ Other

16 DRILLING METHOD (Check): ☐ Driven ☐ Cable Tool ☐ Rotary ☐ Air Hammer ☐ Jetted ☐ Bored ☒ Air Rotary ☐ Water Jet ☐ Other

17 WELL LOG: Date Drilling Started 2-11-89 Completed 2-1-89

Diameter of Hole (in.)	From (ft.)	To (ft.)
12	Surface	300
8	300	500

Depth (ft.) From / To — Description and color of formation material

18 COMPLETION: ☐ Open Hole ☒ Straight Wall ☐ Underreamed ☐ Gravel Packed ☐ Other

If Gravel Packed give interval ... from ____ ft. to ____ ft.

19 CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Kind, Weight, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	To	Open Hole Screen
SEE ATTACHED 8 5/8	N	steel .250	0	300	

20 CEMENTING DATA (Rule 340.44(b)): Cemented from 0 ft. to 300 ft. No. of Sacks Used ____ ____ ft. to ____ ft. No. of Sacks Used ____

Method used: Pressure cemented by circulated by Hixon International Services, Inc

21 SURFACE COMPLETION: ☒ Specified Surface Slab Installed (Rule 340.44(a)) ☐ Pitless Adapter Used (Rule 340.44(d)) ☐ Approved Alternative Procedure Used (Rule 316.70)

22 WATER LEVEL: Static level FREE: 300 ft. below land surface Date 2-2-89 Artesian flow ____ gpm. Date ____

23 PACKERS: Type ____ Depth ____

24 TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other ____ Depth to pump bowls, cylinder, jet, etc. ____ ft.

25 WATER QUALITY: Did you encounter any zones which demonstrated noticeable water? ☐ Yes ☒ No If yes, attach "REPORT OF UNDESIRABLE WATER" Type of water ____ Depth of strata ____ Was a chemical analysis made? ☐ Yes ☐ No

26 PUMP TESTS: Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Submerged Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

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. I understand that failure to complete items 1 thru 13 will result in the rejection of this report for contradiction and incompleteness.

COMPANY NAME: LOUIS MERKHAM & SONS (Type or Print) — Water Well Driller's License No. 1937

ADDRESS: 135 South Pecan (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

Signed: Dennis Marquart (Licensed Water Well Driller) — Registered Driller Trainee ____

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

For TWC use only: Well Log Located on Map ____

TWC-0160 (Rev. 10-10-88)

TEXAS WATER COMMISSION COPY

5/28/97

68-20-1

S, E

15-20 S, E

Airline,

20 29 43 33
09837 15
29 43 50 49
09837 26

RECEIVED
SEP 7 1989
TEXAS WATER COMMISSION

68-20-112

MAP #19

MAP ID
19

12" to 300' Jan 11-Feb. 1, 1989

FAIR OAKS WATER CO. Well #21 Bexar Co

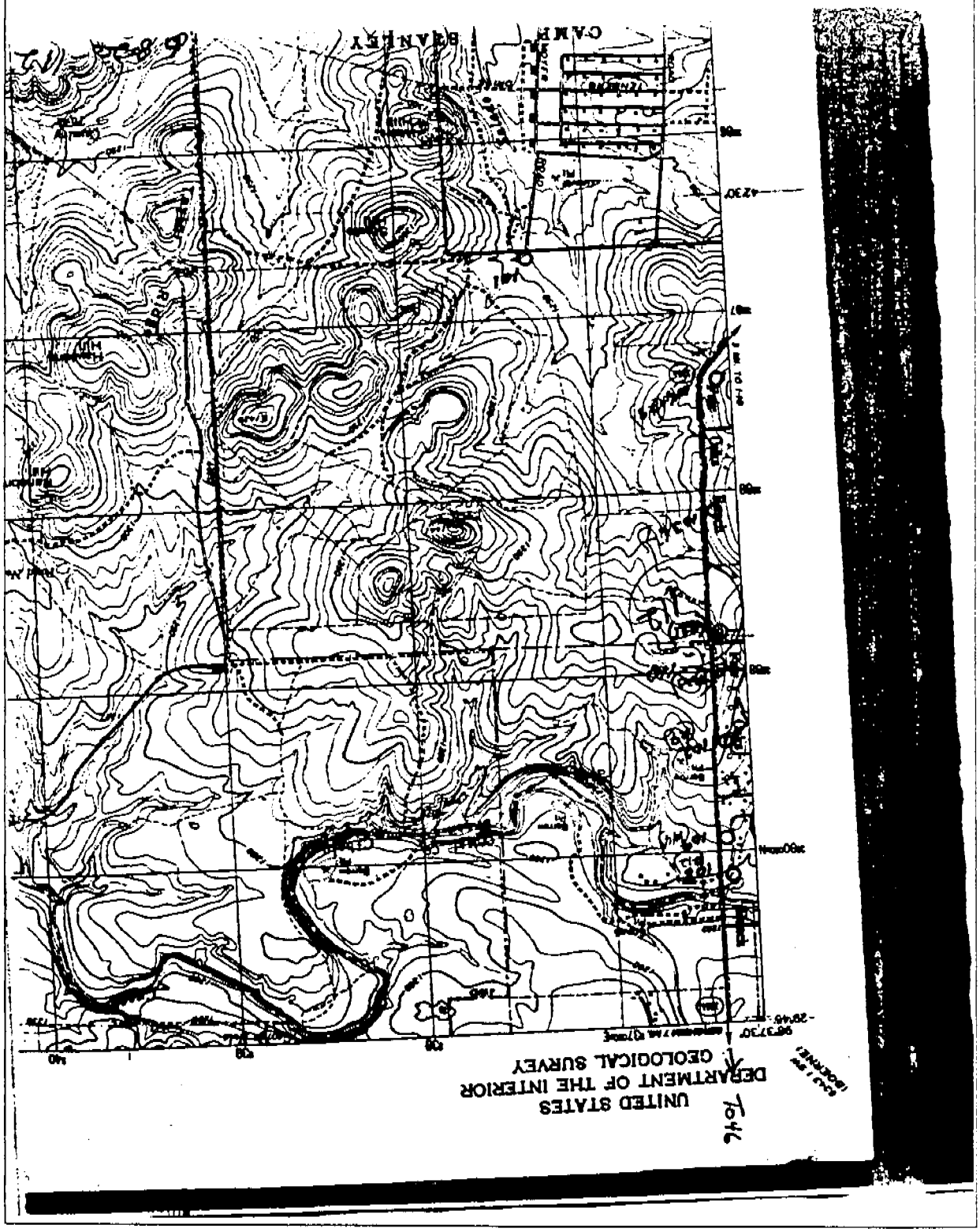
0-12	caliche & rock layers
12-21	med hard layer blue gray rock & shale
21-24	med hard yellow rock
24-31	med hard gray rock & shale
[illegible]-34	med hard yellow rock-water
34-43	med hard blue shale & rock layers
43-50	med hard gray rock
50-59	med hard yellow rock
59-75	med hard gray rock
75-78	med hard yellow rock
78-86	med hard gray rock
86-103	med hard yellow rock
103-113	med hard white yellow rock-porous spots
113-135	med hard gray rock
135-143	hard very porous-no returns
143-154	med hard " "
154-165	hard very porous " "
165-181	med hard porous " " white, yellow fo
181-225	med hard " "
225-234	med hard porous " "
234-283	med hard " "
283-291	med hard porous-no returns
291-299	med hard " "
299-301	hard very porous " "
301-318	med soft " "
318-330	med hard " "
330-333	med soft porous possible water
333-345	med hard no returns
345-358	med hard very porous no returns
358-401	med hard porous " "
401-409	med soft " "
409-433	med hard " "
433-436	hard " "
[illegible]-444	med hard porous " "
[illegible]-459	med hard " "
459-461	hard porous " "
461-470	med hard porous " "
470-499	med hard " "
499-500	soft " "

Total Depth: 500'
Static Water Level: approx. 300'
Test:
Casing: 303 ft. 8 5/8" OD .250 steel
Cement: Pressure cemented by International Servi
ER:bm

68-20-112

MAP # 19

MAP ID
19



MAP #19

MAP ID
20

TEXAS DEPARTMENT OF WATER RESOURCES

WELL SCHEDULE

Aquifer(s) Lower Glen Rose / Hensell / Cow Creek Project No. _____ State Well No. 68-19-307

Field No./Owner's Well No. #6 County Bexar

1. Location: ___ ¼, ___ ¼, Section ___, Block ___, Survey _____, Longitude ___, Latitude ___

2230 Backing horse — lot 80

2. Owner: Four Oaks Fresh Water Co. Address: _____

Tenant (other): _____ Address: _____

Driller: Louis Bergmann & Sons Address: _____

3. Land Surface Elevation: 1442 ft. above msl determined by Topo

4. Drilled: 3-10 19 78 ; Dug, Cable Tool, (Rotary), Air, ___

5. Depth: Rept. 625 ft. Meas. _____ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. Jugueti Type Sub

No. Stages ___, Bowls Diam. ___ in., Setting 588 ft.

Column Diam. _____ in., Length Tailpipe _____ ft.

8. Motor: Mfr. _____ Fuel elec HP. 15

9. Yield: Flow ___ gpm, Pump 80-90 gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date _____ Length of Test ___ Made by _____

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production _____ gpm Specific Capacity _____ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) _____

Analyses

Date _____ Laboratory _____ TDS ___ Sp Cond ___

Date _____ Laboratory _____ TDS ___ Sp Cond ___

12. Other data available as circled: Pumping test, Power & Yield Test, Drillers Logs, Formation Samples, Geophysical Log(s) _____

CASING, BLANK PIPE & WELL SCREEN Cemented From 0 ft. to 420 ft.			
Diam. (in.)	Type	Setting (feet) From	to
8	Steel	0	420

13. Water Level(s): 425 ft. rept. meas. (type) 19 above below which is ___ ft. above below Land Surface

___ ft. rept. meas. 19 above below which is ___ ft. above below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) _____

15. Recorded by: G. Marquardt Source of data: driller Date: July 18, 78

16. Remarks: Acidized with 1000 gal

17. Location or Sketch:

TDWR-4388

Over

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. 68-19-307

MAP ID
20

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only: Well No. 68-19-3; Located on map; Received: 2-26

1) OWNER: Person having well drilled FAIR OAKS RANCH SUBDIVISION (Name) RT. 1, (Street or RFD) BOERNE (City) TEXAS (State)

Landowner SAME (Name) Address (Street or RFD) (City) (State)

2) LOCATION OF WELL: County BEXAR, 4½ miles in N (N.E., S.W., etc.) direction from LEON SPRINGS (Town)

Locate by sketch map showing landmarks, roads, streams, highway number, etc.*

#2

Mapon 68-19-3H

North ↑

(Use reverse side if necessary)

or

Give legal location with distances and directions from adjacent sections or survey lines.

Labor ____ Leagues ____

Block Lot 80 Survey ____

Abstract No. Will # 6

(NW, NE, SW, SE) of Section ____

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG: Diameter of hole 12" & 8" in. Depth drilled 625 ft. Depth of completed well 625 ft. Date drilled 5-4-78

All measurements made from 0 ft. above ground level.

From (Ft.)	To (Ft.)	Description and color of formation material
0	16	Lime, white rock & clay
16	240	Blue & gray shale & rock
240	424	Gray & white rock
427	451	Gray & blue hard shale
451	404	Yellow rock - little water
404	544	Hard Gray & blue rock & shale
544	559	Green Shale
559	598	White rock - Water - Confined U/S
598	625	Gray & blue rock & shale
625	TD	

(Use reverse side if necessary)

9) Casing: Type: Old, New, Steel, Plastic, Other

Cemented from 0 ft. to 420 ft.

Diameter (inches)	Perforations From (Ft.)	Perforations To (Ft.)	Gage
8 5/8 OD	0	420	.250

Pressure cemented by Halliburton

10) SCREEN: Type NONE

Perforated ____ Slotted ____

Diameter (inches)	Slotting From (Ft.)	Slotting To (Ft.)	Slot Size

Developed by Halliburton

7) COMPLETION (Check): Straight wall, Gravel packed, Other, Under reamed, Open Hole

8) WATER LEVEL: Static level 425 ft. below land surface Date ____

Artesian pressure ____ lbs. per square inch Date ____

Depth to pump bowls, cylinder, jet, etc. ____ ft. below land surface.

11) WELL TESTS: Was a pump test made? Yes No If yes, by whom?

Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

Bailer test ____ gpm with ____ ft. drawdown after ____ hrs.

Artesian flow ____ gpm

Temperature of water ____

12) WATER QUALITY: Was a chemical analysis made? Yes No

Did any strata contain undesirable water? Yes No

Type of water? ____ depth of strata ____

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 WALTER BERGMANN Water Well Drillers Registration No. 282

ADDRESS P.O. Box R (Street or RFD) BOERNE (City) TEXAS (State)

(Signed) Walter Bergmann (Water Well Driller) LOUIS BERGMANN & SONS (Company Name)

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

*Additional instructions on reverse side.

68-19-307

(D)

MAP #21

Water Quality Sampling Run

SWN: 68-19-307
County: Bexar
Aquifer(s): 213GRC.CU

Name: Fairco Water Co.
Address: 30267 Ralph Fair Rd. Boerne, TX 78006

Sample No. CL-1994-823
Date: 6/16/94
By: C. Lee

	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6	Bottle 7	Total SUB-Samples
	1 liter Anions	1 liter Cations	1 Gallon Radioactivity	500 ml Nitrate	~~1 Qt (glass) (POC) Organics~~			4
Preserve with:		2 ml HNO (Nitric)	5 ml HNO (Nitric)	1 ml H SO (Sulfuric)				All filtered unless otherwise stipulated. All on ice.

Water Level _____ LSD Remark _____
Temperature (00010) 23.9 c
Specific Conductance (00094) 640 umhos/cm
pH (00400) 7.01
Eh (00090) 6.9 mv.
Phenol ALK (82244) 0 mg/l
Total ALK (39086) 266 mg/l
Carbonate (00452) 0 meq/l 0 mg/l
Bicarbonate (00453) 5.32 meq/l 324.6 mg/l
Total Cations(+) _____
Total Anions (-) _____
Total Hardness (46570) 310
Dissolved Solids (70301) 370

Time In: 11:45 P.D.A.
Time out: 13:00
Weather Sunny + hot
Outside Temp: _____
Sampling point: E.A.W.

Starting pH 6.97
13.3 mL of 0.02N to
50 mL of Sample
Ending pH 4.52

Time:	12:04	12:10	12:15			
pH:	7.01	7.00	7.01			
Temp:	23.7	23.8	23.9			
Eh:			6.9			
Cond.	644	641	640			

ml.	pH	ml.	pH	ml.	pH
1	6.88	11	5.70		
2	6.77	12	5.48		
3	6.68	13	4.93		
4	6.58	13.3	4.52		
5	6.48	13.35	4.46		
6	6.36				
7	6.27				
8	6.13				
9	6.03				
10	5.90				

other notes:

sampled at 12:20

MAP ID 20

MAP #21

MAP ID
20

Texas Water Development Board

Chemical Water Analysis Report

HM- C.L. 1994 823

HM = Heavy Trace and Alkaline-Earth Metals

TWDB Use Only
Work No.
IAC No.

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom

State Well Number: 68-19-307

County: Bexar

Date & Time: 6/16/94 12:20

Owner: Fairco Water Co.

☑ Send Copy To Owner

Address: 30267 Ralph Fair Rd, Boerne Tx 78006

Sampled After Pumping: P.O.A. Hours

Date Drilled: 1978 Depth: 625'

Yield: 75 GPM ☐ Measured ☑ Estimated

Collection Point: F.A.W. pH 7.01

Use: public supply Temperature: 23.9 °C

By: Cindy Lee

Specific Conductance: 640

Requested Chem: [redacted]

Laboratory No.: [redacted] Date Received: JUN 17 1994 Date Reported: JUL 28 1994

		mg/L			mg/L
Calcium	(00915)	73	Sodium	(00930)	16
Magnesium	(00925)	30	Potassium	(00935)	3.2
Lithium	(01130)	0.017	(Convert to µg/L for Data Entry)		

		µg/L			µg/L
Aluminum	(01106)	<40	Manganese	(01056)	<1.0
Antimony	(01095)	<2.0	Mercury	(71890)	<0.13
Arsenic	(01000)	<2.0	Molybdenum	(01062)	<30
Barium	(01005)	31.0	Nickel	(01065)	<10
Beryllium	(01010)	<2.0	Selenium	(01145)	<4.0
Cadmium	(01025)	<0.5	Silver	(01075)	<10
Chromium	(01030)	<10	Strontium	(01080)	2170
Cobalt	(01035)	<10	Thallium	(01057)	<2.0
Copper	(01040)	<4.0	Vanadium	(01085)	<10
Iron	(01046)	<10	Zinc	(01090)	13.8
Lead	(01049)	<5.0			

Note: Crossout those elements not to be analyzed.

MAP #20

MAP ID
20

Texas Water Development Board

Chemical Water Analysis Report

RAD - CL 1994. 823
RAD = Radioactivity Sample

TWDB Use Only
Work No.
IAC No.

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom
State Well Number: 68-19-307
County: Bexar
Date & Time: 6/16/94 12:20
Owner: Fairco Water Co.
☒ Send Copy To Owner
Address:
Sampled After Pumping: P.O.A. Hours
Date Drilled: Depth:
Yield: GPM ☐ Measured ☐ Estimated
Collection Point: pH
Use: Temperature: °C
By: Cindy Lee
Specific Conductance:

Requested Ch[redacted]
Laboratory No[redacted] Date Received: JUN 17 1994 Date Reported: AUG 29 1994

Alpha	(01503)	5.8 ± 2.7	pCi/l
Beta	(03503)	6.2 ± 2.9	pCi/l
Radium 226	(09503)	1.4 ± 0.2	pCi/l
Radium 228	(81366)	1.1 ± 1.4	pCi/l
[redacted]	(11500)		pCi/l
[redacted]	(26403)		pCi/l
[redacted]	(22703)		pCi/l

MAP #20

MAP ID
20

Texas Water Development Board

Chemical Water Analysis Report

GWR. CL - 1994. 823
(Anions)

TWDB Use Only
Work No.
IAC No.

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom
County: Bexar
Owner: Fairco Water Co.
Address:
Date Drilled: Depth:
Collection Point: pH
By: Cindy Lee

State Well Number: 68-19-307
Date & Time: 6/16/94 12:20
☒ Send Copy To Owner
Sampled After Pumping: P.O.A. Hours
Yield: GPM ☐ Measured ☐ Estimated
Use: Temperature: °C
Specific Conductance:

Requested Chemical Analysis

Laboratory: [redacted] Date Received: JUN 17 1994 Date Reported: JUN 29 1994

THD-Sample No. EB4 1311 Date Received 06/17/94 Date Reported 06/29/94

		MEQ/L	MG/L
Silica	(00956)		12
Sulfate	(00946)	1.04	50
Chloride	(00941)	0.66	23
Fluoride	(00950)	0.03	0.54
P.Alkalinity	(00415)	0.00	0
T.Alkalinity	(00410)	5.30	265
Boron	(*****)		0.15
Bromide	(71870)		0.26

* Convert mg/l Boron to µg/l for data entry.

500001-C
July 1991

MAP #20

MAP ID
20

Texas Water Development Board

Chemical Water Analysis Report

GWN. CL.1994.823
(Nitrogen Cycle)

TWDB Use Only
Work No.
IAC No.

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom
County: Bexar
Owner: Fairco Water Co.
Address:
Date Drilled: Depth:
Collection Point: pH
By: Cindy Lee

State Well Number: 68-19-307
Date & Time: 6/16/94 12:20
☒ Send Copy To Owner
Sampled After Pumping: P.O.A. Hours
Yield: GPM ☐ Measured ☐ Estimated
Use: Temperature: °C
Specific Conductance:

Requested Chemical Analysis

Laboratory No.: [redacted] Date Received: JUN 17 1994 Date Reported: JUN 24 1994

THD-Sample No. EB4 1295 Date Received 06/17/94 Date Reported 06/23/94

00623- 0.1 TKN as N mg/L
00608- 0.01 Ammonia as N mg/L
00613- < 0.01 Nitrite as N mg/L
00618- 0.35 Nitrate as N mg/L
00671- 0.01 Orthophosphate as P mg/L

*Note: To convert NO_3-N to NO_3, multiply by 4.427.

MAP #20

·2 m. SHVL
·2 m: WEL

MAP ID

21

Please use black ink.
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

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Emory Alexander (Name) Address 001 Patterson Avenue, San Antonio, Texas 78205 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar miles in (N.E., S.W., etc.) direction from (Town)
off 1853 on lower Smithson Valley Road west of radar tower

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: south of house (in pasture)
Section No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting section or survey lines _____

#18 ☐ See attached map. 01 68-20-6

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 11-16-85

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8 3/4"	Surface	362
6"	352	575

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

From (ft.)	To (ft.)	Description and color of formation material
0-1		black topsoil
1-30		yellow caliche & cream colored lime
30-45		sticky blue shale
45-52		dark gray limestone
52-61		gray limestone
61-86		cream colored limestone (lost circulation)
86-112		gray limestone
112-118		gray limestone (some water)
118-137		gray shaley limestone
137-150		light gray limestone
150-162		gray & black speckled limestone
162-188		sticky blue shale & lime layers
188-205		gray limestone
205-208		dark gray limestone
208-212		crevice (lost circulation)
212-222		no circulation (some yellow lime)
222-232		gray & yellow limestone
232-		cream colored limestone
232-		gray limestone (some water)
232-260		light gray limestone
260-327		cream colored limestone
327-336		tannish gray limestone
[illegible]		gray limestone
[illegible]		gray limestone
[illegible]		light tan colored limestone
390-410		gray limestone
410-424		brownish gray limestone

(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 Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
6 5/8"		steel casing 364		362	
		219 w.			

9) CEMENTING DATA (Rule 319.44(b))
Cemented from 0 ft. to 362 ft.
_____ ft. to _____ ft.
Method used grout
Cemented by H. W. Schwope & Sons, Inc.

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed (Rule 319.44(a)) customer refused
☐ Pitless Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:
Static level 225 ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12 PACKER: Type Depth

13. TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other
Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 20 gpm with _____ ft. drawdown after _____ hrs.

15) WATER QUALITY: (over)
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☒ No

APR 20 1987
TEXAS WATER COMMISSION

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H. W. Schwope & Sons, Inc. (Type or Print) Water Well Driller's License No. 1506
ADDRESS PO Box 364 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)
(Signed) [signature] (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

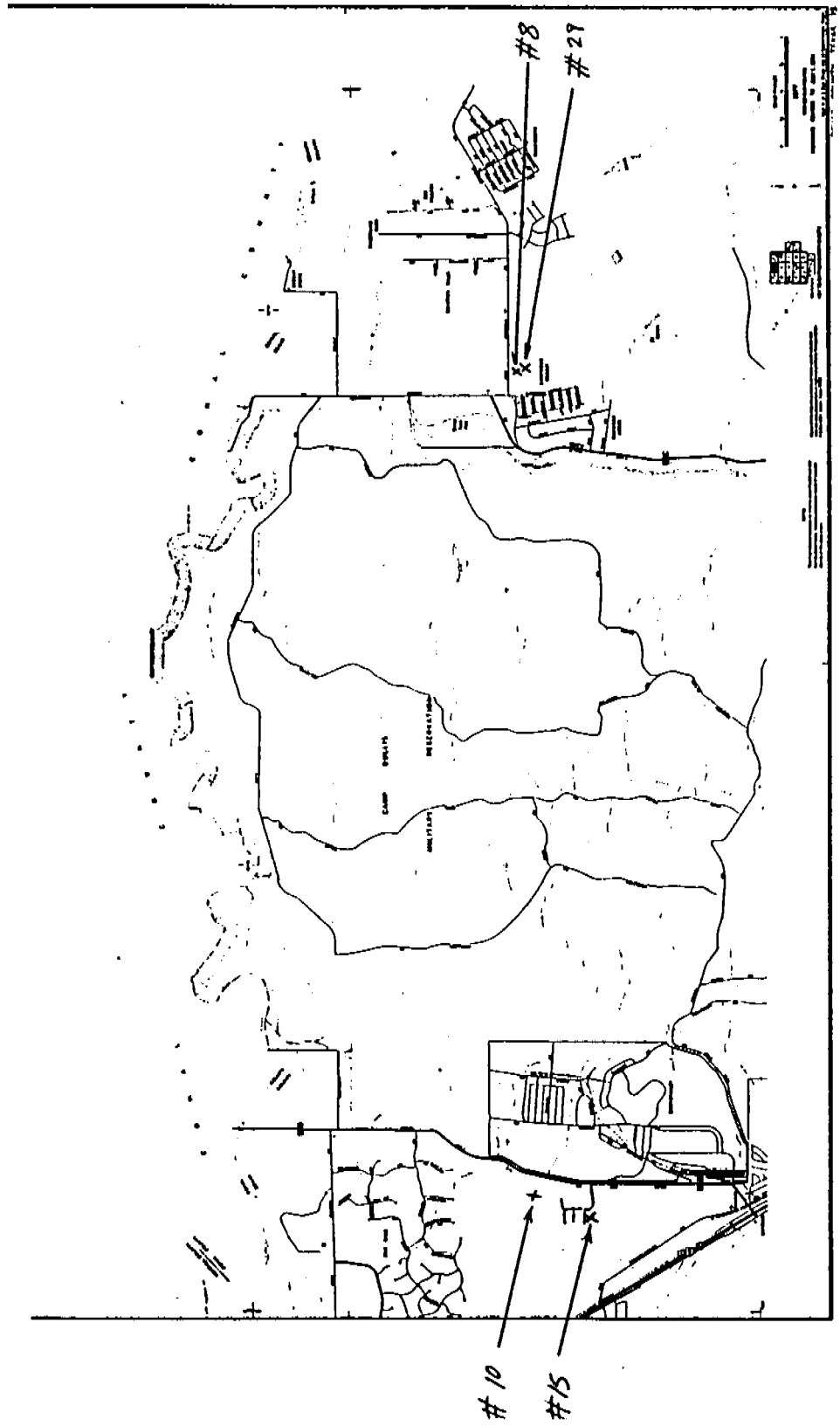
Please attach electric log, chemical analysis, and other pertinent information, if available.

For TDWR use only
Well No. 68-19-6
Located on map _____

TDWR 0582 (12/29/82) DEPARTMENT OF WATER RESOURCES COPY

4802903105

MAP ID
21



MAP ID

21

Send original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711 — *Please use black ink.*

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER Fred Friar (Name) ADDRESS 27397 Ralph Fair, Boerne, TExas 78006 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar, _____ miles in _____ (NE, SW, etc.) direction from _____ (Town)

Driller must complete the legal description below 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 (old Camp Stanley Road)
Distance and direction from two intersecting section or survey lines _____
☐ SEE ATTACHED MAP #1

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

4) PROPOSED USE (Check): ☒ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG: Date Drilling: Started 7-11 1990 Completed _____ 19__

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
	Surface	
6"	373	500

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

From (ft.)	To (ft.)	Description and color of formation material
373	385	cream colored lime
385	393	bluish gray lime
393	417	darker blue sandstone
417	425	gray sandstone
425	430	blue sandstone & shell
430	440	greenish gray sandstone and silty shale layers
440	442	dark green shale
442	443	hard tan lime (top of Cow Creek)
443	466	white lime (porous/water)

(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 Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6"	pvc	new 86'			

9) CEMENTING DATA (Rule 287.44(1))
Cemented from _____ ft. to _____ ft. No. of Sacks Used _____
_____ ft. to _____ ft. No. of Sacks Used _____
Method used _____
Cemented by _____

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed (Rule 287.44(2)(A))
☐ Pitless Adapter Used (Rule 287.44(3)(B))
☐ Approved Alternative Procedure Used (Rule 287.71)

11) WATER LEVEL: 66/375 ft. below land surface Date _____
_____ gpm. Date _____

12) PACKERS: Type _____ Depth _____

13) TYPE PUMP: (over)
☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 22/25 gpm with 500 ft. drawdown after _____ hrs.

15) WATER QUALITY:
Did the drilling penetrate any strata which contained undesirable water? ☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED SEP 06 1991 TEXAS WATER BOARD

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H. W. Schrame & Sons, Inc. DRILLERS LICENSE NO. 1566
ADDRESS PO Box 364 (Street or RFD) Boerne, Texas (City) (State) (Zip)
(Signed) _____ (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TWC use only: Well No. _____ Located on 8-19-6

WWD-012 (Rev. 09/21/88)

TEXAS WATER COMMISSION COPY

4802903133

MAP ID

21

Please use black ink. Send original copy by certified mail to the Texas Water Commission P.O. Box 13087 Austin, Texas 78711

State of Texas
WATER WELL REPORT
ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Paul Gombert (Name) Address ____ (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar 13 miles in SE (N.E., S.W., etc.) direction from Boerne (Nearest) (Leon Springs to Curry Creek Road)

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. #10

☐ 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 ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other ____

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

6) WELL LOG: Date Drilling: Started 10-18 1991 Completed 10-23 1991

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	187
6"	187	500

From (ft.)	To (ft.)	Description and color of formation material
0	1	topsoil
1	22	cream colored limestone & clay
22	41	gray shaley limestone
41	50	cream colored lime
50	61	blue shale
61	94	gray shaley limeston
94	139	cream-white limestone
139	169	gray chalky limestone
169	187	light gray limestone
187	192	light gray lime
192	205	yellow cream colored lime(water 2-3 gpm)
205	227	gray lime
227	245	yellow cream colored lime
245	258	light gray lime
258	266	cream colored lime
266	287	light gray lime
287	301	cream colored lime chalky
301	312	gray limestone
312	324	dark gray shaley lime
324	368	cream colored lime chalky
368	381	hard gray limestone
381	402	dark gray shaley lime (blue gray)
402	417	light gray shale & lime layers
428	431	blue green shale & sandstone
431	434	light gray sandstone

(Use reverse side if necessary) (OVER)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
6 5/8"	new	steel casing 156 total 189	0	187	

9) CEMENTING DATA (Rule 319.44(b)) 1.50 yds.
Cemented from 0 ft. to 187 ft. No. of Sacks Used ____
____ ft. to ____ ft. No. of Sacks Used ____
Method used 8-sk grout
Cemented by H. W. Schwope & Sons, Inc. Ingram Readymix

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed (Rule 319.44(c))
☐ Pitless Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL: Static level 330 ft. below land surface Date ____ Artesian flow ____ gpm. Date ____

12) PACKERS: Type Depth

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

14) WELL TESTS: Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated Yield: 60 gpm with 500 ft. drawdown after ____ hrs.

15) WATER QUALITY: Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER" Type of water? ____ Depth of strata ____ 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. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H. W. Schwope & Sons, Inc. (Type or Print) Water Well Driller's License No. 1568

ADDRESS PO Box 364 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

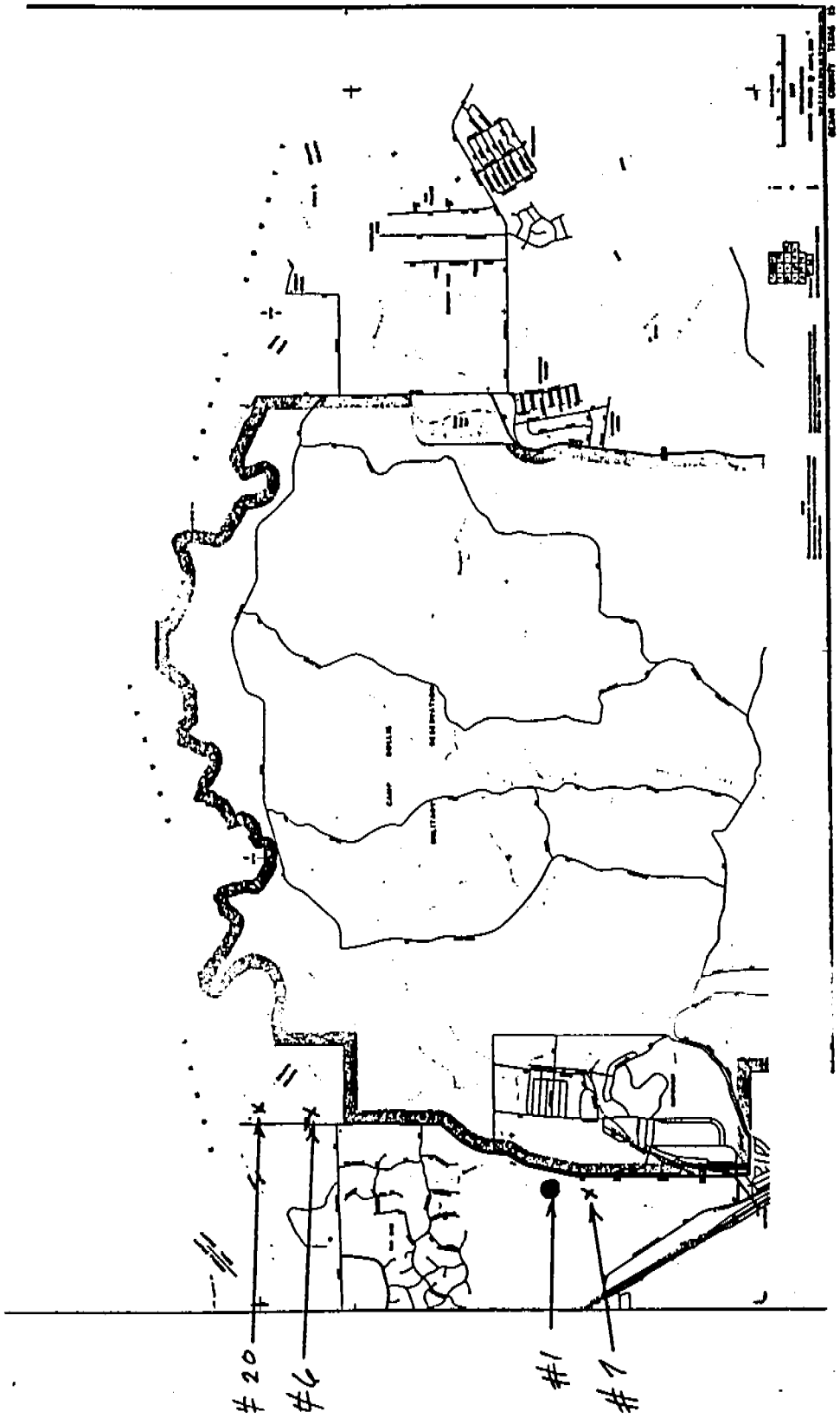
(Signed) [signature] (Licensed Water Well Driller) (Signed) 4802903138 (Registered Driller Trainee)

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

For TWC use only Well No. ____ Located on map 68-196

RECEIVED SEP 1 1992 TEXAS WATER WELL DRILLERS BOARD Joseph Reeder

MAP ID
21



MAP ID
22

TEXAS WATER DEVELOPMENT BOARD

Surface Kgrk

WELL SCHEDULE

Aquifer(s) Kgrc (218 SSBG) Project No. 6029 State Well No. 68-19-306

Field No./Owner's Well No. #5 County Ar Bexar (015)

1. Location: ¼, ¼, Section ____, Block ____, Survey ____, Lat. ____, Long. ____

2. Owner: Fair Oaks Subd. Address: Rt 4 Box 8495 Boerne TX 78006

Tenant (other): Fair Oaks Subd. Address: Same 512-755-9294

Driller: Louis Bergmann + Sons Address: 1355 S Pecan St Boerne TX 78006

3. Land Surface Elevation: 1320 ft. above msl determined by Topo

4. Drilled: 2-27 19 78; Dug, Cable Tool, Rotary, Air, ____

5. Depth: Rept. 526 ft. Meas. ____ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. ____ Type Sub

No. Stages ____, Bowls Diam. ____ in., Setting 483 ft.

Column Diam. 3 in., Length Tailpipe ____ ft.

8. Motor: Mfr. ____ Fuel Elec HP 20

9. Yield: Flow ____ gpm, Pump 95 gpm, Meas., Rept., Est. ____ Date ____

10. Performance Test: Date ____ Length of Test ____ Made by ____

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft.

Production ____ gpm Specific Capacity ____ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) ____

Analyses

Date ____ Laboratory ____ TDS ____ Sp Cond ____

Date ____ Laboratory ____ TDS ____ Sp Cond ____

12. Other data available (as circled): Pumping Test, Power & Yield Test, Drillers Log

Formation Sample, Geophysical Log(s) ____

CASING, BLANK PIPE & WELL SCREEN Cemented From 0 ft. to 323 ft.			
Diam. (in.)	Type	Setting (feet) From	to
8 5/8	Steel	0	323
open	hole	323	526

13. Water Level(s): UTM ft. rept. meas. 9-3 1987 (type) above below ____ which is ____ ft. above below Land Surface

____ ft. rept. meas. ____ 19__ above below ____ which is ____ ft. above below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) ____

15. Recorded by: Ron Mohr Source of data: Obs, Super Date: 9-3-87

16. Remarks: Air Line 478

* Well Pumping

17. Location or Sketch:

TWDB-0308 (Rev. 12-11-88)

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. ___-___-___

MAP ID
22

TEXAS DEPARTMENT OF WATER RESOURCES

WELL SCHEDULE

Aquifer(s) Lower Glen Rose / Flowell / Cox Creek Project No. _____ State Well No. 68-19-306

Field No./Owner's Well No. #5 1of 39 County Bexar

1. Location: ___ ___ ___ Section ___ Block ___ Survey _____ Longitude ___ Latitude ___

2. Owner: Four Oaks Ranch Water Co Address: _____

Tenant (Other): _____ Address: _____

Driller: Louis Bergman & Sons Address: _____

3. Land Surface Elevation: 1323 ft. above msl determined by _____

4. Drilled: 2-27 19 78 ; Dug, Cable Tool, Rotary, Air, ___

5. Depth: Rept. 526 ft. Meas. _____ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. Jacuzzi Type Sub

No. Stages ___, Bowls Diam. ___ in., Setting 483 ft.

Column Diam. _____ in., Length Tailpipe _____ ft.

8. Motor: Mfr. _____ Fuel Elec HP 30

9. Yield: Flow ___ gpm, Pump 90 gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date ___ Length of Test ___ Made by _____

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production _____ gpm Specific Capacity _____ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) _____

Analysis

Date _____ Laboratory _____ TDS ___ Sp Cond ___

Date _____ Laboratory _____ TDS ___ Sp Cond ___

12. Other data available as circled: Pumping test, Power & Yield Test, Drillers Log, Formation Samples, Geophysical Log(s)

CASING, BLANK PIPE & WELL SCREEN Cemented From 0 ft. to 323 ft.			
Diam. (in.)	Type	Setting (feet) From	to
8	Steel	0	323
7⅝	open	323	526

13. Water Level(s): 290 ft. (Type Meas.) 1-22 19 78 above/below Driller which is ___ ft. above/below Land Surface

264 ft. (Type Meas.) 12-9 19 77 above/below _____ which is ___ ft. above/below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) _____

15. Recorded by: B. Marquardt Source of data: Driller Date: 7-18-78

16. Remarks: _____

acidized 10,000

17. Location or Sketch:

W/L Obs. Well ___ W/L Obs. Well ___

State Well No. 68-19-306

MAP #22

MAP ID
22

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. LP-14-3 K
Located on Map
Reviewed:

1) OWNER:
Person having well drilled: FAIR OAKS RANCH SCOUTS (Name) Address: RT. 1 (Street or RFD) BOERNE (City) TEXAS (State)
Landowner: SAME (Name) Address: (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County: BEXAR, 4 miles in N (N.E., N.W., etc.) direction from LEON SPRINGS (Town)

Locate by church map showing landmarks, roads, creeks, binny number, etc.*

#1
Mapson 68-19-3H
North
(Use reverse side if necessary)

or Give legal location with distances and directions from adjacent section or survey lines.
Labor: League:
Block: Survey:
Abstract No. LOT 39 — WELL #5
(NW, NE, SW, SE) of Section:

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other ✓

5) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable ✓, Jetted, Bored

6) WELL LOG:
Diameter of hole 12" & 8" in. Depth drilled 526 ft. Depth of completed well 526 ft. Date drilled 2-27-78
All measurements made from 0 ft. above ground level.

From (Ft.)	To (Ft.)	Description and color of formation material
0	12	Caliche + Hard Rock
12	31	Blue shale
31	215	Gray, yellow + Blue rock + shale
215	226	Yellow + white sand - fine water
226	344	Gray + Blue rock + shale
344	392	Yellow + white sand - green - with water
392	435	Blue shale
435	448	Green shale
448	516	Green white sand - fine sand - lots water
516	526	Gray + Blue shale + rock
526	TD	

(Use reverse side if necessary)

8) Casing:
Type: Old, Lock ✓, Lock, Plastic, Other
Cemented from 0 ft. to 323 ft.

Diameter (inches)	Setting From (Ft.)	Setting To (Ft.)	Gage
8 5/8" OD	0	323	25#

Perforated by Dyna Radiojet.

10) Screen:
Type: None
Perforated: Slotted

Diameter (inches)	Setting From (Ft.)	Setting To (Ft.)	Slot Size

7) Completion (Check): Straight wall ✓, Gravel packed, Other
Under reamed, Open hole ✓

Static level: ft. below land surface Date 2-27-78
Artesian pressure lbs. per square inch Date
Depth to pump bowls, cylinder, jet, etc. ft. below land surface.

11) Well Test:
Was a pump test made? Yes ✓ If yes, by whom?
Yield: gpm with ft. drawdown after hrs.
Bailer test gpm with ft. drawdown after hrs.
Artesian flow gpm
Temperature of water

12) Water Quality:
Was a chemical analysis made? Yes ✓
Did any strata contain undesirable water? Yes ✓
Type of water? Depth of strata

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: WALTER BERGMANN (Type or Print) Number Well Drillers Registration No. 282
Address: P.O. DRAWER R (Street or RFD) BOERNE (City) TEXAS (State)
(Signed): Walter Bergmann (Water Well Driller) LOUIS BERGMANN & SONS (Company Name)

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

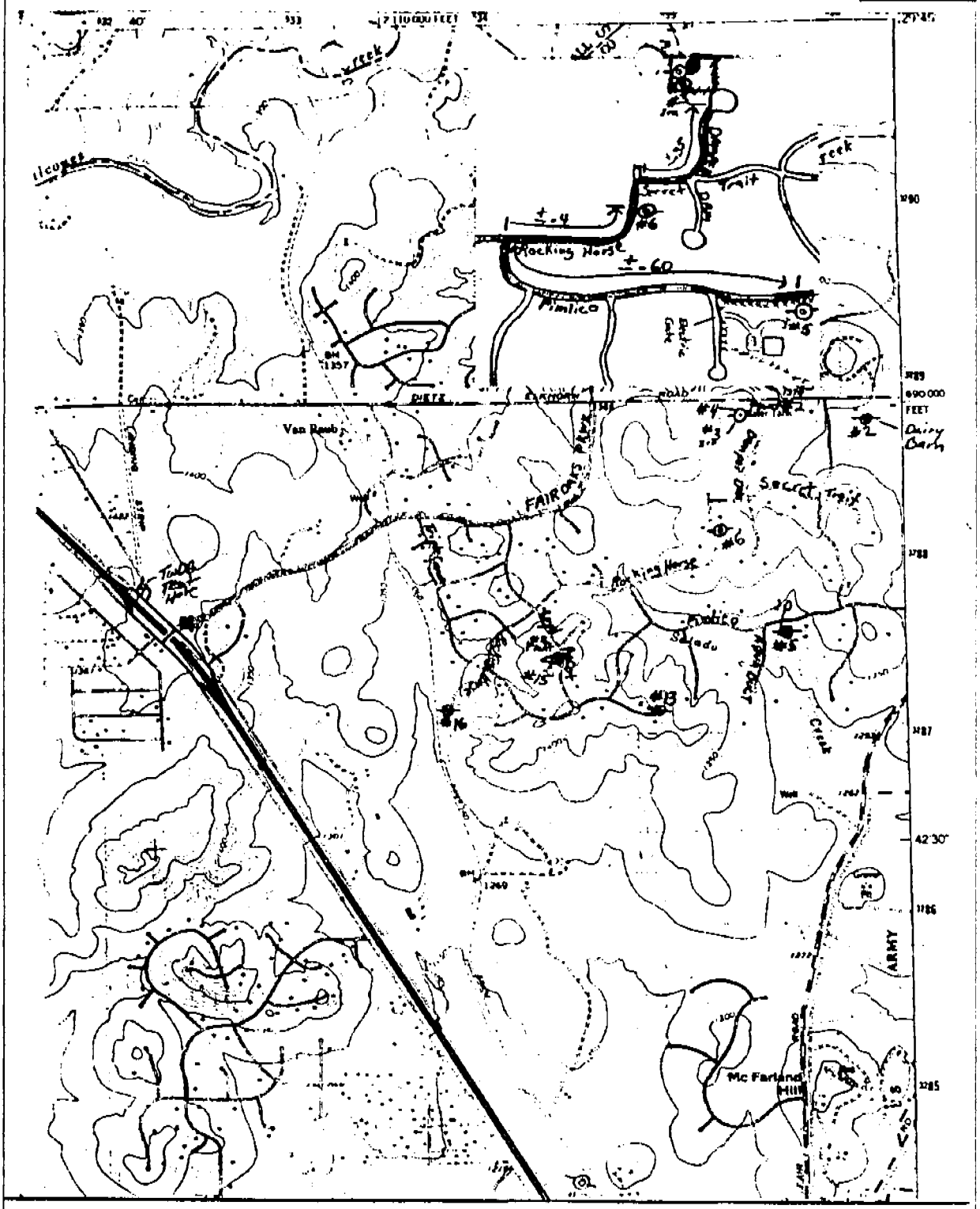
JAN 25 '79
ERTDWR (1)

*Additional instructions on reverse side.

68-19-306

MAP #22

MAP ID
22



MAP #22

MAP ID

22

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. 68-10-5V
Located on map 1 of MP
Received:

1) OWNER Henry May (Name) Address Rt. 1 Box 1530 (Street or RFD) Boerne, TX (City) (State) 78006 (Zip)

2) LOCATION OF WELL: County Bexar 4 miles in S (N.E., S.W., etc.) direction from Boerne-Lakeside Acr (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.

#4

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

☒ See attached map. 68-10-5V

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 Dec. 83

Dia. (in.)	From (ft.)	To (ft.)
8	Surface	140
6	140	360

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

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casin Scree
6 5/8	N	steel .156	0	140	

CEMENTING DATA
Cemented from surface ft. to 140 ft
Method used gravity
Cemented by Louis Bergmann & Sons (Company or Individual)

9) WATER LEVEL: Static level 300 ft. below land surface Date 12-83
Artesian flow ____ gpm. Date ____

10) PACKERS: Type Depth

RECEIVED
AUG 29 19
DEPT. OF WATER RESOURCES

(Use reverse side if necessary)

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

12) WELL TESTS: ☐ Type Test: ☐ Pump ☒ Bailer ☐ Jetted ☐ Estimated
Yield: 10 gpm with 60 ft. drawdown after 1 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? ____ Depth of strata ____
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 Glenn Marquardt (Type or Print) Water Well Drillers Registration No. 1937

ADDRESS 135 South Pecan (Street or RFD) Boerne, (City) TX (State) 78006 (Zip)

(Signed) ____ (Water Well Driller) Louis Bergmann & Sons (Company Name)

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

TDWR-0393 (Rev. 1-12-79) DEPARTMENT OF WATER RESOURCES COPY

4802903069

MAP #22

MAP ID
23

Texas Water Development Board
Well Schedule

State Well No. 68 19 619 Previous Well No. County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 42 22 Long. 098 38 27 Source of Coord. 3

Owner's Well No. 28 Location ____ 1/4. ____ 1/4. Section ____, Block ____, Survey ____

Owner FAIRCO WATER CO. Driller L. BERGMANN & SONS

Address ____ Tenant/Oper. ____

Date Drilled 07 13 1993 Depth 522 Source of Depth Datum D Altitude 1290 Source of Alt. Datum m

Aquifer Cow Creek 218CCRK Well Type W User 275751

Well Construction Const. Method Air Rotary A Casing Material Steel S

Completion Open K Screen Material ____

Lift Data Pump Mfr. ____ Type ____ S No. Stages ____

Bowls Diam. ____ in. Setting ____ ft. Column Diam. ____ in.

Motor Mfr. ____ Fuel or Power ____ E Horsepower ____

Yield Flow ____ GPM Pump ____ GPM Meas. Rept. Est. ____ Date ____

Performance Test Date ____ Length of Test ____ Production ____ GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft. Sp.Cap. ____ GPM/ft.

Quality (Remarks ____

Water Use Primary Public Supply P Secondary ____ Tertiary ____

Other Data Available Water Level m Water Quality W Logs D Other Data

Water Levels
Date 07 13 1993 Meas. 220 . 1
Date ____ Meas. ____
Date ____ Meas. ____

Casing or Blank Pipe (C)
Well Screen or Slotted Zone (S)
Open Hole (O)
Cemented from 0 to 320
Setting (feet)

	Type	Diam. (in.)	From	To
1	C	08	0	320
2	O		320	522
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Recorded By PG TNRCC Date Record Collected or Updated 09 29 1995 (20 min) Reporting Agency 03

Remarks
1
2
3
4
5
6

Aquifer Cow Creek
Well No. 68-19-619

MAP ID
23

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 10987
Austin, Texas 78711

1) OWNER: Fair Oaks Water Co. #28 (Name) ADDRESS: Box 4495 (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

2) LOCATION OF WELL: County: Bexar . 3.4 miles in N (NE, SW, etc.) direction from Lone Spring (Town)

Driller must complete the legal description below with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official County- 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 ☐ Monitor ☒ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG:
Date Drilling: Started 7-1-93 to _____ Completed 7-13-93 to _____

DIAMETER OF HOLE Dia. (In.)	From (ft.)	To (ft.)
12 3/4	Surface	325
8 3/4	325	522

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

RECEIVED
OCT 20 1993
TEXAS WATER COMMISSION

(Use reverse side if necessary)

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

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

Dia. (In.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
8 5/8	N	steel	0	320	

9) CEMENTING DATA (Rule 287.44(1)):
Cemented from 0 ft. to 320 ft. No. of Sacks Used 12
_____ ft. to _____ ft. No. of Sacks Used _____
Method used: pressure cemented by
Cemented by: Nixon International Services Inc.

10) SURFACE COMPLETION:
☒ Specified Surface Slab Installed (Rule 287.44(3)(A))
☐ Specified Steel Sleeve Installed (Rule 287.44(3)(A))
☐ Pitless Adapter Used (Rule 287.44(3)(B))
☐ Approved Alternative Procedure Used (Rule 287.71)

11) WATER LEVEL:
Static level 220' ft. below land surface Date 7-13-93
Artesian flow _____ gpm. Date _____

12) PACKERS: Type _____ Depth _____

13) TYPE PUMP: ☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.

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

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME: LOUIS BERGMANN & SONS (Type or print) WELL DRILLER'S LICENSE NO. 1937WI

ADDRESS: 135 South Pecan (Street or RFD) Boerne (City) TX (State) 78006 (Zip)

(Signed) [signature] (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TWC use only: Well No. 68-19-619 Located on map _____

TWC-0199 (Rev. 05-18-90)

TEXAS WATER COMMISSION COPY

MAP #23

MAP ID
23

IMPORTANT NOTICE FOR PERSONS
HAVING WELLS DRILLED CONCERNING
PRIVILEGE OF CONFIDENTIALITY

The Water Well Drillers Board and the Texas Water Commission are concerned that some persons having wells drilled may not be aware of the confidentiality privilege provision of Section 8 of the Water Well Drillers Act. Section 5, the Reporting of Well Logs, reads as follows:

"Every licensed water well driller drilling, deepening or otherwise altering a water well within this State shall make and keep, or cause to be made and kept, a legible and [illegible] and within 60 days from the completion

FAIR OAKS WELL #28
SE corner of Bowman place-Bexar Co.

0-1	top soil
1-5	caliche
5-12	med hard white yellow rock
12-14	med soft blue shale
14-15	yellow clay
15-21	med hard gray rock
21-28	med hard lt. blue gray rock
28-41	med hard gray rock
41-51	med hard lt blue gray rock
51-55	med hard lt yellow rock
55-60	med hard yellow rock
60-64	med soft blue gray shale
64-73	med hard gray rock
73-79	med hard yellow rock
79-85	med hard gray rock
85-126	med hard yellow rock
126-171	med soft white gray rock-porous spots
171-190	med hard lt gray rock-porous spots
190-204	med hard porous gray yellow rock
204-210	med hard yellow rock-water
210-231	med hard gray rock
231-238	med hard lt gray rock
238-307	med hard gray rock-porous spots
307-317	med soft lt blue gray rock-trace shale
317-324	med soft yellow rock
324-330	med hard lt blue gray rock
330-354	med hard gray rock-porous spots
354-361	med soft yellow rock
361-367	med soft white yellow rock-porous spots
367-373	med hard porous white yellow rock
373-393	med hard white yellow rock-porous spots
393-404	med hard layer blue gray rock
404-409	med soft lt blue gray rock
409-414	med hard gray rock
414-416	med soft
416-432	med hard lt blue gray rock
432-446	med hard gray rock
446-450	med hard blue green-rock & shale
450-452	med hard gray rock
452-454	hard white gray rock
454-468	med hard porous white gray rock
468-480	[illegible]

68 19 61

MAP #23

MAP ID
23

480-484 med hard white gray rock
484-494 med hard lt brown rock
494-518 med hard gray brown rock
518-520 med hard gray rock
520-522 med hard blue-green rock & shale

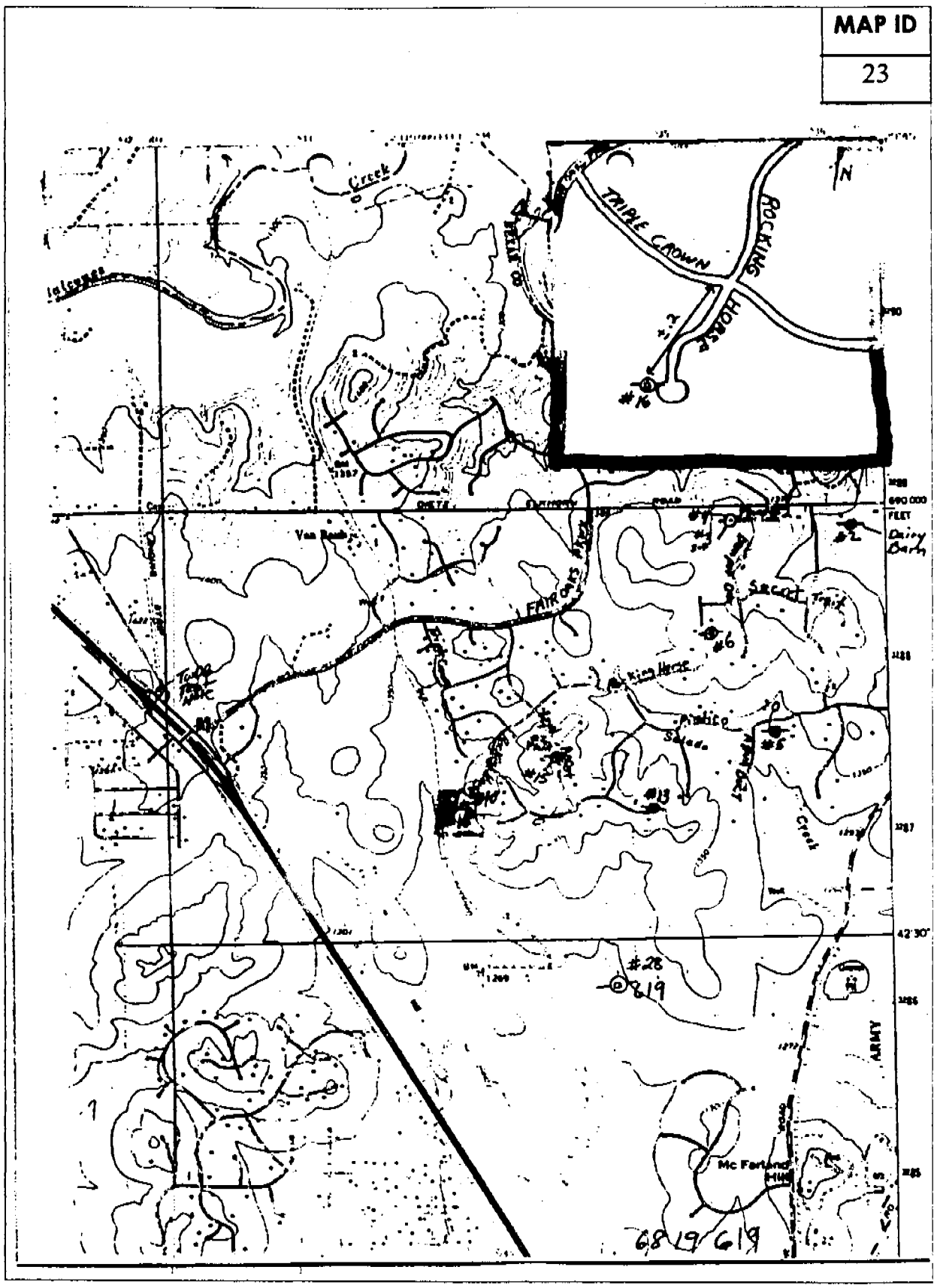
Total Depth: 522'
Static Water Level: 220'
Test:
Casing: 320 ft. 8 5/8" OD .250 steel
Cement: Pressure cemented by Nixon International Services, Inc. +12 sacks

ER:bm

68-19-619

map #23

MAP ID
23



MAP #23

MAP ID
24

Texas Water Development Board
Well Schedule

State Well No. 68 19 3 13 Previous Well No. _____ County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 43 53 Long. 098 57 55 Source of Coord. 3

Owner's Well No. _____ Location ____ 1/4, ____ 1/4, Section ____, Block ____, Survey ____

Owner Faircla Water Co. Driller L Bergmann & Sons

Address _____ Tenant/Open _____

Date Drilled 04 20 1990 Depth 740 Source of Depth Datum D Altitude 1370 Source of Alt. Datum M

Aquifer Sligo & Hosston 219SLEH Well Type T User 277575

Well Construction Const. Method Air Rotary A Casing Material _____

Completion _____ Screen Material _____

Lift Data Pump Mfr. _____ Type _____ No. Stages _____

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

Motor Mfr. _____ Fuel or Power _____ Horsepower ____

Yield Flow ____ GPM Pump 5+ GPM Meas. Rept. (Est.) bailer Date _____

Performance Test Date _____ Length of Test _____ Production _____ GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft. Sp.Cap. ____ GPM/ft.

Quality (Remarks) _____

Water Use Primary Unused U Secondary _____ Tertiary _____

Other Data Available: Water Level M Water Quality N Logs O Other Data

Date	Meas.	
04 20	50	bailer

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

	Diam. (in.)	Type	From	To
1	14	C	0	16
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

(20 max)

Recorded by QLN Data Record Collected or Updated 09 29 1995 Reporting Agency 01

Remarks _____

Aquifer Sligo & Hosston

Well No. 68-19313

MAP ID
24

Send original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711

Please use black ink.

ATTENTION OWNER: Confidentiality Pending - Notice on Reverse Side

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER Fair Oaks-Balcones Corp. (Name) ADDRESS Box 4495 (Street or RFD) Boerne, TX (City) 78006 (State) (Zip)

2) LOCATION OF WELL: County Bexar. City Limits also in Secretariat St. (NE, SW, etc.) Subdivision Fair Oaks (Town)

Driller must complete the legal description below with distances and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Basis 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 #5

on 68-19-9

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

4) PROPOSED USE (Check): ☐ Domestic ☐ Industrial ☐ Monitor ☒ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG:

Date Drilling: Started 4-5-90 19__ Completed 4-20-90 19__

DIAMETER OF HOLE Dia. (In.)	From (ft.)	To (ft.)
8¾	Surface	627
6	627	740
Reamed to 14 3/4" hole		

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

(Use reverse side if necessary)

7) BOREHOLE COMPLETION: ☐ Open Hole ☒ Straight Wall ☐ Underreamed ☐ Gravel Packed ☐ Other _____

If Gravel Packed give interval ... from _____ ft. to _____ ft.

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

Dia. (In.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	To	Gage Casing Screen
14	N	steel	0	16	

RECEIVED
JUL 25 1990
TEXAS WATER COMMISSION

9) CEMENTING DATA [Rule 287.44(1)]

Cemented from 0 to 16 ft. No. of Sacks Used 4

_____ ft. to _____ ft. No. of Sacks Used _____

Method used gravity flow

Cemented by LOUIS BERGMANN & SONS

10) TYPE PUMP: ☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder ☐ Other _____

Depth to pump bowls, cylinder, jet, etc. _____ ft.

11) WELL TESTS: Type Test ☐ Pump ☒ Bailer ☐ Jetted ☐ Estimated

Yield: 50 gpm with _____ ft. drawdown after _____ hrs.

12) WATER QUALITY:

Did the drilling penetrate any strata which contained undesirable constituents?

☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"

Type of water? _____ Depth of strata _____

Was a chemical analysis made? ☐ Yes ☐ No

13) SURFACE COMPLETION

☒ Specified Surface Slab Installed [Rule 287.44(2)(A)]

☐ Pitless Adapter Used [Rule 287.44(3)(B)]

☐ Approved Alternate Procedure Used [Rule 287.71]

14) WATER LEVEL:

Static level 550 ft. below land surface Date 4-20-90

Artesian flow _____ gpm. Date _____

15) PACKERS: Type _____ Depth _____

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME LOUIS BERGMANN & SONS (Type or Print) WELL DRILLER'S LICENSE NO. 1937

ADDRESS 135 South Pecan (Street or RFD) Boerne, TX (City) (State) 78006 (Zip)

Signed Dennis Marquardt (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TWC use only: Well No. 68-19-3 Located on map _____

TWD-012 (Rev. 09/21/88)

TEXAS WATER COMMISSION COPY

68/19/3/13

MAP #24

MAP ID
24

Fair Oaks Bexar County
350 yards south of Water Treatment Plant #1
on Secretariet TESTHOLE

0-8	calliche & rock layers
8-10	med hard gray rock
10-11	med soft yellow clay
11-15	med hard yellow rock
15-31	med hard gray rock & shale
31-40	med soft blue gray shale
40-58	med soft gray rock & shale layers
58-60	med hard gray rock
60-89	med soft layer blue gray shale-oily
89-105	med soft layer blue rock & shale layers
105-131	med hard gray rock
131-133	med soft sticky shale
133-139	med hard blue gray rock
139-144	med hard yellow gray rock
144-174	med hard gray rock w/soft shale layers
174-185	med hard layer yellow rock
185-207	med hard layer gray rock
207-235	med hard gray rock
235-243	med soft layer yellow rock
243-258	med hard gray yellow rock
258-273	med hard gray rock
273-277	med soft gray rock
277-290	med hard white gray rock
290-301	med hard gray rock
301-307	med hard layer blue gray rock-porous spot
307-322	med hard gray rock-porous spots
322-331	med hard layer blue gray rock
331-378	med hard gray rock
378-387	med hard layer blue gray rock-porous spot
387-397	med hard gray rock
397-406	med soft porous yellow gray rock
406-424	med hard porous white yellow rock-water
424-446	med hard porous yellow rock-poor returns
446-465	med hard blue gray rock " "
465-478	med hard blue rock " "
478-499	med hard gray rock " "
499-504	med hard yellow rock " "
504-510	med hard white yellow rock WATER
510-526	med soft white yellow rock " "
526-531	med hard brown rock
531-555	med hard white gray rock Porous 555

68 19 313

MAP #24

MAP ID
24

555-563 med hard gray rock
563-584 med hard layer brown rock
584-599 med soft blue green rock & shale
599-602 med hard blue gray rock
602-610 med soft blue green rock & shale
610-612 med hard blue green rock
612-619 med soft blue green rock & shale
619-625 med hard gray rock & soft shale layers
625-627 hard gray rock
627-630 med hard layer gray rock
630-632 med hard blue green rock & soft shale
632-639 med hard porous blue gray white rock
639-670 med hard gray brown rock
670-675 med hard porous blue gray rock
675-684 med soft layer brown rock
684-697 med soft gray brown rock-60%1
697-715 med hard brown rock
715-723 med hard brown white gray rock
723-735 med hard blue gray brown rock
735-740 med hard blue gray brown gyp pieces

Total Depth: 740
Static Water Level: 550'
Test: +5 gpm in Hoston Sligo
Casing: 629 ft. 6 5/8" OD Steel
Pulled casing, reamed & set 16' of 14¼" OD casing
Cement: 4 sacks

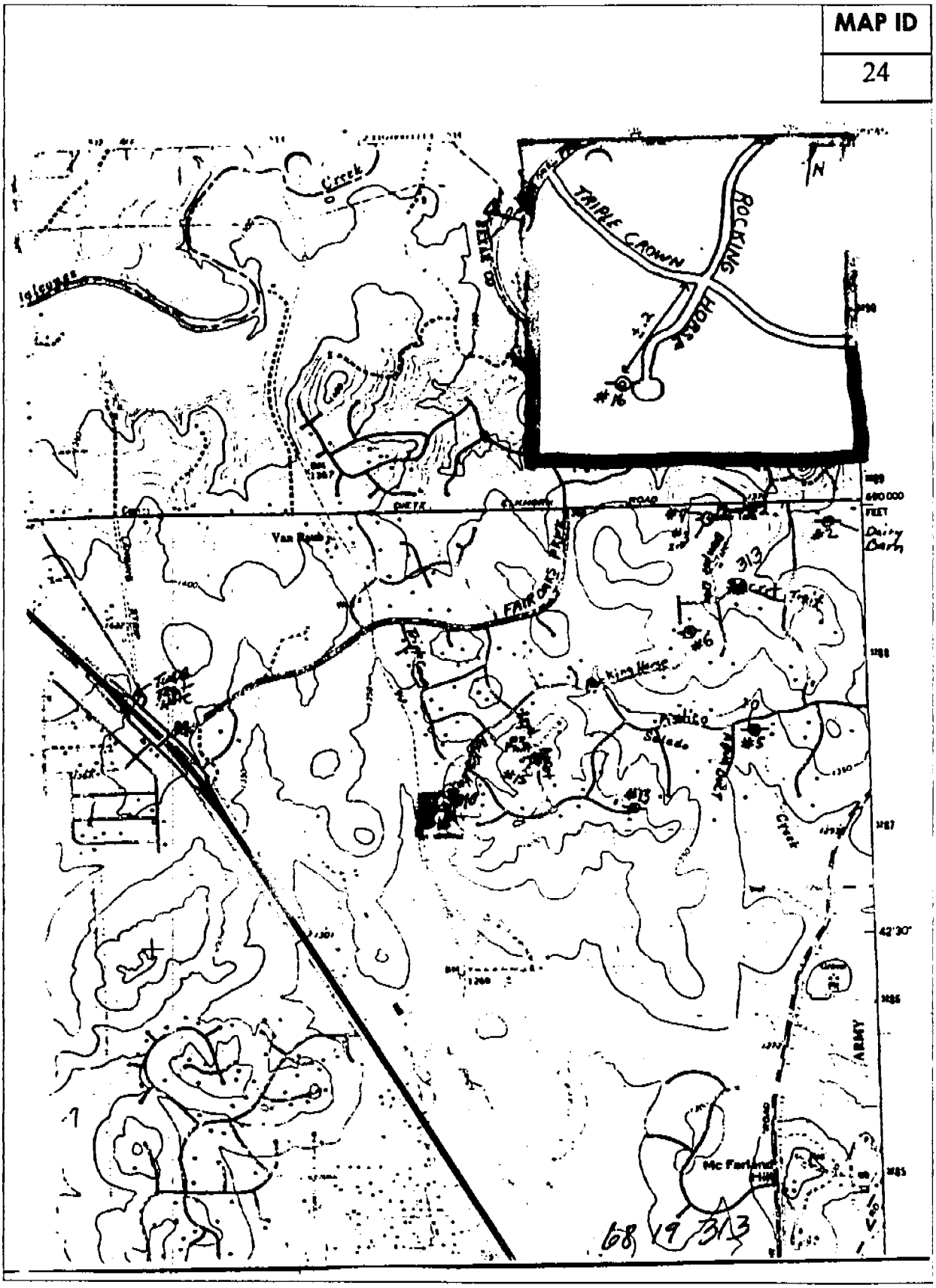
ER:bm

[redacted]

68-19 313

MAP #24

MAP ID
24



MAP #24

MAP ID
25

TEXAS WATER DEVELOPMENT BOARD

WELL REPORT

Aquifer: Edwards Lower Field No. B-24 (Bell 5608) State Well No. 68-20-401

Owner's Well No. #1 Schacke County: Bexar

1. Location: 1/4, 1/4 Sec., Block, Survey
Lat. 29°41'9" Long. 98°34'23"

2. Owner: Carpet Stanley (U.S. Gypsum) Address:
Sub-Contractor: Virgil Fielder Address:
Driller: J.R. Johnson Drilling Co. Address:

3. Elevation of 1550 at 1232 ft. above msl, determined by Topo

4. Drilled: Mar. 2 1940; Dug, Cable Tool, Rotary

5. Depth: Rept. 451 ft. Meas. ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Kind: Turbine Submersible
No. Stages, Bowls Diam. in., Setting 420 ft.
Column Diam. in., Length Tailpipe ft.

8. Motor: Fuel Elec. Make & Model HP. 15

9. Yield: Flow gpm, Pump gpm, Meas., Rept., Est.

10. Performance Test: Date Length of Test Made by
Static Level ft. Pumping Level 450 ft. Drawdown ft.
Production 87 gpm Specific Capacity gpm/ft.

11. Water Level: ft. rept. meas. 19 above below which is ft. above below surface.
ft. rept. meas. 19 above below which is ft. above below surface.
ft. rept. meas. 19 above below which is ft. above below surface.
ft. rept. meas. 19 above below which is ft. above below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used.

13. Quality: (Remarks on taste, odor, color, etc.)
Temp. °F, Date sampled for analysis Laboratory
Temp. °F, Date sampled for analysis Laboratory
Temp. °F, Date sampled for analysis Laboratory

14. Other data available or similar: Driller's Log, Radioactivity Log, Electric Log, Formation Description

15. Reported by: Ashworth on 2-16 19-76
Source of Info: Ground Water, Field Visit

16. Remarks:
d. Hole 1022 ft. plugged back to 451 ft.
Stop at [illegible] gals and ask to be escorted to the well

Casing & Blank Pipe: Connected From ft. to ft.			
Diam. (in.)	Type	Setting, ft. From	To
10	Steel	0	702
8	"	702	1005

Well Screen: Screen Openings			
Diam. (in.)	Type	Setting, ft. From	To
	Perf. ? Slotted ?		

TWDBE-WD-2 (Sketch)

see AY 68-20-101 AY 68-20-401

MAP ID
25

B-24 68-20-401

March 2, 1940

Log on Water Well for Camp Bullis Well # 1. Ft. Sam Houston .11 Sohasse-- Ranch

			Thickness (Feet)	Depth (Feet)
0	3	Surface	3	3
3	14	Glen Rose	11	14
14	161	Yellow Clay	147	161
161	176	Glenrose	15	176
176	471	Glenrose	295	471
471	489	Bluish-green Shale	18	489
489	493	Blue Lime	4	493
493	570	White Glenrose	77	570
570	621	Blue Shale	51	621
621	625	Sandy Lime	4	625
625	760	Grey Lime	135	760
760	795	Shale and grey Sand	35	795
795	835	Blue shale	40	835
835	1009	Trinity, pink & red Clay and sand	174	1009
1009	1022	Shist	13	1022

1022 feet deep; Water level; (1) 167', (2) 228', (3) Edwards water @ 163'-492' Water in Trinity Sands @ 920-998'.

702 ft. of 10" 32.35# Casing 303 ft. of 8" 28# Casing;

J. R. (BOB) Johnson

68-20-401

MAP #25

MAP ID
26

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer: Glen Rose, Honsell / Cow Creek — Field No. ____ — State Well No. 68-20-101

Owner's Well No. #16 — County: Bexar

1. Location: ___ 1/4, ___ 1/4 Sec. ___, Block ___, Survey ___
lat. 29°42'40" long. 98°34'52"

2. Owner: Camp Stanley (U.S. Govmnt) Address: ___
Owner: Virgil Fielding Address: ___
Driller: ___ Address: ___

3. Elevation of 450 ± 1240 ft. above msl, determined by Topo

4. Drilled: ___ 19__; Dug, Cable Tool, Rotary ___

5. Depth: Rept. 442 ft. Meas. ___ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed ___

7. Pump: Mfgr. ___ Type Submersible
No. Stages ___, Bowls Diam. ___ in., Setting 416 ft.
Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Fuel Elec. Make & Model ___ HP. 15

9. Yield: Flow ___ gpm, Pump ___ gpm, Meas., Rept., Est.

10. Performance Test: Date ___ Length of Test ___ Made by ___
Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.
Production ___ gpm Specific Capacity ___ gpm/ft.

11. Water level: 201 ft. Meas. 2-18 1960 above/below 450 which is ___ ft. above/below surface.
___ ft. Rept./Meas. 19__ above/below ___ which is ___ ft. above/below surface.
___ ft. Rept./Meas. 19__ above/below ___ which is ___ ft. above/below surface.
___ ft. Rept./Meas. 19__ above/below ___ which is ___ ft. above/below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used, ___

13. Quality: (Remarks on taste, odor, color, etc.) ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___

14. Other data available or on file: Driller's Log, Reverse Circulation Log, Electric Log, Formation Samples, Pumping Tests, ___

15. Record by: John Ashworth Date 2-10 1976
Source of Data general supervision, field visit

16. Remarks: ___
Steps at ground surface and ash to be erected to well

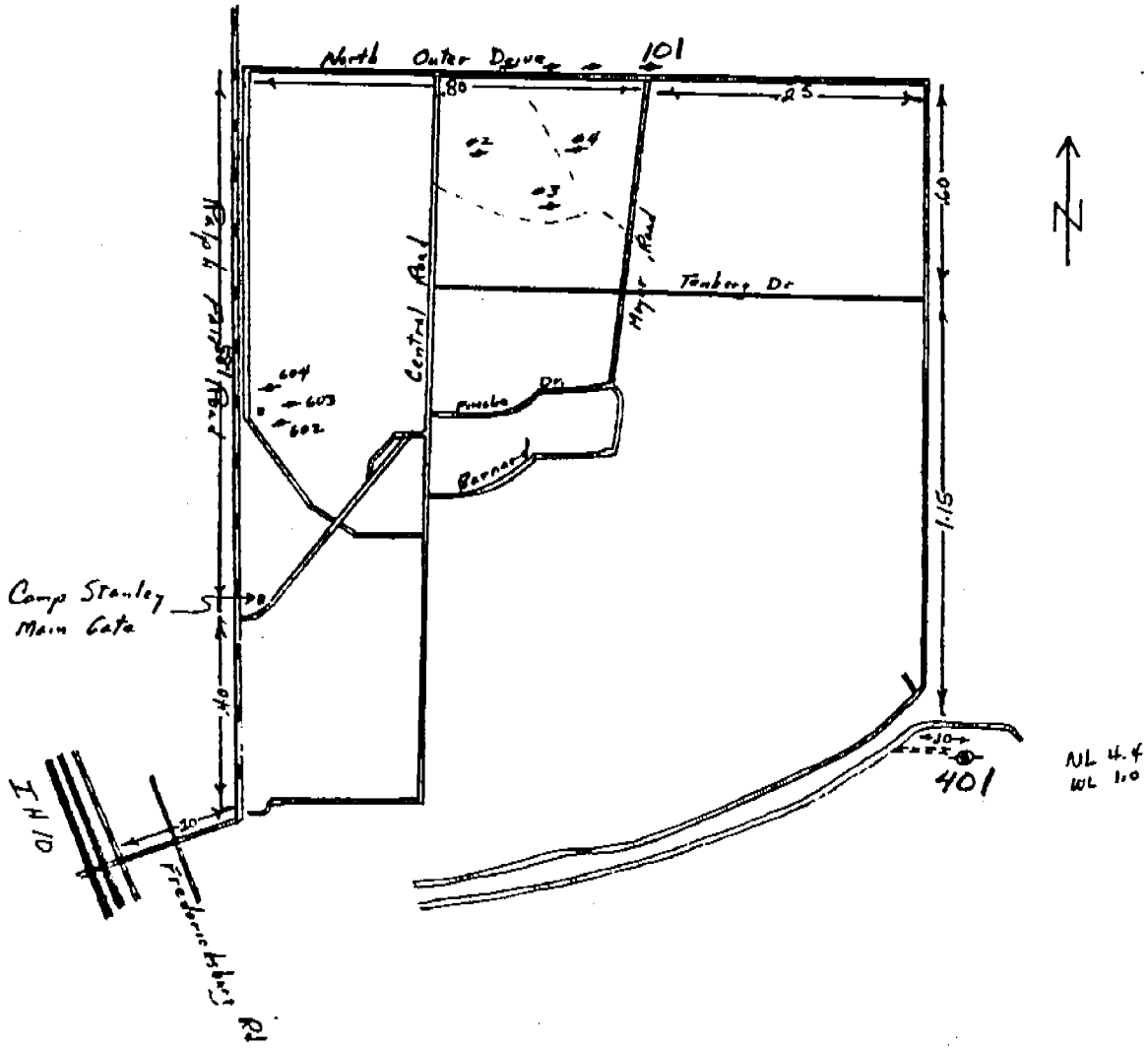
CASING & BLANK PIPE — Cemented From ___ ft. to ___ ft.			
Diam. (in.)	Type	Setting, ft. From	To
—		unknown	

WELL SCREEN — Screen Openings ___			
Diam. (in.)	Type	Setting, ft. From	To

TWDBR-WD-2 (Sketch)

AY 68-20-101

MAP ID
26



MAP #26

MAP ID
27

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer: Lower Colorado Rose Hendell Cow Creek

Field No. _____ State Well No. 68-19-608

Owner's Well No. 4 County Bexar

1. Location: ___ 1/4, ___ 1/4 Sec. ___ Block ___ Survey ___
24918 Fine Rich Parkway
2. Owner: Leon Springs Mobil Home Village Address: 25211 Rd Nhe Leon Springs
Owner: Harold E. Newman Address: 25202 Fine Rich Parkway
Driller: Rudolf A. Biedermann Address: Hartin Pump Service
3. Elevation of LSD ft. above mal, determined by Topo
4. Drilled 6-3 19 71, Reg. Cable Tool, Rotary
5. Depth: Repd. 505 ft. Meas. ___ ft.
6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed
7. Pump: Mfgr. ___ Type Submersible
No. Stages ___, Bowls Diam. ___ in., Setting ___ ft.
Column Diam. ___ in., Length Tailpipe ___ ft.
8. Motor: Fuel Elec. Make & Model ___ HP. 7½
9. Yield: Flow ___ gpm, Pump ___ gpm, Meas., Repd., Est.
10. Performance Test: Date ___ Length of Test ___ Made by ___
Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.
Production ___ gpm Specific Capacity ___ gpm/ft.
11. Water Level: 248 ft. Date: Meas. 6-3 1971 Repd. ___ 19 ___ Meas. ___ Repd. ___ 19 ___ Meas. ___ Repd. ___ 19 ___ Meas. ___ Repd. ___ 19 ___ above/below LSD which is ___ ft. above/below surface.
12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used.
13. Quality: (Remarks on taste, odor, color, etc.)
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
14. Other data available or made: Radioactivity Log, Electric Log, Formation Samples, Pumping Test
15. Driller John Rodriguez Date 2-12 19 74
Source of Data Owner, D.L., Field unit
16. Remarks

CASING & BLANK PIPE

Cemented From 0 ft. to 205 ft.

Diam. (in.)	Type	Setting, ft. From	To
7 OD	Steel	0	205

WELL SCREEN

Screen Openings

Diam. (in.)	Type	Setting, ft. From	To
8	open hole	205	505

TWDBE-WD-2 (Sketch)

See 68-20-402

AY 68-19-608

MAP ID
27

From (Ft.)	To (Ft.)	Description and color of formation material
0	8	SOIL & CLAY
8	42	BROWN LIME
42	120	GRAY LIME
120	195	HARD WHITE LIME WITH SHALE
195	495	GRAY LIME
495	500	BLACK DOLOMITE
500	505	PINE ISLAND

MAP #27

MAP ID

27

An original copy by certified mail to the
Mac Water Development Board
P. Box 12386
Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 68-19-6A
Located on map yes
Received: 7/
No

)OWNER:
Person having well drilled ARDA SPRINGS MOBILE VILLA (Name) Address 8811 ADA MAE (Street or RFD) (City) (State)

Landowner SAME (Name) Address SAN ANTONIO - TEXAS (Street or RFD) (City) (State)

)LOCATION OF WELL:
County BEXAR 17 miles in NW (N.E., S.W., etc.) direction from SAN ANTONIO (Name)

Locate by sketch map showing landmarks, roads, streams, hiway number, etc.*

North

(Use reverse side if necessary)

or

Give legal location with distances and directions from adjacent sections or survey lines.

Labor _____ League _____
Block _____ Survey _____
Abstract No. _____
(NW¼ NE¼ SW¼ SE¼) of Section _____

)NATURE OF WORK (Check): New Well, Deepening, Reconditioning, Plugging

4)PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5)TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

)WELL LOG:
Diameter of hole 8 in. Depth drilled 505 ft. Depth of completed well 505 ft. Date drilled 6/2/71
All measurements made from _____ ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	8	SOIL & CLAY
8	42	BROWN LIME
42	120	GRAY LIME
120	195	HARD WHITE LIME WITH SHALE
195	495	GRAY LIME
495	500	BLACK DOLOMITE
500	505	PINE ISLAND

(Use reverse side if necessary)

8) Casing:
Type Old, New, Steel, Plastic, Other
Cemented from 205 ft. to 0 ft.
Diameter (inches) 7" Setting From (ft.) 205 To (ft.) 0 Gage AKA

10) Screen:
Type NONE
Perforated, Slotted
Diameter (inches), Setting From (ft.), To (ft.), Slot Size

) COMPLETION (Check):
Straight wall, Gravel packed, Other
Under ream, Open hole

) WATER LEVEL:
Static level 408 ft. below land surface Date 6/2/71
Artesian pressure _____ lbs. per square inch Date _____
Depth to pump bowls, cylinder, jet, etc. 420 ft. below land surface.

11) WELL TESTS:
Was a pump test made? Yes, No. If yes, by whom?
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.
Bailer test _____ gpm with _____ ft. drawdown after _____ hrs.
Artesian flow _____ gpm
Temperature of water _____

12) WATER QUALITY:
Was a chemical analysis made? Yes, No.
Did any strata contain undesirable water? Yes, No.
Type of water? _____ depth of strata _____

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 RUDOLF O. BIEDERMANN (Type or Print) Water Well Drillers Registration No. 936

ADDRESS 1114 SO. ALAMO, SAN ANTONIO (City) TEXAS - 78210 (State)

Signed [signature] (Owner Well Driller) HARKIN PUMP SERVICE INC. (Company)

Please attach electric log, chemical analysis, and other pertinent information, if available. AY68-19-

(Additional instructions on reverse side.

TWDB1-RM-33.

MAP#27

MAP ID

27

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Laboratories
1100 West 49th Street
Austin, Texas 78756

TDWR ONLY

O. ..ation No. _____ Lab No. _____

Work No. _____

CHEMICAL WATER ANALYSIS REPORT

County 015 Bexar

Send report to:

Data Collection and Evaluation Section
Texas Department of Water Resources
P.O. Box 13087
Austin, Texas 78711

Analysis copied from Texas Department of Health Files

State Well No. 68-19-608

Well No. 4

Date Collected 09-15-71

Owner LEON SPRINGS MOBILE HOME VILLA Send copy to owner Sample No. ☐ By CSP

Address _____ Well Location _____

Date Drilled 1971 Depth 500 ft. WBF _____ Source (type of well) _____

Producing intervals _____ Water level _____ ft. Sample depth ☐ ft.

Sampled after pumping _____ hrs. Yield _____ GPM Temperature ☐ °F ☐ °C

Point of collection _____ Appearance ☐ clear ☐ turbid ☐ colored ☐ other

Use _____ Remarks _____

(FOR LABORATORY USE ONLY) KEY PUNCHED

CHEMICAL ANALYSIS

Laboratory No. _____ Date Received 9-15-71 Date Reported 9-28-71

		MG/L	ME/L
Silica	00955		
Calcium	00910	62	
Magnesium	00920	36	
Sodium	00929	9	
Total			
☐ Potassium	00937		
*☐ Manganese	01055	<0.05	
☐ Boron	01022		
*☐ Total Iron	01045	0.04	
☐ (other) _____		MG/L	

%Na _____

SAR _____

RSC _____

		MG/L	ME/L
Carbonate	00445	0	
Bicarbonate	00440	326	
Sulfate	00945	30	
Chloride	00940	11	
Fluoride	00951	0.7	
Nitrate	71850	<0.40	
pH	00403	7.6	
Total			
*Dissolved Solids (residue at 180°C)	70300		474
Phenolphthalein Alkalinity as $CaCO_3$	00415		0
Total Alkalinity as $CaCO_3$	00410		267
Total Hardness as $CaCO_3$	00900		304
*Nitrogen Cycle			
Ammonia - N	00610		
Nitrite - N	00615		
Nitrate - N	00620		
Organic Nitrogen	00605		

Specific Conductance (micromhos/cm³) 00095 _____

Diluted Conductance (micromhos/cm³): _____ x _____ = 604

☐ * items will be analyzed if checked.

*The bicarbonate reported in this analysis can be converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure used in the computation of dissolved solids.
*Nitrogen cycle requires separate sample.
*Total Iron and Manganese require separate sample.

Analyst _____ Checked By _____

TWDB 0148 (Rev 04 07 80)

MAP #27

MAP ID
27

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Laboratories
1100 West 49th Street
Austin, Texas 78756

TDWR ONLY
Collection No. _____ Lab No. _____
Work No. _____

CHEMICAL WATER ANALYSIS REPORT

County 015 Bexar

Send report to:
Data Collection and Evaluation Section
Texas Department of Water Resources
P.O. Box 13087
Austin, Texas 78711

Analysis copied from Texas Department of Health Files

State Well No. 68-19-608
Well No. 4
Date Collected 07-05-72

Owner Leon Springs Mobile Home Villa Send copy to owner Sample No. ____ By CSP
Address _____ Well Location _____
Date Drilled 1971 Depth 500 ft. WBF _____ Source (type of well) _____
Producing Intervals _____ Water level _____ ft. Sample depth ____ ft.
Sampled after pumping _____ hrs. Yield _____ GPM Temperature ____ °F ____ °C
Point of collection _____ Appearance ☐ clear ☐ turbid ☐ colored ☐ other
Use _____ Remarks _____

(FOR LABORATORY USE ONLY)

KEY PUNCHED

CHEMICAL ANALYSIS

Laboratory No. _____ Date Received 7-13-72 Date Reported 7-26-72

		MG/L	ME/L
Silica	00955		
Calcium	00910	72	
Magnesium	00920	36	
Sodium	00929	9	
Total			
☐ Potassium	00937		
☐ Manganese	01055	<0.05	
☐ Boron	01022		
☐ Total Iron	01045	<0.02	
☐ (other) _____			

SAR _____
RSC _____

		MG/L	ME/L
Carbonate	00445	0	
Bicarbonate	00440	350	
Sulfate	00945	32	
Chloride	00940	13	
Fluoride	00951	0.9	
Nitrate	71850	1.50	
pH	00403	7.5	
Total			
Dissolved Solids (residue at 180°C)	70300		510
Phenolphthalein Alkalinity as C aCO_3	00415		0
Total Alkalinity as C aCO_3	00410		287
Total Hardness as C aCO_3	00900		323
Nitrogen Cycle			
Ammonia - N	00610		
Nitrite - N	00615		
Nitrate - N	00620		
Organic Nitrogen	00605		

Specific Conductance (micromhos/cm³) 00095 _____
Diluted Conductance (micromhos/cm³): _____ x _____ = 645

☐ - items will be analyzed if checked.

[1] The bicarbonate reported in this analysis can be converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure used in the computation of dissolved solids.
[2] Nitrogen cycle requires separate sample.
Total iron and Manganese require separate sample.

Analyst _____ Checked By _____

TWDB 0148 (Rev 04 07 86)

MAP #27

MAP ID
27

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Laboratories
1100 West 49th Street
Austin, Texas 78756

TDWR ONLY
Station No. _____ Lab No. _____
Work No. _____

CHEMICAL WATER ANALYSIS REPORT

County 015 BEXAR
State Well No. 68-17-608
Well No. 4
Date Collected 08-05-74

Send report to:
Data Collection and Evaluation Section
Texas Department of Water Resources
P.O. Box 13087
Austin, Texas 78711

Analysis copied from Texas Department of Health Files

Owner LEON SPRINGS MOBILE HOME VILLA ___ Send copy to owner Sample No. ___ By CSP
Address _____ Well Location _____
Date Drilled 1971 Depth 500 ft. WBF _____ Source (type of well) _____
Producing intervals _____ Water level _____ ft. Sample depth _____ ft.
Sampled after pumping _____ hrs. Yield _____ GPM Temperature ___ °F ___ °C
Point of collection _____ Appearance ☐ clear ☐ turbid ☐ colored ☐ other
Use _____ Remarks _____

(FOR LABORATORY USE ONLY)

KEY PUNCHED

CHEMICAL ANALYSIS

Laboratory No. _____ Date Received 8-29-74 Date Reported 10-25-74

		MG/L	ME/L
Silica	00955		
Calcium	00910	67	
Magnesium	00920	37	
Sodium	00929	8	
Total			
☐ Potassium	00937		
☐ Manganese	01055	<0.05	
☐ Boron	01022		
☐ Total Iron	01045	<0.02	
☐ (other) _____			

%Na _____
SAR _____
RSC _____

		MG/L	ME/L
Carbonate	00445	0	
Bicarbonate	00440	346	
Sulfate	00945	31	
Chloride	00940	13	
Fluoride	00951	0.8	
Nitrate	71850	1.00	
pH	00403	7.9	
Total			
[1] Dissolved Solids (residue at 180°C)	70300	500	
Phenolphthalein Alkalinity as $CaCO_3$	00415	0	
Total Alkalinity as $CaCO_3$	00410	284	
Total Hardness as $CaCO_3$	00900	321	
[1] Nitrogen Cycle			
Ammonia - N	00610		
Nitrite - N	00615		
Nitrate - N	00620		
Organic Nitrogen	00605		

Specific Conductance (micromhos/cm³) 00095 _____
Diluted Conductance (micromhos/cm³): _____ x _____ = 655

"☐" items will be analyzed if checked.

[1] The bicarbonate reported in this analysis can be converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure used in the computation of dissolved solids.
[2] Nitrogen cycle requires separate sample.
Total Iron and Manganese require separate sample.

Analyst _____ Checked By _____

TWDB 0148 (Rev 04 07 88)

MAP #27

MAP ID
28

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Surface Kgrk

Aquifer(s) Kcho (271BSTM) Project No. 6929 State Well No. 68-19-302

Kcbo Field No./Owner's Well No. #3 County (AX) Bexar (015)

1. Location: ___ ¼, ___ ¼, Section ___, Block ___, Survey ___, Lat. ___, Long. ___

2. Owner: Fair Oaks Sub. Address: Rt. 4 Box 4495 Boerne Tx. 78006

Tenant (other): David Burkhardt Address: Same 512 755-4294

Driller: Louis Bergmann Address: 135 S. Econ St. Boerne Tx. 78006

3. Land Surface Elevation: 1935 ft. above msl determined by Topo

4. Drilled: Late 60's Early 70's ; Dug, Cable Tool, Rotary, Air.

5. Depth: Rept. 1067 ft. Meas. ___ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. ___ Type Sub.

No. Stages ___, Bowls Diam. ___ in., Setting 962 ft.

Column Diam. 3 in., Length Tailpipe ___ ft.

8. Motor: Mfr. ___ Fuel Elec HP. 20

9. Yield: Flow ___ gpm, Pump 50-60 gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date ___ Length of Test ___ Made by ___

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production ___ gpm Specific Capacity ___ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) ___

Analyses

Date ___ Laboratory ___ TDS ___ Sp Cond ___

Date ___ Laboratory ___ TDS ___ Sp Cond ___

12. Other data available (as circled): Pumping Test, Power & Yield Test, Drillers Log, Formation Samples, Geophysical Log(s) ___

CASING, BLANK PIPE & WELL SCREEN Cemented From 0 ft. to 772 ft.			
Diam. (In.)	Type	Setting (feet) From	to
8¾	Steel	0	772
open	hole	772	1067

13. Water Level(s): UTM ft. rept. meas. 9-3 19 77 above below ___ which is ___ ft. above below Land Surface

___ ft. rept. meas. ___ 19 ___ above below ___ which is ___ ft. above below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) ___

15. Recorded by: Ron Maier Source of data: Obs, Super, Date: 9-3-87

16. Remarks: Air Line Depth 952

U/W Access For Tape Air Line Not Working

Lapsing ?

17. Location or Sketch:

TWDB-0308 (Rev. 12-11-85)

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. ___ - ___

MAP ID
28

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer: Hosston Field No. _____ State Well No. 68-19-302

Owner's Well No. #3 County: Bexar

1. Location: ___ 1/4 ___ 1/4 Sec. ___, Block ___ Survey ___

2. Owner: Four Oaks Ranch Water Co. Address: Alamo National Bd, 224-8114
   Manager: Ralph E. Fair, Jr. (owner) Address: Mr. Leonard Wolf - Northwest Blvd.
   Driller: L. Schwope & Sons Address: Boerne

3. Elevation of LSD to 1425 ft. above msl, determined by Topo

4. Drilled: Sept 29 1976; Dug, Cable Tool (Rotary air)

5. Depth: Rept. 1070 ft. Meas. ___ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfgr. ___ Type Sub

   No. Stages ___, Bowls Diam. ___ in., Setting ___ ft.

   Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Fuel el. Make & Model ___ HP. 20

9. Yield: Flow ___ gpm, Pump 20 gpm, Meas., Rept., Est.

10. Performance Test: Date ___ Length of Test ___ Made by ___

    Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

    Production ___ gpm Specific Capacity ___ gpm/ft.

11. Water Level: 464 ft. Date Sept 29 1976 above/below LSD which is ___ ft. above/below surface.
    ___ ft. rept./meas. 19__ above/below ___ which is ___ ft. above/below surface.
    ___ ft. rept./meas. 19__ above/below ___ which is ___ ft. above/below surface.
    ___ ft. rept./meas. 19__ above/below ___ which is ___ ft. above/below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used, Golf Course

13. Quality: (Remarks on taste, odor, color, etc.)

    Temp. ___ °F, Date sampled for analysis 11-77 Laboratory TWD

    Temp. ___ °F, Date sampled for analysis ___ Laboratory ___

    Temp. ___ °F, Date sampled for analysis ___ Laboratory ___

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test, Chemical Analysis

15. Record by: John Ashworth Date 11-4 1976

    Source of Data Owner, Field visit

16. Remarks:
    Acidized with 1000 gal.

CASING & BLANK PIPE — Cemented From 0 ft. to 772 ft.			
Diam. (in.)	Type	Setting, Ft. From	To
8 5/8	Steel	+3	772
	float collar at 759		

WELL SCREEN — Screen Openings			
Diam. (in.)	Type	Setting, Ft. From	To
	open hole	772	1070

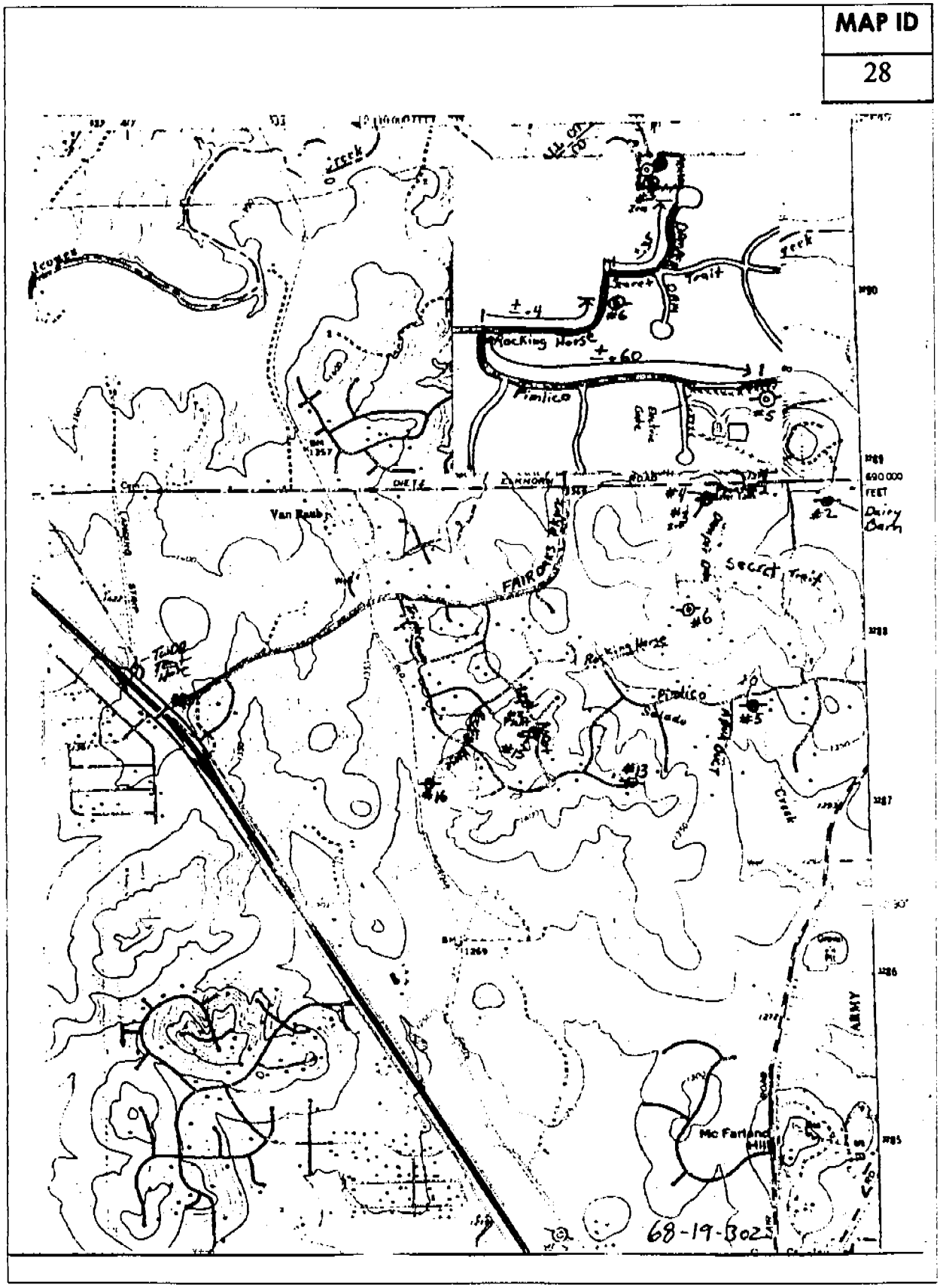
* Sampled Oct. 6, 1996 Test Testing Lab. Inc. Lab. No. 3119
TDS - 630
Total Hardness - 668
pH 6.85

This sample was taken before well was cleaned out.

TWDBE-WD-2 (Sketch) AY 68-19-302

MAP #28

MAP ID
28



MAP #28

MAP ID

28

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No.
Located on map
Received: 7-7-77

1) OWNER:
Person having well drilled: Ralph E. Fair, Jr. (Name) Address: 715 Alamo National Bldg. (Street or RFD) Fairco, Inc. (City) (State)
Landowner (Name) Address: San Antonio, Tex. 78205 (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County: Bexar, miles in South (N.E., S.W., etc.) direction from Boerne (Town)

Locate by sketch map showing landmarks, roads, creeks, hiway number, etc.*
Well in Fair Oaks Ranch near Dietz-Elkhorn Road and Ralph Fair Rd., Bexar County.
(Use reverse side if necessary)

or Give legal location with distances and directions from adjacent sections or survey lines.
Abstract No. Block Survey Acres

3) TYPE OF WORK (Check): X New well Deepening Reconditioning Plugging

4) PROPOSED USE (Check): Domestic Industrial Municipal X Irrigation Test Well Other

5) TYPE OF WELL (Check): Rotary Cable Driven Dug Jetted Bored

6) WELL LOG:
Diameter of hole in. Depth drilled ft. Depth of completed well ft. Date drilled Sept. 29, 1976
See reverse.
All measurements made from 0 above ground level.

From (Ft.)	To (Ft.)	Description and color of formation material
See reverse for well log.		

(Use reverse side if necessary)

7) CONDITION (Check): Straight well X Gravel packed Under reamed Open Hole Other

8) WATER LEVEL:
Static level 464 ft. below land surface Date 9/29/76
Artesian pressure lbs. per square inch Date
Depth to pump bowls, cylinder, jet, etc. ft. below land surface.

9) Casing: Type: New Used Steel Plastic Other
Diameter (inches) Setting From (Ft.) To (Ft.) Gage
0.250 wall
5/8" steel casing cemented from bottom to top by Texas Aquifers.

10) Screen: Type Perforated Slotted
Diameter (inches) Setting From (Ft.) To (Ft.) Slot Size

11) WELL TEST: Was well test made? Yes No. If yes, by whom?
About 60 GPM
Yield: gpm with ft. drawdown after hrs.
Bailer test gpm with ft. drawdown after hrs.
Artesian flow gpm
Temperature of water

12) WATER QUALITY: Was a chemical analysis made? Yes No
Did any strata contain unpotable water? Yes No
Type of water? depth of strata

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 H.W. SCHWOPE & SONS WATER WELL DRILLERS (Type or Print) Water Well Driller's Registration No. 484
ADDRESS Box 364 - Johns Rd., (Street or RFD) Boerne, (City) Tex. 78006 (State)
(Signed) John Schwope JOHN SCHWOPE, WATER WELL DRILLERS REG. NO. 1566 (Water Well Driller) (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available. AY 68-19-302

*Additional instructions on reverse side.

MAP #28

MAP ID
28

2) LOCATION OF WELL:

The sketch showing the well location must be as accurate as possible, showing landmarks, in sufficient detail so that the well may be plotted on a General Highway Map of the county in which the well is located.

Reference points from which distances are measured and directions given should be of a permanent nature (e.g. highway intersections, center of towns, river and creek bridges, railroad crossings). The distance and direction from the nearest town should always be included.

When stating a legal description include a sketch showing location of the well within subdivided area, e.g. survey abstract.

Information furnished in Section 2) of the TWDBE-GW-33 is very important. Unless the well can be accurately located on a map the value of the other data contained in the Report is greatly reduced.

WELL LOG:

0 to 9 ft.	Caliche & cream colored lime layers
9 to 58 "	Layers of gray limey shale & gray lime
58 to 62	Sticky blue shale
62 to 94	Gray limey shale & gray lime
94 to 118	Sticky blue shale with thinklayers of blue-gray lime
118 to 150	Gray limey shale
150 to 160	Dark blue shale
160 to 170	Gray oily limey shale
170 to 180	Gray shaley lime with Chimeoe Hat fossils
180 to 285	Light gray soft lime
285 to 320	Gray lime & shell
320 to 386	Gray lime (courser)
386 to 393	Dark blue lime
393 to 421	Dark gray lime
421 to 469	Cream colored lime (Water) About 15 GPM at 430 to 460 ft.
469 to 520	Gray to dark blue sandstone & shale
520 to 531	Greenish sandstone & shale
531 to 585	Light gray lime (COW CREEK)
585 to 602	Darker gray lime with some dark olive green shale layers
602 to 658	Soft sticky blue shale
658 to 720	Gray fine lime
720 to 745	Brown fine sandy lime
745 to 777	Brown fine sandy lime with some Gypsum
777 to 850	Fine gray sandstone
850 to 900	Fine maroon sandstone
900 to 930	Fine maroon sandstone with some thin conglomerate chert layers
930 to 950	Fine maroon sandstone
950 to 954	Layers of soft maroon clay
954 to 965	Fine maroon sandstone with some thin conglomerate layers
965 to 974	Conglomerate of cherty lime
974 to 988	Fine maroon sandstone
988 to 1003	Conglomerate of cherty lime
1003 to 1006	Red clay
1006 to 1015	Brownish & gold siltstone
1015 to 1030	Hard black shale
1030 to 1070	Very hard black shale (metamorphosized)

Reamed to 794 ft. with 13 3/4" bit
Set 775 ft. of 8 5/8" x 0.250 wall steel casing
Float collar set at 757 ft.
Pressure cemented with over 500 sacks cement
Air tested with rig about 60 GPM
Electric Logged with Schlumberger and Dresser Atlas
Water level 164 ft.
Dresser Atlas shot 120 steel bullets.

RECEIVED 1977 TEXAS WATER DEVELOPMENT BOARD
RECEIVED DEC 21 1978 Central Records Texas Dept. of Water Resources
RECEIVED AUG 10 1977 Central Records Texas Water Development Board

MAP #28

MAP ID
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Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas State Department of Health Laboratories
1100 West 49th Street
Austin, Texas 78756

TWDBE-GW ONLY
Program No. 6106-50
Proj. No. SDE-77227

CHEMICAL WATER ANALYSIS REPORT

County 015 Bexar
State Well No. 68-19-902
Field Well No. 2
Date Collected 04-05-77
By R. W. Morris

Send report to:
Ground Water Data and Protection Division
Texas Water Development Board
P.O. Box 13087
Austin, Texas 78711

Location on Dietz Elkhorn Rd., 3.1 mi. E. of IH10, then S. on Prockness, W. on Secretariat & N. on Dapper Dan. Well is W. of Dapper Dan & 0.1 mi. S. of Dietz Elkhorn

Source (type of well) _____ Owner Ralph E. Fair, Jr.

Date Drilled 1976 Depth 1070± ft. WBF Houston

Producing intervals 600± - 1050± Water level 464 ft.

Sampled after pumping _____ hrs. Yield _____ GPM Temperature ___ °F ___ °C

Point of collection Well head Appearance ☒ clear ☐ turbid ☐ colored ☐ other

Use Irr. Remarks _____

(FOR LABORATORY USE ONLY)

Laboratory No. 326145 Date Received APR 14 1977 KEY PUNCHED Date Reported [illegible]

CHEMICAL ANALYSIS

	MG/L	ME/L
Silica	13	
Calcium	310	15.49
Magnesium	169	13.89
Sodium	232	10.09
Total		39.47
☐ Potassium		
☐ Manganese		
☐ Boron		
3/☐ Total Iron		
☐ (other) _____	MG/L	

%Na _____
SAR _____
RSC _____

Specific Conductance (micromhos/cm³) 2860

Diluted Conductance (micromhos/cm³) 46 x 100 = 4600

"☐" items will be analyzed if checked.

	MG/L	ME/L
Carbonate	0	
Bicarbonate 125	255	4.18
Sulfate	1350	28.12
Chloride	231	6.52
Fluoride	1.7	
Nitrate	<.4	
pH	7.5	
Total		38.82
1/ Dissolved Solids (sum in MG/L)		2430
Phenolphthalein Alkalinity as $CaCO_3$		0
Total Alkalinity as $CaCO_3$ (4.18)		209
Total Hardness as $CaCO_3$ (29.38)		1470
2/ Nitrogen Cycle		
Ammonia - N		
Nitrite - N		
Nitrate - N		
Organic Nitrogen		

1/ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.
2/ Nitrogen cycle requires separate sample.
3/ Total Iron requires separate sample.

TWDBE-WD-1 (Rev. 1-28-72)

Analyst _____ Checked By _____

MAP #28

MAP ID
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#2

K- 68-19-302

DresserAtlas

Gamma Ray Neutron

FILE NO.

COMPANY RALPH E. FAIR

WELL NEAREST WELL TO DAIRY BARN

FIELD FAIR RANCH

COUNTY BEXAR STATE TEXAS

LOCATION:

SEC ____ TWP ____ RGE ____

Other Services

Permanent Datum G. L. Elev. -- .

Log Measured from G. L. -0- Ft. Above Permanent Datum

Drilling Measured from G. L.

Elevations: KB -- DF -- GL --

Date	1-9-75		
Run No.	ONE		
Type Log	GRN		
Depth-Driller	555		
Depth-Logger	552		
Bottom Logged Interval	551		
Top Logged Interval	SURFACE		
Type Fluid in Hole	WATER		
Salinity Ppm Cl	FRESH		
pH and Fluid Loss	--	cc	cc
Density Lb./Gal.	--		
Level	226		
Max. Rec. Temp. Deg. F	--		
Opr. Rig Time	1.5 HRS.		
Recorded By	BINGHAM		
Witnessed By	DOVE		

Run	Bore Hole Record			Casing Record			
No.	Bit	From	To	Size	Wgt.	From	To
1	6"	SURF.	555	6-5/8"	--	SURF.	30
				OPEN HOLE		30	555

FOLD HERE

REMARKS

Equipment Used	
Run No.	ONE
S.O.	84839
Tool No.	402 TOOL
Elec. No.	402 TOOL
Panel No.	28889

Equipment Data

Gamma Ray		Neutron	
Run No.	ONE	Run No.	ONE
Tool Model No.	402	Log Type	NEUTRON
Diam.	3-1/2"	Tool Model No.	402
Detect. Model No.	D4G1	Diam.	3-1/2"
Type	SCINT.	Detect. Model No.	D6N1
Length	4"	Type	SCINT.
Dist. to N. Source		Length	4"
		Source Model No.	S17R5
		Serial No.	27925
		Spacing	13.5"
		Type	AM BE
		Strength	4.0 CURIES

General

Hoist Truck No.	HP-6085
Inst. Truck No.	HP-6085
Tool Serial No.	

Logging Data

General				Gamma Ray				Neutron			
Run No.	Depths From	Depths To	Speed Ft./Min.	T.C. Sec.	Sens. Settings	Zero Div. L or R	API G.R. Units/Div.	T.C. Sec.	Sens. Settings	Zero Div. L or R	API N. Units/Div.
1	551	226	20	3	300	L 5	10 API	3	83	L 5	30 API
1	226	SURF.	20	3	300	L 5	10 API	3	50	L 5	50 API

GAMMA RAY API UNITS	DEPTH	NEUTRON API UNITS

69-19-302

MAP ID 28

MAP #28

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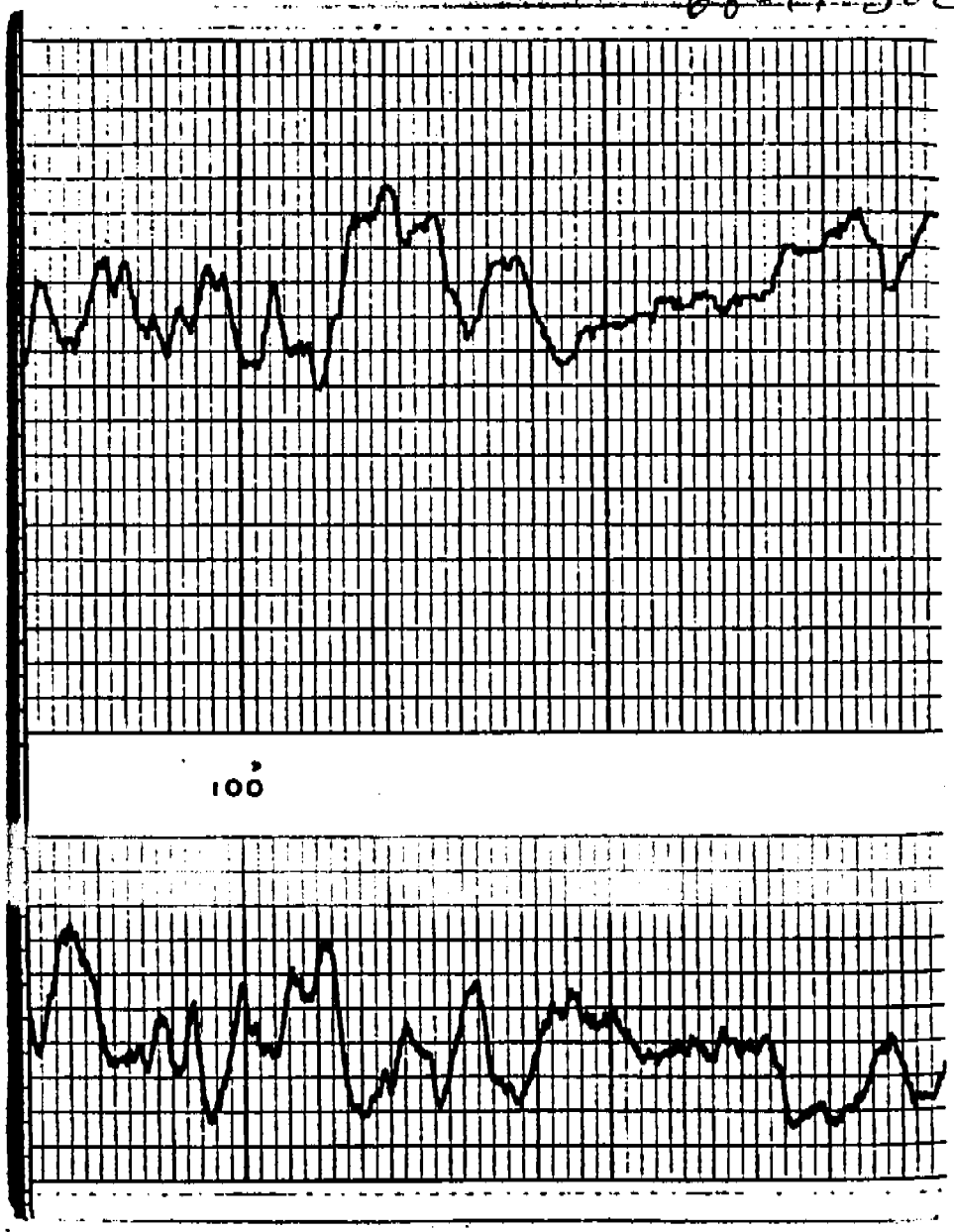
68-19-302



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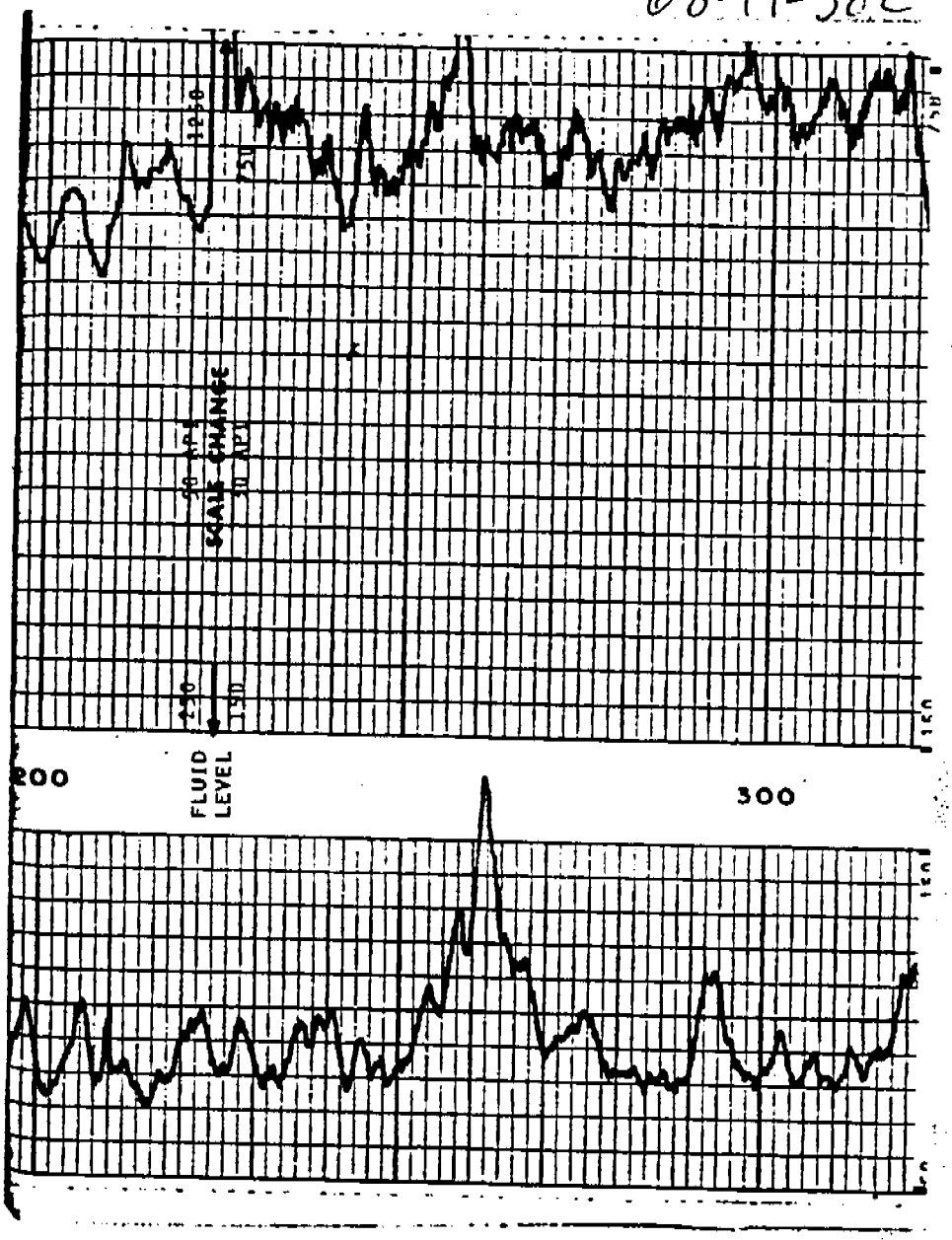
68-19-302



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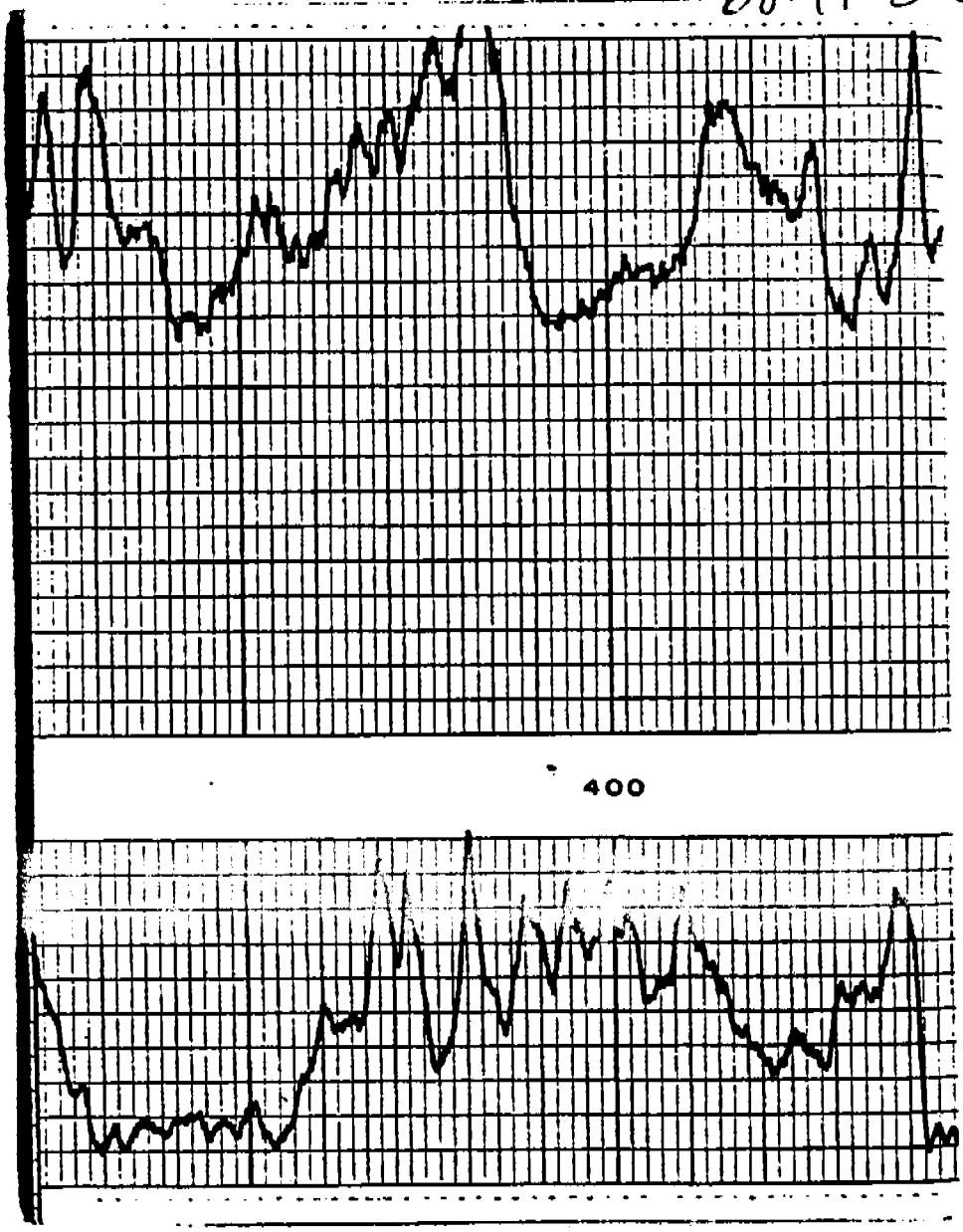

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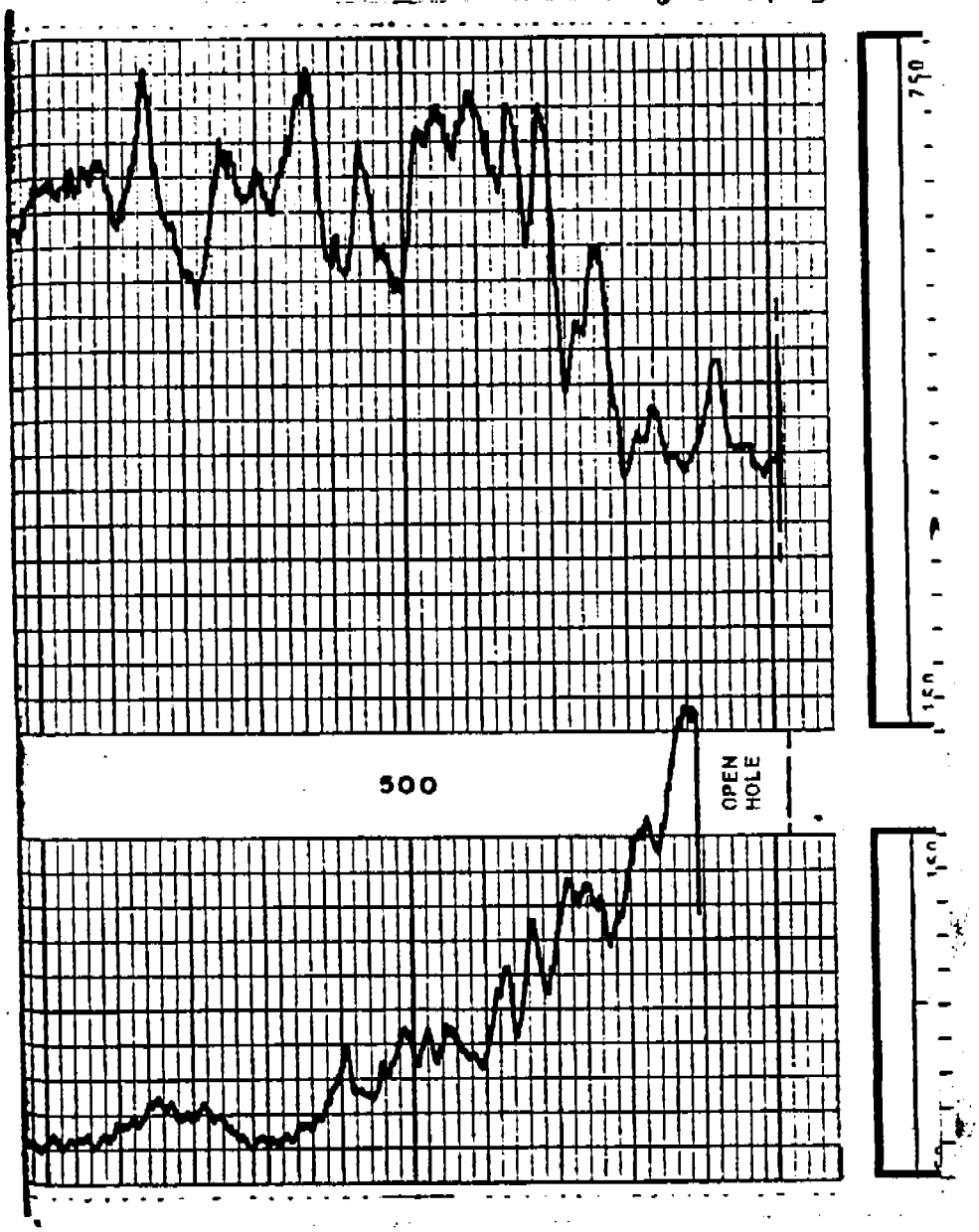
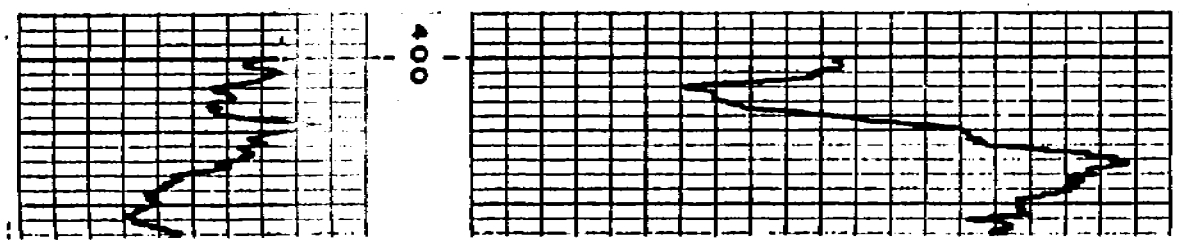


MAP #28

10 API		30 API
RADIATION INTENSITY INCREASES		RADIATION INTENSITY INCREASES
GAMMA RAY API UNITS	DEPTH	NEUTRON API UNITS

Company	RALPH E. FAIR	Drillers T.D.	555'
Well	NEAREST WELL TO DAIRY BARN	Log F.R.	551'
Field	FAIR RANCH	Log T.D.	552'
County	BEXAR	Elevations:	
State	TEXAS	K.B. -- D.F. -- G.L. --	

REPEAT SECTION



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MAP #28

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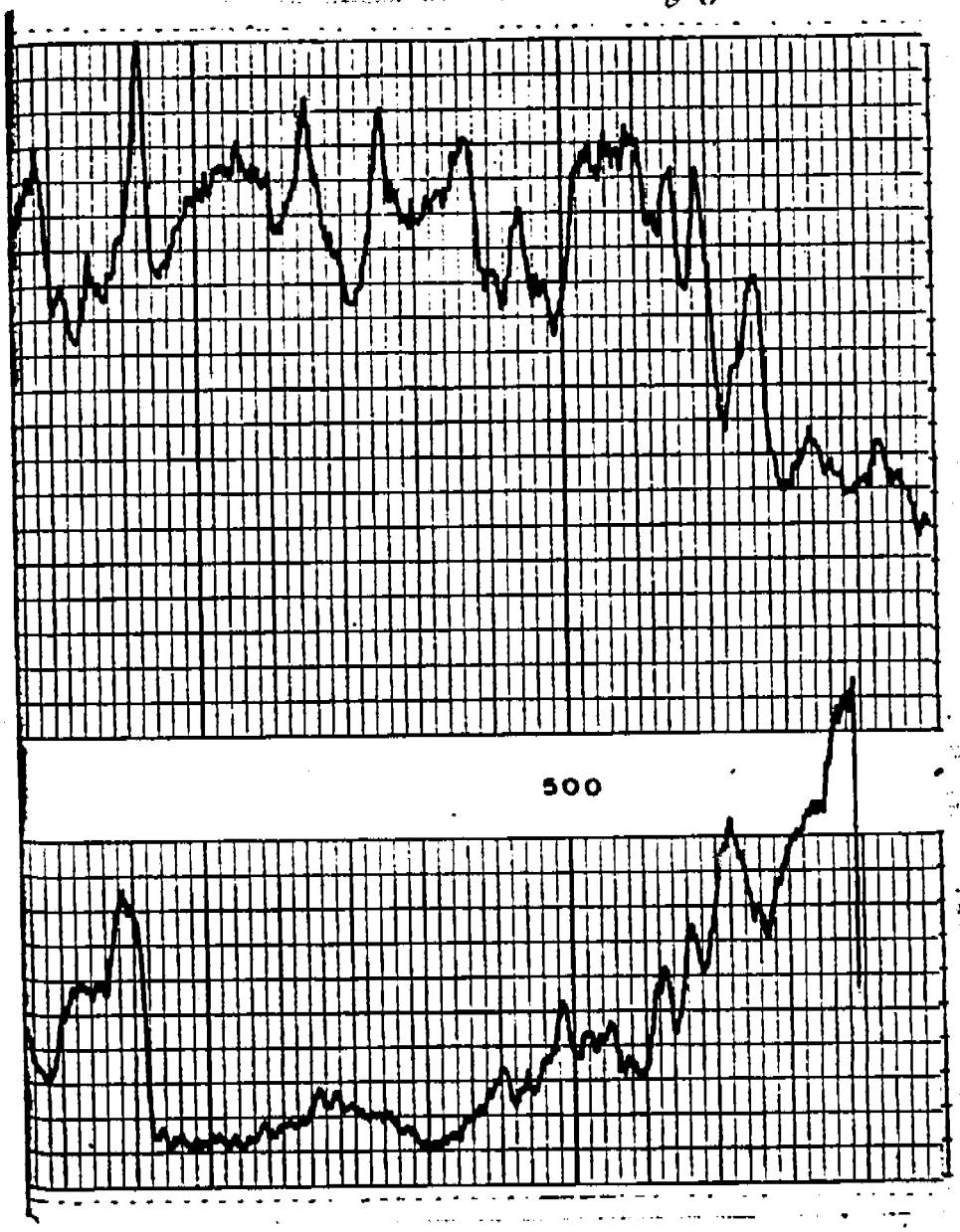

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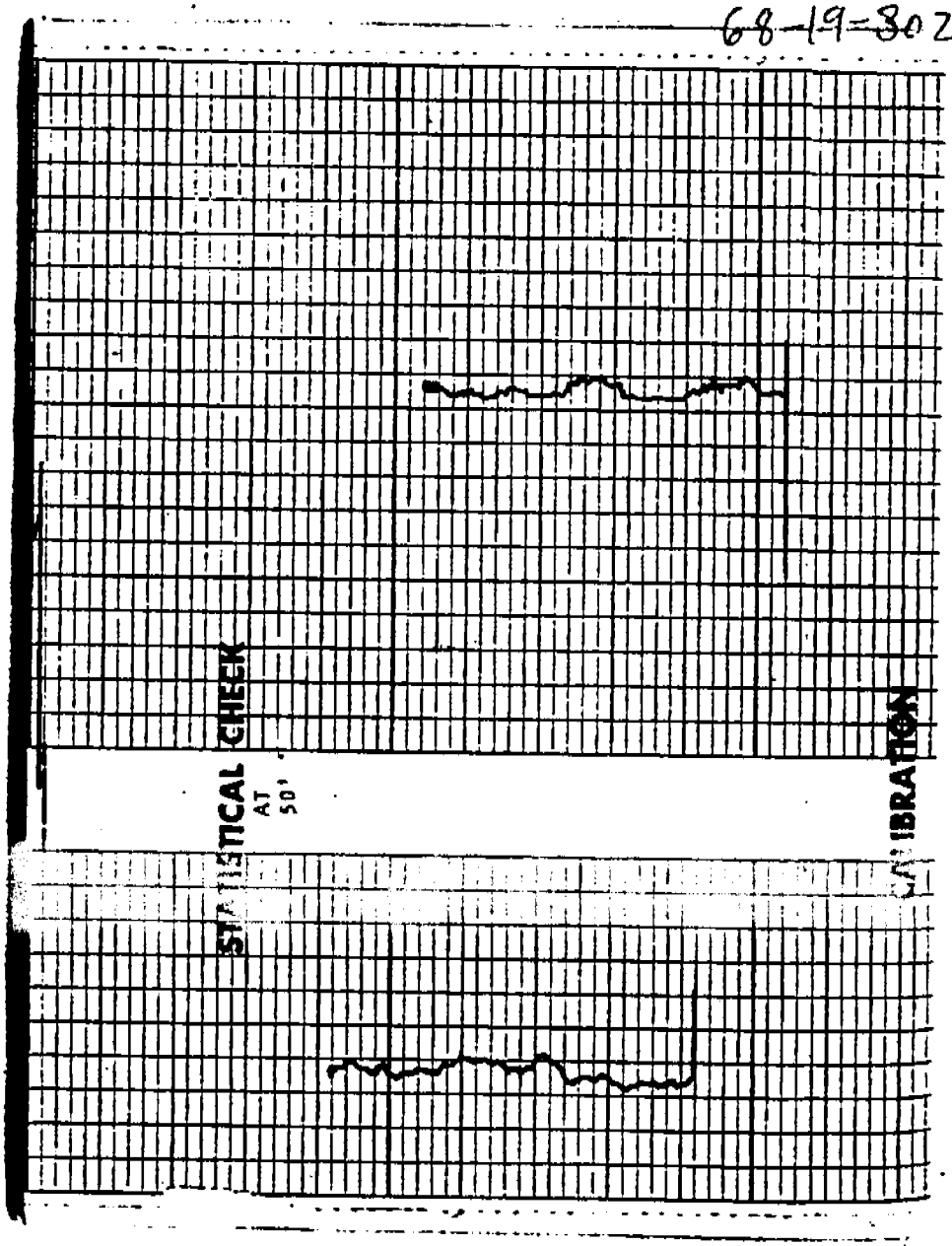

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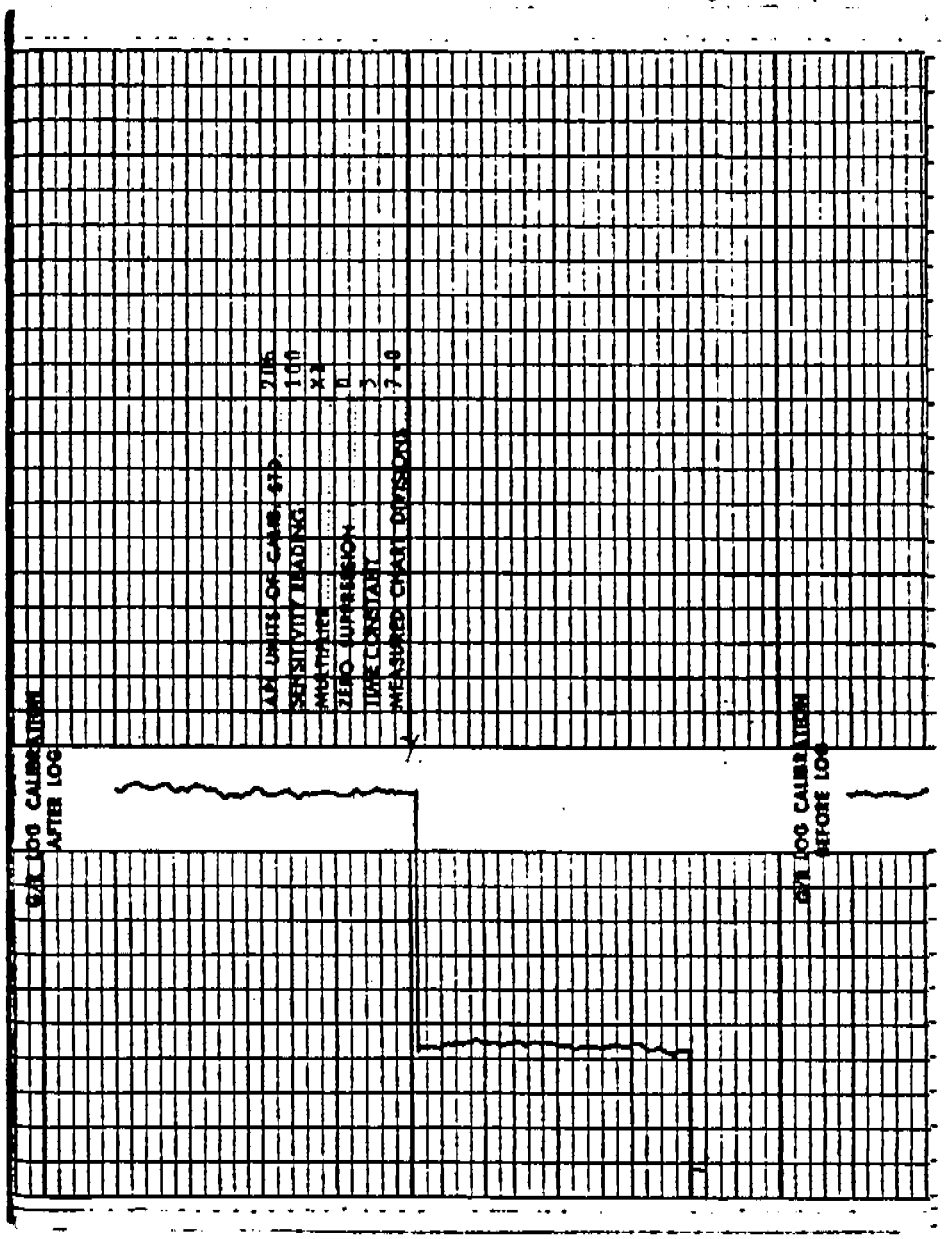

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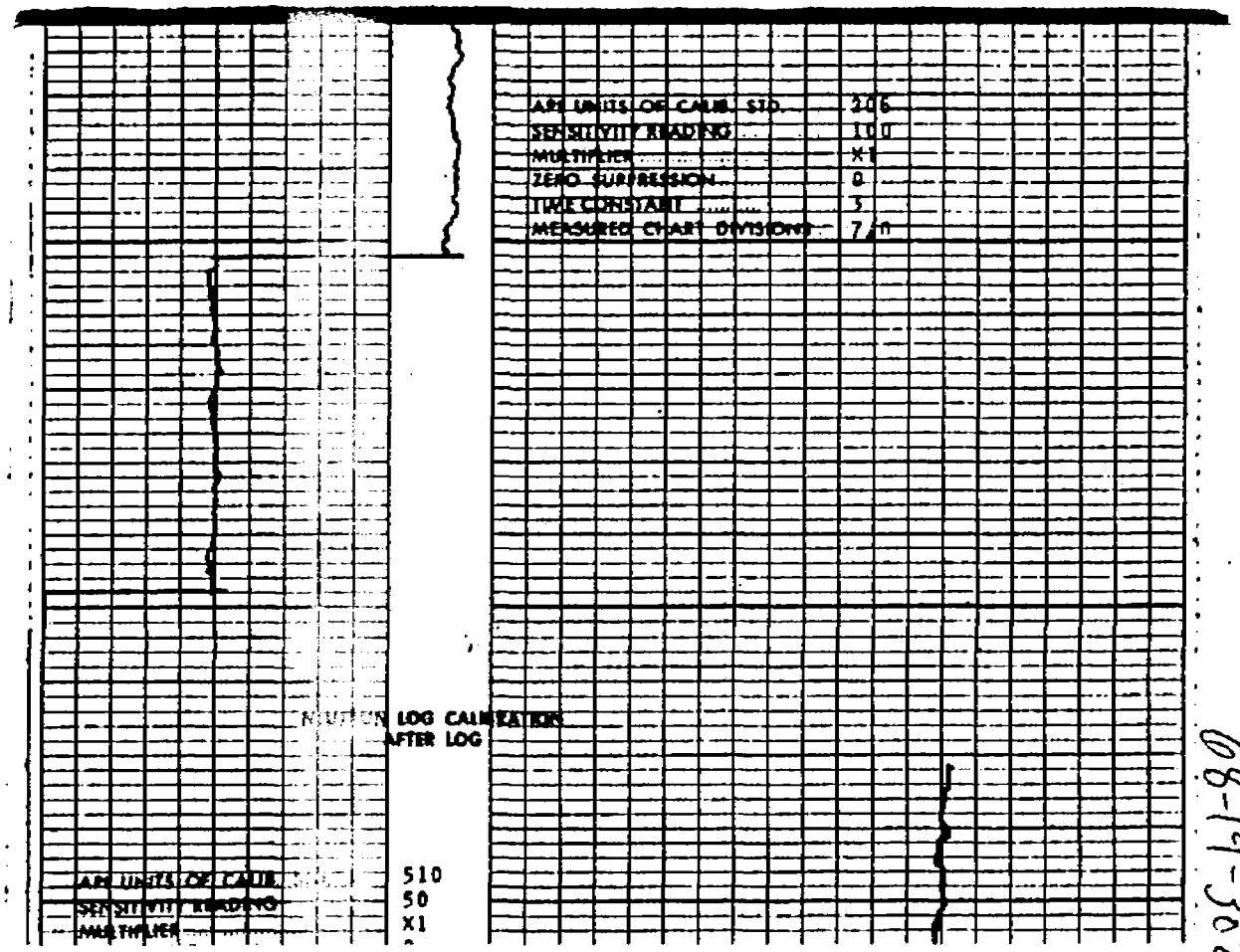

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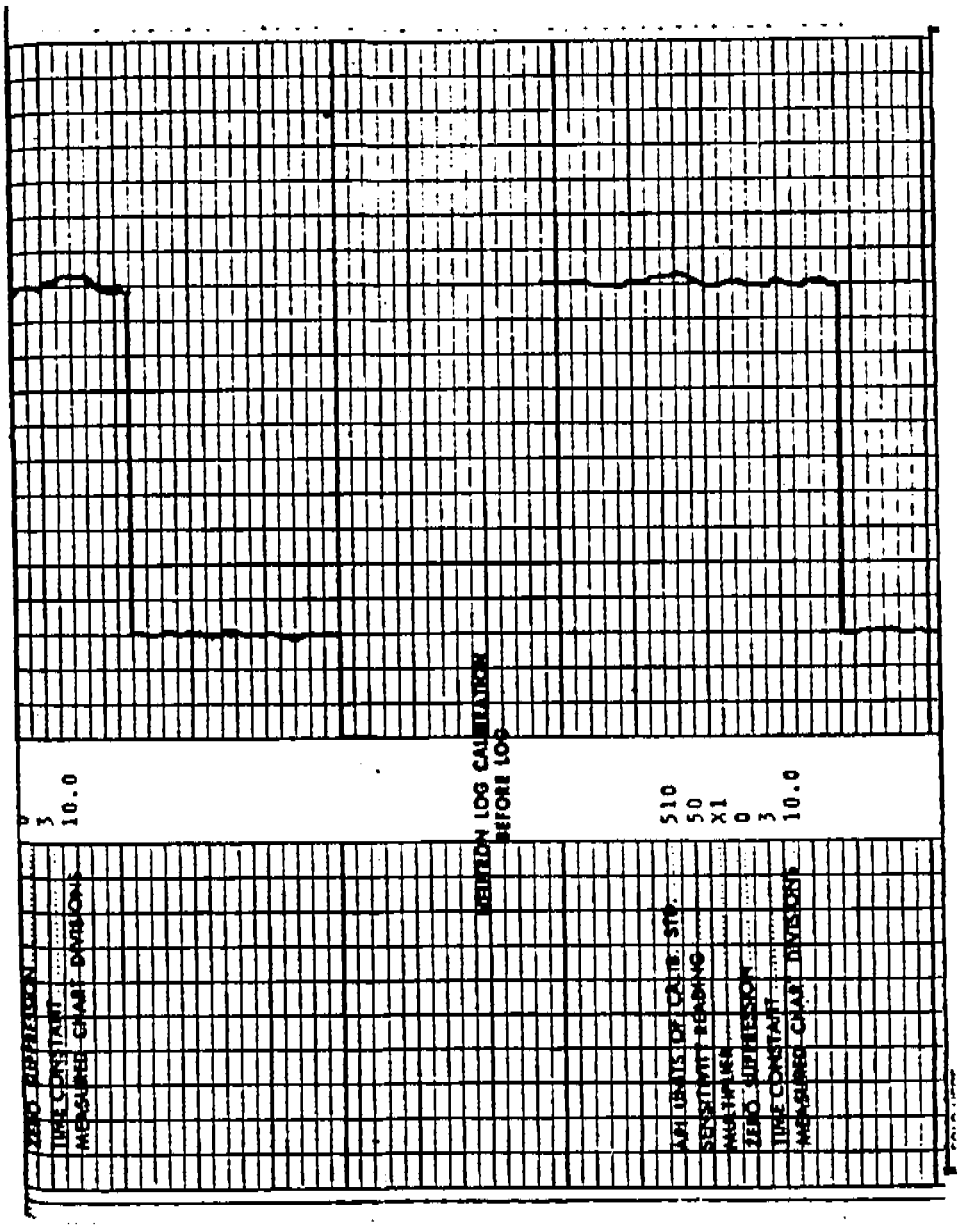

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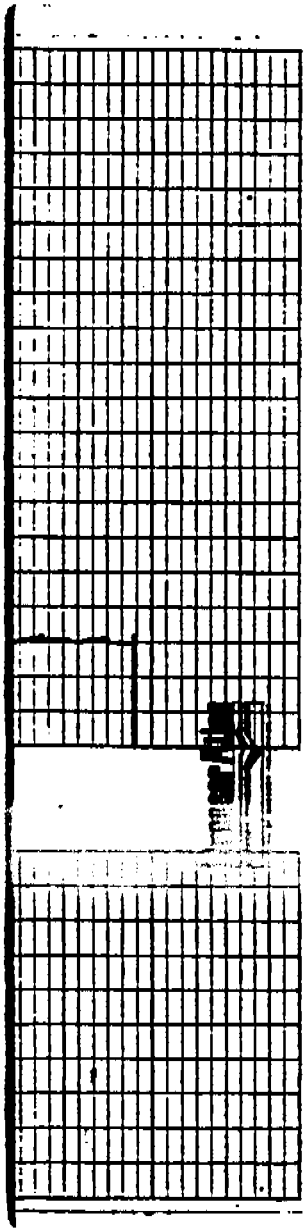

MAP #28

MAP ID
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TEXAS WATER DEVELOPMENT BOARD

Surface Mgrll

WELL SCHEDULE

#4

Aquifer(s) Kcsa (228 SSAM) Project No. 6029 State Well No. 68-19-308

Field No./Owner's Well No. #4 County (AY) Bexar (015)

1. Location: ___ ¼, ___ ¼, Section ___, Block ___, Survey ___, Lat. ___, Long. ___

2. Owner: Fair Oaks School Address: Rt 4 Box 9995 Boerne TX 78006

Tenant (other): David Buckaroo (Super) Address: Same 512 755-4291

Driller: Louis Bergmann & Sons Address: 1355 Rosa St. Boerne Tx 78006

3. Land Surface Elevation: 1437 ft. above msl determined by Topo

4. Drilled: ___ 19___; Dug, Cable Tool, Rotary, Air, ___

5. Depth: Rept. 615 ft. Meas. ___ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. Jacuzzi Type Sub.

No. Stages ___ Bowls Diam. ___ in., Setting 567 ft.

Column Diam. 3 in., Length Tailpipe ___ ft.

8. Motor: Mfr. ___ Fuel Elect. HP 30

9. Yield: Flow ___ gpm, Pump 150-180 gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date ___ Length of Test ___ Made by ___

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production ___ gpm Specific Capacity ___ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) ___

Analyses

Date ___ Laboratory ___ TDS ___ Sp Cond ___

Date ___ Laboratory ___ TDS ___ Sp Cond ___

12. Other data available (as circled): Pumping Test, Power & Yield Test, Drillers Log, Formation Samples, Geophysical Log(s) ___

CASING, BLANK PIPE & WELL SCREEN
Cemented From 0 ft. to 403 ft.

Diam. (In.)	Type	Setting (Feet) From	To
8 5/8	Steel	0	403
open	hole	403	615

13. Water Level(s): UTM ft. rept. meas. 9-3 19 87 (type) above below ___ which is ___ ft. above below Land Surface

___ ft. rept. meas. ___ 19___ above below ___ which is ___ ft. above below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) ___

15. Recorded by: Ben Mohr Source of data: Obs, Super Date: 9-3-87

16. Remarks: Airline Setting 562

U Pumping

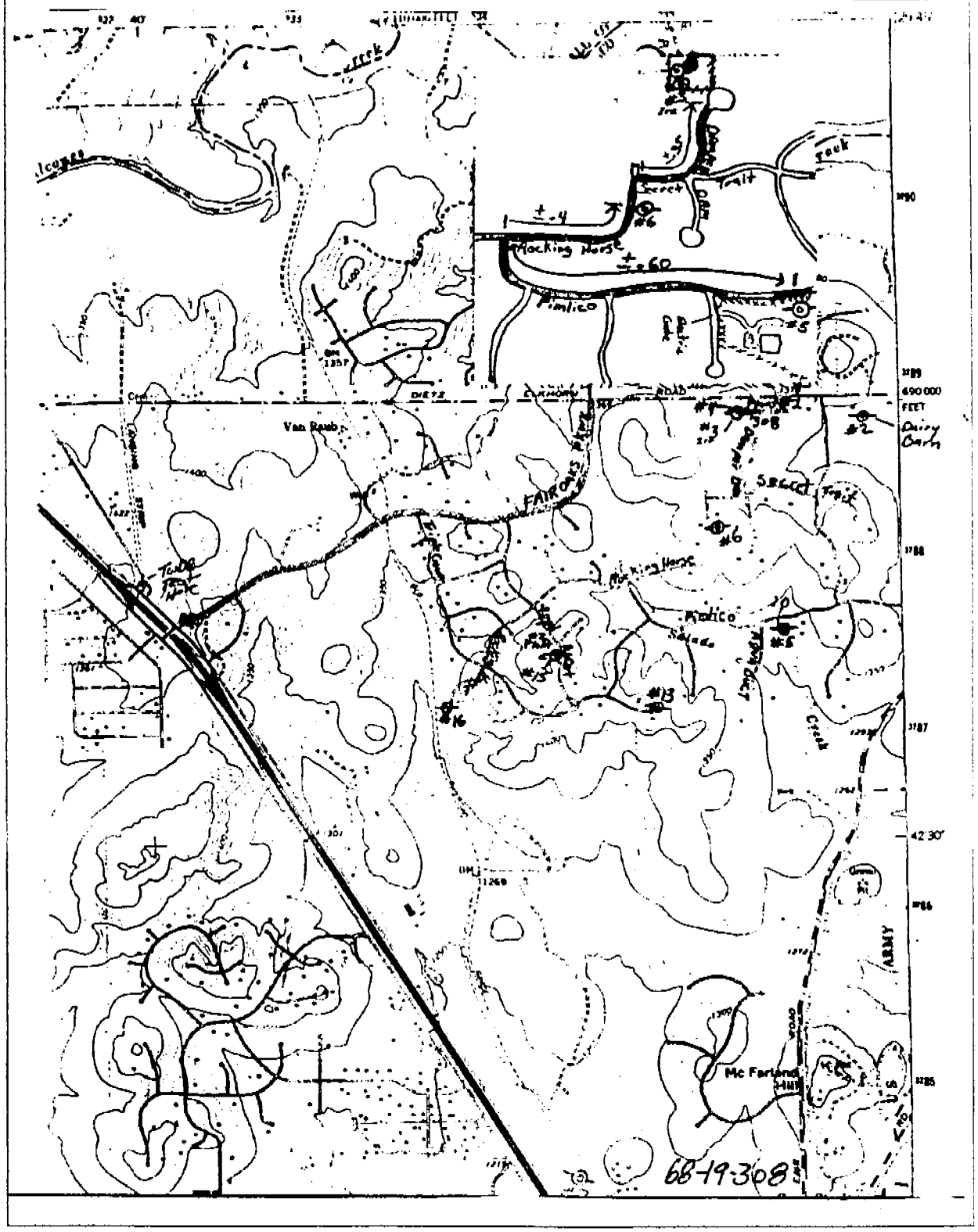
17. Location or Sketch:

TWDB-0308 (Rev. 12-11-86)

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. 68-19-308

MAP ID
28



MAP #28

MAP ID
29

Texas Water Development Board
Well Schedule

State Well No. 68 19 3 17 Previous Well No. _____ County Bexar 023

River Basin San Antonio 19 Zone 7 Lat. 29 42 54 Long. 098 37 35 Datum 7

Owner's Well No. #22 Location ____ 1/4, ____ 1/4, Section ____, Block ____, Survey ____

Owner: Fairco Water Company

Driller: Louis Bergman Sons

Address: Box 4495, Boerne

Tester: Paul Broussard

Date Drilled: 23 20 1989 Depth: 505 Source of Depth Data: D Altitude: 1279 Source of Alt. Data: A

Aquifer: Glen Rose (GR) Well Type: W Use: 277575

Well Construction: Const. Method: Air Rotary A Casing Material: steel S

0150216

Completion: open hole X Screen Material: ____

Lift Data: Pump Mfr. ____ Type: Sub S No. Stages ____

Bowls Diam. ____ in. Seating 462 ft. Column Diam. 5-3/8 in.

Motor Mfr. ____ Fuel or Power: elec. E Horsepower 20.49

Yield: Flow ____ GPM Pump ____ GPM Meas. Rept. Est. ____ Date ____

Performance Test: Date ____ Length of Test ____ Production ____ GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft. Sp.Cap. ____ GPM/ft.

Quality (Remarks): ____

Water Use: Primary PS P Secondary ____ Tertiary ____

Other Data Available: Water Level W, Water Quality Q, Logs L

Water Levels: Date 6 10 1990 Meas. 10.10 7-0 7

Equipped w/airline. = 452

Casing or Blank Pipe (C) / Well Screen or Slotted Zone (S) / Open Hole (O) / Cemented from 0 to 306 / Seating Shoe

	Diam. (in.)	From	To
1	8	0	306
2	0	306	505

Recorded by: Dr. Baker Date Record Collected: 05 23 1997 (20 max) Reporting Agency: 07

Remarks: Owner's well #22. Cibolo Creek Area 0 Ao 306 ft. eff.

Aquifer: ____

Well No. 68-19 3/7

MAP ID

29

68-19-3 ✓

State of Texas
WATER WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

Well #22

1 OWNER: Fair Oaks Water Co. Box 4495 Boerne, TX 78006

2 LOCATION OF WELL: County Kerr 3/4 mile S direction from Fairloo & R. Fair Rd.

#4

6 TYPE OF WORK: New Well

7 PROPOSED USE: Public Supply

8 DRILLING METHOD: Air Rotary

9 WELL LOG:

Date Drilling		Diameter of Hole (In.)	From (Ft.)	To (Ft.)
Started 3-2	89	12 3/4	Surface	315
Completed 3-20	89	8	315	505

From (Ft.)	To (Ft.)	Description and color of formation material
		SEE ATTACHED

11 COMPLETION: Straight Wall

12 CASING, BLANK PIPE, AND WELL SCREEN DATA:

Diam. (In.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfgr. & model	Setting (Ft.) From	To
8 5/8	N	steel .322	0	306

15 GROUTING DATA: Grouted from 0 ft. to 306 ft.

Method used: Pressure cemented by Nixon Intl Services, Inc.

16 SURFACE COMPLETION: Specified Surface Slab Installed

17 WATER LEVEL: Static level 300 ft. below land surface Date 3-20-89

18 PACKERS:

19 TYPE PUMP:

20 WATER QUALITY:

21 WELL TESTS:

RECEIVED
SEP 7 1989
TEXAS WATER COMMISSION

15-20 hp
S, E

Airline

(3D) 29 42 52
098 37 33

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.

COMPANY NAME: LOUIS HERMANN & SONS Water Well Driller's License No. 1937

ADDRESS: 135 South Pecan Boerne, TX 78006

Signed: Marguerite Margaret (Registered Water Well Driller)

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

Form WWD-1 (Rev. 05-10-88) TEXAS WATER COMMISSION COPY

68-19-317

MAP #29

MAP ID
29

12¼" to 315' March 2- , 1989

FAIR OAKS #22

4 mi. South of Pimilco & Ralph Fair Road

0-13	caliche & rock layers		
13-15	med hard gray rock		
15-20	yellow caliche & clay		
20-22	med soft blue shale		
22-23	med hard layer yellow rock		
23-27	med-soft layer blue gray shale		
27-46	med soft gray shale		
46-56	med soft layer yellow		
56-57	hard yellow rock		
57-59	soft sticky blue shale		
59-64	med soft blue shale		
64-73	med hard layer yellow rock		
73-78	med hard very porous yellow rock	no	returns
78-85	med soft	"	"
85-153	med hard	"	"
153-159	med hard porous	"	"
159-171	med hard gray foam		
171-178	med soft	"	"
178-234	med hard	"	"
234-239	med hard porous	"	"
239-255	med hard	"	"
255-257	hard	"	"
257-318	med hard	"	"
318-320	hard	"	"
320-332	med soft	"	"
332-335	med hard	"	"
335-353	med soft porous spots	no return	possible
353-380	med hard	"	" water
380-406	med soft gray foam		
406-430	med hard	"	"
430-432	very hard porous	"	"
432-452	med hard	"	"
452-455	hard porous	"	"
455-466	med hard porous	"	"
466-475	med hard	"	"
475-491	med hard porous	"	"
491-505	med hard	"	"

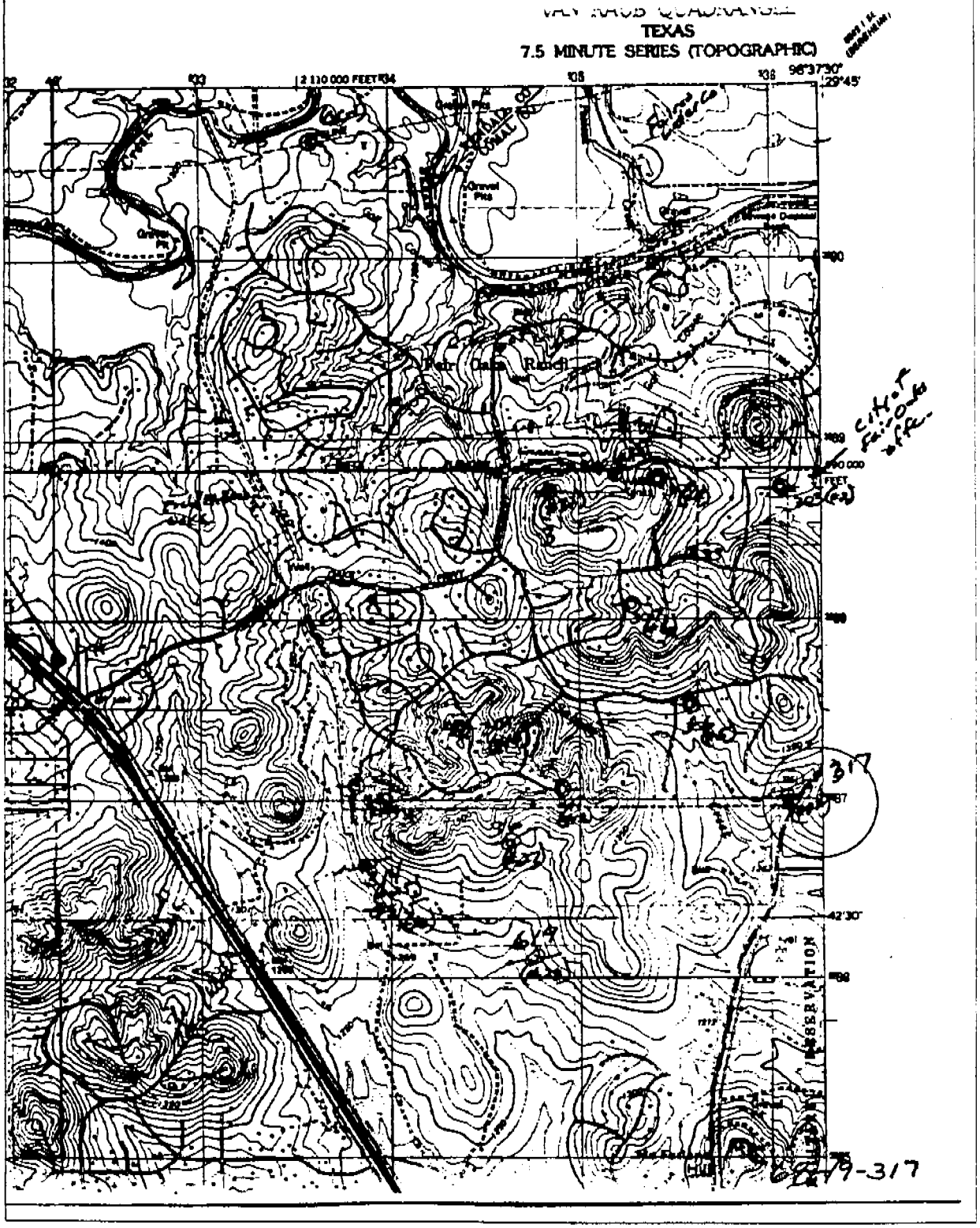
Total Depth: 505'
Static Water Level: 300 + or -
Casing: 306 ft. 8 5/8" OD .322 steel
Cement: pressure cemented by Nixon International Services, Inc.

ER:bm

68-19-317

MAP #29

MAP ID
29



MAP #29

MAP ID
30

TEXAS WATER DEVELOPMENT BOARD

WELL REPORT

Aquifer: Lower Glen Rose, Hensell

Field No. _____

Owner's Well No. #7

State Well No. 68-20-402

County: Bexar

1. Location: 1/4 1/4 Sec. ____ Block ____ Survey ____
25415 Brewer Dr.

2. Owner: Leon Springs Villa Water Co. Address: 25211 Ada Mae, Leon Springs
Driller: Harold E. Newman Address: 25202 Ina Rith Parkway, Leon Springs
Driller: Hasbin Rega Service Inc. Address: ____

3. Elevation of 650 ft. above msl, determined by Topo

4. Drilled: old 19__; Dug, Cable Tool, Rotary

5. Depth: Repd. 425 ft. Meas. ____ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfgr. ____ Type Submersible
No. Stages ____, Bowls Diam. ____ in., Setting ____ ft.
Column Diam. ____ in., Length Tailpipe ____ ft.

8. Motor: Fuel Elec. Make & Model ____ HP. 7½

9. Yield: Flow ____ gpm, Pump ____ gpm, Meas., Repd., Est.

10. Performance Test: Date ____ Length of Test ____ Made by ____
Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft.
Production ____ gpm Specific Capacity ____ gpm/ft.

11. Water Level: ____ ft. repd. meas. ____ 19__ above/below ____ which is ____ ft. above/below surface.
____ ft. repd. meas. ____ 19__ above/below ____ which is ____ ft. above/below surface.
____ ft. repd. meas. ____ 19__ above/below ____ which is ____ ft. above/below surface.
____ ft. repd. meas. ____ 19__ above/below ____ which is ____ ft. above/below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used.

13. Quality: (Remarks on taste, odor, color, etc.)

Temp. ____ °F, Date sampled for analysis ____ Laboratory ____
Temp. ____ °F, Date sampled for analysis ____ Laboratory ____
Temp. ____ °F, Date sampled for analysis ____ Laboratory ____

14. Completed as original: Driller's Log, Electrical Log, Electric Log, Formation Samples, Pumping Test

15. Reported by: John Schwartz

Source of Data Owner, Field Visit

16. Remarks:
at Leon Springs Mobile Home Villa

CASING & BLANK PIPE

Cemented From ____ ft. to ____ ft.

Diam. (in.)	Type	Setting, ft. From	To
	unknown		

WELL SCREEN

Screen Openings ____

Diam. (in.)	Type	Setting, ft. From	To

TWDBE-WD-2 (Sketch)

AY 68-20-402

MAP ID
30

REQUEST FOR CHEMICAL ANALYSIS OF WATER
TEXAS STATE DEPARTMENT OF HEALTH LABORATORIES
1100 WEST 49th STREET AUSTIN, TEXAS 78756

IMPORTANT - READ CAREFULLY

Name: Lone Spurce Utility Water Company

LOCATION: Drill Core Laboratories, Inc.
COUNTY: Bexar
DATE COLLECTED: 7/5/72
OWNERSHIP OF SUPPLY: Drill Core Laboratories, Inc.

IF WELL TELL
Depth: 6

POINT OF COLLECTION
Raw Supply: Well head
Power Discharge
Distribution
Other

PHYSICAL APPEARANCE
Clear
Turbid
Colored
Odor

IF SURFACE SUPPLY
Name of source

REMARKS

CHEMICAL ANALYSIS REPORT
Values reported are in milligrams per liter or equivalent

Collected: 7-3-72 Date Received: 7-26-72

	Milligrams per Liter		Milligrams per Liter		Milligrams per Liter
Calcium	120	Carbonate	0	Dissolved solids	570
Magnesium	16	Bicarbonate	317	Phenolphthalein Alkalinity as $CaCO_3$	0
Sodium	7	Sulfate	54	Total Alkalinity as $CaCO_3$	260
Iron	<0.65	Chloride	13	Total Hardness as $CaCO_3$	366
Fluoride	<0.02	Fluoride	0.1		
		Nitrate	2.5		

pH 7.2 Dissolved Conductance Micromhos at 25° C 765

68-20-402

MAP #30

MAP ID
30

REQUEST FOR CHEMICAL ANALYSIS OF WATER

TEXAS STATE DEPARTMENT OF HEALTH LABORATORIES

1100 WEST 49th STREET AUSTIN, TEXAS 78756

IMPORTANT - READ CAREFULLY:

All requests must be signed by the person requesting the analysis. Chemical analyses are limited to samples of water from public supplies the identification of which is requested by a [illegible]. If the supply being sampled is of public interest [illegible] generally serving the public, an explanation of the reason for requesting the analysis should be furnished under "Remarks" or by attaching a separate explanatory sheet. Please complete the form with typewriter (black ribbon) or pen; partially using both pencil or black ink. A ball point pen should not be used.

Send report to:

Texas Springs Hills Water Company
[illegible] Loop South Parkway
San Antonio, Texas 78230

LOCATION Bexar Lake Estates Inc.

COUNTY Bexar

DATE COLLECTED 8/8/72

OWNERSHIP OF SUPPLY

Hill Country Estates Inc.

W. D. Smith

IF FROM WELL

Depth

Age

Well No. #1

POINT OF COLLECTION

Raw Supply Well head

Plant Discharge

Distribution

Other

PHYSICAL APPEARANCE

Clear Yes

Turbid

Colored

Odor

IF SURFACE SUPPLY

Name of source

REMARKS:

Signature of Public Official, Water Utility Official, or authorized representative requesting the analysis

(Signature)

(Address of Official)

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS REPORT

(Values reported are for minerals in solution)

Laboratory No. 252828 - 1

Date Received JUL 27 1972

Date Reported

	Milligrams per Liter		Milligrams per Liter		Milligrams per Liter
Calcium	106	Carbonate	0	Dissolved solids	530
Magnesium	16	Bicarbonate	355	Phenolphthalein	
Sodium	11	Sulphate	22	Alkalinity as $CaCO_3$	0
Manganese	<0.05	Chloride	18	Total Alkalinity as $CaCO_3$	291
Iron	<0.03	Fluoride	0.3	Total Hardness as $CaCO_3$	332
		Nitrate	6		

pH 7.7

Dissolved Constituents Determined as 450

RECOMMENDED LIMITS FOR DRINKING WATER IN MILLIGRAMS PER LITER

IRON	0.3	FLUORIDE	[illegible]
MANGANESE	0.05	NITRATE	45
SULPHATE	250	TOTAL SOLIDS	500
CHLORIDE	250		

MAP #30

MAP ID
30

RE[illegible]EST FOR CHEMICAL ANALYSIS OP[illegible]TER

TEXAS STATE DEPARTMENT OF HEALTH LABORATORIES

1100 WEST 49th STREET AUSTIN, TEXAS 78756

IMPORTANT – READ CAREFULLY.

All requests must be signed by the person requesting the analysis. Chemical analyses are limited to samples of water from public supplies the [illegible] of which is supervised by a proper official. If the supply being some of is of public interest and not personally serving the public, an explanation of the reason for requesting the analysis should be furnished under "Remarks" or by attaching a separate explanatory sheet. Please complete this form with typewriter (black ribbon) or pen (preferably using ink pen) or black ink. A ball point pen should not be used.

Send report to:

Lone Springs Villa Water Company

2619 San Pedro Parkway

San Antonio, Texas 78247

LOCATION Lone Springs Mobile Home Villa

COUNTY Bexar

DATE COLLECTED 7/4/73

OWNERSHIP OF SUPPLY:

Lone Springs Villa Water Company

Harold E. Hanna

IF FROM WELL

Depth

Age

Well No. 1

POINT OF COLLECTION

Raw Supply Well head

Plant Discharge

Distribution

Other

PHYSICAL APPEARANCE

Clear Hazy

Turbid

Colored

Odor

IF SURFACE SUPPLY

Name of source

REMARKS

Signature of Public Official, Water Utility Official or authorized representative requesting the analysis:

(Signature) (Address of Official)

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS REPORT

(Values reported are for minerals in solution)

Laboratory No. 252824

Date Received JUL 27 1973

Date Reported

	Milligrams per Liter		Milligrams per Liter		Milligrams per Liter
Calcium	79	Carbonate	0	Dissolved solids	484
Magnesium	27	Bicarbonate	334	Phenolphthalein	
Sodium	7	Sulphate	18	Alkalinity as $CaCO_3$	0
Manganese	<0.05	Chloride	13	Total Alkalinity as $CaCO_3$	274
Iron	0.06	Fluoride	0.5	Total Hardness as $CaCO_3$	308
		Nitrate	4.9		

pH 7.6 Diluted Conductance Micromhos/cm 616

Iron	0.3	Fluoride	0.8-1.6
Manganese	0.05	Nitrate	45
Sulphate	300	Total Solids	700
Chloride	300		

MAP #30

MAP ID
31

BANKS INFORMATION SOLUTIONS, INC.

P.O. Box 12851 Capitol Station ■ Austin, Texas 78711 512/478-0059

WATER WELL SEARCH

DRILLERS LOG NOT AVAILABLE

MAP ID

32

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*

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER Arvo Neidre (Name) Address 2802 Whisper Fawn (Street or RFD) San Antonio (City) Tx (State) 78230 (Zip)

2) LOCATION OF WELL: County Bexar 3 miles in north (N.E., S.W., etc.) direction from Leon Springs (Town)
well located on Fawn Mountain, Jackson Woods Subdivision,

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 10-29-84

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8¼	Surface	203
6-1/8	203	565

From (ft.)	To (ft.)	Description and color of formation material
0	3	soil and rocks
3	20	yellow clay
20	50	gray shale
50	100	yellow lime
100	125	white lime
125	180	grey lime
180	250	hard white lime (water)
250	360	grey lime and shale
360	480	white lime
480	565	gray lime (water)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
6-5/8	new	steel	0	203	.188 wall

CEMENTING DATA
Cemented from 0 ft. to 203 ft.
Method used Sand Man Mobile Concrete Co.
Cemented by grout poured from top (Company or Individual)

9) WATER LEVEL: Static level 320 ft. below land surface Date 10-29-84
Artesian flow _____ gpm. Date _____

10) PACKERS: Type rubber Depth 207

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(Use reverse side if necessary)

11) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc. 441 ft.

12) WELL TESTS: ☐ Type Test: ☒ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: 25 gpm with 0 ft. drawdown after 1 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? Glenrose Depth of strata 180-250,
Was a chemical analysis made? ☐ Yes ☒ No 480-565

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.

COMPANY NAME Charlie Junek Drilling (Type or Print) Water Well Driller's License No. 1683

ADDRESS 7206 Moss Creek (Street or RFD) San Antonio (City) Texas (State) 78238 (Zip)

(Signed) [signature] (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

For TDWR use only
Well No. 68-79-6EE
Located on map 785 C.F.S.

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

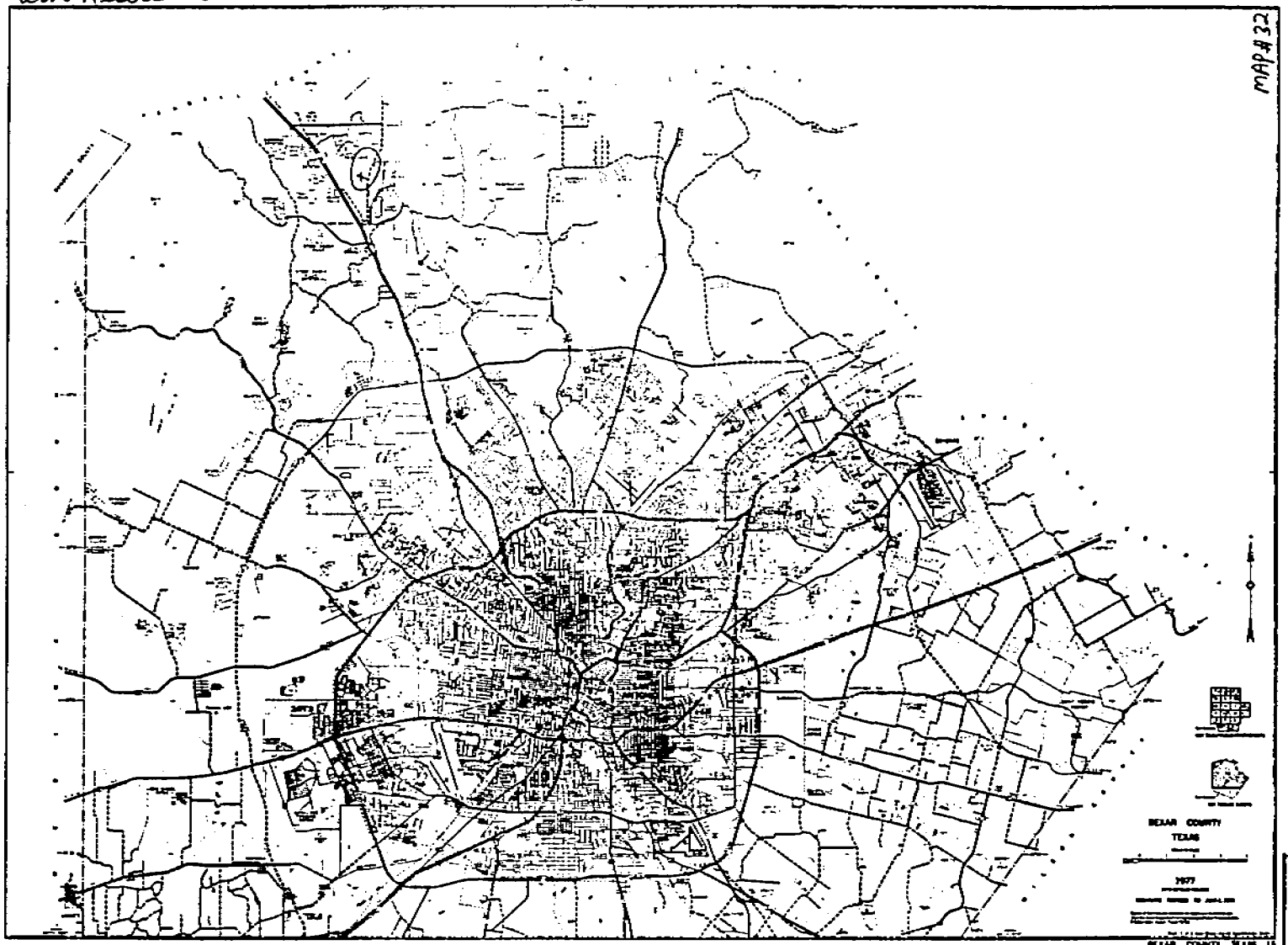
TDWR 0702 (Rev. 5-27-83)

DEPARTMENT OF WATER RESOURCES COPY

4802903148

Arvo Reidre Well - Jackson Woods Subdivision

MAP #32



MAP ID
32

MAP ID
32

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

(16)

State of Texas
WATER WELL REPORT
ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Mr. Ebersole, Builder (Name) Address P.O. Box 5453 (Street or RFD) San Antonio (City) Texas (State) 78201 (Zip)

2) LOCATION OF WELL: County Bexar 1½ miles in northeast (N.E., S.W., etc.) direction from Leon Springs (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: Corner Covey Roosty Fawn Mtn Drive/ Jackson Wood Subd

☒ See attached map. Map on 68-21-1F

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 6/ / 83

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8-3/4	Surface	104
6	104	450

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

From (ft.)	To (ft.)	Description and color of formation material
0-	25	Caliche w/firm brn L/S ledges
25-	50	Firm brn L/S w/firm med gray shale last 2'
50-	75	Firm med gray shale
75-	100	Firm gray shale w/gray L/S last 10'
100-	125	Firm gray L/S first 3', then firm brn L/S
125-	150	Firm brn L/S w/mult w frac & cave's
150-	225	Firm brn L/S
225-	250	Firm brn L/S w/firm gray L/S last 5'
250-	300	Firm gray & lt gray L/S
300-	325	Firm gray L/S
325-	350	Firm gray L/S w/brn L/S ledges
350-	375	Firm brn L/S w/mult frac last 10'
375-	400	Firm, porous, brn L/S w/gray L/S last 6'
400-	425	Firm dk gray L/S
425-	450	Firm dk gray L/S w/strks firm med gray shale last 8'

(Use reverse side if needed)

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
6-5/8	N	Plastic	104	1 above ground	sch40

CEMENTING DATA: Cemented from 104 ft. to surface ft. Method used grout Cemented by Hill Country Water, Inc. (Company or Individual)

9) WATER LEVEL: Static level 250 ft. below land surface Date 6/20/83 Artesian flow ____ gpm. Date ____

10) PACKERS: Type vinyl Depth 104'

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

12) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated Yield: 15 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? good Depth of strata 75' Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED OCT 25 1984 DEPT. OF WATER RESOURCES

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.

COMPANY NAME HILL COUNTRY WATER, INC. (Type or Print) - Water Well Driller's License No. 2100 Dale L. Kuhn

ADDRESS P.O. Box 21 (Street or RFD) Bulverde (City) Texas (State) 78163 (Zip)

(Signed) ____ (Licensed Water Well Driller) (Signed) ____ (Registered Driller Trainee) Dup

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

For TDWR use only: Well No. 68-21-GMM Located on map ____

TDWR 6392 (Rev. 5-27-83) DEPARTMENT OF WATER RESOURCES COPY 4805903180

MAP ID

32

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 68-19-6MM
Located on map yes
Received: 8-8-83

1) OWNER:
Person having well drilled Mr Elmer Sicko (Name) Address 7055 Countryview Ln. S.A. Tx (Street or RFD) (City) (State) 78229

Landowner Same (Name) Address (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County Bexar, miles in (N.E., N.W., etc.) direction from (Town)

Locate by sketch map showing landmarks, roads, creeks, hiway number, etc.*

See Well # 5

map on 68-27-2cc

North

(Use reverse side if necessary)

or Give legal location with distances and directions from adjacent sections or survey lines.

Labor _____ League _____
Block _____ Survey _____
Abstract No. _____
(W½ NE¼ SW¼ SE¼) of Section _____

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole 6 in. Depth drilled 425 ft. Depth of completed well 425 ft. Date drilled 8/10/82
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	38	Caliche & Yellow Clay
38	55	Clean Rock & Yellow Clay
55	425	Clean Rock Gray

(Use reverse side if necessary)

9) Casing:
Type: Old, New, Steel, Plastic, Other
Cemented from 2 yds 6 Sack. Grout ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
7	0	110	.250

10) SCREEN:
Type _____
Perforated _____ Slotted _____

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot Size

7) COMPLETION (Check): Straight wall, Gravel packed, Other, Under reamed, Open Hole

8) WATER LEVEL:
Static level 290 ft. below land surface Date 8/11/82
Artesian pressure _____ lbs. per square inch Date _____
Depth to pump bowls, cylinder, jet, etc. _____ ft. below land surface.

11) WELL TESTS:
Was a pump test made? Yes No If yes, by whom?
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.
Bailer test _____ gpm with _____ ft. drawdown after _____ hrs.
Artesian flow _____ gpm
Temperature of water _____

12) WATER QUALITY:
Was a chemical analysis made? Yes No
Did any strata contain undesirable water? Yes No
Type of water Clean Rock depth of strata 55

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 Charles L. Rosenkranz (Type or Print) Water Well Drillers Registration No. 1518

ADDRESS Rt 17 Box 106 S.A. Tx. 78228 (Street or RFD) (City) (State)

(Signed) Charles L. Rosenkranz (Water Well Driller) R. Rosenkranz & Sons (Company Name)

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

*Additional instructions on reverse side.

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AUG 11 1983
DEPT. OF WATER RESOURCES

4802903181

MAP ID
33

BANKS INFORMATION SOLUTIONS, INC.

P.O. Box 12851 Capitol Station ■ Austin, Texas 78711 512/478-0059

WATER WELL SEARCH

DRILLERS LOG NOT AVAILABLE

M

MAP ID
33

BANKS INFORMATION SOLUTIONS, INC.

P.O. Box 12851 Capitol Station ■ Austin, Texas 78711 512/478-0059

WATER WELL SEARCH

DRILLERS LOG NOT AVAILABLE

M

MAP ID
33

BANKS INFORMATION SOLUTIONS, INC.

P.O. Box 12851 Capitol Station ■ Austin, Texas 78711 512/478-0059

WATER WELL SEARCH

DRILLERS LOG NOT AVAILABLE

M

MAP ID
33

BANKS INFORMATION SOLUTIONS, INC.

P.O. Box 12851 Capitol Station ■ Austin, Texas 78711 512/478-0059

WATER WELL SEARCH

DRILLERS LOG NOT AVAILABLE

MAP ID
34

WATER SYSTEM DATA

Je. Ehang Notice for new name, etc

No Letter INACTIVAT To Terri Cesarin

ID No. 0150243 Community X NTNC ___ Non-Comm ___

CCN No. NONE Superior ___ Approved ___ Status? ACTIVE Region 13

Name of System MOORE'S MOBILE HOME PARK County BEXAR

Physical location 25291 IH-10W, LEON SPRINGS AREA

Responsible Official BOB MOORE (BM) Title OWNER Phone 210/661-938

Mailing Address 441 EAST AMMANN ROAD, BULVERDE, TX 78163-2007

Chief Cert Op Name NONE Grade & Type ___ Phone ___

2nd Op Req'd? ___ Other Cert Op Name ___ Grade & Type ___ Total # Cert Ops 0

WS Manager/Superintendent BILL CHIERS (BC) Other Officials Contacted ___

Surveyed With BM & BC Area Served MHP

Supplier and Source SELF- GROUND / ONE EDWARDS

Interconnection with another PWS? NO Name PWS I/C ___ Type I/C ___

Retail Service Connections 25 Retail Meters 0 Retail Population 75

Wholesale Master Meters ___ Wholesale Service Connections ___ Wholesale Population ___

Minimum Charge ? NA Per ___ Thous. Dist. to and Name of Nearest PWS 1M - TEN WEST CTR

Reason for this Survey (Routine, Follow Up, Initial, Enforcement, Complaint, Other) Previous Survey Date 8-17-95

Map Attached NO Previous Map OK? YES Well Operational Status Changed? NO

Description of Supply, Source, Treatment, and Chemicals Used ONE WELL (SUB) FILLS ONE 5,000 GALLON CONCRETE GROUND STORAGE TANK, TWO SERVICE PUMPS SUCK STORAGE & DISCHARGE TO DISTRIBUTION THRU TWO PRESSURE TANKS. HYPO Cl_2 AS WELL.

Total Well Cap. 15 gpm 0.022 mgd RW Cap ___ gpm ___ mgd

Treatment Cap. ___ gpm ___ mgd Total Svc. Pump Cap. 60 gpm 0.086 mgd

Total Elevated Storage ___ Total Storage Cap. 0.005 MG Pressure Tank Capacity 0.0011 MG

Maximum Daily Usage ___ Date ___ Average Daily Usage ___ Time Period ___

Wholesale Contract ___ Maximum Purchase Rate ___

MICROBIOLOGICAL

	Y	N	
Samples Submitted in Accordance with DWS?	☐	■	Number of Samples Required 1 # Submitted 1
Raw Samples Submitted, if Required?	☐	☐	Number of Raw Samples ___
Well(s) Surface Water Influenced?	☐	■	Non-Comm. Dates of Operation ___ Thru ___
Acceptable Sample Sitng Plan on File?	■	☐	

CHEMICAL

Acceptable Quality? Y Date, Last Chemical Analysis IOC 9-17-95 SC 9-17-95 VOC 8-27-96 SOC 9-17-9

List UNACCEPTABLE Values ___

AS PROPER PUBLIC NOTIFICATION BEEN GIVEN? ___ Date ___

Date of Survey ~~8-27-96~~ 1-12-99 By R. DEINHAMMER / R. Deinhammer 1-15-99 ~~8-27-96~~

Date of Approval 8-28-96 By Bobby D. Bell

Letter Date, if different from Approval Date ___ Reply Requested YES 9-28-96 Def. Score of this Survey 18

MAP ID
34

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION 09/24/96
WATER UTILITIES DIVISION
WATER SYSTEM DATA SHEET

RECEIVED
SEP 30 1996

0150243
I.D.

EYE TEN INVESTMENTS
~~MOORE'S MOBILE HOME PARK~~
Name

~~C/O BOB MOORE - OWNER~~
Mailing Name

5309 WURZBACH, STE 100
~~461 EAST AMMANN ROAD~~
Mailing Address

SAN ANTONIO
~~BULVERDE~~
City

TX ~~781632007~~ 78288
St Zip

~~BOB MOORE~~ ED HICHLER
Responsible Official

OWNER
Title

(210) ~~661-0303~~ 680-3767
Phone

2
Owner Type

~~R2~~ S2
Service Area

1-Federal	01-Interstate Carrier	S1-School	T1-Recreation
2-Private	02-Wholesaler	S2-Institution	T2-Service Stati
3-State	09-Other Area	S3-Medical Facility	T3-Summer Camp
4-Local	R1-Residential	S4-Indust/Agr.	T4-Restaurant
5-Mixed Priv/Pub	R2-Mobile Home Park	S5-Day Care Center	T5-Highway Rest
6-Native American	R9-Other Residential	S9-Other Semi-resid	T6-Hotel/Motel
			T9-Other Transier

~~C~~ P
Plant Type

~~N~~ N
Interstate Carrier

C-Community
N-Non-community
P-Non-transient

See note next page

~~75~~	~~25~~	0	0	77.0
Pop. Served	# of Connect	# of Meters	#I/C w/other PWS	Air Temp.

~~0.022~~	0.000	~~0.005~~	0.000	~~0.086~~	0.000	0 ~~.00110~~
Total Product (MGD)	Average Daily Consump.	Total Storage (MG)	Elev. Storage (MG)	Booster Pump Cap. (MGD)	Aux. Prod. Cap. (MGD)	Pressure Tank Cap. (MG)

1/12/99 - Deactivation Date
Out of Business - Reason
~~A~~ INACTIVE - Activity Indicator

1	N	0	
System Classification	Certified Operator	Number	Highest Grade

01/12/99

~~08/27/96~~	DEINHAMMER	I15	13	BEXAR
Survey	Surveyor (Last Name)	Code	Region	County

NA

MAP ID
34

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
WATER UTILITIES DIVISION
WATER SYSTEM DATA SHEET
(ENTRY POINT)

Entry Point Codes: G - Ground Water; P - Surface, Purchased; S - Surface; W - Ground, Purchased; Y - GUI; Z - GUI, Purchased

I.D.	Entry Point	Name	Plant Name	Code	Wells	Seller
0150243	001	EDWARDS		G	1	

****

(TREATMENTS)

I.D.	Entry Point	Treatment	Obj.	Process	
0150243	001	01	D	423	Hypochlorination, Pre

****

(SOURCES)

Status Codes: (A) Abandoned (C) Capped (D) Demand (E) Emergency (F) Former PWS Well (N) Non-drinking Water (O) Operational (P) Plugged (T) Test

I.D.	Entry Point	Water Source	Owner Designation	Status	Depth	GPM
0150243	001	G0150243A	1-CTR OF PARK	O	496	15

New owners are turning this MHP into a strip center for offices/retail activities. They may or may not use existing well/system. Due to well location, they will probably drill a new well. System is now inactive and expect construction/occupation to take 3-6 months. Will update again after reactivation.

MAP ID
34

PUBLIC WATER SUPPLY REGULATORY PROGRAM
COMPLIANCE CHECK INSPECTION REPORT

A. GENERAL INFORMATION:

ID No. 0150243		
Region: 13	County: Bexar	Inspection Date: 1-12-99
Name of System: Moore's MHP Physical Location: 25291 IH - 10 West, San Antonio		
Source of System: _X_ Groundwater ____ GUI ____ Surface Water ____ Purchased		
Type of System: ____ Community Water ____ Noncommunity Water ____ Transient Noncommunity Water _X_ Nontransient Noncommunity Water		
Type Inspection: ( ) Enforcement Inspection (X) Other (OTH) Inspection	Alleged Violations: ( ) Yes (X) No	Verbal Notification Given: ( ) Yes ( ) No
NOV Required: ( ) Yes (X) No		

B. CONTACT(S):

Name	Title	Phone No.	Contacted (Yes/No)
Ed Hichler	Owner	(210) 680-3767	Yes

C. OBSERVATIONS/COMMENTS:
(ALLEGED VIOLATIONS MAY BE NOTED IN THIS SECTION)

1. The survey was to verify a change in ownership and status. Moore's MHP has been sold. All the trailers are gone and initial construction activity is underway to turn this land into an office/retail strip center. This will take 3-6 months so system is being inactivated until the complex is complete.

2. Old well / system may not be reused due to its location. An engineer has been hired to determine if a new well will be drilled.

3. New owner: Ed Hichler New Phone: (210) 680-3767

New Name: Eye Ten Investments

New Mail Address: 5309 Wurzbach, Suite 100
San Antonio, TX 78238

Richard Deinhammer
Richard Deinhammer
Inspector

Tom Haberle
Tom Haberle
Regional Water Section Team Leader

1-15-99
Signature Date

MAP ID
35

Texas Water Development Board
Well Schedule

State Well No. 68 17 3 18 Previous Well No. _____ County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 43 57 Long. 098 38 11 Source Code 1

Owner's Well No. #23 Location ____ 1/4, ____ 1/4, Section ____, Block ____, Survey ____

Owner Fairco Water Company

Driller Louis Bergman & Sons

Address Box 4495 Boerne 78006 Tester Paul Broussard

Date Drilled 09 25 1989 Depth 700 Source of Depth Data D Altitude 1373 Source of Alt. Data M

Aquifer 217HSTN 217HSTN (AB) Well Type W Use

Well Construction Const. Method Air Rotary A Casing Material steel S

Completion open hole X Screen Material

Lift Data Pump Mfr. ____ Type Sub S No. Stages ____

Bowls Diam. ____ in. Setting 651 ft. Column Diam. ____ in.

Motor Mfr. ____ Fuel or Power elec E Horsepower 20.09 15-20

Yield Flow ____ GPM Pump ____ GPM Meas. Rept. Est. ____ Date ____

Performance Test Date ____ Length of Test ____ Production ____ GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft. Sp.Cap. ____ GPM/ft.

Quality (Remarks) ____

Water Use Primary Irr. I Secondary ____ Tertiary ____

Other Data Available: Water Level W Water Quality Q Log D Other Data

	Date	Meas.	
Water Level	09 25 1989	492	707

Equipped w/ airline. = 650'

Casing or Blank Pipe (C)
Well Screen or Slotted Zone (S)
Open Hole (O)
Cemented from 0 to 600 Setting (feet)

	Type	Diam. (in.)	From	To
1	C	8	0	600
2	O		600	700
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Recorded By D. Coker Date Record Collected 05 28 1997 (20 char) Reporting Agency 07

Remarks Owner's #23 well. Drilled as a public supply well.

Aquifer ____

Well No. 68.17.3/8

TD-4000
2/94

MAP ID

35

State of Texas
WATER WELL REPORT

Texas Water Well Drillers Board
P.O. Box 10629
Austin, Texas 78766

1) OWNER: Fair Oaks Water Co. (Street) P.O. Box 4495 (Street or RR #) Boerne, TX (City) 78006 (Zip)

2) LOCATION OF WELL: County: Kendall — within the City limits (No. S., E.W., etc.) division from Fair Oaks (Town)

Driller must complete the legal description to the right with distance and direction from two neighboring section or survey lines, or to main towns and identify the well on an official County or Texas Department of Highways 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 ____

3 R

68-19-3

Date drilled: 10/22-19-9

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

4) PROPOSED USE (Check): ☐ Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other ____

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

6) WELL LOG: Date Drilling: Started 8-21-89 to Completed 9-25-89

Diameter of Hole (Dia. in.)	From (ft.)	To (ft.)
18	Surface	600
8	600	700

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

7) SCHEDULE OF COMPLETION: ☐ Open Hole ☒ Straight Wall ☐ Underreamed ☐ Gravel Packed ☐ Other ____ If Gravel Packed give interval ... from ____ ft. to ____ ft.

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

Dia. (in.)	Weight or Gauge	Kind: Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	To	Gauge Slot No. or Screen
8 5/8	N	steel ,250	0	600	

9) GROUTING DATA (Rule 316.44(b)): Grouted from 0 ft. to 600 ft. No. of Sacks Used ____ from ____ ft. to ____ ft. No. of Sacks Used ____

Method used: Pressure cemented by

Grouted by: Nixon International Services

10) SURFACE COMPLETION: ☒ Specified Surface Slab Installed (Rule 316.44(a)) ☐ Pitless Adapter Used (Rule 316.44(b)) ☐ Approved Alternative Procedure Used (Rule 316.71)

11) WATER LEVEL: Static level 402 ft. below land surface Date 9-25-89 Artesian flow ____ gpm. Date ____

12) PACKING: Type ____ Depth ____

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

14) WATER QUALITY: Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No If yes, attach "REPORT OF UNDESIRABLE WATER" Type of water? ____ Depth of strata ____ Was a chemical analysis made? ☐ Yes ☐ No

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

RECEIVED
FEB 20 1990
TEXAS WATER COMMISSION

SF
15.20 hp
Aiken

2 HS 50
GR 38 12/11

Hoston Sliso
c/o weiss

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. I understand that failure to complete items 1 thru 15 will result in the logs being returned for completion and resubmittal.

COMPANY NAME: LOUIS HERMANN & SONS (Type or Print) Water Well Driller's License No. 1937

ADDRESS: 135 South Pecan (Street or RR#) Boerne, TX (City) 78006 (State)

Signature: Ha Marquardt (Licensed Water Well Driller) Signature: ____ (Registered Driller Trainee)

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

For TWC Well No. BY-19-3 (Assigned on map)

TWC-0200 (Rev. 03-10-88) TEXAS WATER COMMISSION COPY

68-19-318

MAP#35

MAP ID
35

574-586 med hard gray rock?-poor returns
586-599 med hard gray rock w/soft blue green shale
599-617 med hard gray rock
617-658 med hard porous gray brown rock
658-670 med soft very porous brown rock-water
670-700 med hard porous gray brown rock

Total Depth: 700'
Static Water Level: 482'
Test: rig pumping 40-50 gpm
Casing: 600 ft. 8 5/8" OD .250 steel
Cement: Pressure cemented by Nixon International Services, Inc.

ER:bm

68-19-318

MAP# 35

MAP ID

35

Aug. 25-Sept 25
1989

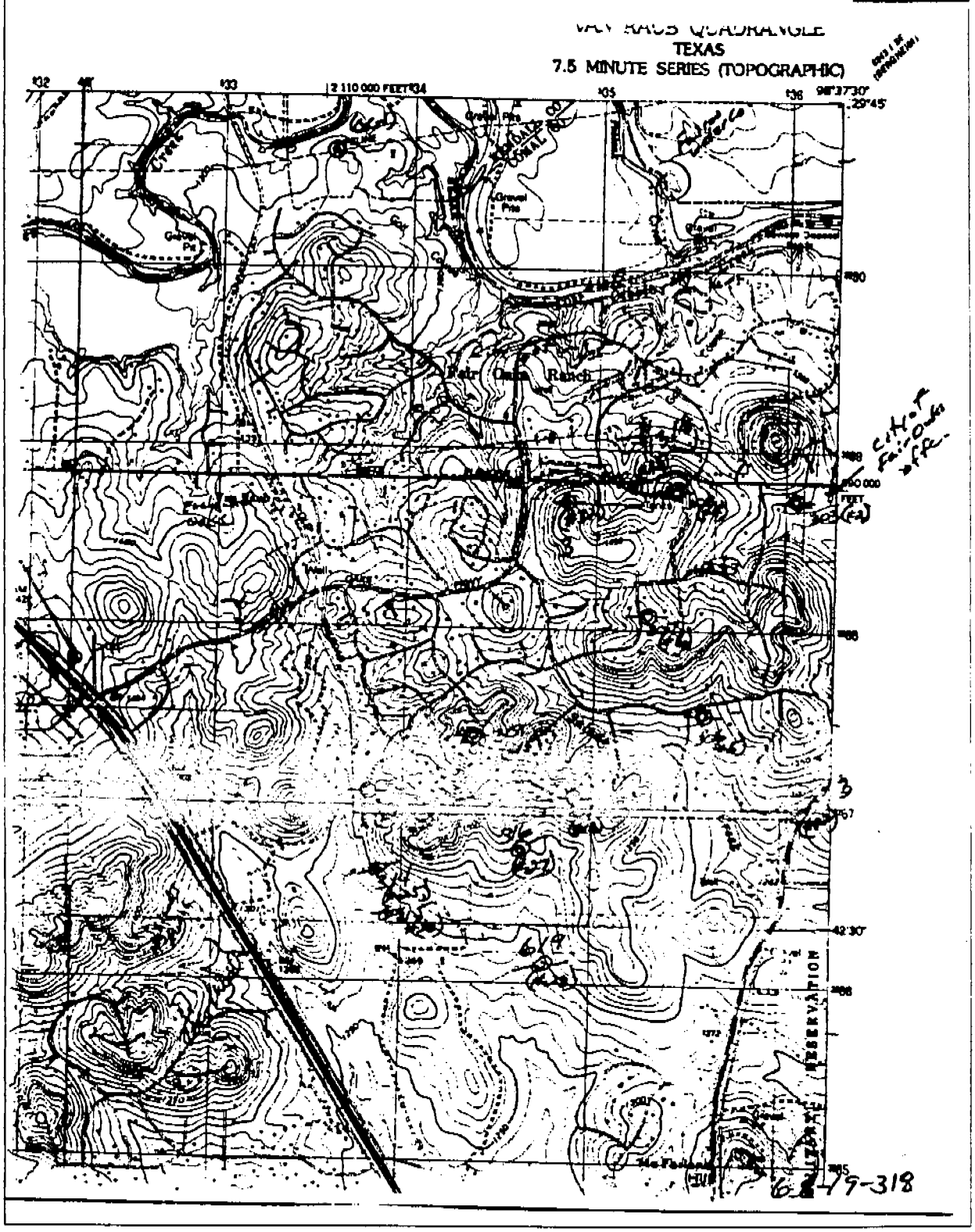
FAIR OAKS

0-1	top soil
1-7	caliche
7-9	med hard gray rock
9-11	caliche
11-19	med hard blue gray rock & shale
19-37	med hard gray rock & shale
37-42	med soft blue gray shale
42-49	med hard gray rock
49-61	med soft blue shale
61-69	med hard gray rock
69-80	med hard layer gray rock
80-94	med hard gray rock w/soft shale layers
94-98	hard porous gray rock
98-104	med soft gray shale
104-119	med hard porous gray rock-little water
119-131	med hard gray rock
131-135	hard gray rock
135-142	med hard gray rock
142-181	hard gray rock
181-206	med hard gray rock
206-218	med soft yellow gray rock
218-239	med hard layer gray rock
239-251	med soft layer gray rock
251-285	med hard layer gray rock
285-294	med hard porous layer gray rock
294-301	med hard layer blue gray rock
301-358	med hard gray rock
358-364	hard porous yellow rock
364-380	med hard yellow rock-porous 370
380-384	soft yellow rock
384-395	med hard yellow rock-porous spots
395-411	med hard porous layer yellow rock
411-420	med hard layer yellow gray rock-poor retur
420-435	med hard blue gray rock-poor returns
435-442	med soft blue green rock & shale-Poor retu
442-460	med hard gray rock-poor returns
460-472	med hard porous brown blue shells " "
472-506	med hard porous white yellow rock " "
506-510	med hard white gray rock-poor returns
510-513	med hard blue gray rock " "
513-530	med hard porous white gray rock
530-541	med hard gray
541-559	med hard gray

68-19-318

MAP# 35

MAP ID
35



MAP #35

MAP ID
36

BANKS INFORMATION SOLUTIONS, INC.

P.O. Box 12851 Capitol Station ■ Austin, Texas 78711 512/478-0059

WATER WELL SEARCH

DRILLERS LOG NOT AVAILABLE

MAP ID
37

PUBLIC WATER SUPPLY REGULATORY PROGRAM
WATER SYSTEM DATA

OCT 10 1994

ID No. 0150494 Community ___ NTNC ___ Non-Comm X

CCN No. ___ Superior ___ Approved ___ Status? A Region 17

Name of System Ten West Center County Bexar

Physical location 24165 IH 10 West

Responsible Official Karen Will Title Manager Phone (210) 544-4800

Mailing Address Fuller Comm Asset Inc. 1020 N.E. Loop 410, Suite 380 San Antonio 782

Chief Cert Op Name — Grade & Type — Phone —

2nd Op Req'd? — Other Cert Op Name ___ Grade & Type ___ Total # Cert Ops ___

WS Manager/Superintendent Karen Will Other Officials Contacted Utility Mgt Co. 340-3528 Lonnie Bennett

Surveyed With Danny Smith Area Served Restaurant and 5 offices

Supplier and Source Ten West Center Ground / 2 active wells & 2 plugged wells

Interconnection with another PWS? None Name PWS I/C — Type I/C ___

Retail Service Connections 6 Retail Meters — Retail Population 100 PPD

Wholesale Master Meters — Wholesale Service Connections — Wholesale Population —

Direct Charge Y (N) Dist. to and Name of Nearest PWS 3 Miles SAWS

Reason for this Survey (Routine, Follow Up, Initial, Enforcement, Complaint, Other) Previous Survey Date 9/24/89

Map Attached ___ Previous Map OK? ___ Well Operational Status Changed? ___

Description of Supply, Source, Treatment, and Chemicals Used Located at 24165 IH 10 West. Two wells discharge water by two 100 GPM sub pumps to distribution through one 2350 Gal. pressure tank. Water is treated by gas chlorination before pressure tank

Total Well Cap. 200 gpm .288 mgd RW Cap ___ gpm ___ mgd

Treatment Cap. ___ gpm ___ mgd Total Svc. Pump Cap. ___ gpm ___ mgd

Total Elevated Storage ___ Total Storage Cap. ___ Pressure Tank Capacity 0.0024 MGD

Maximum Daily Usage ___ Date ___ Average Daily Usage ___ Time Period ___

Wholesale Contract ___ Maximum Purchase Rate ___

RECEIVED OCT 31 1994 WATER UTILITIES

MICROBIOLOGICAL	Y	N	
Samples Submitted in Accordance with DWS?	X		Number of Samples Required 1 # Submitted 1
Raw Samples Submitted, if Required?		X	Number of Raw Samples ___
Well(s) Surface Water Influenced?		X	Non-Comm. Dates of Operation ___ Thru ___
Acceptable Sample Siting Plan on File?	X		

RECEIVED OCT 21 1994 FIELD OPERATIONS DIVISION

CHEMICAL

Acceptable Quality? yes Date, Last Chemical Analysis IOC 9/20/90 RC ___ VOC ___ SOC ___

List UNACCEPTABLE Values ___

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? ___ Date ___

Date of Survey 9/15/94 By Stephen J. Barszewski (Reviewed - R. Pinkerton)

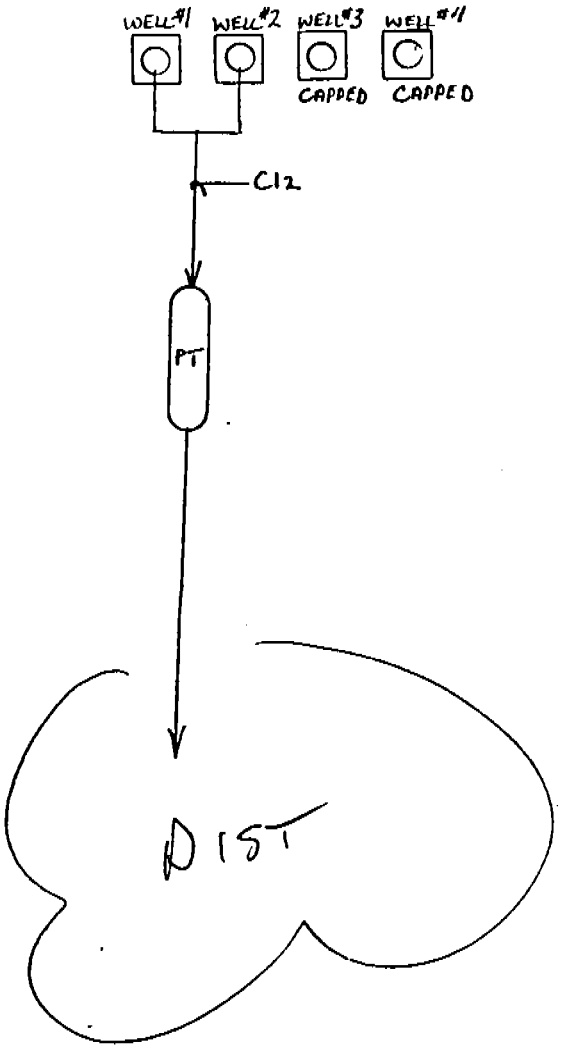
Date of Approval 10-19-94 By Betty D. Caldwell

Letter Date, if different from Approval Date 10-18-94 Reply Requested No Def. Score of this Survey 0

MAP ID
37

TEN WEST CENTER
I.D. # 0150494
BEXAR Co., TX

4-14-98



MAP ID
37

WATER SYSTEM DATA

SEP 11 1997

ID No. 0150494 Community ___ NTNC [X] Non-Comm ___

CCN No. ___ Superior ___ Approved ___ Status? ACTIVE Region 13

Name of System TEN WEST CENTER County BEXAR

Physical location 24165 IH-10 WEST

Responsible Official BARBARA RIGGINS Title PROPERTY MANAGER Phone (210) 593-0707

Mailing Address WAY OUT WEST LTD., C/O FULCRUM PROPERTY GROUP, 9100 IH-10 WEST, SUITE #330, SAN ANTONIO, TX 78230

Chief Cert Op Name DANIEL LUNA Grade & Type D W Phone (210) 340-3526

2nd Op Req'd? N Other Cert Op Name ___ Grade & Type ___ Total # Cert Ops ___

WS Manager/Superintendent JAMES SOTACK Other Officials Contacted NONE

Surveyed With JAMES SOTACK Area Served RETAIL & OFFICE COMPLEX

Supplier and Source WAY OUT WEST LTD / GROUND, FOUR WELLS - GLEN ROSE (TWO ARE CAPPED)

Interconnection with another PWS? N Name PWS I/C ___ Type I/C ___

Retail Service Connections 6 Retail Meters NA Retail Population 100/DAY

Wholesale Master Meters NA Wholesale Service Connections NA Wholesale Population NA

Minimum Charge ? NA Per ___ Thous. Dist. to and Name of Nearest PWS 1 MILE - S.A.W.S.

Reason for this Survey (Routine, Follow Up, Initial, Enforcement, Complaint, Other) Previous Survey Date 9-15-94

Map Attached ___ Previous Map OK? X Well Operational Status Changed? N

Description of Supply, Source, Treatment, and Chemicals Used TWO WELLS, SUB PUMPS, DISCHARGE TO DISTRIBUTION THROUGH ONE PRESSURE TANK. GAS CHLORINATION PRIOR TO PRESSURE TANK. TWO ADDITIONAL WELLS ARE CAPPED.

Total Well Cap. 127 gpm 0.183 mgd RW Cap NA gpm ___ mgd

Treatment Cap. NA gpm ___ mgd Total Svc. Pump Cap. NA gpm ___ mgd

Total Elevated Storage NA Total Storage Cap. NA Pressure Tank Capacity 0.0024 mg

Maximum Daily Usage $ Date ___ Average Daily Usage $ Time Period ___

Wholesale Contract NA Maximum Purchase Rate NA

MICROBIOLOGICAL

	Y	N	
Samples Submitted in Accordance with DWS?	[X]	[ ]	Number of Samples Required 1 # Submitted 1
Raw Samples Submitted, If Required?	[ ]	[ ]	Number of Raw Samples ___
Well(s) Surface Water Influenced?	[ ]	[X]	Non-Comm. Dates of Operation ___ Thru ___
Acceptable Sample Siting Plan on File?	[X]	[ ]	

CHEMICAL

Acceptable Quality? ___ Date, Last Chemical Analysis IOC 10-17-96 RC ___ VOC ___ SOC ___

List UNACCEPTABLE Values ___

HAS PROPER PUBLIC NOTIFICATION BEEN GIVEN? ___ Date ___

Date of Survey 7-30-97 By Jay Don Johnson R.S.

Date of Approval 9-8-97 By Bobby D. Caldwell

Letter Date, if different from Approval Date ___ Reply Requested Yes Def. Score of this Survey 3

10-9-97

RECEIVED SEP 11 1997 RECEIVED

MAP ID
37

I.D. #: 0150494

OPERATION AND MAINTENANCE

(Please note: all violations listed below include paragraph numbers from §290 of the Rules and Regulations for PWSs.)

I. OPERATIONAL

		Y	N
Monthly Reports Submitted to TNRCC (if Required)?	[.46(d)]	N/A	
Daily Usage Shown?	[.46(d)]		
MOR's Properly Completed?	[.46(d)]		
Dead End Mains Flushed?	[.46(l)]	X	
New Lines and Repairs Disinfected?	[.46(g)]	X	
Supply of Disinfectant on Hand?	[.46(h)]	X	
Distribution Map Up-to-Date?	[.46(n)]	X	
Ownership Signs Properly Displayed and Maintained?	[.46(w)]	N/A	
Adequate Chemical Storage Provided?	[.42(d)(6)]	X	
ANSI/NSF Approved Chem/Media?	[.42]	X	
Facilities Properly Maintained?	[.46(m) & (p)]	X	
If Superior/Approved, Signs Properly Disp. & Maint.?	[.47(b)]	N/A	
Sanitary facilities available, if needed?	[.42(g)]	N/A	

II. STORAGE TANKS

		Y	N
Storage Tanks Properly Covered?	[.43(c)]	N/A	
Tanks Tight Against Leakage?	[.43(c)(6)]		
Vents Properly Installed?	[.43(c)(1)]		
Proper Roof Hatch Provided?	[.43(c)(2)]		
Roof Hatch Kept Locked?	[.43(c)(2)]		
Proper Overflow Provided?	[.43(c)(3)]		
Proper Water Level Indicator Provided?	[.43(c)(4)]	N/A	
Drains Properly Connected?	[.43(c)(7)]		
Inlet and Outlet Properly Located?	[.43(c)(5)]		
Intruder Resistant Fence?	[.43(e)]		
Tanks Properly Inspected, Maintained, Documented?	[.46(p)(1)]		
Below Ground Storage Properly Located?	[.43(b)]		
Inspection Ladder Provided?	[.43(c)]		

III. PRESSURE TANKS

		Y	N
Accurate Pressure Gauges?	[.43(d)(2)]	X	
Pressure Release Device Provided?	[.43(d)(2)]	X	
Proper Facilities for Air/Water Ratio?	[.43(d)(3)]	X	
Air-Water Volume Indicator Provided?	[.43(d)(3)]	X	
Tanks Tight Against Leakage?	[.43(d)(7)]	X	
Routinely Inspected, Maintained, Documented?	[.46(p)(2)]	X	
Fenced or Housed?	[.43(e)]	X	
ASME, if Required?	[.43(d)(1)]	N/A	

IV. DISTRIBUTION

		Y	N
Plumbing Ordinance or Agreement?	[.46(i)]	N/A	
Customer Service Inspections Recorded?	[.46(j)]		
Backflow Assembly Report Recorded, if needed?	[.44(h)(4)(D)]		
Sewer Lines Properly Located?	[.44(e)]	X	
Minimum Residual Pressure ≥ 20 PSI?	[.44(d) & .46(u)]	X	
Normal Working Pressure ≥ 35 PSI?	[.44(d) & .46(u)]	X	
Tested psi/Locations 45 PSI - COURTYARD			
Properly Installed Distribution Piping?	[.44(a)]	X	
Adequate Flush/Gate Valves?	[.44(d)(6)]	X	
Air Release Valves Properly Installed?	[.44(d)(1)]	N/A	
In-Line Booster Pumps in System? Location _____			
In-Line Booster Pumps in System Approved?			
If Yes, Pressure Cut-off ≥ 20 psi Provided?	[.44(d)(2)&(3)]		

V. DISINFECTION

		Y	N
Disinfection Equipment Adequate in Capacity?	[.42(e)]	X	
Type Disinfection Used: GAS CHLORINATION			
Disinfection Equipment Properly Housed?	[42(e)(6)(B)]	X	
Disinfection Room Properly Vented?	[.42(e)(7)]	X	
Breathing Apparatus and Ammonia Bottle Provided?	[.42(e)(5)]	X	
Scales Provided?	[.42(e)(4)(D)]	X	
Disinfection Prior to Storage?	[.42(e)(2)(3)]	X	
Adequate Residual Maintained/Recorded?	[.46(f)(1)(2)]	X	
Mg/L (T/F)/Locations 0.5mg/L - COURTYARD			
DPD Chlorine Test Kit Provided?	[.46(f)(2)]	X	
IF AMMONIA FEED PROVIDED:			
Properly Housed/Vented?	[.42(e)(10)]	N/A	
Scales or Gauges Provided?	[.42(e)(4)(D)]	N/A	

MAP ID
37

VI. SYSTEM FACILITIES

Number of Connections 100 (DW)

WELLS (Y/N) OR RAW WATER PUMPS (Y/N)

Entry Pt. #	Water Source Code	Owner's Desig.	Location	Oper. Status	Well Depth	Pump Type	Rated GPM	Tested GPM/Date
001	A	1	300' N. OF PRESSURE TANK	O	625'	SUB	100	72
001	B	2	ADJACENT TO N. OFFICE BLDG	O	705'	SUB	100	55
	C	3	N. SIDE NEXT TO 2nd BLDG	C	675'			
	D	4	S. SIDE BETWEEN BLDG'S	C	705'			

STORAGE RESERVOIRS AND PRESSURE TANKS

Type	Capacity	Material	Location
P.T.	2,350 GAL.	STEEL	300' S. OF WELL #1

SERVICE PUMPS

No.	Output (GPM)	Location	No.	Output (GPM)	Location	No.	Output (GPM)	Location
		NONE						

Emergency Power? N (Y/N) Describe: _____

Required Well Production Capacity 18 GPM/Conn. (GPD) X 100 PERS. Conn. = 1.25 GPM

Total Well Production Capacity Provided = 127 GPM Adequate? ..... Y X

Required Elevated/Pressure Storage: _____ Gal/Conn. X _____ Conn. = 220 ~~MG~~ GAL (MGD)

Elevated/Pressure Storage Provided = 0.0024 MG Adequate? X

Required Ground/Total Storage: _____ Gal/Conn. X _____ Conn. = _____ MG

Ground/Total Storage Provided = _____ MG Adequate? ..... —

Required Service Pumping Capacity: _____ GPM/Conn. X _____ Conn. = _____ GPM

Service Pump Peaking Factor: _____ MDD/1,440 X _____ = _____ GPM Peak Demand

Total Service Pump Capacity = _____ GPM Adequate? ..... —

MAP ID
37

I.D. # 0150444

GROUND W. ER SOURCE AND WATER SYST ' DEFICIENCIES

VII. GROUND WATER SOURCE

A. SANITARY

		Y	N			Y	N
Well or pump room protected from flooding?	[.41(c)(3)(H)]	X	_	Sewage treatment plant ≥ 500 ft.?	[.41(c)(1)(C)]	X	_
Livestock Prohibited within 50 ft. of well?	[.41(c)(1)(D)]	X	_	Animal pens or landfill ≥ 500 ft.?	[.41(c)(1)(C)]	X	_
Sanitary sewer or septic tank ≥ 50 ft.?	[.41(c)(1)(A)]	X	_	Sewage irrigated land ≥ 500 ft.?	[.41(c)(1)(C)]	X	_
Septic Tank drainfields ≥ 150 ft.?	[.41(c)(1)(A)]	X	_	UST or liquid transmission pipeline ≥ 150'?	[.41(c)(1)(A)]	X	_
Drainage ditch or liftstation ≥ 300 ft.?	[.41(c)(1)(B)]	X	_	Abandoned wells ≤ 1/4 mi. plugged?	[.41(c)(1)(E)]	X	_

B. CONSTRUCTION

Well cased 18" above ground level?	[.41(c)(3)(B)]	_	X	Well meter provided?	[.41(c)(3)(N)]	X	_
Proper pressure cement?	[.41(c)(3)(C)]	X	_	Well blow-off properly installed?	[.41(c)(3)(L)]	X	_
Proper concrete sealing block?	[.41(c)(3)(J)]	X	_	Well unit fenced or housed?	[.41(c)(3)(O)]	X	_
Well head sealed?	[.41(c)(3)(K)]	X	_	Well site properly drained?	[.41(c)(3)(I)]	X	_
Casing vent properly installed?	[.41(c)(3)(K)]	X	_	All weather road provided?	[.41(c)(3)(P)]	X	_
Air release devices properly installed?	[.41(c)(3)(Q)]	X	_	Sanitary easement(s) recorded?	[.41(c)(1)(F)]	X	_
Suitable sampling tap?	[.41(c)(3)(M)]	X	_				

VIII. ADDITIONAL WATER SYSTEM DEFICIENCIES AND TAC REFERENCE NUMBERS:

WELL #1 CASING NOT 18".

IX. RATING DEFICIENCY SCORE

A. Certified Operator(s) (If Required)

1. None Surface	10 Pt.s	____
2. None Ground	4 Pt.s	____
3. Only One When Two Required	4 Pt.s	____
4. Improper Certificate	4 Pt.s	____

B. MCL Violations

1. Microbiological:		
Failure to Sample	4/Mon.	____
MCL Violation	10/Mon.	____
2. Primary standards	10/Vio.	____
3. Secondary Standards	2/Vio.	____
4. Turbidity:		
Failure to Report	4/Mon.	____
MCL Violation	10/Mon.	____

C. Distribution

Pressure < 20 psi	10 Pt.s	____
Pressure < 35 psi	4 Pt.s	____
Distribution Problems	2 Pt.s	____
Treated Water Protection	3 Pt.s	____
Disinfection Provided But Residual < 0.2 mg/l Free Chlorine or 0.5 mg/l Chloramine	4 Pt.s	____

D. Design Deficiencies

1. Ground Water:		
No Disinfection	10 Pt.s	_
Improper Well Location	4 Pt.s	_
No Easement	4 Pt.s	_
Well Construction Deficiencies	3/item 3	_
2. Surface Water:		
No Disinfection	20 Pt.s	_
No Filtration	20 Pt.s	_
Excess Filter Rate	4 Pt.s	_
Inadequate Chemical Feed	4 Pt.s	_
Inadequate Detention Time	4 Pt.s	_
3. General:		
Production Deficient	3 or 4 Pt.s	_
Storage Deficient:		
Elevated or Pressure	4 Pt.s	_
Total Storage < 70% of Required	4 Pt.s	_

TOTAL (A + B + C + D) = 3

MAP ID

37

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*

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER FALCON CENTER WELL #4 (Name) Address Contractor: George Williams Co. 12027 Warfield. (Street or RFD) San Antonio, TX (City) (State) 78216 (Zip)

2) LOCATION OF WELL: County Bexar 23 miles in N-N.W. (N.E., S.W., etc.) direction from San Antonio (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 3/2/84

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
	Surface	
8-3/4"	0	200'
6"	200'	705'

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

From (ft.)	To (ft.)	Description and color of formation material
0 --	2	Top Soil & Loose Rock
2 --	35	White Lime
35 --	59	Grayish White
59 --	240	Gray Lime (Coolie Hats)
240 --	254	Soft Light Gray Lime & Brown Lime
254 --	471	Hard Light Gray Lime
471 --	508	Light Brownish White Lime (very broken up, cracks)
508 --	519	Light Gray Lime
519 --	524	Grayish Brown Lime
524 --	551	Light Gray Lime
551 --	562	Dark Gray Lime
562 --	700	Light Gray Lime

420'-1st signs of water
549'-More Water

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
7"	New	Steel (7"O.D.)	0	200'	

CEMENTING DATA
Cemented from 200' ft. to 0 ' ft.
Method used Pressure Method
Cemented by Halliburton Services (Company or Individual)

9) WATER LEVEL:
Static level _____ ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

10) PACKERS: Type NONE Depth

11) TYPE PUMP: NOT KNOWN
☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc. _____ ft.

12) WELL TESTS: NONE
☐ Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

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MAR 23 1984
DEPT. OF WATER RESOURCES

(Use reverse side if necessary)

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? _____ Depth of strata _____
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.

COMPANY NAME HASKIN PUMP SERVICE, INC. (Type or Print) Water Well Driller's License No. GLEN D. HASKIN, 2327

ADDRESS 15403 CAPITAL PORT, (Street or RFD) SAN ANTONIO, (City) TEXAS (State) 78249 (Zip)

(Signed) Glen D. Haskin (Licensed Water Well Driller) (Signed) 4802903244 (Registered Driller Trainee)

For TDWR use only
Well No. 68-19-9A
Located on map 68 c. f. 6.

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

MAP ID
37

MAP ID
37

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas
WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

1) OWNER Mr. & Mrs Peterson (Name) ADDRESS East Range (Street or RFD) Leon Springs (City) TX (State) (Zip)

2) ADDRESS OF WELL County Bexar East Range (Street, RFD or other) Leon Springs (City) TX (State) (Zip) GRID # 68-19-9

3) TYPE OF WORK (Check): [X] New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☐ Monitor ☐ Environmental Soil Boring [X] Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No

5) N

6) WELL LOG:
Date Drilling: Started 9/14 19 96 Completed 9/19 19 96

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
7 7/8	Surface	20
8 3/4	20	300
6 1/4	300	700

7) DRILLING METHOD (Check): ☐ Driven [X] Air Rotary ☐ Mud Rotary ☐ Bored ☐ Air Hammer ☐ Cable Tool ☐ Jetted ☐ Other

From (ft.)	To (ft.)	Description and color of formation material
0	280	Edwards Formation
280	300	Yellow
300	340	Grey
340	360	Off-white
360	400	Grey
400	430	Off-white
430	480	Grey
480	700	Off-white

(Use reverse side if necessary)

RECEIVED MAY 15 1996

8) Borehole Completion (Check): [X] Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☐ Other
If Gravel Packed give interval ... from ____ ft. to ____ ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6	New	Sch 40 PVC	0	300	

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 0 ft. to 60 ft. No. of sacks used 3 yds
ft. to ____ ft. No. of sacks used ____
Method used Poured
Cemented by Vulcan
Distance to septic system field lines or other concentrated contamination 130 ft.
Method of verification of above distance Measured

10) SURFACE COMPLETION
[X] Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Installed [Rule 338.44(3)(B)]
☐ Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL
Static level 420 ft. below land surface Date 9/19/96
Artesian flow ____ gpm. Date ____

12) PACKERS:

Type	Depth
Rubber	66'

13) TYPE PUMP:
☐ Turbine ☐ Jet [X] Submersible ☐ Cylinder
☐ Other
Depth to pump bowls, cylinder, jets ____ ft.

14) WELL TESTS:
Type test: ☐ Pump ☐ Bailer ☐ Jetted [X] Estimated
Yield: 20 gpm with ? ft. drawdown after 30 min.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes [X] No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? ____ Depth of strata ____
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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Van Davenport Drilling (Type or print) DRILLER'S LICENSE NO. 2669 WPKT

ADDRESS 11591 Gatlin Rd (Street or RFD) San Antonio (City) TX (State) 78254 (Zip)

(Signed) [signature] (Licensed Well Driller)

(Signed) 4802903246 (Registered Driller Trainee)

MAP ID
37

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. 68-19-3K
Located on map yes
Received: 2-4-82

1) OWNER F. Haari (Name) Address 23695 Cielo Vista, San Antonio, Texas 78255 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar approx. 18-1/2 miles in north northwest (N.E., S.W., etc.) direction from San Antonio, Texas (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): XX New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

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

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

6) WELL LOG: Date drilled 1-28-81

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8-3/4"	Surface	317'
6"	317'	625'

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

From (ft.)	To (ft.)	Description and color of formation material
0	110	Brown Caliche and Lime
110	285	Gray Lime and Shale
285	320	Gray Lime
320	325	Brown Lime
325	350	Light Gray Lime
350	575	Brown Lime
575	625	Brown Lime and Hard White Lime

(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 Mfgr., if commercial	Setting (ft.) From	To	Gauge Casing Screen
6"	New	Steel	0	317	.188

CEMENTING DATA
Cemented from 0 ft. to 317' ft.
Method used Ready-mix Slurry
Cemented by Schoenfeld Materials (Company or Individual)

9) WATER LEVEL:
Static level 245' ft. below land surface Date 1-28-81
Artesian flow _____ gpm. Date _____

10) PACKERS: Type Depth
None

11) TYPE PUMP: ☐ Turbine ☐ Jet XXX Submersible ☐ Cylinder ☐ Other
Depth to pump bowls, cylinder, jet, etc. 441' ft.

12) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☐ Jetted XXX Estimated
Yield: 75 gpm with _____ ft. drawdown after _____ hrs.

13) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes XX No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
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.

AUG 31 1982

NAME Rudolf Biedermann (Type or Print) Water Well Drillers Registration No. 936

ADDRESS 15403 Capital pPort, San Antonio, Texas 78249 (Street or RFD) (City) (State) (Zip)

(Signed) Rudolf Biedermann (Water Well Driller) Haskin Pump Service, Inc. (Company Name)

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

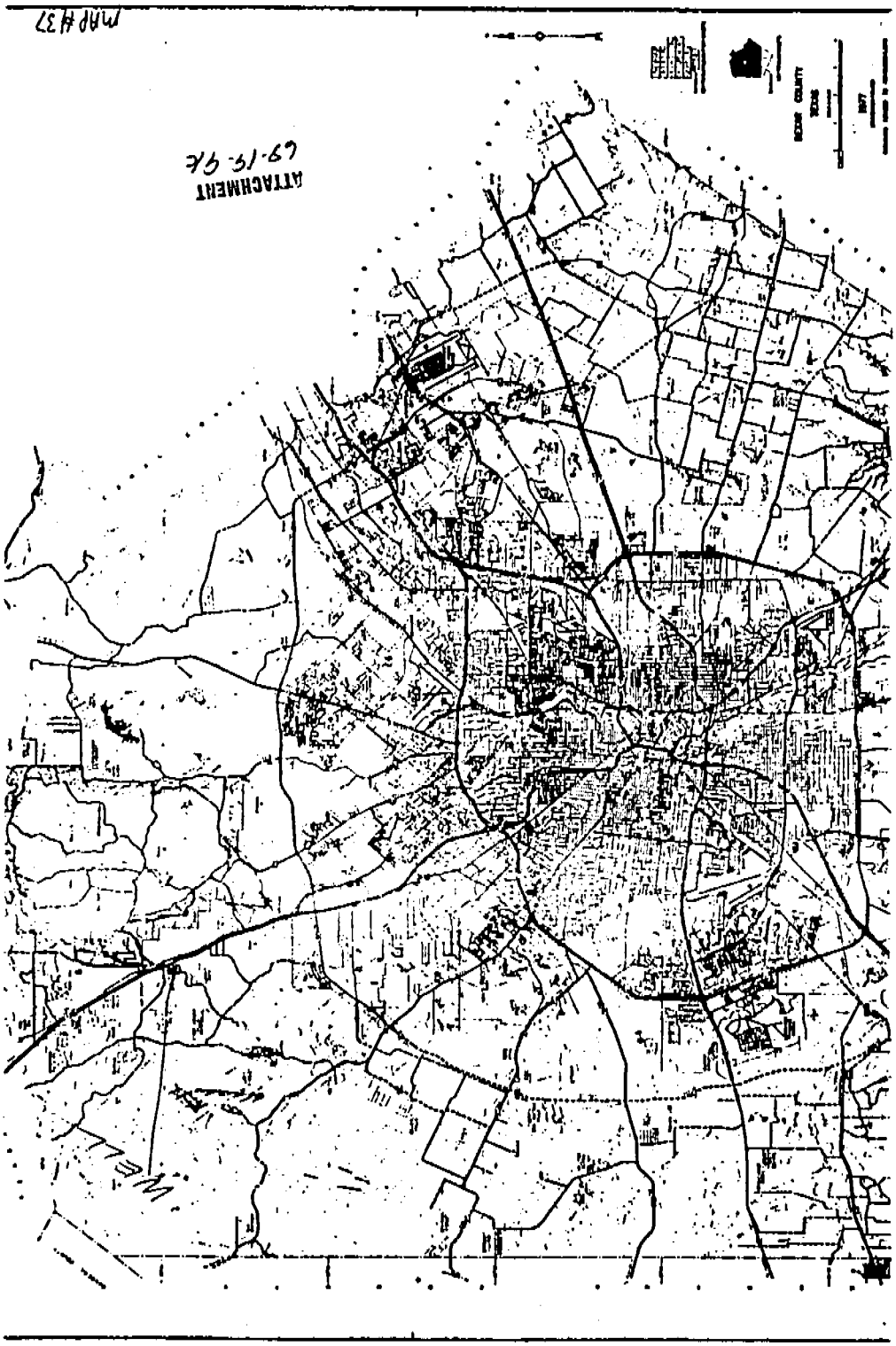
TDWR-0392 (Rev. 1-12-79)

DEPARTMENT OF WATER RESOURCES COPY

4802905249

MAP#37

MAP ID
37



MAP #37

ATTACHMENT
69-15-96

MAP ID

37

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 68-18
Located on map
Received: 75

1) OWNER:
Person having well drilled: Sitterle Homes (Name) Address: Route 1 - Box 21 AA, Westhoff - Texas (Street or RFD) (City) 78163 (State)

Landowner: Hobby Abshier (Name) Address: 1802 Buck - San Antonio, Tex (Street or RFD) (City) 7826 (State)

2) LOCATION OF WELL:
County: Bexar, 21 miles in N. Nal (N.E., S.W., etc.) direction from San Antonio (Town)

Locate by sketch map showing landmarks, roads, creeks, binsy number, etc.*

North

(Use reverse side if necessary)

or

Give legal location with distances and directions from adjacent sections or survey lines.

Labor _____ League _____
Block _____ Survey _____
Abstract No. _____
(NW¼ NE¼ SW¼ SE¼) of Section _____

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole 8 1/2 in. Depth drilled 700 ft. Depth of completed well 700 ft. Date drilled 7-20-
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	2	SOIL
2	60	LIME - EDWARDS
60	65	GRAVEL
65	80	LIME - EDWARDS
80	85	GRAVEL
85	105	LIME - EDWARDS
105	120	CLAY & BOULDERS
120	144	DARK GRAY SHALE
144	185	LIME
185	200	SLATE
200	215	LIME
215	230	SLATE - BLUE
230	345	LIME
345	425	LIME & SLATE - BLUE
425	605	LIME - GRAY
605	700	LIME - WHITE

(Use reverse side if necessary)

9) Casing:
Type: Old, New, Steel, Plastic, Other
Cemented from 328 ft. to 0
Cut READY MIX

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
6"	328'	0'	.188

10) SCREEN:
Type: NONE
Perforated, Slotted

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot Size

7) COMPLETION (Check): Straight well, Gravel packed, Other, Under reamed, Open Hole

8) WATER LEVEL:
Static level 350' ft. below land surface Date 7-22-74
Artesian pressure _____ lbs. per square inch Date _____
Depth to pump bowls, cylinder, jet, etc. _____ ft. below land surface.

588' + BOWL (3') = 591' DEPTH
(9-4-74)

11) WELL TESTS:
Was a pump test made? Yes, No If yes, by whom?
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.
Bailer test _____ gpm with _____ ft. drawdown after _____ hrs.
Artesian flow _____ gpm
Temperature of water _____

12) WATER QUALITY:
Was a chemical analysis made? Yes, No
Did any strata contain undesirable water? Yes, No
Type of water? _____ depth of strata _____

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 Glen H. Haskin (Type or Print) Water Well Drillers Registration No. 935

ADDRESS 1114 South Alamo Street, San Antonio, Texas - 78205 (Street or RFD) (City) (State)

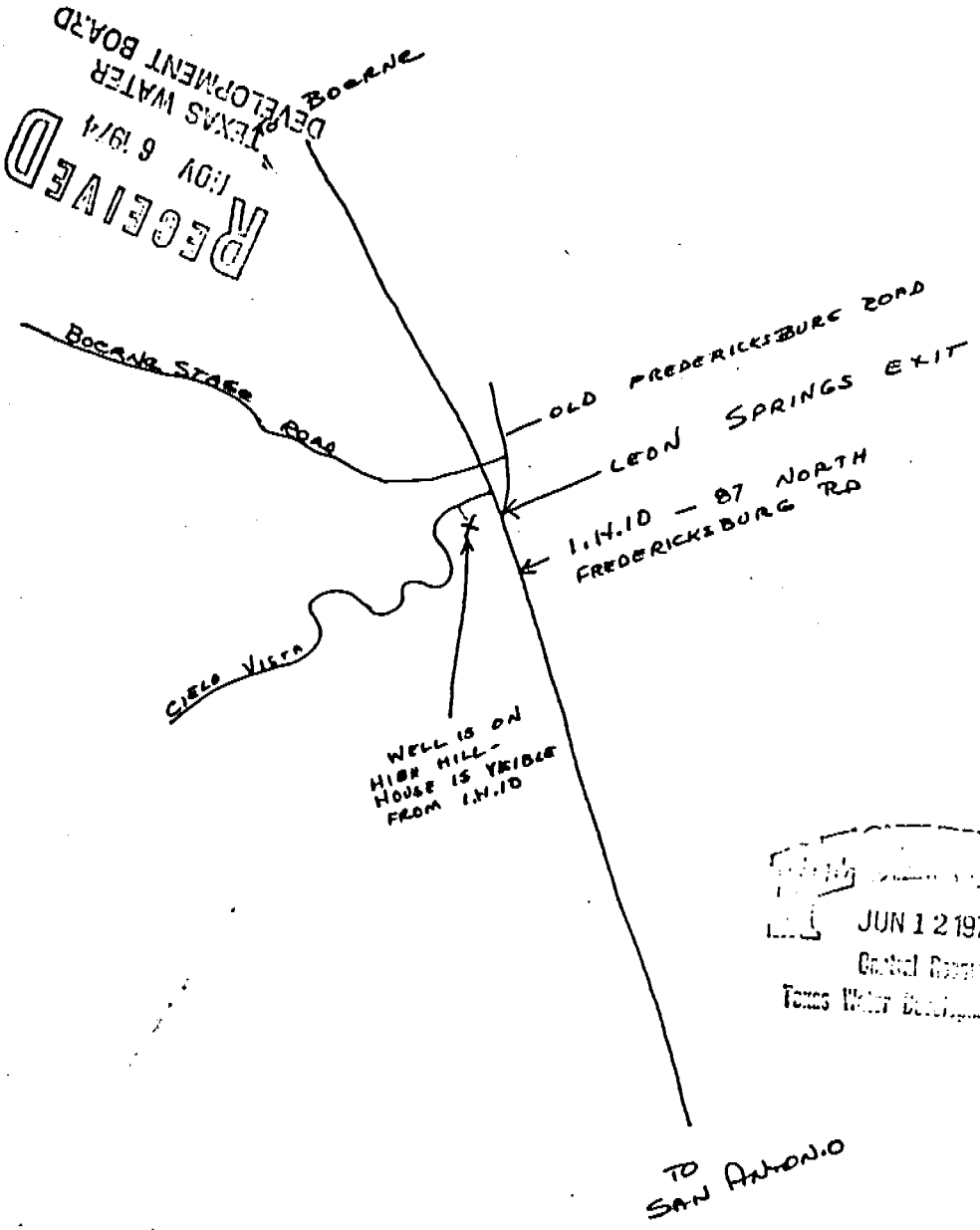
(Signed) Glen H. Haskin (Water Well Driller) Haskin Pump Service, Inc. (Company Name)

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

*Additional instructions on reverse side.

4802903250 MAP #37

MAP ID
37



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NOV 6 1974
TEXAS WATER
DEVELOPMENT BOARD

JUN 12 1975
Central Records
Texas Water Development Board

MAP ID
37

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas
WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

1) OWNER FRANK GARCIA (Name) ADDRESS 238 VERNE ST. SAN ANTONIO, TX 78221-155 (Street or RFD) (City) (State) (Zip)

2) ADDRESS OF WELL: County BEXAR 23530 GOODNIGHT LOVING SAN ANTONIO, TX 78250 (Street, RFD or other) (City) (State) (Zip) GRID # 68 19 9

3) TYPE OF WORK (Check): [X] New Well [ ] Deepening [ ] Reconditioning [ ] Plugging

4) PROPOSED USE (Check): [ ] Monitor [ ] Environmental Soil Boring [X] Domestic [ ] Industrial [ ] Irrigation [ ] Injection [ ] Public Supply [ ] De-watering [ ] Testwell
If Public Supply well, were plans submitted to the TNRCC? [ ] Yes [ ] No

5)

6) WELL LOG:
Date Drilling:
Started 12-15 19 97
Completed 12-23 19 97

DIAMETER OF HOLE		
Dia. (in.)	From (ft.)	To (ft.)
12	Surface	45
7 7/8	45	180
7	180	520

7) DRILLING METHOD (Check): [ ] Driven [ ] Air Rotary [ ] Mud Rotary [ ] Bored [ ] Air Hammer [ ] Cable Tool [ ] Jetted [ ] Other

N

From (ft.)	To (ft.)	Description and color of formation material
0	2	BLACK DIRT
2	15	YELLOW LS
15	55	GRAY LS CLAY MIX
55	65	TAN LS
65	83	GRAY LS
83	105	TAN LS
105	145	GRAY LS CLAY MIX
145	150	TAN LS
150	175	GRAY LS CLAY MIX
175	255	TAN LS
255	275	YELLOW LS
275	310	HARD
310	360	TAN LS
360	380	BROWN LS H 2/0 3gpm
380	500	TAN LS

(Use reverse side if necessary)

8) Borehole Completion (Check): [ ] Open Hole [ ] Straight Wall [ ] Underreamed [ ] Gravel Packed [ ] Other
If Gravel Packed give interval ... from ____ ft. to ____ ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
8	N	SCH 40 STEEL	0	45	SCH 4
5	N	PVC LINER	0	280	40

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 0 ft. to 45 ft. No. of sacks used 1/2 yd
ft. to ____ ft. No. of sacks used ____
Method used GRAVITY
Cemented by DRILLER
Distance to septic system field lines or other concentrated contamination ____ ft.
Method of verification of above distance ____

13) TYPE PUMP:
[ ] Turbine [ ] Jet [X] Submersible [ ] Cylinder
[ ] Other
Depth to pump bowls, cylinder, jet, etc. ____ ft.

10) SURFACE COMPLETION
[X] Specified Surface Slab Installed [Rule 338.44(2)(A)]
[ ] Specified Sanitary Seal Installed [Rule 338.44(2)(A)]
[ ] Pitless Adapter Used [Rule 338.44(3)(b)]
[ ] Approved Alternative Procedure Used [Rule 338.71]

14) WELL TESTS:
Type test: [ ] Pump [ ] Bailer [X] Jetted [ ] Estimated
Yield: 20+ gpm with 0 ft. drawdown after 1 hrs.

11) WATER LEVEL: FEB 15 1998
Static level 320 ft. below land surface Date 12-23-97
Artesian flow ____ gpm. Date ____

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
[ ] Yes [ ] No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? COW CREEK Depth of strata 500
Was a chemical analysis made? [ ] Yes [ ] No

12) PACKERS:

	Type	Depth
1	UMBRELLA	275

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H & H DRILLING (Type or print) WELL DRILLER'S LICENSE NO. 5015W

ADDRESS 203 CANYON LOOP (Street or RFD) BOERNE (City) TX 78006-8512 (State) (Zip)

(Signed) DARRELL HICKS (Licensed Well Driller) (Signed) ____ (Registered Driller Trainee)

4602903251

MAP ID

37

ATTENTION OWNER: *Confidentiality Privilege Notice on on reverse side of Well Owner's copy (pink)*

State of Texas
WELL REPORT

Texas Water Well Drillers Advisory Council
MC 177
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

1) OWNER LARRY WOOD (Name) ADDRESS 1634 N.E.LOOP 410 SAN ANTONIO TX 78209 (Street or RFD) (City) (State) (Zip)

2) ADDRESS OF WELL: County BEXAR 20446 CIELO VISTA SAN ANTONIO,TX 78255 (Street, RFD or other) (City) (State) (Zip) GRID # 68 19 4

3) TYPE OF WORK (Check): [X] New Well [ ] Deepening [ ] Reconditioning [ ] Plugging

4) PROPOSED USE (Check): [ ] Monitor [ ] Environmental Soil Boring [X] Domestic [ ] Industrial [ ] Irrigation [ ] Injection [ ] Public Supply [ ] De-watering [ ] Testwell
If Public Supply well, were plans submitted to the TNRCC? [ ] Yes [ ] No

5) 6 N

6) WELL LOG:
Date Drilling:
Started 3-27 19 98
Completed 4-17 19 98

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
12 5/8	Surface	40
7 7/8	40	300
4 7/8	300	500

7) DRILLING METHOD (Check): [ ] Driven [X] Air Rotary [ ] Mud Rotary [ ] Bored [ ] Air Hammer [ ] Cable Tool [ ] Jetted [ ] Other

From (ft.)	To (ft.)	Description and color of formation material
0	3	BLK. DIRT CHUNK ROCK
3	35	HARD WHITE
35	59	YELLOW LS PATCHY ORANG
59	70	HARD WHITE
70	135	YELLOW LS CLAY MIX
135	280	GRAY LS CLAY MIX
280	320	TAN LS
320	350	GRAY LS
350	370	BROWN LS
370	385	GRAY LS PATCHY CLAY
385	395	GRAY LS
395	415	BROWN LS
415	420	H 2/O
420	445	BROWN LS
445	500	GRAY LS

(Use reverse side of Well Owner's copy, if necessary)

8) Borehole Completion (Check): [ ] Open Hole [ ] Straight Wall [ ] *Underreamed* [ ] *Gravel Packed* [ ] Other
If Gravel Packed give interval ... from ____ ft. to ____ ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
8	N	STEEL	0	40	SCH 4
5	N	PVC	0	300	SCH 4

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 0 ft. to 40 ft. No. of sacks used ____
0 ft. to 300 ft. No. of sacks used 3yds
Method used GRAVITY
Cemented by DRILLER
Distance to septic system field lines or other concentrated contamination 150 ft.
Method of verification of above distance tape

10) SURFACE COMPLETION
[X] Specified Surface Slab Installed [Rule 338.44(2)(A)]
[ ] Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
[ ] Pitless Adapter Used [Rule 338.44(3)(b)]
[ ] Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL:
Static level ____ ft. below land surface Date ____
Artesian flow ____ gpm. Date ____

12) PACKERS: Type UMBRELLA Depth 297

13) TYPE PUMP:
[ ] Turbine [ ] Jet [X] Submersible [ ] Cylinder
[ ] Other
Depth to pump bowls, cylinder, jet, etc., ____ ft.

14) WELL TESTS:
Type test: [ ] Pump [ ] Bailer [X] Jetted [ ] Estimated
Yield: 8 gpm with ____ ft. drawdown after ____ hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
[ ] Yes [X] No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? COW CREEK Depth of strata 420
Was a chemical analysis made? [ ] Yes [X] 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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H & H DRILLING (Type or print) WELL DRILLER'S LICENSE NO. 5015W

ADDRESS 203 CANYON LOOP (Street or RFD) BOERNE (City) TX 78006-8512 (State) (Zip)

(Signed) [signature] (Licensed Well Driller) (Signed) 4802903252 (Registered Driller Trainee)

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

MAP#37

MAP ID
37

9V Dwyer

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

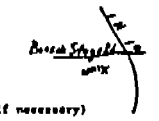
For TWDB use only
Well No. 68-19-9V
Located on map yes
Received: 91

1) OWNER:
Person having well drilled: William A. Swinney, Inc. (Name) Address: Route 10 Box 78, San Antonio, Texas (Street or RFD) (City) (State)

Landowner: same (Name) Address: (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County: Bexar, 2 miles in west (N.E., S.W., etc.) direction from Leon Springs (town)

Locate by sketch map showing landmarks, roads, creeks, highway number, etc.*



(Use reverse side if necessary)

or Give legal location with distances and directions from adjacent sections or survey lines.

Labor: League:
Block: Survey:
Abstract No.:
(NW¼ NE¼ SW¼ SE¼) of Section: 22659 Sueno

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Pug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole: 8¼ in. Depth drilled: 370 ft. Depth of completed well: 370 ft. Date drilled: 05-06-77
All measurements made from: 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	20	Rocks, Light brown lime
20	35	Gray shale
35	50	Light gray lime
50	65	Yellow lime
65	85	Gray shale and lime
85	190	Light gray lime
190	250	Dark gray lime and shale
250	280	Gray lime and shale
280	320	Light gray lime (very hard)
320	370	Gray shale

(Use reverse side if necessary)

9) Casing:
Type: Old, New, Steel, Plastic, Other
Cemented from: 0 ft. to: 91 ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
6	0	91	SCH 40

10) SCREEN:
Type: Perforated, Slotted

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot Size

7) COMPLETION (Check): Straight wall, Gravel packed, Other, Under reamed, Screened

8) Static level: 10 ft. below land surface Date: 05-06-77
Artesian pressure: lbs. per square inch Date:
Depth to pump bowls, cylinder, jet, etc.: 336 ft. below land surface.

11) WELL TESTS:
Was a pump test made? Yes No If yes, by whom?
Yield: gpm with ft. drawdown after hrs.
Bailer test: 30 gpm with 0 ft. drawdown after 1 hrs.
Artesian flow: gpm
Temperature of water: unknown

12) WATER QUALITY:
Was a chemical analysis made? Yes No
Did any strata contain undesirable water? Yes No
Type of water? Glenrose depth of strata: 120-190, 280-320

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: Charles D. Junak (Type or Print) Water Well Drillers Registration No.: 1683

ADDRESS: 7206 Moss Creek (Street or RFD) San Antonio (City) Texas (State)

(Signed): Charlie Junak (Water Well Driller) Charlie Junak Drilling Company (Company Name)

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

*Additional instructions on reverse side.

4802903253

MAP #37

MAP ID

37

9C

Send original copy by certified mail to the Texas Water Development Board P. O. Box 12386 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only: Well No. 1-19-9C; Located on map; Received; Form OW 8; Form OW 9

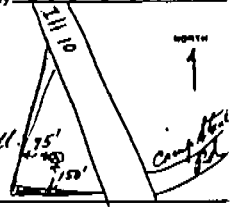
1) OWNER: Person having well drilled: Wm PRICE (Name) Address: RT 1 (Street or RFD) BOERNE (City) TEXAS (State)

Landowner: SAME (Name) Address: (Street or RFD) (City) (State)

2) LOCATION OF WELL: County: BEXAR Labor: League: Abstract No. 153

NW¼ NE¼ SW¼ SE¼ of Section: Block No.: Survey: OS 300 CHAMBERS (Circle as many as are known)

11 miles in SE (NE, SW, etc.) direction from BOERNE (Town).



Sketch map of well location with distances from adjacent section or survey lines, and to landmarks, roads, and creeks.

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

4) PROPOSED USE (Check): Domestic ☑ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐

5) TYPE OF WELL (Check): Rotary ☒ Driven ☐ Dug ☐ Cable ☐ Jetted ☐ Bored ☐

6) WELL LOG: Diameter of hole 7⅞" + 6⅞" in. Depth drilled 361 ft. Depth of completed well 361 ft. Date drilled 3-1-68

All measurements made from _____ ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material	From (ft.)	To (ft.)	Description and color of formation material
0	17	Caliche			
17	66	Blue shale + Caliche layers			
66	83	Yellow limestone			
83	186	Blue shale			
186	280	Yellow limestone			
280	287	Gray			
287	346	Yellow — water			
346	361	Blue + gray limestone			(Use reverse side if necessary)

7) COMPLETION (Check): Straight wall ☒ Gravel packed ☐ Other ☐ Under reamed ☐ Open hole ☑

8) WATER LEVEL: Static level 55 ft. below land surface Date 3-1-68 Artesian pressure ____ lbs. per square inch Date _____

9) CASING: Type: old ☐ New ☑ Steel ☑ Plastic ☐ Other ☐ Cemented from 0 ft. to 160 ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
6⅝" OD	0	160	.156

10) SCREEN: Type none Perforated ☐ Slotted ☐

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot size

11) WELL TESTS: Was a pump test made? ☐ Yes ☑ No If yes by whom?

Yield: ____ gpm with ____ ft. drawdown after ____ hrs

Bailer test 25 gpm with 186 ft. drawdown after 1½ hrs

Artesian flow — gpm Date 3-1-68

Temperature of water _____

Was a chemical analysis made? ☐ Yes ☑ No

Did any strata contain undesirable water? ☐ Yes ☑ No

Type of water? _____ depth of strata _____

12) PUMP DATA: Manufacturer's Name none yet.

Type _____ H.P. _____

Designed pumping rate _____ gpm ☐ gph ☐

Type power unit _____

Depth to bowls, cylinder, jet, etc., _____ ft. below land surface.

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 WALTER BERGMANN (Type or Print) Water Well Drillers Registration No. 282

Address PO Box 303 (Street or RFD) BOERNE (City) TEXAS (State)

(Signed) Walter Bergmann (Water Well Driller) LOUIS BERGMANN & SONS (Company Name)

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

4802963256

MAP #37

MAP ID

38

File original copy with Texas Water Commission P. O. Box 2311, Capitol Station Austin 11, Texas

State of Texas

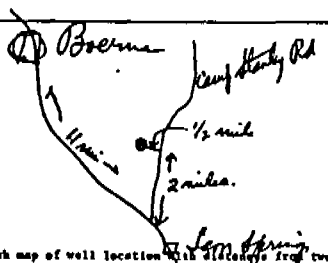
DRILLERS LOG AND WELL DATA REPORT

For use by TWC only. Well No. 6Y-7-6 Located on map. By ___ Date ___ Map no. ___

1) Well Owner: Roy Gombert Rt 1 Boerne Texas
2) Land Owner: Same
3) Intended use: Industrial ☐ Municipal ☐ Irrigation ☐ Other ___
4) Location of well: County Bexar Labor ___ League ___ Abstract No. ___

___ of Section ___ Block No. ___ Survey ___

11 miles in SE direction from Boerne



Sketch map of well location with distance from two section or survey lines, and to landmarks, roads, and creeks.

DRILLERS LOG OF WELL

Method of drilling: Cable Diameter of hole 6 1/2" in. Date drilled 7-26-63

All measurements made from ___ ft. above ground level.

From (ft)	To (ft)	Description and color of formation material	From (ft)	To (ft)	Description and color of formation material
0	14	Caliche & surface rock	322	326	Hard yellow limestone
14	53	Med. soft blue rock & shale	326	368	Porous soft white & yellow limestone Water
53	56	Lt. yellow porous rock dry	368	375	Hard yellow limestone
56	65	Blue shale - MS	375 - TD		
65	270	Lt gray & tan limestone - MH			
270	294	Blue gray rock - MH			
294	314	Gray blue rock - MH			
314	322	Dark gray rock - MH			

(Use continuation sheets if necessary)

COMPLETION DATA

COMPLETION

Straight wall ☑
Under reamed ☐
Gravel packed ☐
Open hole ☑
Other ___

CASING

Type: Old ☑ New ☐
Cemented from 0 ft. to 30 ft.

Diameter (inches)	Setting from (ft)	Setting to (ft)
7" OD	0	30'

SCREEN

Type ___
Perforated ☐ Slotted ☐

Diameter (inches)	Setting from (ft)	Setting to (ft)

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.

Walter Bergmann Louis Bergmann & Son Reg. No. 22

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

If well was tested by your company or if you installed the permanent pump please complete the following:

WATER LEVEL AND PUMP DATA

Static water level 310 ft. below Surface

Pumping level feet	hours	gpm
350	1	14

Pump type Recip.
Designed pumping rate 3 gpm ☐ gph ☐
Type power unit Elec.
Horsepower 1
Depth to bowls, cylinder, jet, etc. 336' ft. below pump base.

Name of contractor testing well or installing permanent pump (if other than your company): ___

:34 (61-6)

48029031 62

MAP ID

39

Send original copy by certified mail to the Texas Water Development Board P. O. Box 12384 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only: Well No. 68-19-308 Located on map V-25 Received: 6-5-80

1) OWNER:
Person having well drilled: Dixie Ann Crosby (Name) Address: 5300 NW Loop 410 #405 (Street or RFD) (City) (State)
Landowner: Dixie Ann Crosby (Name) Address: Saan Antonio, Texas 78229 (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County: Bexar 20 miles in NW (N.E., S.W., etc.) direction from San Antonio (town)

Locate by sketch map showing landmarks, roads, streets, block number, etc.* (Use reverse side if necessary)

North

or

Give legal location with distances and directions from adjacent sections or survey lines.
Labor _____ League _____
Block _____ Survey _____
Abstract No. _____
(NW¼ NE¼ SW¼ SE¼) of Section _____

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole 8-3/4" in. Depth drilled 550' ft. Depth of completed well 550' ft. Date drilled 4-30-80
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	5	Top Soil
5	19	Light Brown Lime
19	53	Gray Lime - Streaks of shale
53	62	Brown Lime
62	116	Gray Lime
116	151	Hard Light Brown Lime
151	182	Gray Lime
182	213	Light Gray Lime
213	245	Light Brown and White Lime
245	406	Brown Lime (streaks of gray lime)
406	444	Dark Gray Lime (little water at 425')
444	528	Hard White Lime (more water)
528	544	Gray Lime
544	560	Gray Shale

(Use reverse side if necessary)

7) Casing:
Type: Old, New, Steel, Plastic, Other
Cemented from 250 ft. to 0 ft. with ready mix slurry

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
6"	0	250	

10) SCREEN:
Type none
Perforated, Slotted

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot Size

8) COMPLETION (Check): Straight wall, Gravel packed, Other

9) WATER LEVEL:
Static level 345' ft. below land surface Date 4-30-80
Artesian pressure _____ lbs. per square inch Date _____
Depth to pump bowls, cylinder, jet, etc. _____ ft. below land surface.

11) WELL TESTS:
Was a pump test made? Yes No If yes, by whom?
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.
Bailer test _____ gpm with _____ ft. drawdown after _____ hrs.
Artesian flow _____ gpm
Temperature of water _____

12) WATER QUALITY:
Was a chemical analysis made? Yes No
Did any strata contain undesirable water? Yes No
Type of water? _____ depth of strata _____

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: Glen H. Haskin (Type or Print) Water Well Drillers Registration No. 935
ADDRESS: 15403 Capital Port, San Antonio, Texas 78249 (Street or RFD) (City) (State)
(signed) Glen H. Haskin (Water Well Driller) Haskin Pump Service, Inc. (Company Name)

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

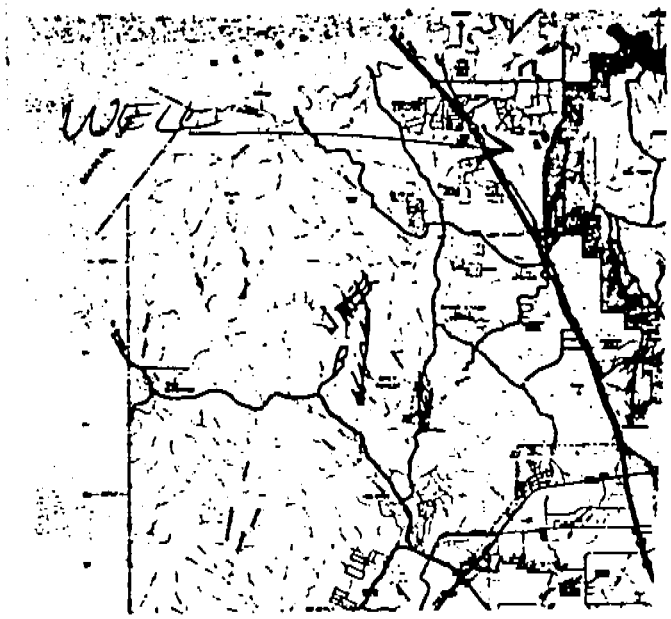
Additional instructions on reverse side.

TDS-GW-32

4802903099

(D)

MAP ID
39



RECEIVED
SEP 1 0 1990
DEPT OF
WATER RESOURCES

MAP # 39

MAP ID
40

Texas Water Development Board
Well Schedule

State Well No. 68 20 403 Previous Well No. County Bexar 049
River Basin San Antonio 19 Zone 1 Lat. 29 40 34 Long. 098 27 06 Cons. 1
Owner's Well No. #2 Location ___ Lg. ___ L.A. Section ___ Block ___ Survey ___
A Hidden Springs

Owner Bexar Metro Water Dist. Driller Mobile Pump Service Inc.
Address 2047 W. Malone, S.A. 78225 Tenant Dwr. Russell, Prod. Mgr.
Date Drilled 29 07 1983 Depth 460 Source of Depth Data D Altitude 1340 Source of Alt. Data M
Aquifer 460' Edwards Well Type W Use

Well Construction: Const. Method Air Rotary A Casing Material steel S
Completion open hole O Screen Material
Lift Data: Pump Mfr. Type Sub S No. Stages
Bowls Diam. in. Setting 588 ft. Column Diam. in.
Motor Mfr. Fuel or Power elec E Horsepower 15.00
Yield: Flow GPM Pump 75 GPM Meas. Date 4/9/83
Performance Test: Date Length of Test Production GPM
Static Level ft. Pumping Level ft. Drawdown ft. Sp. Cap. GPM/ft.
Quality (Remarks) Faucet at wellhead, HTM-sealed, flowing
Water Use: Primary PS P Secondary Tertiary
Water Levels: Date 04 07 1983 Meas. 450 7-07
Date Meas.

Casing or Blank Pipe (C) / Well Screen or Slotted Zone (S) / Open Hole (O)	Diam. (In.)	From	To
C	07	0	412
O		412	000

Recorded By D. Coker Date Record Collected or Updated 08 11 1987 GW Agent Reporting Agency 01
Remarks: Hidden Springs #2 well. Acquired yield 75 GPM in 1983.
Aquifer
Well No. 68 20 403

MAP ID
40

State of Texas
WATER WELL REPORT
ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

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

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

OWNER: HIDDEN SPRINGS WELL #2 (Name) — Address: Falcon Financial Corp. 6243 IH 10 W. (Street or RFD) San Antonio, Tx (City) (State) 78201 (Zip)

LOCATION OF WELL: County: Bexar — 23 miles in N - N.W. (N.E., S.W., etc.) direction from San Antonio (Town)

[ ] Legal description: Section No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting section or survey lines _____

You must complete the legal description to the right in sufficient 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 Official Highway Map and attach the map to this form.

[X] See attached map. 00 68 - 19 - 3

TYPE OF WORK (Check): [X] New Well [ ] Deepening [ ] Reconditioning [ ] Plugging

4) PROPOSED USE (Check): [X] Domestic [ ] Industrial [ ] Public Supply [ ] Irrigation [ ] Test Well [ ] Other _____

5) DRILLING METHOD (Check): [ ] Mud Rotary [ ] Air Hammer [ ] Driven [ ] Bored [X] Air Rotary [ ] Cable Tool [ ] Jetted [ ] Other _____

WELL LOG: Date drilled 4/07/83

Dia. (in.)	From (ft.) Surface	To (ft.)
8 3/4	0	412'
6"	412'	880'

From (ft.)	To (ft.)	Description and color of formation material
0	17	Yellow Clay & Brown Lime
17	110	White & Brown Lime
110	223	Dark Gray Lime
223	398	Light Gray Lime & Shale
398	520	Hard Gray Lime
520	705	Brown & Light Gray Lime
705	800	Dark Gray Lime
800	880	Brown Lime & Sand

(A)

(Use reverse side if necessary)

7) BOREHOLE COMPLETION: [X] Open Hole [X] Straight Wall [ ] Underreamed [ ] Gravel Packed [ ] Other _____
If Gravel Packed gravel interval from _____ ft. to _____ ft.

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
9"	New	Steel	0	412'	O.D.

CEMENTING DATA: Cemented from 412' ft. to 0 ft. Method used: Pressure Method. Cemented by: Halliburton (Company or Individual)

9) WATER LEVEL: Static level 450' ft. below land surface Date 4/7/83. Artesian flow 75 gpm. Date 4/12/83

10) PACKERS: Type: NONE Depth:

11) TYPE PUMP: [ ] Turbine [ ] Jet [X] Submersible [ ] Cylinder [ ] Other _____
Depth to pump bowls, cylinder, jet, etc., 588' ft.

12) WELL TESTS: NONE [ ] Type Test: [ ] Pump [ ] Bailer [ ] Jetted [ ] Estimated
Yield: ___ gpm with ___ ft. drawdown after ___ hrs.

RECEIVED

WATER QUALITY: Did you knowingly penetrate any strata which contained unpotable water? [ ] Yes [X] No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata
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.

COMPANY NAME: HASKIN PUMP SERVICE, INC. (Type or Print) — Water Well Driller's License No. RUDOLF BIEDERMANN 936

ADDRESS: 15403 CAPITAL PORT, (Street or RFD) SAN ANTONIO, (City) TX (State) 78249 (Zip)

(Signed) [signature] (Driller) (Signature) (Registered Water Well Driller)

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

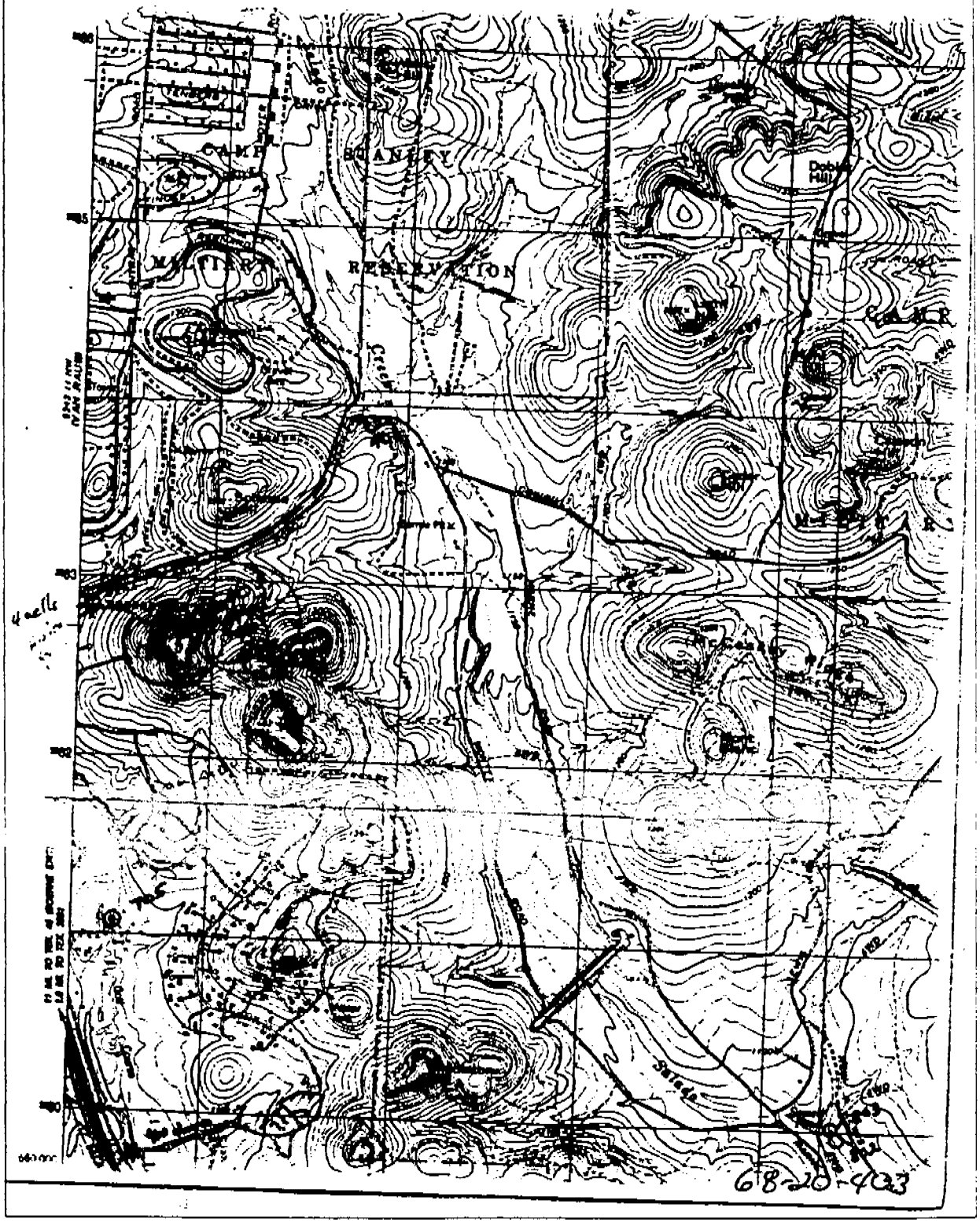
For TDWR use only: Well No. 68 / 9 - 3 Located on map: _____

(Revised Rev. 5-27-82) DEPARTMENT OF WATER RESOURCES COPY

68-20-463

MAP #40

MAP ID
40



MAP #40

34

Water Quality Field Data

SWN: 68-20-403
County: BEXAR
Aquifer(s): GLENROSE

Name: B.M.W.D
Address: AVE. ROAD
S.A., TX. 78257
owner's well #: W/P Hg

Sample No: B.M-1998-3337
Date: SEPT. 15, 1998
By: ROGER P.

Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6	Bottle 7	Total SUB-Samples
500 ml Anions	1 liter Cations	250 ml Nitrate	1 liter Radioactivity				
Ice	2 ml HNO (Nitric)	0.5 ml H SO (Sulfuric)	2 ml HNO (Nitric)				All filtered unless otherwise stipulated

Water Level _____ LSD Remark _____
Temperature (00010) 24.0 c
Specific Conductance (00094) 527 umhos/cm
pH (00400) 7.16
Eh (00090) 130.3 mv.
Phenol ALK (82244) 0.00 mg/l
Total ALK (39086) 272.0 mg/l
Carbonate (00452) 0.00 meq/l 0.00 mg/l
Bicarbonate (00453) 5.44 meq/l 331.93 mg/l
Total Cations(+) Bal.
Total Anions (-)
Total Hardness (00900) 322
Dissolved Solids 360

Time in 1220
Time out 1325 Sample time 1305
Weather SUNNY/HOT well use PUBLIC
Outside Temp 86°
Sampling point

Starting pH 7.16 @ 3339'
13.6 ml. of 0.02N to
50 ml. of Sample
Ending pH 4.50

Time:	1245	1250	1255			
pH:	7.17	7.17	7.16			
Temp:	25.7	25.6	24.0			
Eh:			130.3			
Cond.	553	538	527			

ml.	pH	ml.	pH	ml.	pH
1	6.98	11	5.66		
2	6.81	12	5.42		
3	6.67	13	5.02		
4	6.54	13.6	4.50		
5	6.43				
6	6.32				
7	6.20				
8	6.09				
9	5.96				
10	5.87				

other notes:
STARTED W/P Hg AT 1245
STOPPED W/P Hg AT 1320

MAP ID 40

MAP #40

MAP ID
40

Environmental Laboratory Services

FINAL ANALYSIS REPORT

LAB ID: 9902608 SAMPLE DESCRIPTION: Groundwater
COMPANY: TX Water Dev. Board SAMPLE DATE: 09/15/98
ACCT NO: SAMPLE TIME: 1305
REQUISITION No.: R08760 DATE RECEIVED: 09/25/98
LOCATION ID: 68-20-403 REPORT DATE: 10/28/98

PARAMETER	RESULTS	UNITS	STORET #	PQL in WATER	DATE ANALYZED
Bromide	0.07	mg/L	71870	0.02	09/28/98
Chloride	10.4	mg/L	00941	1.5	09/28/98
Fluoride	1.04	mg/L	00950	0.01	09/28/98
Nit.,Nitrate/Nitrite	<0.050	mg/L	00630	0.020	10/06/98
Nitrogen, Kjeldahl	0.160	mg/L	00623	0.070	10/01/98
Nitrogen, ammonia	0.120	mg/L	00608	0.050	09/29/98
Phosphorus, Total	<0.070	mg/L	00665	0.070	10/01/98
Silica	13.40	mg/L	00955	1.00	09/29/98
Sulfate	49.70	mg/L	00946	1.50	09/28/98
Alkalinity, Total	277	mg/L	00410	1	09/28/98
Alkalinity, Phenol.	0	mg/L	00415	0	09/28/98
Boron, Dissolved	59.00	ug/L	01020	10.00	10/02/98
Cobalt, Diss. ICPMS	<1.0	ug/L	01035	1.0	09/29/98
Iron, Dissolved	52.00	ug/L	01046	10.00	10/02/98
Lithium, Diss. ICPMS	10.0	ug/L	01130	2.0	09/29/98
Molybdenum Dis ICPMS	4.1	ug/L	01060	1.0	09/29/98
Potassium, Dissolved	3.07	mg/L	00935	1.00	10/02/98
Strontium, Dis ICPMS	3500.0	ug/L	01080	1.0	09/29/98
Vanadium, Diss ICPMS	<1.0	ug/L	01085	1.0	09/29/98
Aluminum, Dis. ICPMS	<4.0	ug/L	01106	4.0	09/29/98
Arsenic, Diss. ICPMS	<2.0	ug/L	01000	2.0	09/29/98
Barium, Diss. ICPMS	38.3	ug/L	[illegible]	1.0	09/29/98
Cadmium, Diss. ICPMS	<1.0	ug/L	[illegible]	1.0	09/29/98
Calcium, Dissolved	61.80	mg/L	[illegible]	0.50	10/02/98
Chromium, Diss ICPMS	2.0	ug/L	[illegible]	1.0	09/29/98
Copper, Diss. ICPMS	<2.0	ug/L	01040	2.0	09/29/98
Lead, Diss. ICPMS	7.5	ug/L	01049	1.0	09/29/98
Magnesium, Dissolved	39.60	mg/L	00925	0.50	10/02/98
Manganese, Dis ICPMS	1.9	ug/L	01056	1.0	09/29/98
Nickel, Diss. ICPMS	9.7	ug/L	01065	1.0	09/29/98
Selenium, Dis. ICPMS	<4.0	ug/L	01145	4.0	09/29/98
Sodium, Dissolved	8.31	mg/L	00930	0.10	10/02/98
Antimony, Dis. ICPMS	<1.0	ug/L	01095	1.0	09/29/98
Beryllium, Dis ICPMS	<1.0	ug/L	01010	1.0	09/29/98
Thallium, Diss ICPMS	<1.0	ug/L	01057	1.0	09/29/98
Zinc, Diss. ICPMS	409.0	ug/L	01090	2.0	09/29/98

Lower Colorado River Authority • P.O. Box 220 • Austin, Texas 78767
3505 Montopolis Drive • Austin, Texas 78744 • (512) 356-6022 • (800) 776-5272 • (512) 356-6021 FAX

MAP # 40

MAP ID
40

Texas Water Development Board
Well Schedule

State Well No. 68 20 40 Previous Well No. County Bexar 029

River Basin San Antonio 17 Zone 1 Lat. 29 46 25 Long. 098 37 03 Quad. F

Owner's Well No. #1 Location ___ 1/4, ___ 1/4, Section ___, Block ___, Survey ___

C Hidden Springs Subdivision

Owner Bexar Metro Water District

Driller Hadden Pump & Service Inc

Address ___ Tenant/Open ___

Date Drilled 09 13 1993 Depth 480 Source of Depth Data 2 Altitude 1587 Source of Alt. Data 4

457' Aquifer 210CCAA Well Type 1 Use ___

Well Construction: Const. Method Air Rotary 4 Casing Material steel 3

Completion open hole 1 Screen Material ___

Lift Data: Pump Mfr. ___ Type none 6 No. Stages ___

Bowls Diam. ___ in. Setting ___ ft. Column Diam. ___ in.

Motor Mfr. ___ Fuel or Power none Horsepower ___

Yield: Flow ___ GPM Pump 80 GPM Measured driller Date 9/9/93

Performance Test: Date ___ Length of Test ___ Production ___ GPM

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft. Sp.Cap. ___ GPM/ft.

Quality (Remarks) Power disconnect, Dirt pipe capped

Water Use: Primary Unused 4 Secondary ___ Tertiary ___

Other Data Available: Water Level m Water Quality A Logs ___ Other Data ___

Water Levels:
- Date 06 11 1997 Meas. 308.63 1-01
- Date 09 14 1993 Meas. 450 7-07
- Date ___ Meas. ___

* Type steps ± 415'

Casing or Blank Pipe (C) / Well Screen or Slotted Zone (S) / Open Hole (O) Cemented from 0 to 420 Casing (Seal)	Diam.	From	To
C	8 7/8	0	420
O	4 3/4	420	480

Recorded By D. Cukor Date Record Collected or Updated 06 11 1997 Reporting Agency 01

Remarks: Hidden Springs #1 well. Reported yield 80 gpm in 1983. Observation in well bore at 415' feet in 1997.

Aquifer ___ Well No. 68.20.40

TB-6104
2/1/93

MAP ID
40

State of Texas
WATER WELL REPORT
ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

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

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

OWNER: HIDDEN SPRINGS SUBDIVISION (Name) — Address: Falcon Financial Corp. 6243 IH 10 West, (Street or RFD) San Antonio, (City) Tx (State) 78201 (Zip)

LOCATION OF WELL: County Bexar — 23 miles in N - N.W. (N.E., S.W., etc.) direction from San Antonio (Town)

...her must complete the legal description to the right ...ll distance and direction from two intersecting sec- ...n or survey lines, or he must locate and identify the ...ll on an official Quarter- or Half-Scale Texas County ...ional 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 ____

[X] See attached map.

TYPE OF WORK (Check): [X] New Well [ ] Deepening [ ] Reconditioning [ ] Plugging

4) PROPOSED USE (Check): [X] Domestic [ ] Industrial [ ] Public Supply [ ] Irrigation [ ] Test Well [ ] Other ____

5) DRILLING METHOD (Check): [ ] Mud Rotary [ ] Air Hammer [ ] Drivin [ ] Bored [ ] Air Rotary [ ] Cable Tool [ ] Jetted [ ] Other ____

WELL LOG — Date drilled 4/14/83

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
	Surface	
8 3/4	0	420'
6"	420'	880'

From (ft.)	To (ft.)	Description and color of formation material
0 —	4	Base
4 —	20	Yellow Clay
20 —	100	Brown Lime & White Lime
100 —	222	Dark Gray Lime & Clay
222 —	258	Light Gray Lime & Shale
258 —	405	Dark Gray Lime
405 —	555	Hard Light Gray Lime
555 —	740	Brown & White Lime
740 —	810	Dark Gray Lime
810 —	880	Brownish Lime & Sand

WELL # 1

(Use reverse side if necessary)

6) BOREHOLE COMPLETION: [X] Open Hole [X] Straight Wall [ ] Underreamed [ ] Gravel Packed [ ] Other ____ If Gravel Packed gravel interval: from ____ ft. to ____ ft.

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg. if commercial	Setting (ft.) From	To	Gage Casing Screen
7"	New	Steel	0	420'	O.D

CEMENTING DATA: Cemented from 420' ft. to 0 ft. Method used: Pressure Method. Cemented by: Halliburton (Company or Individual)

RECEIVED

9) WATER LEVEL: Static level 450' ft. below land surface Date 4/14/83. Artesian flow 80 gpm. Date 4/14/83

10) PACKERS: Type ____ Depth ____

11) TYPE PUMP: NOT KNOWN [ ] Turbine [ ] Jet [ ] Submersible [ ] Cylinder [ ] Other ____ Depth to pump bowls, cylinder, jet, etc. ____ ft.

12) WELL TESTS: NONE [ ] Type Test: [ ] Pump [ ] Bailer [ ] Jetted [ ] Estimated. Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

WATER QUALITY: Did you knowingly penetrate any strata which contained undesirable water? [ ] Yes [X] No. If yes, submit "REPORT OF UNDESIRABLE WATER." Type of water? ____ Depth of strata ____ 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.

COMPANY NAME: HASKIN PUMP SERVICE, INC. (Type or Print) — Water Well Driller's License No. RUDOLF BIEDERMANN 936

ADDRESS: 15403 CAPITAL PORT. (Street or RFD) SAN ANTONIO, (City) TX (State) 78249 (Zip)

(Signed) Rudolf Biedermann (Licensed Water Well Driller) (Registered Driller Trainee)

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

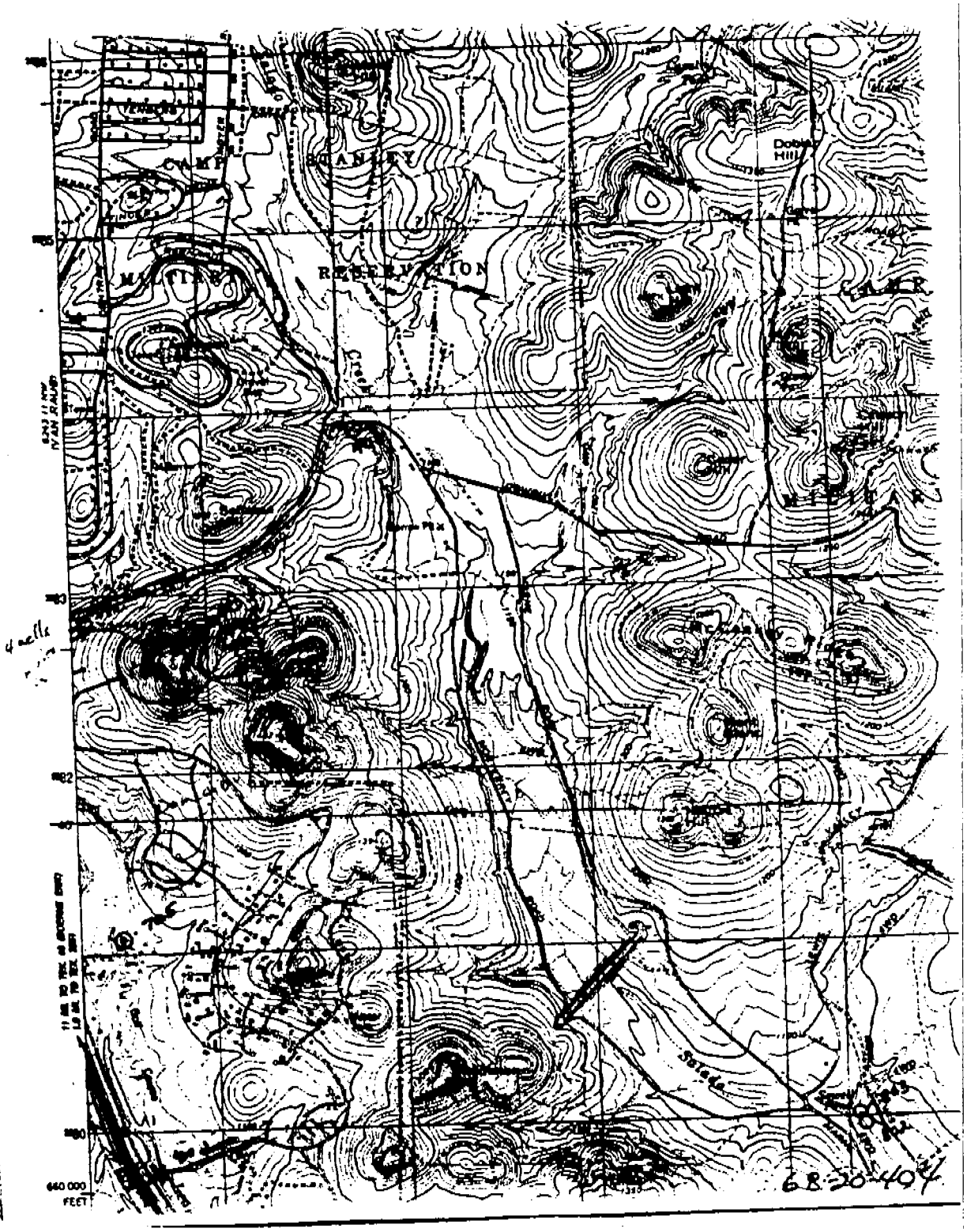
For TDWR use only: Well No. 68-77-3. Located on map ____

TDWR 0318 (Rev. 5-27-83) DEPARTMENT OF WATER RESOURCES COPY

6820-404

MAP # 40

MAP ID
40



68-30-404

MAP #40

MAP ID
40

Texas Water Development Board
Well Schedule

State Well No. 66 20 405 Previous Well No. _____ County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 40 35 Long. 098 37 04 Land Surface Elev. 1 30

Owner's Well No. #3 Location ___ 1/4 ___ 1/4 Section ___ Block ___ Survey ___

D Hidden Springs Subd.

Owner Bexar Metro Water District

Driller Mar Air Pump & Service Inc.

Address _____ Tenant/Oper. _____

Date Drilled 05 13 1984 Depth 910 Source of Depth Data 4 Altitude 738 Source of Alt. Data 4

Aquifer 210BCEK Well Type 1 Use _____

Well Construction: Const. Method Air Rotary 4 Casing Material steel 3

Completion open hole 1 Screen Material _____

Lift Data: Pump Mfr. _____ Type Sub 5 No. Stages _____

Bowls Diam. _____ in. Setting 798 ft. Column Diam. _____ in.

Motor Mfr. _____ Fuel or Power None 0 Horsepower _____

Yield: Flow ___ GPM Pump ___ GPM Meas. Rept. Est. _____ Date _____

Performance Test: Date _____ Length of Test _____ Production _____ GPM

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft. Sp.Cap. ___ GPM/ft.

Quality (Remarks): FOWH, Flowwater, power disconnected

Water Use: Primary Unused 1 Secondary _____ Tertiary _____

Other Data Available: Water Level 1 Water Quality 1 Log 1 Other Data _____

Water Levels: Date _____ Meas. _____ Date _____ Meas. -70 Date _____ Meas. _____

Casing or Blank Pipe (C) Well Screen or Slotted Zone (S) Open Hole (O) Cemented from 0 to 910 Setting Grout

	Diam. (in.)	From	To
1	6 7	0	810
2	6	810	910
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

Recorded by D. Coker Date Record Collected or Updated 06 11 1997 (DD mm yy) Reporting Agency 01

Remarks: Hidden Springs #3 well.

Aquifer _____

Well No. 68 20 405

MAP ID
40

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*

Texas Water Well Drillers Board P. O. Box 10457 Austin, Texas 78711

1) OWNER: HIDDEN SPRINGS SUBDIVISION #2 (Name) Address: Falcon Financial Corporation 2243 N.E. 10 Hwy (Street or RFD) San Antonio, TX (City) 78201 (Zip)

2) LOCATION OF WELL: County: Bexar 23 miles in N-W-N (N.E., S.W., etc.) direction from San Antonio (Town)

Driller shall complete the legal description to the right with distances and direction from two intersecting section or survey lines, or he may leave blank 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 2/13/84

Diameter of Hole Dia. (in.)	From (ft.)	To (ft.)
8-3/4"	Surface 0	410' 910'

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

From (ft.)	To (ft.)	Description and color of formation material
0	2	Fill & Loose Rock
2	80	Hard White Lime
80	143	Gray Lime
143	150	Hard White Lime
150	155	Gray Lime
155	160	Light Brown Lime
160	285	Soft Gray Lime
285	550	Gray Lime, Clearose, Coelie Mats
550	638	Grayish Brown Lime
638	760	Gray Speckled Lime
760	820	Dark Gray Lime
820	895	Hard White Lime
895	910	Gray Lime
630'		2" Cave
685'		1st Signs of Water
718'		More Water
825'		More Water 3" Cave

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

Dia. (in.)	New or Used	Gravel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
7"	New	Steel	0	410'	

CEMENTING DATA: Cemented from 410' ft. to 0 ft. Method used: Pressure Method. Cemented by: Halliburton Services (Company or Individual)

9) WATER LEVEL: Static level 470' ft. below land surface Date 2/23/84. Artesian flow ____ gpm. Date ____

10) PACKERS: Type ____ Depth ____ NONE

11) TYPE PUMP: ☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder ☐ Other ____ Depth to pump bowls, cylinder, jet, etc. 798' ft.

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

13) WELL TESTS: NONE ☐ Type Test ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated. Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

RECEIVED MAY 29 1984 DEPT. OF WATER RESOURCES

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.

COMPANY NAME: HASKIN PUMP SERVICE, INC. (Type or Print) Water Well Driller's License No. GLEN H. HASKIN, #935

ADDRESS: 15403 CAPITAL PORT, (Street or RFD) SAN ANTONIO, (City) TX (State) 78249 (Zip)

(Signed) Glen H. Haskin (Licensed Water Well Driller) (Signed) ____ (Registered Driller Trainee)

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

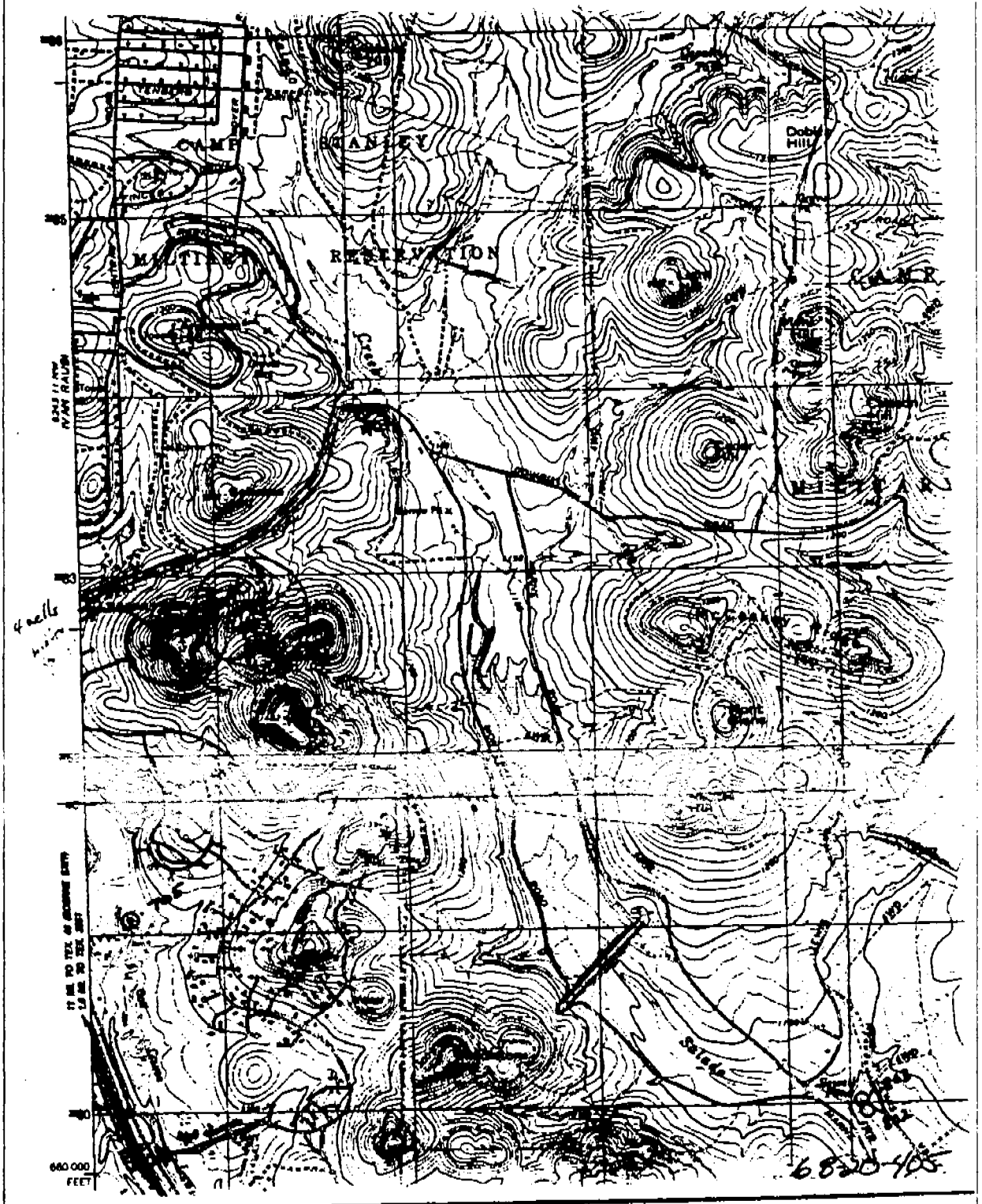
For TDWR Well No. AF-79-__ Located on map ____

TDWR 6382 (Rev. 8-27-83) DEPARTMENT OF WATER RESOURCES COPY

68-20-405

MAP #40

MAP ID
40



MAP #40

MAP ID
40

Texas Water Development Board
Well Schedule

State Well No. 68 20 496 Previous Well No. County Bexar 029

River Basin Zone Lat. 47 46 30 Long. 098 37 04 Source Code 7

Owner's Well No. #4 Location 1/4 1/4 Section Block Survey SD

B Hidden Springs Sch

Owner Bexar Metro Water District Driller Randall Pump Service, Inc.

Address Tenant/Operator

Date Drilled 03/16/1984 Date Date Date

Aquifer 405 21 9 Well Type W Use

Well Construction Const. Method Air Rotary A Casing Material steel S

Completion open hole X Screen Material

Lift Data Pump Mfr. Type Sub S No. Stages

Bowls Diam. in. Setting 777 ft. Column Diam. in.

Motor Mfr. Fuel or Power elec. E Horsepower 150.00

Yield Flow GPM Pump GPM Meas. Rept. Est. Date

Performance Test Date Length of Test Production GPM

Static Level ft. Pumping Level ft. Drawdown ft. Sp. Cap. GPM/ft.

Quality (Remarks) FOW, atm-sealed, flowwater, power off

Water Use Primary ? Secondary Tertiary

Other Data Available Water Level Water Quality Logs Other Data

Water Levels Date Meas. ft. KTM

Date 03 26 1984 Meas. 470 ft.

Date Meas. ft.

Casing or Blank Pipe (B) Well Screen or Slotted Casing (S) Open Hole (O) Commenced from 0 to 410 Setting (feet)

Diam. (in.)	From	To
20 7	0	410
0	410	925

Recorded By D. Coker Date Recorded Collected or Updated 06 27 1997 (DD mmm) Reporting Agency 61

Remarks Hidden Springs #4 well.

Aquifer

Well No. 68-20-406

TWDB-0204
3/91

MAP ID
40

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

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

1) OWNER HIDDEN SPRINGS SUBDIVISION #4 (Name) Falcon Financial Corporation Address 4243 I.H. 10 West. (Street or RFD) San Antonio, TX (City) 78201 (State) (Zip)

2) LOCATION OF WELL: County Bexar 23 Miles n Mi N W (Dir. & S.W., etc.) direction from San Antonio (Town)

☐ Legal description: Sec. or No. ____ Block No. ____ Township ____ Abstract No. ____ Survey Name ____ ☐ Distance and direction from two intersecting roads or survey lines ____

Driller must compare the legal description to the right with drainage and direction from two intersecting roads 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.

☐ See attached map. map on file 68-19-96

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 2/16/84

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
	Surface	
8-3/4"	0	410'
6"	410'	925'

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

From (ft.)	To (ft.)	Description and color of formation material
0	2	Fill & Loose Rock
2	15	Hard White Lime
15	35	Caliche
35	40	Hard Gray Lime
40	45	White Lime
45	50	Caliche
50	55	Soft Brown Lime
55	60	White Lime
60	90	Brown Lime
90	105	Gray Lime
105	110	White Lime
110	280	Gray Lime
280	840	Glenrose, Cecilia Rate
840	900	Hard White Lime
900	925	Gray Lime
430'		1st Signs of Water-20GPM
843'		Much More Water-30 GPM
860'		More Water - 55 GPM

8) CASING, BLANK PIPE, AND WELL SCREEN DATA

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	To	Cage Centralizer Screen
7"	New	Steel	0	410'	

CEMENTING DATA: Cemented from 410' ft. to 0 ft. Method used Pressure Method. Cemented by Halliburton Services (Company or individual)

9) WATER LEVEL: Static level 470' ft. below land surface. Date 2/28/84. Artesian flow ____ gpm. Date ____

10) PACKERS: Type NONE. Depth ____

RECEIVED MAY 25 1984 DEPT OF WATER RESOURCES

11) TYPE PUMP: ☐ Turbine ☐ Jet ☐ Reciprocating ☐ Centrifugal ☐ Other ____ Depth to pump bowls, if set ____ ft.

12) WATER QUALITY: Did you encounter water containing undesirable constituents? ☐ Yes ☒ No. If yes, submit "REPORT OF UNDESIRABLE WATER." Type of water? ____ Depth of strata ____. Was a chemical analysis made? ☐ Yes ☐ No

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

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.

COMPANY NAME HASKIN PUMP SERVICE, INC. (Type or Print) Water Well Driller's License No. CLEN H. HASKIN, 0935

ADDRESS 15403 CAPITAL PORT. (Street or RFD) SAN ANTONIO, (City) TX (State) 78249 (Zip)

(Signed) Glen H. Haskin (L. Water Well Driller) (Signed) ____ (Registered Driller Trainee) Date ____

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

For TDWR Use Only: Well No. ____ Located on map ____

TDWR-0002 (Rev. 8-27-80) DEPARTMENT OF WATER RESOURCES COPY

68-20-406

MAP #40

MAP ID
40

MAP #40

34

Water Quality Field Data

SWN: 68-20-406
County: BEXAR
Aquifer(s): GLEN ROSE

Name: B.M. W.O.
Address: AUE ROAD
S.A., TX. 78237
owner's well #: WIPM4

Sample No: BM-1998-3338
Date: SEPT. 15, 1998
By: ROGER P.

Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6	Bottle 7	Total SUB-Samples
500 ml Anions	1 liter Cations	250 ml Nitrate	1 liter Radioactivity				
ICE	2 ml HNO (Nitric)	0.5 ml H SO (Sulfuric)	2 ml HNO (Nitric)				All filtered unless otherwise stipulated

Water Level _____ LSD Remark _____
Temperature (00010) 25.4° c
Specific Conductance (00094) 527 umhos/cm
pH (00400) 7.24
Eh (00090) 122.1 mv.
Phenol ALK (82244) 0.00 mg/l
Total ALK (39086) 240.0 mg/l
Carbonate (00452) 0.00 meq/l 0.00 mg/l
Bicarbonate (00453) 4.80 meq/l 292.88 mg/l
Total Cations(+) Bal.
Total Anions (-)
Total Hardness (00900) 270
Dissolved Solids 295

Time in 1330
Time out 1430 Sample time 1410
Weather CLOUDY/HOT well use PUBLIC
Outside Temp 88°
Sampling point

Starting pH 7.24 @ 25.5
12 ml. of 0.02N to
50 ml. of Sample
Ending pH _____

Time:	1340	1345	1350				ml.	pH	ml.	pH	ml.	pH
pH:	7.23	7.23	7.24				1	7.05	11	5.30		
Temp:	25.2	25.3	25.5				2	6.85	12	4.50		
Eh:			122.1				3	6.68				
Cond.	519	523	527				4	6.53				
							5	6.39				
							6	6.27				
							7	6.13				
							8	5.99				
							9	5.84				
							10	5.43				

other notes:
STARTED W/P M4 AT 1335
STOPPED W/P M4 AT 1420

MAP ID 40

MAP #40

MAP ID
40

Environmental Laboratory Services

FINAL ANALYSIS REPORT

LAB ID: 9902609 SAMPLE DESCRIPTION: Groundwater
COMPANY: TX Water Dev. Board SAMPLE DATE: 09/15/98
ACCT NO: SAMPLE TIME: 1410
REQUISITION No.: R08760 DATE RECEIVED: 09/25/98
LOCATION ID: 68-20-406 REPORT DATE: 10/28/98

PARAMETER	RESULTS	UNITS	STORET #	PQL in WATER	DATE ANALYZED
Bromide	0.08	mg/L	71870	0.02	09/28/98
Chloride	11.0	mg/L	00941	1.5	09/28/98
Fluoride	0.61	mg/L	00950	0.01	09/28/98
Nit.,Nitrate/Nitrite	0.092	mg/L	00630	0.020	10/06/98
Nitrogen, Kjeldahl	0.130	mg/L	00623	0.070	10/01/98
Nitrogen, ammonia	0.090	mg/L	00608	0.050	09/29/98
Phosphorus, Total	<0.070	mg/L	00665	0.070	10/01/98
Silica	13.10	mg/L	00955	1.00	09/29/98
Sulfate	20.90	mg/L	00946	1.50	09/28/98
Alkalinity, Total	246	mg/L	00410	1	09/28/98
Alkalinity, Phenol.	0	mg/L	00415	0	09/28/98
Boron, Dissolved	36.00	ug/L	01020	10.00	10/02/98
Cobalt, Diss. ICPMS	<1.0	ug/L	01035	1.0	09/29/98
Iron, Dissolved	31.00	ug/L	01046	10.00	10/02/98
Lithium, Diss. ICPMS	5.1	ug/L	01130	2.0	09/29/98
Molybdenum Dis ICPMS	2.4	ug/L	01060	1.0	09/29/98
Potassium, Dissolved	2.17	mg/L	00935	1.00	10/02/98
Strontium, Dis ICPMS	1720.0	ug/L	01080	1.0	09/29/98
Vanadium, Diss ICPMS	1.6	ug/L	01085	1.0	09/29/98
Aluminum, Dis. ICPMS	<4.0	ug/L	01106	4.0	09/29/98
Arsenic, Diss. ICPMS	<2.0	ug/L	01000	2.0	09/29/98
Barium, Diss. ICPMS	37.6	ug/L	01005	1.0	09/29/98
Cadmium, Diss. ICPMS	<1.0	ug/L	01025	1.0	09/29/98
Calcium, Dissolved	58.70	mg/L	00915	0.50	10/02/98
Chromium, Diss ICPMS	1.8	ug/L	01030	1.0	09/29/98
Copper, Diss. ICPMS	<2.0	ug/L	01040	2.0	09/29/98
Lead, Diss. ICPMS	1.2	ug/L	01049	1.0	09/29/98
Magnesium, Dissolved	29.40	mg/L	00925	0.50	10/02/98
Manganese, Dis ICPMS	3.6	ug/L	01056	1.0	09/29/98
Nickel, Diss. ICPMS	8.8	ug/L	01065	1.0	09/29/98
Selenium, Dis. ICPMS	<4.0	ug/L	01145	4.0	09/29/98
Sodium, Dissolved	7.02	mg/L	00930	0.10	10/02/98
Antimony, Dis. ICPMS	<1.0	ug/L	01095	1.0	09/29/98
Beryllium, Dis ICPMS	<1.0	ug/L	01010	1.0	09/29/98
Thallium, Diss ICPMS	<1.0	ug/L	01057	1.0	09/29/98
Zinc, Diss. ICPMS	265.0	ug/L	01090	2.0	09/29/98

Lower Colorado River Authority • P.O. Box 220 • Austin, Texas 78767
3505 Montopolis Drive • Austin, Texas 78744 • (512) 356-6022 • (800) 776-5272 • (512) 356-6021 FAX

MAP#40

MAP ID

41

Texas Water Development Board
Well Schedule

State Well No. 68 19 31 6 Previous Well No. County Bexar 029

River Basin San Antonio 19 Zone 1 Lat. 29 42 46 Long. 098 38 31 Source of Coord. 3

Owner's Well No. 27 Location ____ 1/4, ____ 1/4, Section ____, Block ____, Survey ____

Owner FAIRCO WATER CO Driller L BERGMANN & SONS

Address ____ Tenant/Oper. ____

Date Drilled 06 30 1993 Depth 575 Source of Depth Datum D Altitude 1370 Source of Alt. Datum M

Aquifer Cow Creek 218CCRK Well Type W User 277575

Well Construction Const. Method Air Rotary A Casing Material Steel S

Completion Open hole X Screen Material ____

Lift Data Pump Mfr. ____ Type ____ S No. Stages ____

Bowls Diam. ____ in. Setting ____ ft. Column Diam. ____ in.

Motor Mfr. ____ Fuel or Power ____ E Horsepower ____

Yield Flow ____ GPM Pump ____ GPM Meas., Rept., Est. ____ Date ____

Performance Test Date ____ Length of Test ____ Production ____ GPM

Static Level ____ ft. Pumping Level ____ ft. Drawdown ____ ft. Sp.Cap. ____ GPM/ft.

Quality (Remarks ____

Water Use Primary P.S. P Secondary ____ Tertiary ____

Other Data Available Water Level A Water Quality ____ Logs ____ Other Data ____

Water Levels Date ____ Meas. ____ Date ____ Meas. ____ Date ____ Meas. ____

Casing or Blank Pipe (C)
Well Screen or Slotted Zone (S)
Open Hole (O)
Cemented from 0 to 376

	Diam. (in.)	From	To
1	C 08	0	376
2	O	376	575
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

Recorded By TWPCC Date Record Collected or Updated 09 29 1993 (20 mm) Reporting Agency 03

Remarks

Aquifer Cow Creek

Well No. 68-19-316

TD-0004
2/93

MAP ID
41

* Send original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711

Please type/block ink.

ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER Fair Oaks Water Co. #37 (Name) ADDRESS Box 4495 Boerne, TX 78006 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar . 3.4 miles in N (NE, SW, etc.) direction from Leon Springs (Town)

Owner must complete the legal description below with distance and direction from two intersecting section or survey lines, or his exact tenure 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 ☐ Monitor ☒ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG: Date Drilling: Started 6-15-93 19__ Completed 6-30-93 19__

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
12 3/4	Surface	523

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

From (ft.)	To (ft.)	Description and color of formation material
		SEE ATTACHED

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Section Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
8 5/8	N	steel .250	0	376	

RECEIVED
OCT 20 1993
TEXAS WATER COMMISSION

(Use reverse side if necessary)

9) CEMENTING DATA [Rule 337.44(f)] 3½ yd Readymix
Cemented from 0 ft. to 378 ft. No. of Sacks Used 410
ft. to ft. No. of Sacks Used
Method used pressure by Nixon International Services Inc.
Cemented by

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 337.44(E)(A)]
☐ Specified Steel Sleeve Installed [Rule 337.44(E)(A)]
☐ Pitless Adapter Used [Rule 337.44(H)(B)]
☐ Approved Alternative Pressure Used [Rule 337.71]

11) WATER LEVEL: Static level 260 ft. below land surface Date 6-30-93
Artesian flow _____ gpm. Date _____

12) PACKERS: Type Depth

13) TYPE PUMP: ☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.

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

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME LOUIS BERGMANN & SONS (Type or print) WELL DRILLER'S LICENSE NO. 1937 WI

ADDRESS 135 South Pecan (Street or RFD) Boerne, TX (City) (State) 78006 (Zip)

(Signed) [signature] (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

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

For TWC use only: Well No. 68-19-6 Located on map _____

TWC-0199 (Rev. 05-18-90)

TEXAS WATER COMMISSION COPY

68 19 316

MAP #41

MAP ID
41

14" to 575' June 15-30, 1993

FAIR OAKS WELL #27
Part of Bowman place Bexar Co.

0-1	top soil
1-6	caliche
6-17	med-hard white rock
17-29	med hard white yellow rock
29-34	med soft lt blue gray shale
34-53	med hard lt gray rock
53-61	med hard white gray rock
61-64	med hard gray rock.
64-68	med hard lt blue gray rock
68-81	med hard gray rock
81-90	med soft lt blue gray rock & shale layers
90-102	med hard lt gray rock
102-112	med hard gray rock
112-119	med hard lt yellow rock
119-130	med hard blue gray rock w/soft shale laye
130-134	med hard gray rock
134-138	med hard lt yellow rock-little water
138-147	med hard blue gray rock
147-170	med hard gray rock
170-178	med hard lt white yellow rock
178-184	med hard gray rock
184-195	med hard lt yellow rock
195-232	med soft white gray rock
232-238	med soft gray rock little
238-242	med hard white yellow rock water
242-257	med hard yellow brown rock
257-282	med hard gray rock
282-298	med hard lt gray rock
298-314	med hard gray rock-porous 310-312
314-318	med hard lt blue gray rock
318-332	med hard gray rock
332-341	med hard porous gray rock
341-365	med hard gray rock
365-384	med soft gray rock & trace shale
384-400	med-hard lt blue gray rock
400-405	med hard gray rock
405-429	med soft white yellow rock WATER
429-453	med hard white yellow rock-porous spots
453-459	hard white yellow rock
459-481	med hard gray rock
481-485	med hard blue green rock
485-502	med hard gray rock
502-504	med soft blue gray shale

68 19 316

MAP#41

MAP ID
41

504-509 med hard gray rock
509-511 hard porous
511-519 med hard white gray rock
519-526 med soft white gray rock
526-546 med hard white gray rock w/soft spots
546-567 med hard gray rock-porous spots
567-575 med hard lt blue gray rock

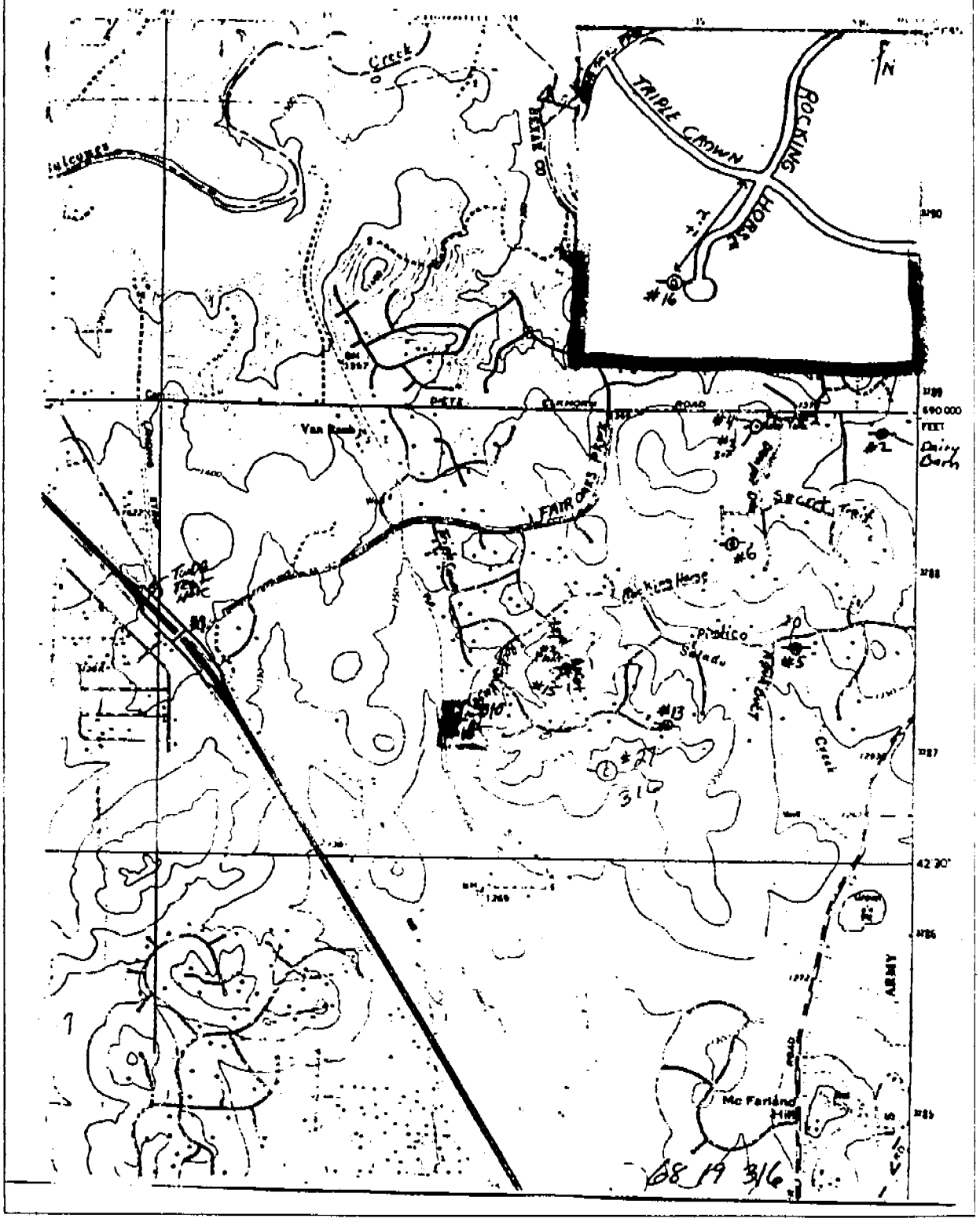
Total Depth: 575'
Static Water Level: 260?
Test:
Casing: 378# 8 5/8" OD .250 steel
Cement: Pressure cemented by Nixon International Services, Inc. 3½ Yd Readymix +10 pure

ER:bm

68 19 316

MAP #41

MAP ID
41



MAP #41

MAP ID
42

TEXAS DEPARTMENT OF WATER RESOURCES

WELL SCHEDULE

Aquifer(s) Lower Glen Rose / Hensell / Cow Creek Project No. Lot 24 State Well No. 68-20-104

Field No./Owner's Well No. #8 County Bexar

1. Location: ___ ¼, ___ ¼, Section ___, Block ___, Survey ___, Longitude ___, Latitude ___

2. Owner: Fair Oaks Ranch Water Co. Address:

Tenant (other): ___ Address:

Driller: Lewis Bergman & Son Address:

3. Land Surface Elevation: 1326 ft. above msl determined by Topo

4. Drilled: Apr 4 1978; Dug, (Cable Tool), (Rotary), Air, ___

5. Depth: Rept. 525 ft. Meas. ___ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. Reda Pleuger Type Sub

No. Stages ___, Bowls Diam. ___ in., Setting 483 ft.

Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Mfr. ___ HP 20 Fuel elec

9. Yield: Flow ___ gpm, Pump 80-90 gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date ___ Length of Test ___ Made by ___

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production ___ gpm Specific Capacity ___ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) ___

Analyses

Date ___ Laboratory ___ TDS ___ Sp Cond ___

Date ___ Laboratory ___ TDS ___ Sp Cond ___

12. Other data available as circled: Pumping test, Power & Yield Test, (Drillers), (Logs), Formation Samples, Geophysical Log(s) ___

CASING, BLANK PIPE & WELL SCREEN
Cemented From 0 ft. to 310 ft.

Diam. (in.)	Type	Setting (feet) From	to
8	steel	0	310
7⅝	open	310	525

13. Water Level(s): 250 ft. (Static) (Meas.) Jul 19 75 (Prior) above (below) DL which is ___ ft. above (below) Land Surface

___ ft. (Static) (Meas.) ___ 19 ___ above (below) ___ which is ___ ft. above (below) Land Surface

14. Use: Dom., Stock, (Public Supply), Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) ___

15. Recorded by: G. Marquardt Source of data: driller Date: 7-18-78

16. Remarks: 10,000 gal acid

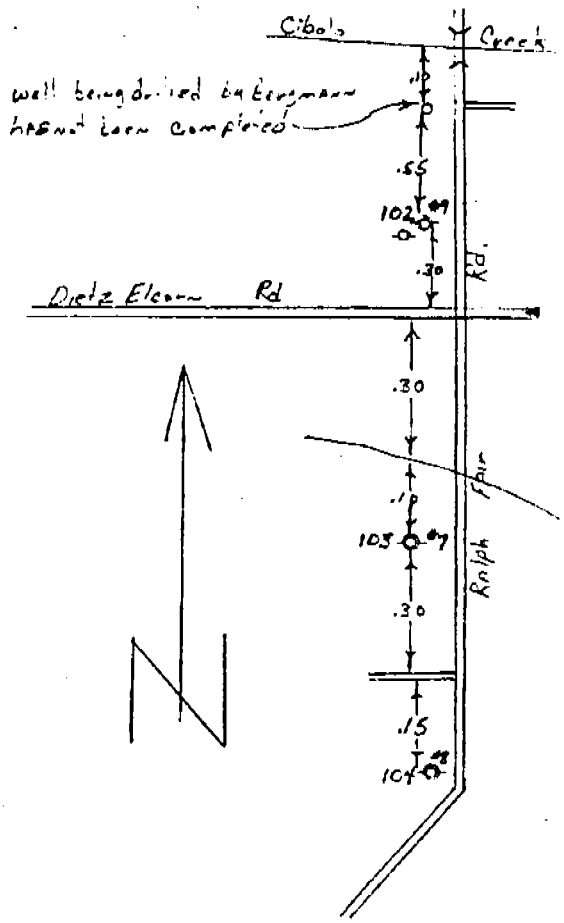
17. Location or Sketch:

W/L Obs. Well ___ W/Q Obs. Well ___
State Well No. 68-20-104

MAP ID

42

0-17 Calache & white rock
17-38 Blue shale
38-66 Grey rock
66-69 Grey yellow rock
69-80 Light blue rock & shale
80-92 yellow rock
92-118 light blue shale & rock
118-129 porus light yellow rock (some water)
129-137 Grey blue rock & shale
137-141 Grey brown rock
141-152 yellow grey rock
152-197 light blue grey rock
197-214 light yellow grey rock
214-222 yellow rock
222-235 grey white rock
235-250 light grey blue rock
250-255 light blue rock & shale
255-270 grey white rock some yellow porus
270-279 light blue shale & rock
279-296 porus yellow white rock (water)
296-300 grey shale
300-306 grey white rock (sulphur odor)
306-312 light grey blue shale
312-324 Grey rock porus & soft
324-330 grey blue shale & rock
330-334 blue shale
334-337 porus dark yellow rock
337-391 light yellow rock
391-402 porus grey blue rock
402-422 blue rock & shale
422-435 dark blue rock shells & white crystals
435-446 blue rock
446-448 blue & green shale
448-495 porus white rock
495-520 porus light brown rock
520-523 brown rock
523-525 blue shale



MAP # 42

MAP ID
43

#13

Surface Kgrk

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer(s) Kgrc (21B CCRK) Project No. 6029 State Well No. 68-19-311

Field No./Owner's Well No. 13 County (AY) Bexar (015)

1. Location: ___ ¼, ___ ¼, Section ___, Block ___, Survey ___, Lat. ___, Long. ___

2. Owner: Fair Oaks Subd. Address: Rt 4 Box 9495 Boerne Tx 78006

Tenant (other): David Buchanan Address: Same 512 755-4294

Driller: Louis Dempmann & Sons Address: 135 S. Acco St. Boerne Tx 78006

3. Land Surface Elevation: 1415 ft. above msl determined by Topo

4. Drilled: 10-3 19 78; Bug, Cable Tool, Rotary, Air, ___

5. Depth: Rept. 650 ft. Meas. ___ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. Jacuzzi Type Sub

No. Stages ___, Bowls Diam. ___ in., Setting 588 ft.

Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Mfr. ___ Fuel Elect HP 20

9. Yield: Flow ___ gpm, Pump 90 gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date ___ Length of Test ___ Made by ___

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production ___ gpm Specific Capacity ___ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) ___

Analyses

Date ___ Laboratory ___ TDS ___ Sp Cond ___

Date ___ Laboratory ___ TDS ___ Sp Cond ___

12. Other Data Available (Check): Pumping Test, Power & Yield Test, Drillers Log, Formation Samples, Geophysical Log(s) ___

CASING, BLANK PIPE & WELL SCREEN Cemented From 0 ft. to 430 ft.			
Diam. (in.)	Type	Setting (Feet) From	To
6"	Steel	0	430
open	hole	430	650

13. Water Level(s): 340.78 ft. rept. meas. 8-12 1987 (Steel) above/below Test Hole which is 2.0 ft. above/below Land Surface

___ ft. rept. meas. ___ 19__ above/below ___ which is ___ ft. above/below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) ___

15. Recorded by: Ron Maher Source of data: Obs, Supv, Drlg Date: 8-13-87

16. Remarks: Air Line Set 588

93 P-21483

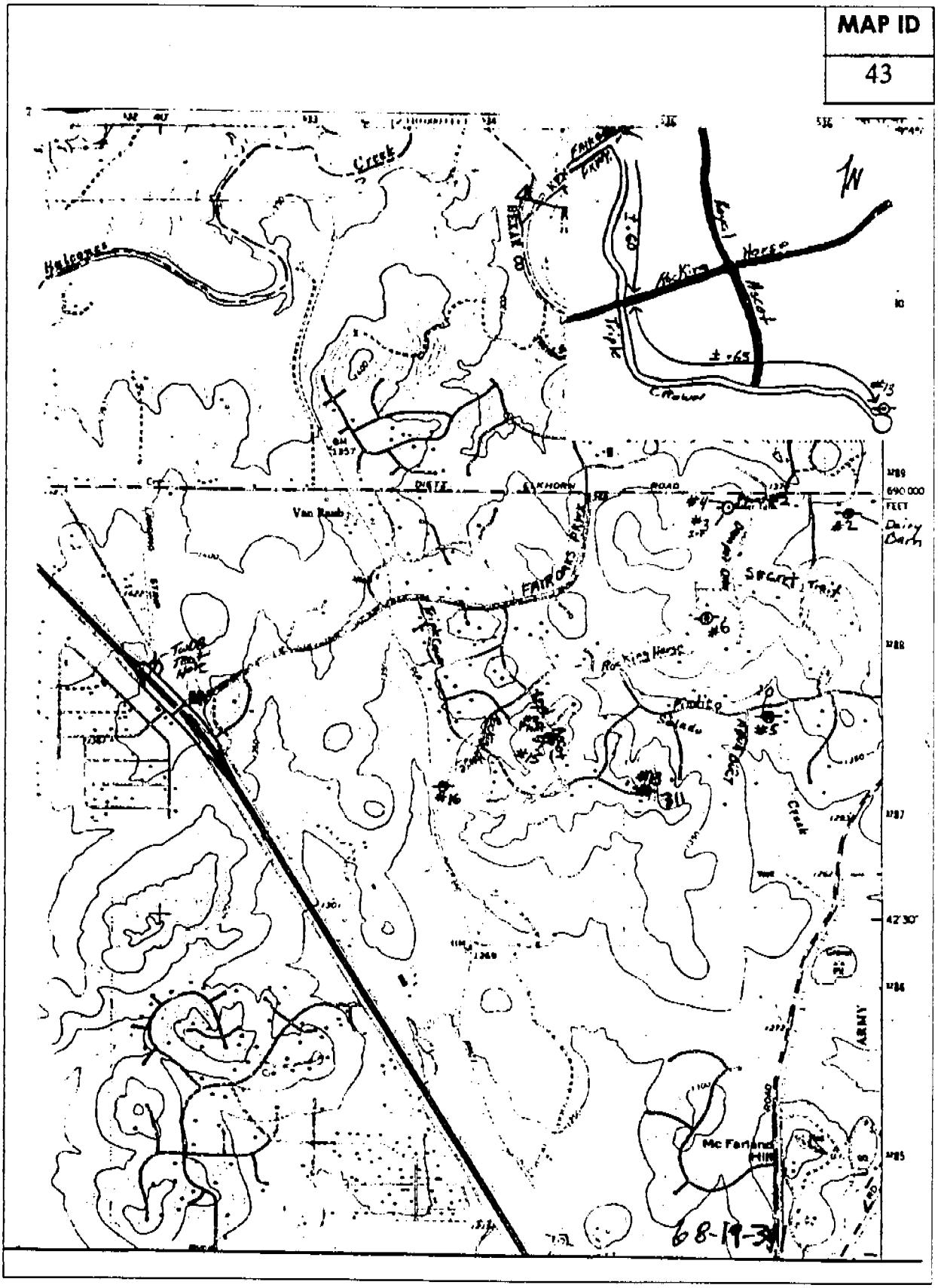
17. Location or Sketch:

TWDB-0308 (Rev. 12-11-68)

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. 68-19-311

MAP ID
43


Creek
Halcomb
Rocking Horse
Secret Trail
Van Raub
FAIRGROUNDS
Rocking Horse
Creek
ARMY
Mc Fernand Hill
Dairy Barn
68-19-3

MAP ID

43

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

For TDWR use only
Well No. 68-19-3P
Located on map
Received:

1) OWNER Fairoo Water Company (Name) Address Rt. 4, Box 4495 (Street or RFD) Boerne, TX 78006 (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar, 19 1/2 miles in N (N.E., S.W., etc.) direction from San Antonio (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 10-3-78

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
9 1/2"	Surface 0	430'
6"	430	

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

From (ft.)	To (ft.)	Description and color of formation material
0	1	Soil
1	30	Hard Yellow Lime
30	190	Blue Gray Lime
190	200	Brown Lime
200	225	Gray Lime
225	245	Light Yellow Lime
245	455	Hard Gray Lime
455	505	Hard Light Gray Lime
505	545	Black Dolomite & Shale
545	640	Dry Creek
640	650	Blue Sticky Shale

(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 Mfgr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6"	N	Steel 6" (Customer's)	0'	430	

CEMENTING DATA
Cemented from 0' ft. to 430' ft.
Method used Pressure Method
Cemented by Dresser Titan Industries (Company or Individual)

9) WATER LEVEL: Static level 285 ft. below land surface Date 10-3-78
Artesian flow ____ gpm. Date ____

10) PACKER: Type Depth

11) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other ____ Depth to pump bowls, cylinder, jet, etc. ____ 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? ____ Depth of strata ____
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 Glen H. Haskin (Type or Print) Water Well Drillers Registration No. 935

ADDRESS 15403 Capital Port (Street or RFD) San Antonio (City) Texas (State) 78249 (Zip)

(Signed) Glen H. Haskin (Water Well Driller) Haskin Pump Service, Inc. (Company Name)

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

*Additional instructions on reverse side.

TDWR-6000

68-19-311

MAP ID

44

...nd original copy by ...rtified mail to the ...nas Water Development Board ... O. Box 13087 ...stin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 61-17-614
Located on map
Received:

1) OWNER:
Person having well drilled Hedrick & Marshall (Name) Address 24800 Packsaddle (Street or RFD) (City) (State)

Landowner Well No. 3 - welded on side of casing. (Name) Address San Antonio, Tex. 78228 (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County Bexar, 1 3/4 miles to North (N.E., S.W., etc.) direction from Leon Springs, Tex. (Town)

Locate by sketch map showing landmarks, roads, streams, highway number, etc.*

1 3/4 miles north of Leon Springs, Tex. on IH-10, Evelyn B. Pfeiffer 543 acre tract.

North

(Use reverse side if necessary)

Give legal location with distances and directions from adjacent sections or survey lines.

Labor ____ League ____
Block ____ Survey ____
Abstract No. ____
(NW1 NE1 SW1 SE1) of Section ____

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

4) PROPOSED USE (Check): X Domestic, Industrial, Municipal, Irrigation, X Test Well, Other

5) TYPE OF WELL (Check): X Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole ____ in. Depth drilled ____ ft. Depth of completed well 475 ft. Date drilled June 29, 1974
All measurements made from ____ ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	110	7 7/8" bit
110	475	6" bit
0	212	Under-reamed to 8"
		See reverse for well log.

(Use reverse side if necessary)

7) Casing: Type: Old, X New, Steel, Plastic, Other
Cemented from 0 ft. to 212 ft.

Diameter (inches)	Setting From (ft.)	To (ft.)	Gage
			214 ft. new steel 6 5/8" casing cemented from bottom to top.

8) SCREEN: Type: Perforated, Slotted

Diameter (inches)	Setting From (ft.)	To (ft.)	Slot Size

9) COMPLETION (Check): Straight well, Gravel packed, Under reamed, Open Hole

10) WELL TESTS: Was a pump test made? Yes No If yes, by whom? ____
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.
Bailer test ____ gpm with ____ ft. drawdown after ____ hrs.
Artesian flow ____ gpm
Temperature of water ____

11) WATER LEVEL: Static level 211 ft. below land surface Date 6-29-74
Artesian pressure ____ lbs. per square inch Date ____
Depth to pump bowls, cylinder, jet, etc. ____ ft. below land surface.

12) WATER QUALITY: Was a chemical analysis made? Yes X No
Did any strata contain undesirable water? Yes X No.
Type of water? ____ depth of strata ____

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 H.W. SCHWOPE & SONS WATER WELL DRLG. (Type or Print) Water Well Drillers Registration No. 406

Address Box 364 - Johns Rd. (Street or RFD) Boerne (City) Tex. 78006 (State)

Signed Geo Schwope (Water Well Driller) WATER WELL DRILLERS REGISTRATION NO. 1568 (Company Name)
GEORGE SCHWOPE

Please attach driller's log, chemical analysis, and other pertinent information, if available.

Additional instructions on reverse side.

Name

4802903190

MAP ID

45

.5i E/WL 3n

Please use black ink. 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

Texas Water Well Drillers Board P. O. Box 13087 Austin, Texas 78711

ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

1) OWNER Reno Southwest (Name) Address 418 Springwood (Street or RFD) San Antonio (City) Tx (State) 78216 (Zip)

2) LOCATION OF WELL: County Bexar miles in North (N.E., S.W., etc.) direction from San Antonio (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: Camp Stanley Road
Section No. ____ Block No. ____ Township ____
Abstract No. ____ Survey Name Silas Wells
Distance and direction from two intersecting section or survey lines 70' North by 100' East
☒ 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 7-31-84

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	90
6 1/4	300	560

From (ft.)	To (ft.)	Description and color of formation material
0	2	Top Soil
2	10	Yellow (Brown Rose)
10	100	Grey " "
100	150	Yellow " "
150	450	Blue " "
450	530	Grey " "
530	560	Blue Clay

(Use reverse side if necessary)

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

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	To	Gage Casing Screen
7	N	Steel	0	300	280

9) CEMENTING DATA (Rule 319.44(b))
Cemented from 0 ft. to 300 ft.
____ ft. to ____ ft.
Method used Poured
Cemented by Brandle Water Wells

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed (Rule 319.44(c))
☐ Pitless Adapter Used (Rule 319.44(d))
☐ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:
Static level 320 ft. below land surface Date 8-1-84
Artesian flow ____ gpm. Date ____

12) PACKERS: Type ____ Depth ____

13) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other ____
Depth to pump bowls, cylinder, jet, etc., 504 ft.

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☒ Estimated
Yield: 10 gpm with 0 ft. drawdown after 1 hrs.

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

RECEIVED APR 8 1985 TEXAS WATER COMMISSION

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. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Brandle Water Wells (Type or Print) Water Well Driller's License No. 2206

ADDRESS 12283 S H 16 North, San Antonio Texas, 78250 (Street or RFD) (City) (State) (Zip)

(Signed) ____ (Licensed Water Well Driller) (Signed) ____ (Registered Driller Trainee)

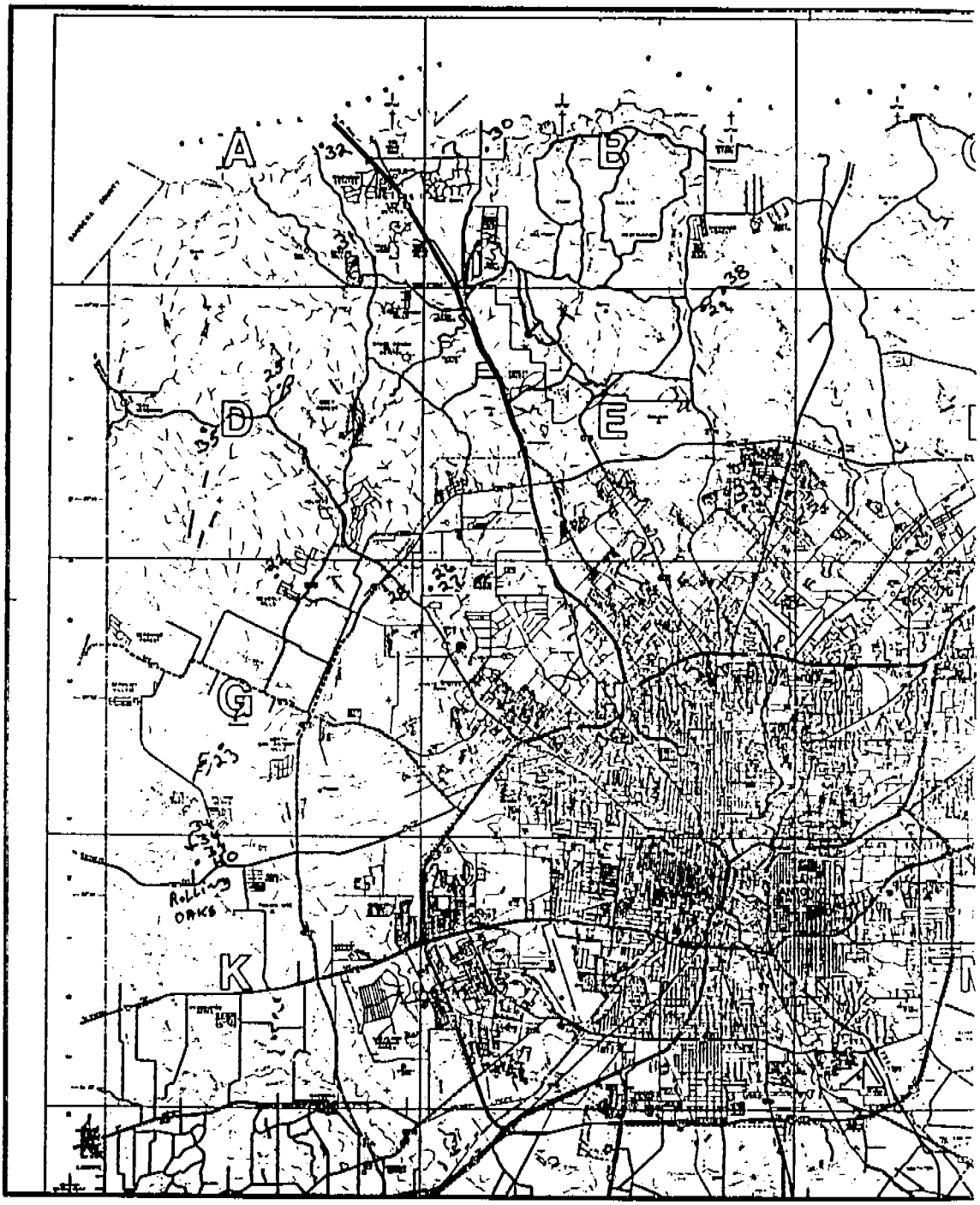
For TDWR use only Well No. 60 20-1 Located on map ____

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

3062

DEPARTMENT OF WATER RESOURCES COPY

MAP ID
45



MAP ID
46

TEXAS WATER DEVELOPMENT BOARD

Surface Kgrk

WELL SCHEDULE

Aquifer(s) Kgrk (SUB CCNK) Project No. 6029 State Well No. 68-19-303

Field No./Owner's Well No. #2 County (Pt) Bexar (015)

1. Location: ___ ¼, ___ ¼, Section ___, Block ___, Survey ___, Lat ___, Long. ___

2. Owner: Fair Oaks Subd Address: Rt. 4 Box 4495 Boerne Tx 78006

Tenant (other): David Buchanan Address: Same 512-255-4294

Driller: Louis Bergmann Sons Address: 135 S Pecan St Boerne Tx 78006

3. Land Surface Elevation: 1330 ft. above msl determined by Topo

4. Drilled: Pre 19 75 ; Dug, Cable Tool, Rotary, Air, ___

5. Depth: Rept. 553 ft. Meas. ___ ft.

6. Borehole Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. ___ Type Sub.

No. Stages ___, Bowls Diam. ___ in., Setting 504 ft.

Column Diam. 3 in., Length Tailpipe ___ ft.

8. Motor: Mfr. ___ Fuel Elec. HP 15

9. Yield: Flow ___ gpm, Pump ___ gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date ___ Length of Test ___ Made by ___

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production ___ gpm Specific Capacity ___ gpm/ft.

11. Quality: (Remarks on taste, odor, color, etc.) ___

Analyses

Date ___ Laboratory ___ TDS ___ Sp Cond ___

Date ___ Laboratory ___ TDS ___ Sp Cond ___

12. Other data available (circled): Pumping Test, Power & Yield Test, Driller's Log, Formation Samples, Geophysical Log (Type): Gamma & Electrical

13. Water level(s): 250.0 ft. rept. meas. 8-12 19 82 above/below Artesian Gage which is 2.0 ft. above/below Land Surface

___ ft. rept. meas. ___ 19 ___ above/below ___ which is ___ ft. above/below Land Surface

14. Use: Dom., Stock, Public Supply, Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) ___

15. Recorded by: Rio Mohic Source of data: Obs Date: 8-12-82

16. Remarks: Air Line Set 500'

*Unable to Tape well Sealed

17. Location or Sketch:

CASING, BLANK PIPE & WELL SCREEN Cemented From 0 ft. to 282 ft.			
Diam. (in.)	Type	Setting (feet) From	to
8⅝	Steel	0	282
Open Hole		282	553

TWDB-0308 (Rev. 12-11-86)

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. ___

MAP ID
46

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

SDF-77227

Aquifer: Glen Rose ? Field No. 1 State Well No. 68-19-303

Owner's Well No. _____ County: Bexar

1. Location: ___ 1/4 ___ 1/4 Sec. ___ Block ___ Survey ___

2. Owner: Fair Oaks Ranch Address: ___

Tenant: Ralph E. Fair, Jr. Address: ___

Driller: Walter N. Bergeman Address: Boerne

3. Elevation of LSD is 1345 ft. above sal, determined by topo. (10')

4. Drilled: 7-8 1975; Dug, Cable Tool, Rotary ___

5. Depth: Rept. 555 ft. Meas. ___ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed ___

7. Pump: Mfgr. ___ Type ___

No. Stages ___, Bowls Diam. ___ in., Setting ___ ft.

Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Fuel ___ Make & Model ___ HP ___

9. Yield: Flow ___ gpm, Pump ___ gpm, Meas., Rept., Est. ___

10. Performance Test: Date ___ Length of Test ___ Made by ___

Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.

Production ___ gpm Specific Capacity ___ gpm/ft.

11. Water Level: 220 ft. Meas. 7-8 1975 gpm LSD which is ___ ft. above below surface.

___ ft. Rept. 19 ___ which is ___ ft. above below surface.

___ ft. Meas. 19 ___ which is ___ ft. above below surface.

___ ft. Rept. 19 ___ which is ___ ft. above below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used. ___

13. Quality: (Remarks on taste, odor, color, etc.) ___

Temp. ___ °F, Date sampled for analysis 4-5-77 Laboratory TDHR

Temp. ___ °F, Date sampled for analysis ___ Laboratory ___

Temp. ___ °F, Date sampled for analysis ___ Laboratory ___

14. Other data available or circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test.

15. Recorded by: R.W. Morris Date ___ 19 77

Source of Data ___

16. Remarks: This well was originally 324' deep and a Glen Rose producer. The section as given in the D.B. looks tight below this depth & the water quality suggests it is still producing mainly or entirely from the Glen Rose.

CASING & WEARE PIPE

Cemented From ___ ft. to ___ ft.

Diam. (in.)	Type	Setting, ft. From	To
6 1/2	Steel	0	?

WELL SCREEN

Screen Opening: ___

Diam. (in.)	Type	Setting, ft. From	To
	None		

TWDBE-WD-2 (Sketch)

68-19-303

MAP ID
46

Fair Oaks Ranch

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 28-19-35
Located on map
Received:

1) OWNER:
Person having well drilled: FAIR OAKS RANCH (Name) Address: RT 1 (Street or RFD) BOERNE (City) TEXAS (State)
Landowner: SAME (Name) Address: (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County: ~~Kendall~~ BEXAR 8 1/2 miles in SE (N.E., S.W., etc.) direction from BOERNE (Town)

Locate by sketch map showing landmarks, roads, creeks, hiway number, etc.: DIETZ ELKHORN RD
125' from N line
1100' W E
Fence
North
Cole Springs Rd
FALLON DR
(Use reverse side if necessary)

or Give legal location with distances and directions from adjacent sections or survey lines.
Labor: League:
Block: Survey: 393
Abstract No. 164
(NW, NE, SW, SE) of Section:

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole 6 in. Depth drilled 555 ft. Depth of completed well 555 ft. Date drilled JAN 8, 1975
All measurements made from ZERO ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
384	439	BLUE SHALE
439	443	GREEN SHALE
443	445	VERY HARD WHITE ROCK
445	471	WHITE ROCK (COW CREEK)
471	519	GREY SHALE
519	527	BLUE CLAY
527	548	BLUE GREEN SHALE
548	555	SOFT DARK BLUE CLAY
TD	555	

7) CONSTRUCTION (Check): Straight wall, Gravel packed, Other, Under reamed, Open Hole

8) WATER LEVEL:
Static level 220 ft. below land surface Date JAN 8, 1975
Artesian pressure lbs. per square inch Date
Depth to pump bowls, cylinder, jet, etc.: ft. below land surface.

9) Casing:
Type: Old, New, Steel, Plastic, Other
Cemented from ft. to ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
6 1/2	0	UNK	

10) SCREEN:
Type: NONE
Perforated, Slotted
Diameter (inches), Setting From (ft.) To (ft.), Slot Size

11) WELL TESTS:
Was a pump test made? Yes, No If yes, by whom?
Yield: gpm with ft. drawdown after hrs.
Bailer test 20 gpm with 19 ft. drawdown after 1 hrs.
Artesian flow gpm
Temperature of water

12) WATER QUALITY:
Was a chemical analysis made? Yes, No
Did any strata contain undesirable water? Yes, No
Type of water? depth of strata

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.

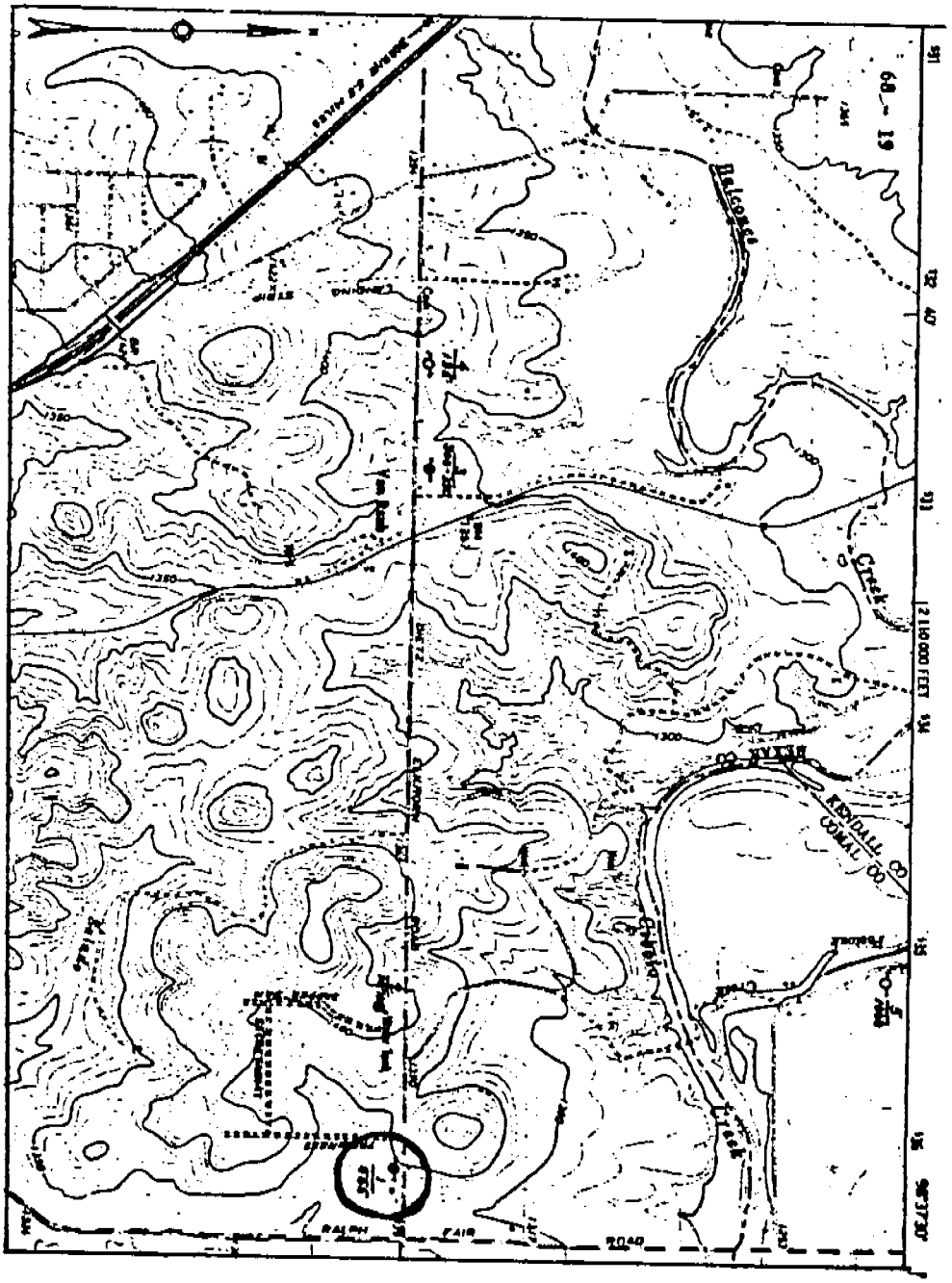
NAME WALTER N. BERGMANN (Type or Print) Water Well Drillers Registration No. 282
ADDRESS P.O. BOX DRAWER R (Street or RFD) BOERNE (City) TEXAS (State) 78006
(Signed) (Water Well Driller) LOUIS BERGMANN & SON (Company Name)

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

*Additional instructions on reverse side.

68-19-303

MAP ID
46



AY
68-19-303

MAP ID
46

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Laboratories
1100 West 49th Street
Austin, Texas 78756

TDWR ONLY
Organization No. _____ Lab No. _____
Work No. _____

CHEMICAL WATER ANALYSIS REPORT

County 015 BEXAR

Send report to:
Data Collection and Evaluation Section
Texas Department of Water Resources
P.O. Box 13087
Austin, Texas 78711

Analysis copied from Texas Department of Health Files

State Well No. 68-19-303
Well No. 1
Date Collected 04-30-76

Owner FAIR OAKS RANCH SUBD. ___ Send copy to owner Sample No. ___ By CSP
Address _____ Well Location _____
Date Drilled 1976 Depth _____ ft. WBP _____ Source (type of well) _____
Producing intervals _____ Water level _____ ft. Sample depth ___ ft.
Sampled after pumping _____ hrs. Yield _____ GPM Temperature ___ °F ___ °C
Point of collection _____ Appearance ☐ clear ☐ turbid ☐ colored ☐ other
Use _____ Remarks _____

(FOR LABORATORY USE ONLY)

KEY PUNCHED

CHEMICAL ANALYSIS

Laboratory No. _____ Date Received 5-26-76 Date Reported _____

		MG/L	ME/L
Silica	00955		
Calcium	00910	103	
Magnesium	00920	20	
Sodium	00929	9	
Total			
☐ Potassium	00937		
*☐ Manganese	01055	20.05	
☐ Boron	01022		
*☐ Total Iron	01045	40.02	
☐ (other) _____			

KMn _____
SAR _____
RSC _____

		MG/L	ME/L
Carbonate	00445	0	
Bicarbonate	00440	340	
Sulfate	00945	11	
Chloride	00940	4.0	
Fluoride	00951	0.4	
Nitrate	71850	10.00	
pH	00403	7.4	
Total			
[1] Dissolved Solids (residue at 180°C)	70300		530
Phenolphthalein Alkalinity as $CaCO_3$	00415		0
Total Alkalinity as $CaCO_3$	00410		279
Total Hardness as $CaCO_3$	00900		339
[2] Nitrogen Cycle			
Ammonia-N	00610		
Nitrite-N	00615		
Nitrate-N	00620		
Organic Nitrogen	00605		

Specific Conductance (micromhos/cm³) 00095 _____
Diluted Conductance (micromhos/cm³): _____ x _____ = 725

*☐ - items will be analyzed if checked.

[1] The bicarbonate reported in this analysis can be converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure used in the computation of dissolved solids.
[2] Nitrogen cycle requires separate sample.
* Total Iron and Manganese require separate sample.

Analyst _____ Checked By _____

TWDB 0148 (Rev 04 07 86)

MAP ID
46

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas State Department of Health Laboratories
1100 West 49th Street
Austin, Texas 78756

TWDBE-GW ONLY
Program No. 6106-50
Proj. No. SDE-77227

CHEMICAL WATER ANALYSIS REPORT

County 015 Bexar

Send report to:

Ground Water Data and Protection Division
Texas Water Development Board
P.O. Box 13087
Austin, Texas 78711

State Well No. 68-19-303
Field Well No. 1
Date Collected 04-05-77
By R. W. Morris

Location S. of Dietz Elkhorn Rd., 3.2 mi. E. of IH 10 & 0.2 mi. W. of Ralph Fair Rd.
Source (type of well) Deepened Owner Ralph E. Fair, Jr.
Date Drilled 1975 Depth 555 ft. WBF
Producing intervals ? Water level 230 ft.
Sampled after pumping hrs. Yield GPM meas. est. Temperature °F °C
Point of collection Faucet at wellhead Appearance ☒ clear ☐ turbid ☐ colored ☐ other
Use P Remarks

(FOR LABORATORY USE ONLY)
Laboratory No. 328141 CHEMICAL ANALYSIS Date Received APR 14 1977 KEY PUNCHED Date Reported 7

	MG/L	ME/L
Silica	11	
Calcium	89	4.45
Magnesium	21	1.69
Sodium	10	0.42
Total		6.56
☐ Potassium		
☐ Manganese		
☐ Boron		
3/☐ Total Iron		
☐ (other)		

%Na
SAR
RSC

	MG/L	ME/L
Carbonate	0	
Bicarbonate 166	337	5.52
Sulfate	17	0.35
Chloride	20	0.57
Fluoride	0.4	
Nitrate	8.	0.13
pH	7.6	Total 6.57
1/ Dissolved Solids (sum in MG/L)		342
Phenolphthalein Alkalinity as $CaCO_3$		0
Total Alkalinity as $CaCO_3$ (5.52)		276
Total Hardness as $CaCO_3$ (6.14)		307
2/ Nitrogen Cycle		
Ammonia - N		
Nitrite - N		
Nitrate - N		
Organic Nitrogen		

Specific Conductance (micromhos/cm³) 586
Diluted Conductance (micromhos/cm³) 5 x 130 650

"☐" items will be analyzed if checked.

1/ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.
2/ Nitrogen cycle requires separate sample.
3/ Total iron requires separate sample.

TWDBE-WD-1 (Rev. 1-25-72)

Analyst Checked By

MAP ID
47

Send 1 original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711

Please use black ink.

ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER Don Owens (Name) ADDRESS 29580 Ralph Fair Road, Boerne, TExas (Street or RFD) (City) 78006 (State) (Zip)

2) LOCATION OF WELL: County Bexar . No miles in S (NE, SW, etc.) direction from Cibolo CREEK/Ralph Fair RD (Town)

Driller must complete the legal description below 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 #-20

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

4) PROPOSED USE (Check): ☒ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG:
Date Drilling: Started 5-27 19 91 Completed 5-30 19 --

DIAMETER OF HOLE		
Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	137
6"1/8	137	400

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

From (ft.)	To (ft.)	Description and color of formation material
		0-64 white lime
		64-102 cream colored lime
		102-123 white lime
		123-137 blue gray lime
		137(changed bit from 8 3/4" to 6 1/8'
		137-147 blue gray oily lime
		147-156 cream colored lime
		156-166 blue gray oily lime
		166-177 cream colored lime
		177-198 gray lime
		198-207 (Use reverse side if necessary) -cream colored

(OVER) lime

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8'		156 wall	0	137	
		138 1/2'			

9) CEMENTING DATA (Rule 287.44(1)(l))
Cemented from 0 ft. to 137 ft. No. of Sacks Used 1.25 yds.
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Rask grout
Cemented by H. W. Schwope & Sons, Inc.

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed (Rule 287.44(2)(A))
☐ Other Acceptable Method Used (Rule 287.44(2)(B))
☐ Alternate Acceptable Procedure Used (Rule 287.71)

11) [illegible] surface Date _____
[illegible] gpm. Date _____

12) PACKERS: Type Depth

13) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump, bowls, cylinder, jet, etc. _____ ft.

14) WELL TESTING
Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: 50 gpm with [illegible] hrs.

15) WATER QUALITY:
Did the drilling penetrate any strata which contained undesirable constituents? ☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED SEP 0 8 1991 TEXAS WATER WELL DRILLERS BOARD

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. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H. W. Schwope & Sons, Inc. (Type or print) WELL DRILLER'S LICENSE NO. 1566

ADDRESS PO Box 364 (Street or RFD) Boerne, Texas 78006 (City) (State) (Zip)

(Signed) [signature] (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

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

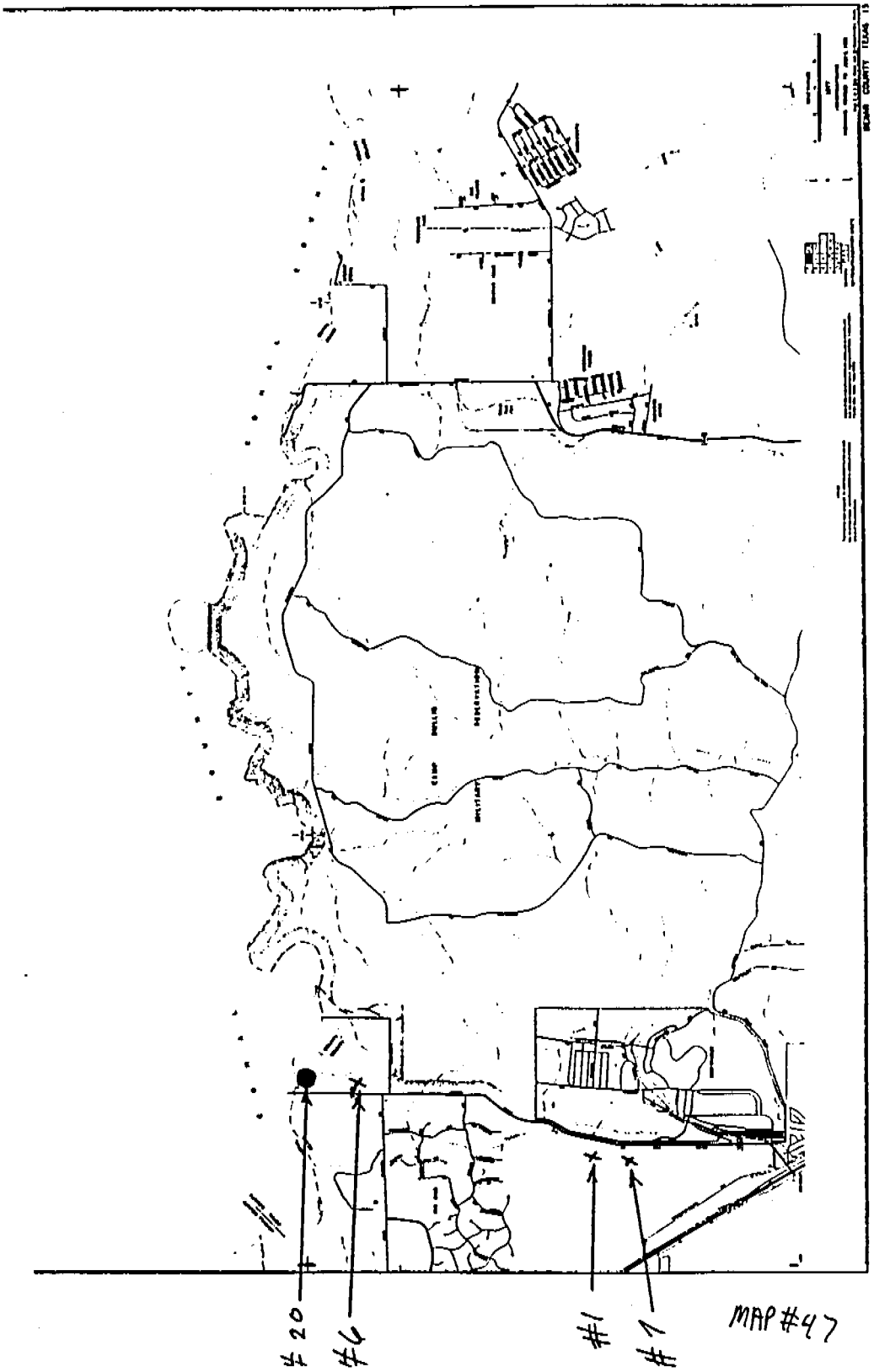
For TWC use only: Well No. _____ Located on map 68-20-1

WWD-012 (Rev. 09/21/88)

TEXAS WATER COMMISSION COPY

3063

MAP ID
47



MAP ID
47

Send original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711 #6

Please use Black Ink.

ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER Don Owens (Name) ADDRESS 29580 Ralph Fair Road, Boerne, Texas (Street or RFD) (City) (State) 78006 (Zip)

2) LOCATION OF WELL: County Bexar. _____ miles in _____ (NE, SW, etc.) direction from _____ (Town)

Driller must complete the legal description below 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-Basis 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 ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

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

6) WELL LOG:
Date Drilling: Started 10-3 19 90 Completed 10-8 19 90

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	162
6"	162	450

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

From (ft.)	To (ft.)	Description and color of formation material
0-13		yellow marly caliche thin lime layers
13-16		blue shale
16-23		yellow marly caliche
23-25		blue shale
25-48		gray shaley lime
48-117		cream colored lime
117-119		honeycomb cavity (lost returns)
119-162		lime (drilled blind)
162-		(changed bit from 8 3/4" to 6")

(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 Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6 5/8"		steel casing 164' 156 wall	0	162	

9) CEMENTING DATA (Rule 287.44(1)) 3.00 yards
Cemented from 0 ft. to 162 ft. No. of Sacks Used _____
_____ ft. to _____ ft. No. of Sacks Used _____
Method used grout
Cemented by H. W. Schwope & Sons, Inc.

(OVER)

13) TYPE PUMP: ☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other 1 1/2" Shoeaffer set 399'
Depth to pump bowls, cylinder, jet 1 1/4"

10) SURFACE COMPLETION
☒ Sanitary Surface Seal Installed (Rule 287.44(5)(A))
☐ Pitless Adapter Used (Rule 287.44(5)(B))
☐ Approved Alternative Procedure Used (Rule 287.71)

14) WELL TESTS: Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 8.5 gpm with 450 ft. drawdown after _____ hrs.

11) WATER LEVEL: Static level 29 ft. below land surface Date _____
Artesian flow _____ gpm Date _____

12) WATER QUALITY: Did you encounter any strata containing undesirable water? _____ Type _____ Depth _____

16) WATER QUALITY:
Did the drilling penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED SEP 06 1991 TEXAS WATER WELL DRILLERS BOARD

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 and correct to the best of my knowledge and belief. I understand that failure to complete items 1 thru 16 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME H. W. Schwope & Sons, Inc. (Type or print) WELL DRILLER'S LICENSE NO. 1566

ADDRESS PO Box 364 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

(Signed) [signature] (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

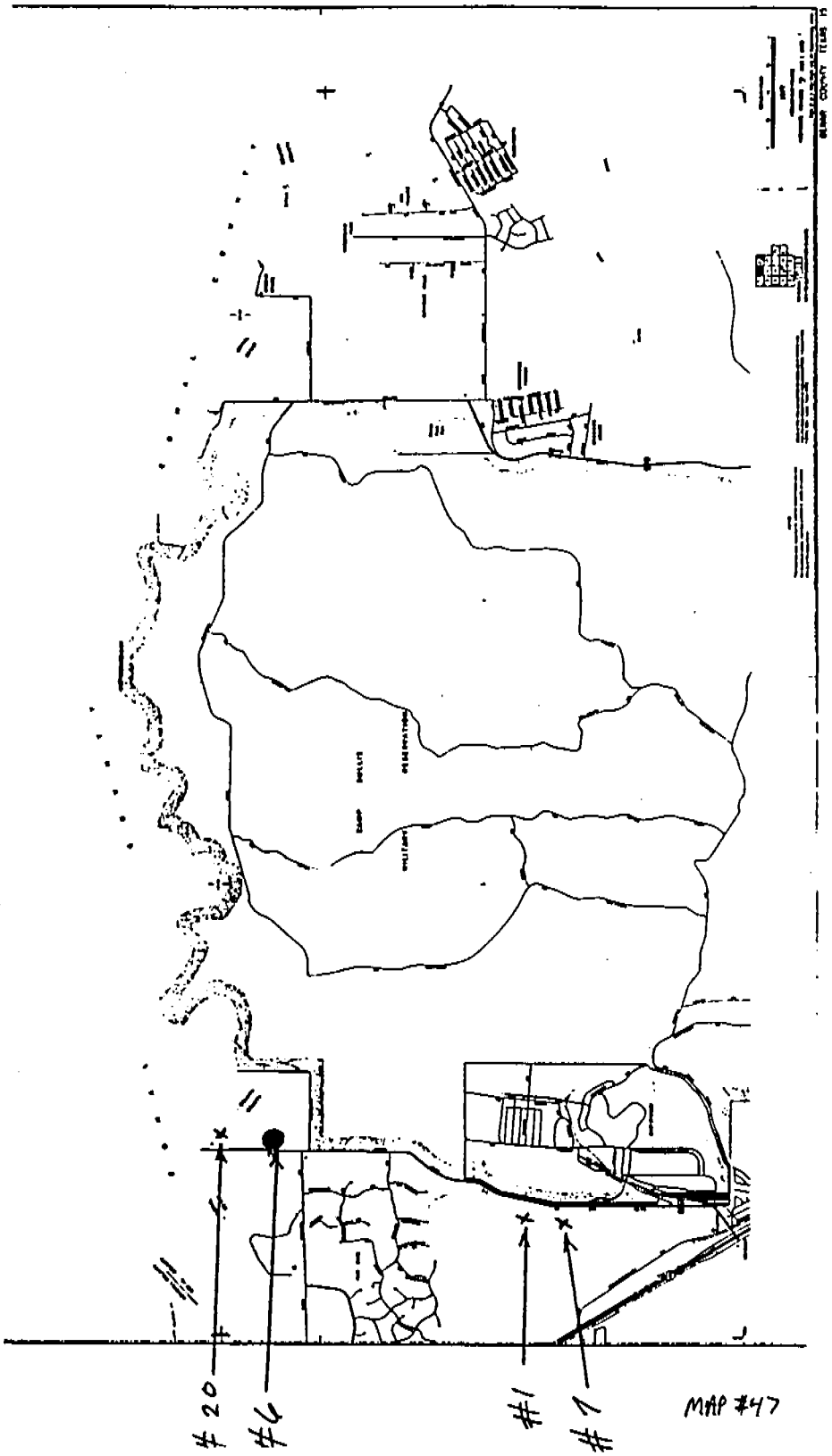
Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only: Well No. _____ Located on map 68-207

WWD-012 (Rev. 09/21/88) TEXAS WATER COMMISSION

4802903154 MAP #47

MAP ID
47



MAP ID

48

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*

Texas Water Well Drillers Board P.O. Box 13087 Austin, Texas 78711

1) OWNER Ernest Nicholson (Name) Address 5634 Cary Grant, San Antonio, Texas 78240 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Bexar ____ miles in ____ (N.E., S.W., etc.) direction from ____ (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-Basic 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. #17. 68-19-6F.

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 3-14-84

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
8 3/4"	Surface	185
6 1/8"	185	525

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

From (ft.)	To (ft.)	Description and color of formation material
0	1	topsoil
1	14	caliche & cream colored limestone
14	54	blue shale
54	60	yellow limestone
60	62	blue shale
62	68	yellow limestone & yellow clay
68	85	light gray limey shale
85	96	cream colored limestone
96	141	light gray shaley limestone
141	162	cream-white limestone
162	173	gray chalky limestone
173	185	light gray limestone
185	207	gray limestone
207	285	light gray limestone
285	308	cream colored limestone
308	341	light gray limestone
341	346	yellow limestone
346	404	white limestone (Lower Glenrose 6 - 7 gpm)
404	427	dark blue-gray [illegible]
427	445	gray chalky limestone
445	464	greenish-gray [illegible] limestone
464	494	white limestone (low Green-Water)
494	501	tan sandstone
501	522	light gray limestone with oyster shells
522	525	dark greenish-gray limestone

(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 Mfr., if commercial	Setting (ft.) From	To	Gept Casing Screen
6 5/8"		187 feet new steel casing x 156 wall	0	185	

CEMENTING DATA: Cemented from 0 ft. to 185 ft. Method used grout Cemented by H. W. Schwope & Sons, Inc. (Company or Individual)

9) WATER LEVEL: Static level 330 ft. below land surface Date ____ Artesian flow ____ gpm. Date ____

10) PACKERS Type Depth

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

12) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated Yield: 20 gpm with ____ ft. drawdown after ____ hrs.

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

RECEIVED AUG - 3 1984 DEPT. OF WATER RESOURCES

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.

COMPANY NAME H. W. Schwope & Sons, Inc. (Type or Print) Water Well Driller's License No. 1568

ADDRESS PO Box 364 (Street or RFD) Boerne (City) Texas (State) 78006 (Zip)

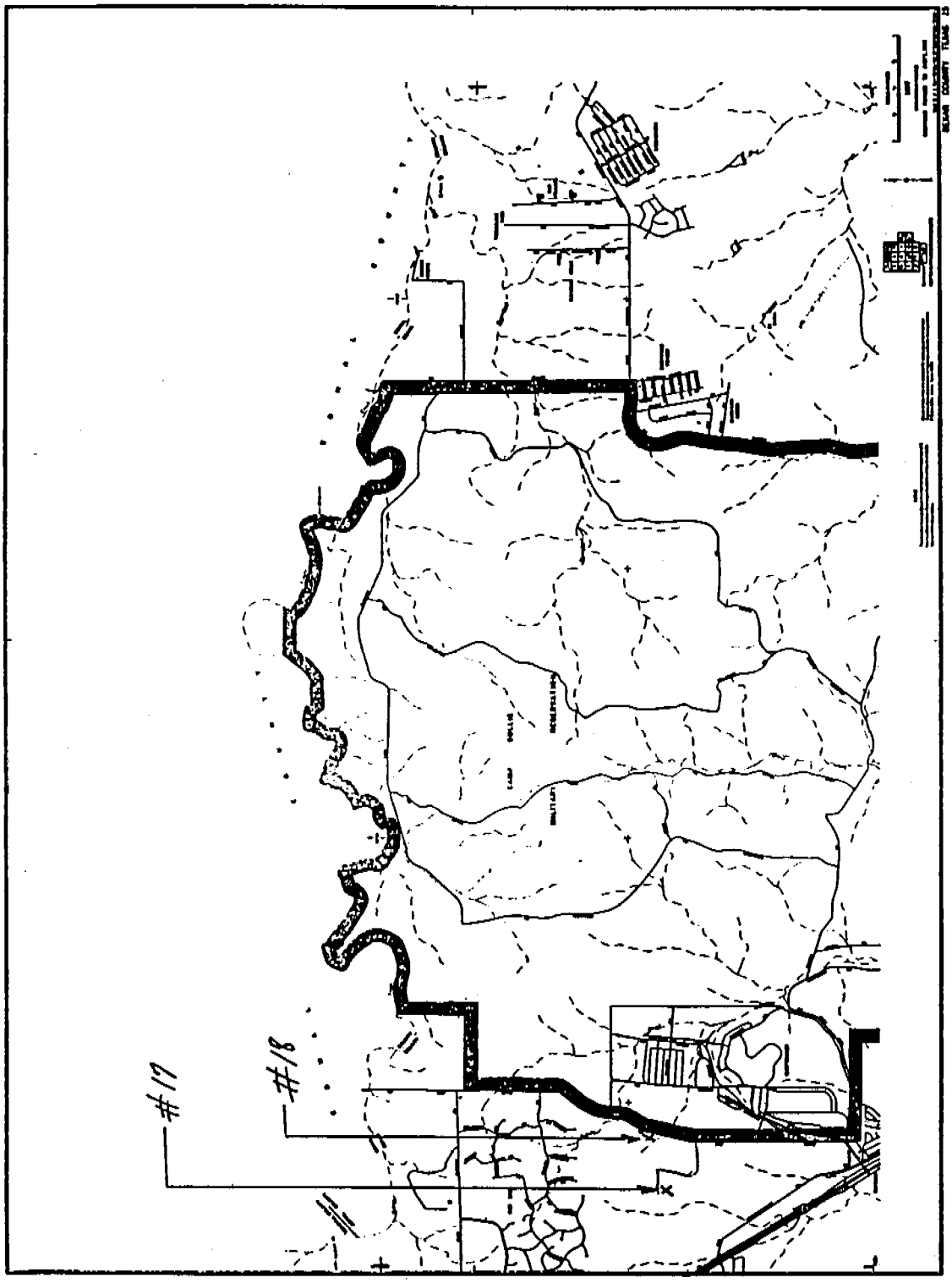
Signed: George Schwope (Licensed Water Well Driller) (Signed) ____ (Registered Driller Trainee)

For TDWR use only: Well No. 68-19-6F. Located on map 1:50 MM.

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

(Rev. 6/82) (Rev. 4-27-82) DEPARTMENT OF WATER RESOURCES COPY 4802903150 T.C.

MAP ID
48



MAP ID
49

Send original copy by certified mail to the Texas Water Development Board P. O. Box 12386 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 68-19-30
Located on map
Received:

1) OWNER:
Person having well drilled Whitey Ashee (Name) Address Rt.8 Box 277 (Street or RFD) San Antonio (City) Tx (State)

Landowner (Name) Address (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County Bexar 8.3 miles in NE (N.E., N.W., S.E., S.W.) direction from San Antonio (Town)

Locate by sketch map showing landmarks, roads, creeks, hiway number, etc.*

North

(Use reverse side if necessary)

or

Give legal location with distances and directions from adjacent sections or survey lines.

Labor League
Block Survey
Abstract No.
(NW, NE, SW, SE) of Section

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

4) INTENDED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Bug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole in. Depth drilled ft. Depth of completed well ft. Date drilled

All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	15	Brown Lime
15	105	Gray Lime
105	115	Gray Light + Black Shale
115	145	Light Brown Lime
145	185	" Gray Lime
185	225	" Brown Lime
225	325	" Gray Lime
325	380	" Brown Lime
380	425	Blue Shale Shale-Gray
425	450	White Lime-Rock

9) Casing:
Type: Old, New, Steel, Plastic, Other
Cemented from 210 ft. to surface ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gauge
6	210	surface	

10) SCREEN:
Type
Perforated Slotted

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot Size

11) GRAVEL PACK (If applicable):
Straight wall Gravel packed Other
Under reamed Open Hole

WATER LEVEL:
Static level 181 ft. below land surface Date 11-2-79
Artesian pressure lbs. per square inch Date
Depth to pump bowls, cylinder, jet, etc. ft. below land surface.

12) WELL TESTS:
Was a pump test made? Yes No If yes, by whom?
Yield: 35 gpm with ft. drawdown after hrs.
Bailer test gpm with ft. drawdown after hrs.
Artesian flow gpm
Temperature of water

13) WATER QUALITY:
Was a chemical analysis made? Yes No
Did any strata contain undesirable water? Yes No
Type of water? depth of strata

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 Rudolph Biedermann (Type or Print) Water Well Driller's Registration No. 936

ADDRESS 15203 Capital Port (Address or RFD) San Antonio (City) Texas (State)

(signed) Rudolf Biedermann (Water Well Driller) Hydro-Pump Serv. Inc. (Company Name)

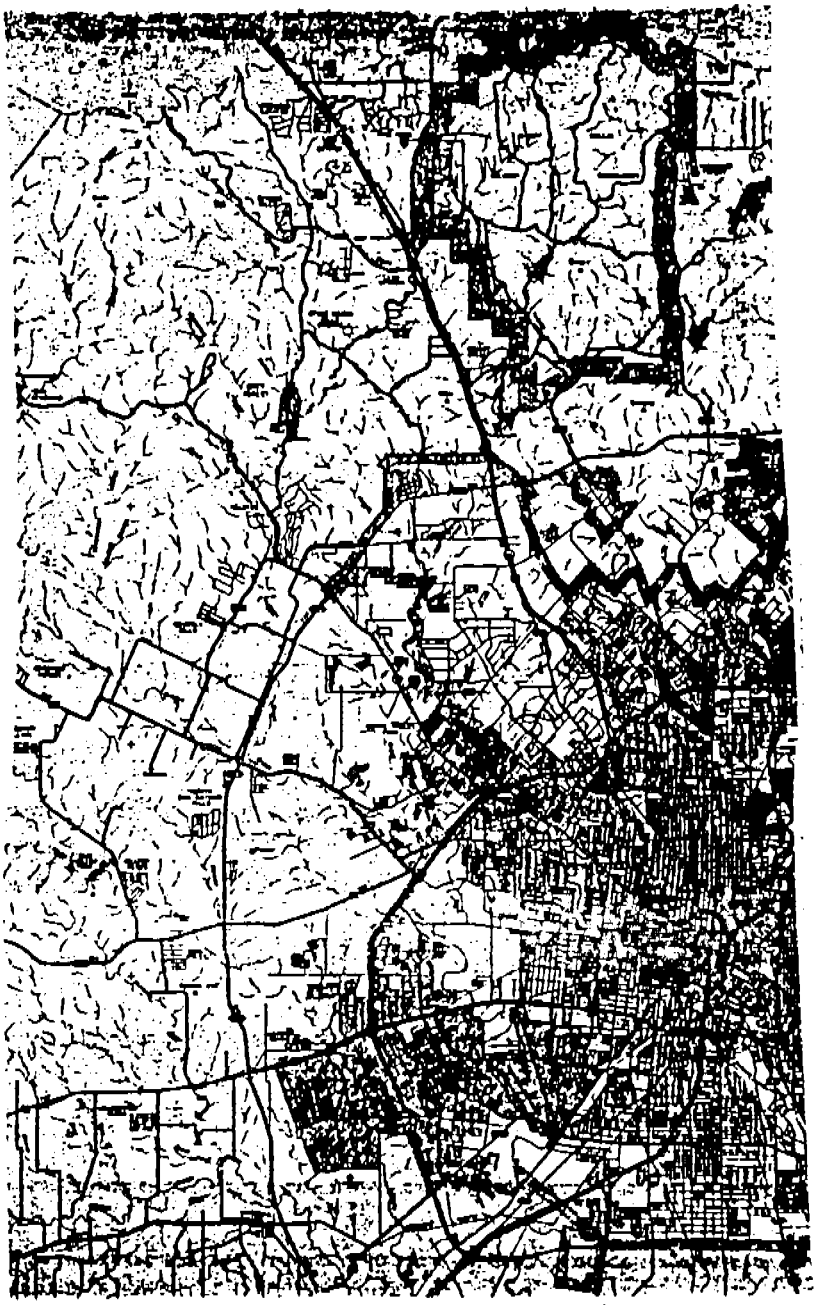
Please attach electric log, chemical analysis, and other pertinent information, if available.

Additional instructions on reverse side.

TDW-WW-11

4802903100

MAP ID
49



RECEIVED
AUG 15 '80

MAP #49

MAP ID

50

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 08-20-10
Located on map YES
Received: 7-15-82

1) OWNER:
Person having well drilled Mark Motts (Name) Address (Street or RFD) (City) (State)
Landowner Same (Name) Address (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County Bexar 15 miles in N.W. (N.E., S.W., etc.) direction from S.A. Tx. (Town)

Locate by sketch map showing landmarks, roads, streams, hwy number, etc.:
Well #4
North
(Use reverse side if necessary)

or Give legal location with distances and directions from adjacent sections or survey lines.
Labor ____ League ____
Block ____ Survey ____
Abstract No. ____
(NW¼ NE¼ SW¼ SE¼) of Section ____

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

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole 6 in. Depth drilled 390 ft. Depth of completed well 390 ft. Date drilled 3/23/82
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	2	Rock White
2	100	Caliche White
100	390	Glenn Rose Blue

7) CASING:
Type: Old, New, Steel, Plastic, Other
Cemented from 1½ yds & Sack Grout ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
7	0	137	20 PVC

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JUL 23 1982
DEPT. OF WATER RESOURCES

10) SCREEN:
Type ____
Perforated, Slotted

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot Size

11) COMPLETION (Check): Straight wall, Gravel packed, Other, Under reamed, Open Hole

12) WELL TESTS:
Was a pump test made? Yes No If yes, by whom?
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.
Bailer test ____ gpm with ____ ft. drawdown after ____ hrs.
Artesian flow ____ gpm
Temperature of water ____

8) WATER LEVEL:
Static level 100 ft. below land surface Date 3/23/82
Artesian pressure ____ lbs. per square inch Date ____
Depth to pump bowls, cylinder, jet, etc. 315 ft. below land surface.

13) WATER QUALITY:
Was a chemical analysis made? Yes No
Did any strata contain undesirable water? Yes No
Type of water? Glenn Rose Depth of strata 100

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.

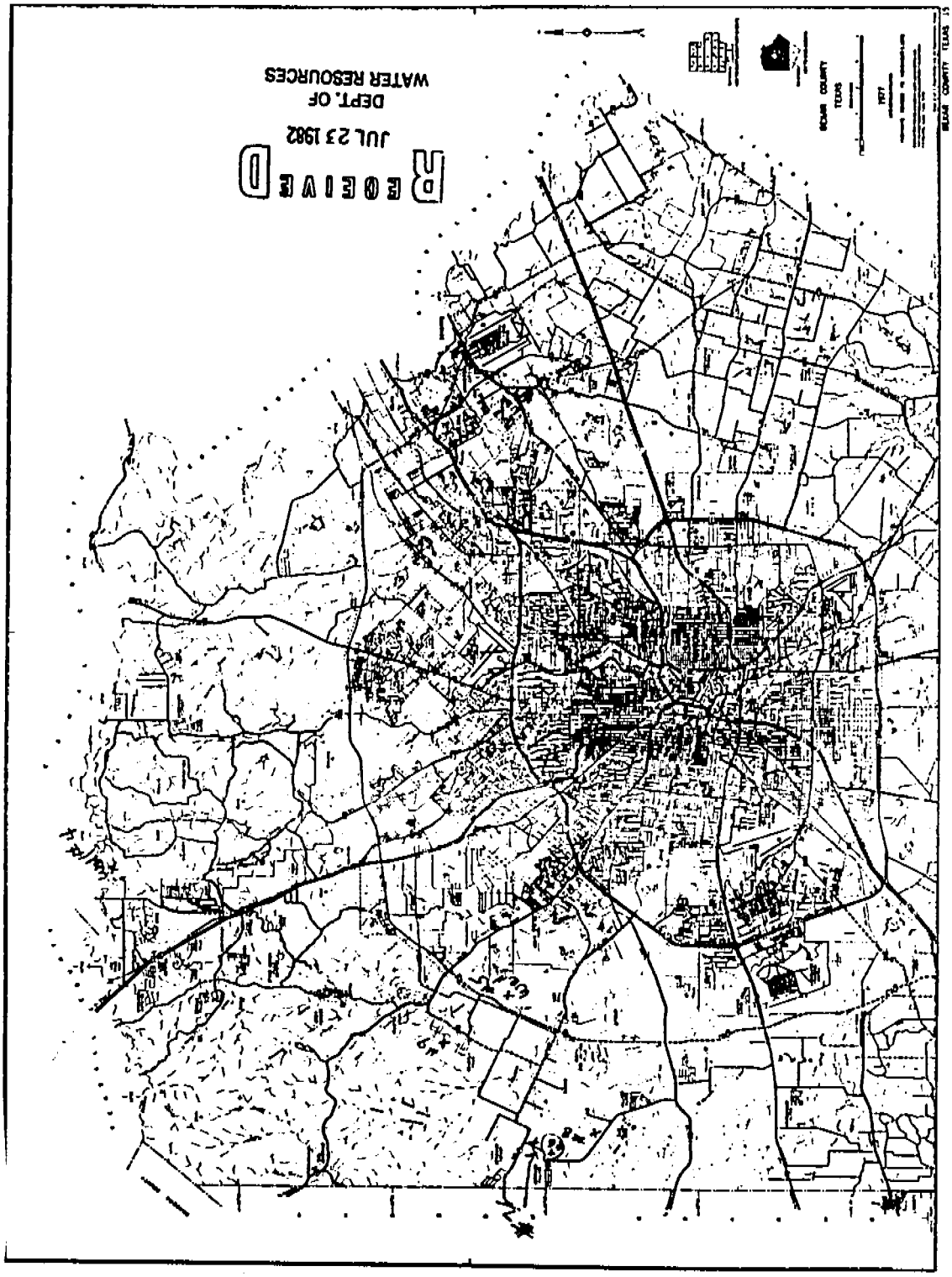
NAME Frank Rosen Drlg & Sp. (Type or Print) Water Well Drillers Registration No. 199
ADDRESS 2417 Fox Rd SA Tx 78228 (Street or RFD) (City) (State)
(Signed) [signature] (Water Well Driller) F. Rosen Drlg & Sp. (Company Name)

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

*Additional instructions on reverse side.

3064

MAP ID
50



RECEIVED
JUL 23 1982
DEPT. OF
WATER RESOURCES

MAP ID
51

TEXAS WATER DEVELOPMENT BOARD

WELL REPORT

Aquifer: L. Glen Rose / Hensell / Cow Creek

Field No. _____ Owner's Well No. 9

State Well No. 68-19-602

County: Bexar

1. Location: 1/4 ___ 1/4 Sec. ___ Block ___ Survey ___
Lat. 29° 41' 41" Long. 98° 37' 45" E 6.02 N 4.40

2. Owner: Lacy Stanley
Address: ___
Sub-Owner: Hugh Fielding
Address: ___
Driller: ___
Address: ___

3. Elevation of LSD is 1310 ft. above msl, determined by Tape

4. Drilled: 8-15 19 58; Dug, Cable Tool, Rotary ___

5. Depth: Rept. 546 ft. Meas. ___ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed ___

7. Pump: Mfgr. ___ Type Submersible
No. Stages ___, Bowls Diam. ___ in., Setting 486 ft.
Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Fuel Elec. Make & Model ___ HP 15

9. Yield: Flow ___ gpm, Pump 20 gpm, Meas., Rept., Est. ___

10. Performance Test: Date ___ Length of Test ___ Made by ___
Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.
Production ___ gpm Specific Capacity ___ gpm/ft.

CASING & BLANK PIPE			
Cemented From ___ ft. to ___ ft.			
Diam. (in.)	Type	Setting, ft. From	Setting, ft. To
--		0	--

11. Water Level: 382 ft. Meas. 9-1 1959 above LSD which is ___ ft. above/below surface.
___ ft. Rept. Meas. 19 above/below which is ___ ft. above/below surface.
___ ft. Rept. Meas. 19 above/below which is ___ ft. above/below surface.
___ ft. Rept. Meas. 19 above/below which is ___ ft. above/below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used. ___

13. Quality: (Remarks on taste, odor, color, etc.) ___
Test ___ 19, Date sampled for analysis ___ Laboratory ___
Test ___ 19, Date sampled for analysis ___ Laboratory ___
Test ___ 19, Date sampled for analysis ___ Laboratory ___

14. Other data available: Driller's Log, Radioactivity Log, Electric Log, on file
Formation Samples, Pumping Test, ___

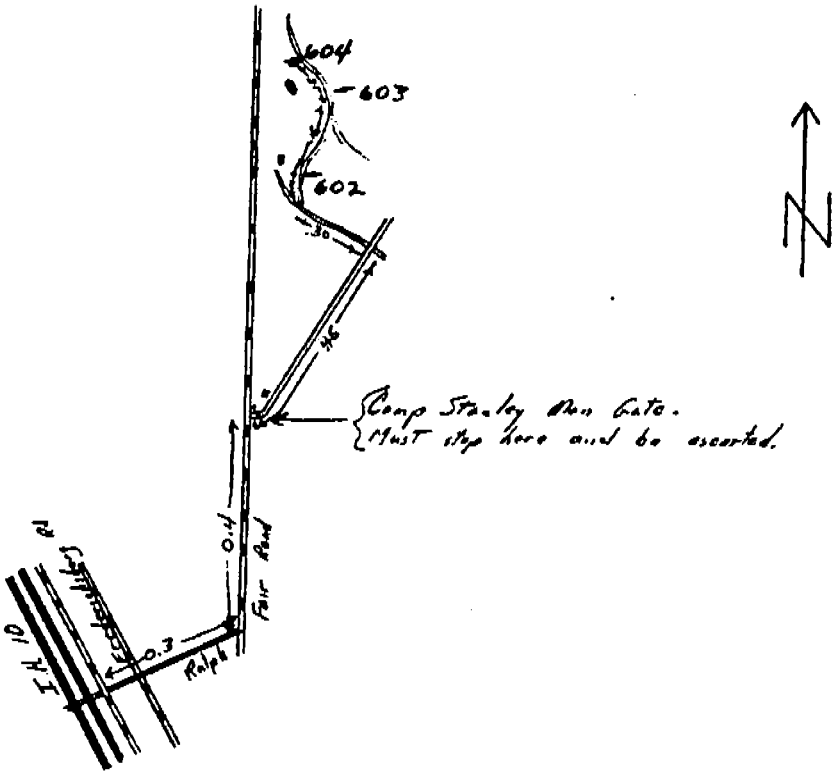
15. Reported by: John Ashworth Date 2-10 19 56
Source of Data Entry - ground supervisor about field visit

16. Remarks: ___
Stop at main gate and ask to be escorted to well.

TWDBS-WD-8 (Sketch)

AY 68-19-602

MAP ID
51


604
603
602
30
46
Camp Stanley Main Gate.
Must stop here and be escorted.
0.4
Fair Road
0.3
Ralph
Recreation Facility
I.H. 10
N

Water Quality Sampling Run

SWN: 68-19-602
County: Bexar
Aquifer(s): 219 EROCU

Name: Camp Stanley Storage Facility c/o Mr. Paul D. Oliver
Address: P.O. Box 690627
San Antonio, TX 78269-0627

Sample No. CL-1994-821
Date: 6-15-94
By: C. Lee

	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6	Bottle 7	Total SUB-Samples 4
	1 liter Anions	1 liter Cations	1 Gallon Radioactivity	500 ml Nitrate	~~1 Qt (glass) (TOC) Organics~~			
Preserve with:		2 ml HNO (Nitric)	5 ml HNO (Nitric)	1 ml H SO (Sulfuric)				All filtered unless otherwise stipulated. All on ice.

Water Level _____ LSD Remark _____
Temperature (00010) 22.4 c
Specific Conductance (00094) 551 umhos/cm
pH (00400) 6.89
Eh (00090) -97.3 mv.
Phenol ALK (82244) 0 mg/l
Total ALK (39086) 2770 mg/l
Carbonate (00452) 0 meq/l 0 mg/l
Bicarbonate (00453) 55.4 meq/l 3380 mg/l
Total Cations(+) _____
Total Anions (-) _____
Total Hardness (46570) 320
Dissolved Solids(70301) 345

Time In: 14:45 (pump on 14:55)
Time out: 16:25
Weather cloudy, hot (rained at 15:40)
Outside Temp: _____
Sampling point: F.A.W.

Starting pH 7.01
13.85 mL of 0.02N to
50 mL of Sample
Ending pH 4.51

Time:	15:00	15:05	15:10	15:15	15:20	15:25	mL	pH	mL	pH	mL	pH
pH:	6.96	7.44	7.13	6.91	6.88	6.89	2	6.84	12	5.29		
Temp:	23.1	23.1	23.3	23.2	22.6	22.4	3	6.76	13	4.97		
Eh:						-73	4	6.61	13.86	4.51		
Cond.	549	547	520	509	556	551	5	6.40				
other notes:							6	6.26				
							7	6.17				
							8	6.09				
							9	5.98				
							10	5.67				
							11	5.52				

MAP ID 51

MAP ID
51

Texas Water Development Board

Chemical Water Analysis Report

HM- CL.1994 821

HM = Heavy Trace and Alkaline-Earth Metals

TWDB Use Only
Work No.
IAC No.

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

19-602

Attention: Phil Nordstrom

State Well Number: 68-20-4

County: Bexar

Date & Time: 6/15/94 15:25

Owner: Camp Stanley Storage Activity c/o Paul D. Oliver

☒ Send Copy To Owner

Address: P.O. Box 690627, San Antonio, TX 78269-0627

Sampled After Pumping: 0.5 Hours

Date Drilled: _____ Depth: ~500'

Yield: _____ GPM ☐ Measured ☐ Estimated

Collection Point: F.A.W. pH 6.89

Use: public supply Temperature: 22.4 °C

By: Cindy Lee

Specific Conductance: 551

Requested Ch[redacted]

Laboratory No. [redacted]

Date Received: JUN 17 1994

Date Reported: JUL 29 1994

		mg/L			mg/L
Calcium	(00915)	87	Sodium	(00930)	5.1
Magnesium	(00925)	2.4	Potassium	(00935)	1.9
Lithium	(01130)	<0.010	[Convert to µg/L for Data Entry]		

		µg/L			µg/L
Aluminum	(01106)	<40	Manganese	(01056)	<1.0
X Antimony	(01095)	<2.0	Mercury	(71890)	<0.13
X Arsenic	(01000)	<2.0	Molybdenum	(01062)	2.0
Barium	(01005)	25.6	Nickel	(01065)	<10
Beryllium	(01010)	<2.0	X Selenium	(01145)	<4.0
Cadmium	(01025)	<0.5	Silver	(01075)	<10
Chromium	(01030)	<10	Strontium	(01080)	2150
Cobalt	(01035)	<10	X Thallium	(01057)	<2.0
Copper	(01040)	<4.0	Vanadium	(01085)	<10
Iron	(01046)	<10	Zinc	(01090)	72.0
Lead	(01049)	<5.0			

Note: Crossout those elements not to be analyzed.

MAP ID
51

Texas Water Development Board

Chemical Water Analysis Report

RAD - CL 1994. 821
RAD = Radioactivity Sample

TWDB Use Only
Work No.
IAC No.

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom
State Well Number: ~~68-204~~ 19-602
County: Bexar
Date & Time: 6/15/94 15:25
Owner: Camp Stanley Storage Activity ☒ Send Copy To Owner
Address:
Sampled After Pumping: 0.5 Hours
Date Drilled: Depth: Yield: GPM ☐ Measured ☐ Estimated
Collection Point: pH Use: Temperature: °C
By: Cindy Lee
Specific Conductance:

Requested Chemical Analysis

Laboratory N[redacted] Date Received: JUN 17 1994 Date Reported: AUG 29 1994

Alpha	(01503)	<2.1	pCi/l
Beta	(09503)	<4.5	pCi/l
Radium 226	(09503)	0.7 ± 0.1	pCi/l
Radium 228	(81366)	<1.0	pCi/l
[redacted]	(11500)		pCi/l
[redacted]	(26403)		pCi/l
[redacted]	(22703)		pCi/l

MAP ID
51

Texas Water Development Board

Chemical Water Analysis Report

GWN- CL.1994.821
(Nitrogen Cycle)

TWDB Use Only
Work No.
IAC No.

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom
State Well Number: 68-~~20-4~~ 19-602
County: Bexar
Date & Time: 6/15/94 15:25
Owner: Camp Stanley
☒ Send Copy To Owner
Address:
Sampled After Pumping: 0.5 Hours
Date Drilled: Depth:
Yield: GPM ☐ Measured ☐ Estimated
Collection Point: pH
Use: Temperature: °C
By: Cindy Lee
Specific Conductance:

Requested Chemical Analysis

Laboratory No.: [redacted] Date Received: JUN 17 1994 Date Reported: JUN 24 1994

THD-Sample No. EB4 1293 Date Received 06/17/94 Date Reported 06/23/94

00623-	0.1	TKN as N mg/L
00608-	0.02	Ammonia as N mg/L
00613-	< 0.01	Nitrite as N mg/L
00618-	1.07	Nitrate as N mg/L
00671-	0.01	Orthophosphate as P mg/L

*Note: To convert NO_3-N to NO_3, multiply by 4.427.

[illegible]
July 1991

MAP ID
51

Texas Water Development Board

Chemical Water Analysis Report

GWR. CL . 1994. 821
(Anions)

TWDB Use Only
Work No.
IAC No.

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom

State Well Number: 68-~~20-17~~ 19-602

County: Bexar

Date & Time: 6/15/94 15:25

Owner: Camp Stanley Storage Activity

Send Copy To Owner

Address:

Sampled After Pumping: 0.5 Hours

Date Drilled: Depth:

Yield: GPM ☐ Measured ☐ Estimated

Collection Point: pH

Use: Temperature: °C

By: Cindy Lee

Specific Conductance:

Requested Chemical Analysis

Laboratory No. [redacted]

Date Received: JUN 17 1994

Date Reported: JUN 29 1994

THD-Sample No. EE4 1305 Date Received 06/17/94 Date Reported 06/29/94

		MEQ/L	MG/L
Silica	(00930)		11
Sulfate	(00946)	0.42	20
Chloride	(00941)	0.48	17
Fluoride	(00950)	0.04	0.68
P.Akalinity	(00415)	0.00	0
T.Akalinity	(00410)	5.64	282
Bromide	(71870)		0.23

* Convert mg/l Boron to µg/l for data entry.

MAP ID
51

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer: L. Glen Rose / Hensell / Cross Creek

Field No. _____ State Well No. 68-19-603

Owner's Well No. #10 County: Baxter

1. Location: 1/4 ___ 1/4 Sec. ___ Block ___ Survey ___
Lat. 29°41'48" Long. 98°37'40" El. 0.15 NL 3.8

2. Owner: Camp Stanley Address: ___
Owner's Address: Virgil Fielder Address: ___
Driller: ___ Address: ___

3. Elevation of LSD is 1325 ft. above msl, determined by Topo

4. Drilled: 8-7 1958; Dug, Cable Tool, Rotary ___

5. Depth: Rept. 559 ft. Meas. ___ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed ___

7. Pump: Mfr. ___ Type Submersible
No. Stages 12, Bowls Diam. ___ in., Setting 528 ft.
Column Diam. ___ in., Length Tailpipe ___ ft.

8. Motor: Fuel Elec. Make & Model ___ HP 15

9. Yield: Flow ___ gpm, Pump ___ gpm, Meas., Rept., Est. ___

10. Performance Test: Date ___ Length of Test ___ Made by ___
Static Level ___ ft. Pumping Level ___ ft. Drawdown ___ ft.
Production ___ gpm Specific Capacity ___ gpm/ft.

11. Water Level: 347 ft. Meas. 11-10 1959 above LSD which is ___ ft. above/below surface.
___ ft. Meas./Rept. 19__ above/below which is ___ ft. above/below surface.
___ ft. Meas./Rept. 19__ above/below which is ___ ft. above/below surface.
___ ft. Meas./Rept. 19__ above/below which is ___ ft. above/below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used ___

13. Quality: (Remarks on taste, odor, color, etc.) ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___
Temp. ___ °F, Date sampled for analysis ___ Laboratory ___

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log in file
Formation Samples, Pumping Test ___

15. Record by: John Ashworth Date 2-10 1976
Source of Data Elev. - geodetic survey, Field work

16. Remarks: ___
Stop at main gate and ask to be escorted to well.

Casing & Blank Pipe: Cemented From ___ ft. to ___ ft.			
Diam. (in.)	Type	Setting, ft. From	To
- -	Steel	0	390

Well Screen: Screen Openings ___			
Diam. (in.)	Type	Setting, ft. From	To
	open hole	390	559

TWDBE-WD-E

(Sketch)

See 68-19-602

AY 68-19-603

MAP ID

52

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

For TDWR use only
Well No. 68-19-3R
Located on map YLS
Received: TH

1) OWNER Mr. Whitey Ashes (Name) Address Rt 8 Box 297 (Street or RFD) San Antonio (City) Tex (State) 78229 (Zip)

2) LOCATION OF WELL: County Bexar 22½ miles in N.W. (N.E., S.W., etc.) direction from San Antonio (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 ____

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

6) WELL LOG: Date drilled 11-2-79

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
8¾	Surface	210'
6¼	210	450'

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

From (ft.)	To (ft.)	Description and color of formation material
0	15	Light Brown Lime
15	105	Dark Gray Lime
105	115	Light Gray Lime
115	145	" Brown Lime
145	185	" Gray Lime
185	275	" Brown Lime
275	325	" Gray Lime
325	380	" Brown Lime
380	425	Pink Gray Shale
425	450	White Lime - Hard

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

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
6"	NEW	PLASTIC			

CEMENTING DATA
Cemented from 210' ft. to surface ft.
Method used Ready Mix
Cemented by Hasin Pump Serv (Company or Individual)

9) WATER LEVEL: Static level 181' ft. below land surface Date 11-2-79 Artesian flow ____ gpm. Date ____

10) PACKERS: Type Depth
Lockup 210'

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

(Use reverse side if necessary)

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? ____ Depth of strata ____ Was a chemical analysis made? ☐ Yes ☐ No

12) WELL TESTS: ☐ Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated Yield: 25 gpm with ____ ft. drawdown after ____ hrs.

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 GLEN H. HASKIN (Type or Print) Water Well Drillers Registration No. 935

ADDRESS 15403 Capital Rd (Street or RFD) SAN ANTONIO (City) TEXAS (State) 78249 (Zip)

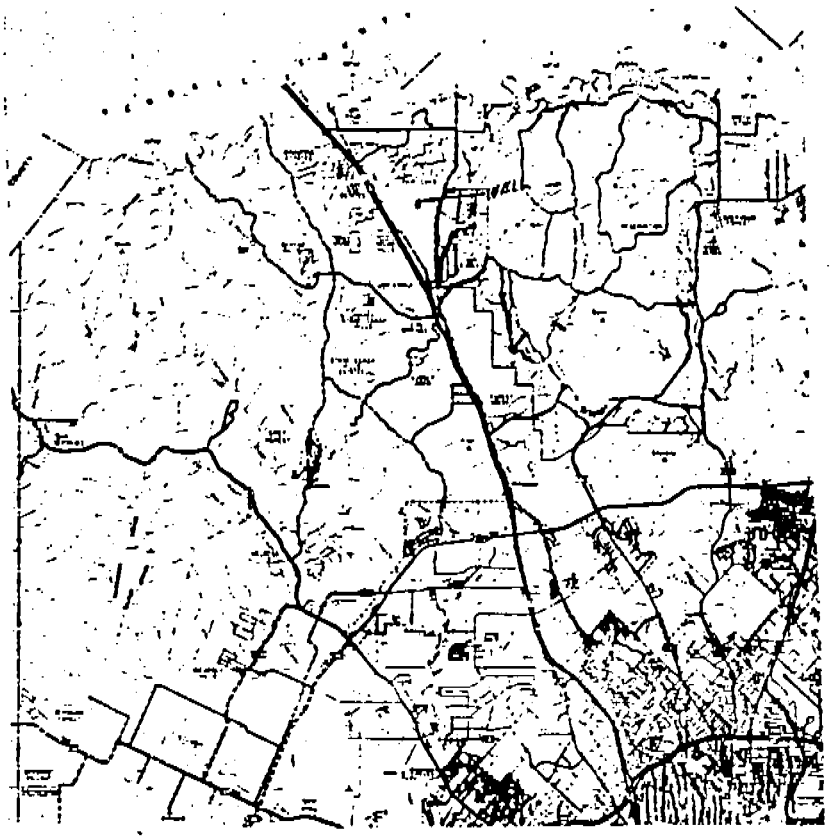
(Signed) Glen H. Haskin (Water Well Driller) HASKIN PUMP SERV, INC. (Company Name)

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

*Additional instructions on reverse side.

4802903101

MAP ID
52



RECEIVED
AUG 15 '80
CRAIDWR

MAP #52

MAP ID

53

RECEIVED

MAY 21 1979

DEPT OF WATER RESOURCES

...nd original copy by ...rtified mail to the ...xas Water Development Board ...O. Box 13087 ...stin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No.
Located on map
Received:

OWNER:
Person having well drilled: Department of Agriculture (Name) Address: Kerrville (Street or RFD), Tex (City) (State)

Landowner: Camp Stanley (Name) Address: San Antonio (Street or RFD) (City) Tex (State)

LOCATION OF WELL:
County: Bexar, 3 miles in NE (N.E., S.W., etc.) direction from Leon Springs (Town)

Locate by sketch map showing landmarks, roads, creeks, highway number, etc.*
#1 on highway map
North
(Use reverse side if necessary)

or Give legal location with distances and directions from adjacent sections or survey lines.
Labor: League:
Block: Survey:
Abstract No.:
(NW¼ NE¼ SW¼ SE¼) of Section:

1) TYPE OF WORK (Check): New Well, Deepening, Reconditioning, Plugging

4) PROPOSED USE (Check): Domestic, Industrial, Municipal, Irrigation, Test Well, Other

3) TYPE OF WELL (Check): Rotary, Driven, Dug, Cable, Jetted, Bored

WELL LOG:
Diameter of hole: 9 in. Depth drilled: 250 ft. Depth of completed well: 360 ft. Date drilled: 4-10-79
All measurements made from: 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	2	Calache & rock
2	15	Yellow clay & limestone (water layers)
15	35	gray rock & shale layers
35	54	blue shale
54	68	porus yellow limestone
68	72	blue gray limestone
72	84	light yellow limestone
84	110	blue rock & shale layers
110	213	gray rock & shale layers
213	224	white rock
224	236	gray rock
236	[illegible]	[illegible]

9) Casing:
Type: Old, New, Steel, Plastic, Other
Cemented from: 0 ft. to: 250 ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
7 OD	0	250	

10) SCREEN:
Type:
Perforated, Slotted

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot Size

COMPLETION (Check):
Straight wall, Gravel packed, Other
Under reamed, Open Hole

WATER LEVEL:
Static level: 155 ft. below land surface Date: 4-10-79
Artesian pressure: lbs. per square inch Date:
Depth to pump bowls, cylinder, jet, etc.: 252 ft. below land surface.

11) PUMP TEST:
Was a pump test made? Yes, No. If yes, by whom?
Yield: gpm with ft. drawdown after hrs.
Bailer test: 25 gpm with 115 ft. drawdown after 45 min.
Artesian flow: gpm
Temperature of water:

12) WATER QUALITY:
Was a chemical analysis made? Yes, No
Did any strata contain undesirable water? Yes, No
Type of water: good depth of strata: 317

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: Louis Bergmann & Sons (Type or Print) Water Well Drillers Registration No.: 1937

ADDRESS: 135 S. Pecan (Street or RFD) Boerne (City) Tex (State)

Signed: [illegible] (Water Well Driller) Louis Bergmann & Sons (Company Name)

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

Additional instructions on reverse side.

3065

MAP ID

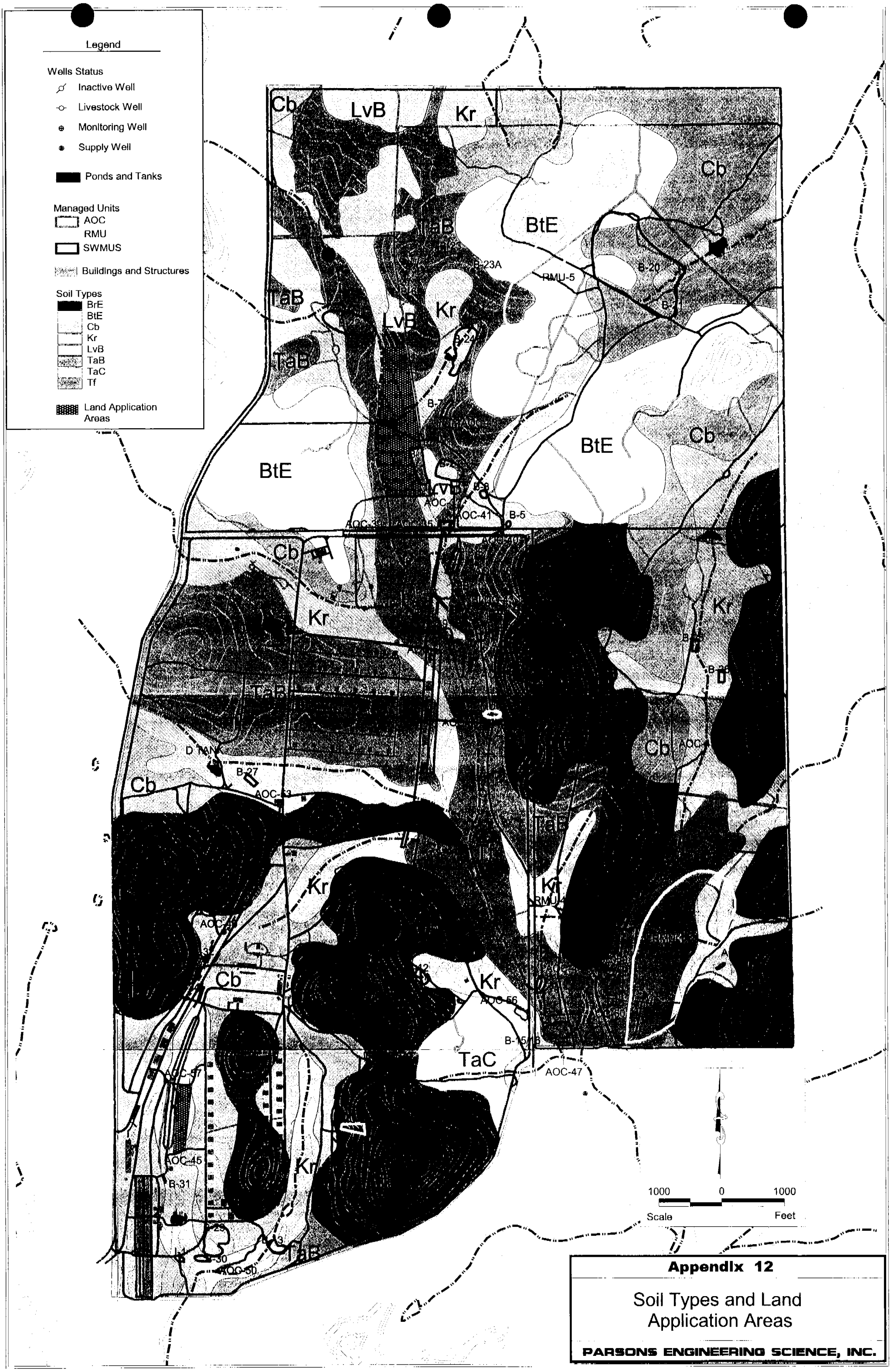
53

#1 Department of Agriculture
#2 Fair Oaks Water Co
#3 J.R.J. Constr.

Appendix 12

Soils

Attachment C. Items 12 and 13.



Appendix 12

Soil Types and Land Application Areas

PARSONS ENGINEERING SCIENCE, INC.

Item 12.

There are two proposed land application areas, the Northern Site and the Southern Site. The areas are depicted on a USDA Natural Resources Conservation Service Map (see Appendix 12). The Northern Site includes the Krum soils and the Trinity and Frio soils; the Southern Site includes the Krum soils and the Crawford and Bexar stony soils. Information on the soils in the land application areas, including texture, permeability, and engineering properties, is provided below.

Properties of Soils in Land Application Areas

Soils series information and engineering properties were obtained from the US Department of Agriculture Soil Conservation Service (now known as the Natural Resources Conservation Service) Soil Survey for Bexar County, Texas (USDA SCS, 1962).

Soil Series Name	Map Symbol	Depth	USDA Texture	Soil Permeability	High Water Table	Engineering Properties		
						No. 200 Sieve	Liquid Limit	Plasticity
Trinity and Frio soils, frequently flooded	Tf	Trinity component			Not listed	80-90%	Not listed	Not listed
		0-50"	Clay	Slowly permeable (0.2-0.4 in/hr)				
		[illegible]	Clay					
		Frio component						
		0-20"	Clay loam	Moderate permeability (1.0-2.0 in/hr)		25-90%	33.9 (surface)	
		20-25"	Clay loam					
		25-35"	Clay loam	Moderate permeability (1.5-2.5 in/hr)				
		35-84+"	Stratified clay loam and sandy loam				62.0 (subsurface)	

Soil Series Name	Map Symbol	Depth	USDA Texture	Soil Permea-bility	High Water Table	Engineering Properties		
Krum complex	Kr	0-30"	Clay	0.8-1.0 in/hr	Not listed	75-90%	Not listed	Not listed
		30-50"	Clay	0.8-1.0 in/hr		75-90%		
		50-62"	Clay and lime-stone frag-ments	0.8-1.0 in/hr		60-80%		
Crawford and Bexar stony soils	Cb	Crawford component			Not listed			
		0-34"	clay	0.2-0.5 in/hr		70-90%	25.5% (top-soil) 71.8% (sub-soil)	
		Bexar component						
		0-17"	Cherty clay loam to loam	1.0-1.5 in/hr		20-50%	40-70%	21-38%
		17-28"	Cherty clay	0.6-0.8 in/hr		20-30%	63-69%	35-37%

Parameters described as "Not listed" are not provided in the SCS Soil Survey for the particular soil series. The soil survey did not contain any information on seasonal high water tables.

Item 13.

Soil samples were collected in each soil series of each proposed land application area using a powered steel auger. Results of the soils analyses are provided in the following tables. Field descriptions of the soil series sampled are provided below.

Soil Series Field Descriptions

Krum Complex

0-6" dark gray or brown clay, few limestone or chert fragments, many roots.

6-18" light gray clay, silty clay and caliche, many limestone fragments, few roots.

18-30" light gray, light reddish white or white weathered limestone or caliche, fine texture, few to no roots.

Trinity and Frio Soils

0-6" dark brown clay loam, fairly high organic matter content, many roots.

6-18" dark brown clay loam, occasional clay lenses, some limestone fragments.

18-30" dark brown clay loam, some holes had more clay and some limestone fragments to many fragments and large stones.

Crawford and Bexar Stony Soils

0-6" light brown or light reddish brown clay loam, many limestone fragments on surface and surface 6". Three of the holes had a more dark brown clay or clay loam surface.

6-18" light brown to whitish silty clay with many limestone fragments.

18-30" light brown or gray silt or silty clay with many small to large limestone fragments. Some holes could not be sampled below 24" because large rocks stopped the auger.

Nutrient and Mineral Content of Soils from Land Application Sites at Camp Stanley

Soil Type	Composite Sample Location	Sample Depth (in)	Acidity (s.u.)	Nitrate-N (ppm)	Phos-phorous (ppm)	Potassium (ppm)	Calcium (ppm)	Magnesium (ppm)	Salinity (ppm)	Sodium (ppm)	Sulfur (ppm)	Total Nitrogen (ppm)	Conductivity (umho/cm)	Sodium Absorption Ratio
			8.1	3	10	1050	30030	897	361	408	206	1000	278	0.317
			8.3	1	8	610	30030	1186	219	400	332	1010	169	0.506
Kr	North	18-30	8.4	2	8	295	30054	879	162	385	306	360	125	0.663
Tf	North	0-6	8	1	11	1347	30029	809	345	420	166	1790	266	0.124
Tf	North	6-18	8.1	1	6	947	30028	905	249	389	185	1130	192	0.336
Tf	North	18-30	8.1	1	6	912	30028	1002	343	420	211	960	264	1.832
Kr	South	0-6	8.2	1	16	811	30030	1412	189	414	337	1370	146	0.383
Kr	South	6-18	8.3	2	8	525	30030	1046	231	343	340	900	178	0.654
Kr	South	18-30	8.5	1	10	305	30030	1032	135	403	383	360	104	0.752
Cb	South	0-6	8.1	2	33	943	30030	1464	175	381	354	1800	135	
Cb	South	6-18	8.3	1	21	782	30030	893	163	356	360	1320	126	0.537
Cb	South	18-30	8.6	1	11	305	30030	824	152	364	373	290	117	0.648

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27335

|SAMPLE ID# KRN 0-6

SOIL ANALYSIS

|SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)|

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.1 MODERATELY ALKALINE	3. VERY LOW	10. LOW	1050. VERY HIGH	30030 VERY HIGH	897. HIGH	361. NONE					408. MODERATE	206 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 35 - 35 - 0
N P2O5 K2O

Conductivity 278 µmho/cm

TOTAL P 1000 PPM
TOTAL K PPM

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

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COUNTY#: 453
LAB # : 27335

SAMPLE ID# KRN 0-6

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.1 MODERATELY ALKALINE	3. VERY LOW	10. LOW	1050. VERY HIGH	30030 VERY HIGH	897. HIGH	361. NONE					408. MODERATE	206 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 75 - 40 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
LAB DIRECTOR (409) 845-4816

FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27335

SOIL SALINITY ANALYSIS

SAMPLE ID: KRN 0-6

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.4	0.685												
mg/L			14	5	140	5	NA	NA	NA	NA	NA	NA		
meq/L			0.609	0.128	6.986	0.411							0.3168	7.5

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27336

SAMPLE ID# KRN 6-18

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.3 MODERATELY ALKALINE	1. VERY LOW	8. LOW	610. VERY HIGH	30030 VERY HIGH	1186. HIGH	219. NONE					400. MODERATE	332 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 40 - 35 - 0
N P2O5 K2O

169 µmho/cm

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

TOTAL N 1010 PPM
TOTAL P _____ PPM
TOTAL K _____ PPM

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

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78754
FEE : $35.00

DATE RECEIVED : 8/13/9
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COUNTY#: 453
LAB # : 27336

SAMPLE ID# KRN 6-18

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.3 MODERATELY ALKALINE	1. VERY LOW	8. LOW	610. VERY HIGH	30030 VERY HIGH	1186. HIGH	219. NONE					400. MODERATE	332 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 80 - 45 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
LAB DIRECTOR (409) 845-4816

FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27336

SOIL SALINITY ANALYSIS

SAMPLE ID: KRN 6-18

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.8	0.534												
mg/L			19	3	102	3	NA	NA	NA	NA	NA	NA		
meq/L			0.827	0.077	5.090	0.247							0.5062	13.3

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27337

SAMPLE ID# KRN 18-30

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.4 MODERATELY ALKALINE	2. VERY LOW	8. LOW	295. HIGH	30054 VERY HIGH	879. HIGH	162. NONE					385. LOW	306 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 35 - 35 - 0
N P2O5 K2O

Conductivity 125 umho/cm

TOTAL N 360 PPM
TOTAL P PPM
TOTAL K PPM

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

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FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27337

SAMPLE ID# KRN 18-30

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.4 MODERATELY ALKALINE	2. VERY LOW	8. LOW	295. HIGH	30054 VERY HIGH	879. HIGH	162. NONE					385. LOW	306 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 75 - 45 - 0
N P205 K20

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
LAB DIRECTOR (409) 845-4816

FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27337

SOIL SALINITY ANALYSIS

SAMPLE ID: KRN 18-30

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	8.0	0.352												
mg/L			19	3	59	2	NA	NA	NA	NA	NA	NA		
meq/L			0.827	0.077	2.944	0.164							0.6632	20.6

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27338

SAMPLE ID# TFN 0-6

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.0 MODERATELY ALKALINE	1. VERY LOW	11. MODERATE	1347. VERY HIGH	30029 VERY HIGH	809. HIGH	345. NONE					420. MODERATE	166 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 40 - 35 - 0
N P2O5 K2O

266 lbs/acre

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

TOTAL N 1790 PPM
TOTAL P _____ PPM
TOTAL K _____ PPM

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
LAB DIRECTOR (409) 845-4816

FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27338

SOIL SALINITY ANALYSIS

SAMPLE ID: TFN 0-6

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.7	0.746												
mg/L			6	8	170	4	NA	NA	NA	NA	NA	NA		
meq/L			0.261	0.205	8.483	0.329							0.1244	2.8

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
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COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27338

|SAMPLE ID# TFN 0-6

SOIL ANALYSIS

|SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)|

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.0 MODERATELY ALKALINE	1. VERY LOW	11. MODERATE	1347. VERY HIGH	30029 VERY HIGH	809. HIGH	345. NONE					420. MODERATE	166 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 80 - 40 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
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78754
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DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27339

|SAMPLE ID# TFN 6-18

SOIL ANALYSIS

|SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)|

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.1 MODERATELY ALKALINE	1. VERY LOW	6. LOW	947. VERY HIGH	30028 VERY HIGH	905. HIGH	249. NONE					389. LOW	185 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 40 - 40 - 0
N P2O5 K2O

Conductivity 192 umho/cm

TOTAL N 1130 PPM
TOTAL P PPM
TOTAL K PPM

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
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SOIL TEST REPORT

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SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

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FEE : $35.00

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COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27339

|SAMPLE ID# TFN 6-18

SOIL ANALYSIS

|SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)|

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.1 MODERATELY ALKALINE	1. VERY LOW	6. LOW	947. VERY HIGH	30028 VERY HIGH	905. HIGH	249. NONE					389. LOW	185 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 80 - 45 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
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SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
LAB DIRECTOR (409) 845-4816

FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27339

SOIL SALINITY ANALYSIS

SAMPLE ID: TFN 6-18

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.8	0.623												
mg/L			14	4	127	3	NA	NA	NA	NA	NA	NA		
meq/L			0.609	0.102	6.337	0.247							0.3358	8.4

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27340

|SAMPLE ID# TFN 18-30

SOIL ANALYSIS

|SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)|

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.1 MODERATELY ALKALINE	1. VERY LOW	6. LOW	912. VERY HIGH	30028 VERY HIGH	1002. HIGH	343. NONE					420. MODERATE	211 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 40 - 40 - 0
N P205 K20

Salinity 264 µmho/cm

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

TOTAL N 960 PPM
TOTAL P _____ PPM
TOTAL K _____ PPM

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL TESTING REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27340

SAMPLE ID# TFN 18-30

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.1 MODERATELY ALKALINE	1. VERY LOW	6. LOW	912. VERY HIGH	30028 VERY HIGH	1002. HIGH	343. NONE					420. MODERATE	211 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 80 - 45 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
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SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
LAB DIRECTOR (409) 845-4816

FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27340

SOIL SALINITY ANALYSIS

SAMPLE ID: TFN 18-30

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	8.0	0.600												
mg/L			74	4	109	9	NA	NA	NA	NA	NA	NA		
meq/L			3.220	0.102	5.439	0.740							1.8321	33.9

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

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8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
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COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27341

SAMPLE ID# KRS 0-6

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.2 MODERATELY ALKALINE	1. VERY LOW	16. MODERATE	811. VERY HIGH	30030 VERY HIGH	1412. HIGH	189. NONE					414. MODERATE	337 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 40 - 30 - 0
N P2O5 K2O

Conductivity 146 µmho/cm

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

TOTAL N 1370 PPM
TOTAL P PPM
TOTAL K PPM

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
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SOIL TEST REPORT

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SAMPLE ID# KRS 0-6

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.2 MODERATELY ALKALINE	1. VERY LOW	16. MODERATE	811. VERY HIGH	30030 VERY HIGH	1412. HIGH	189. NONE					414. MODERATE	337 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 80 - 35 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

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SOIL SALINITY REPORT

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SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

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$35.00

DATE RECEIVED: 8/13/99
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COUNTY: TRAVIS
LAB # : 27341

SOIL SALINITY ANALYSIS

SAMPLE ID: KRS 0-6

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.5	0.748												
mg/L			19	10	179	5	NA	NA	NA	NA	NA	NA		
meq/L			0.827	0.256	8.932	0.411							0.3825	7.9

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

SOIL TEST REPORT

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SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

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78754
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DATE RECEIVED : 8/13/9
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COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27342

SAMPLE ID# KRS 6-18

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.3 MODERATELY ALKALINE	2. VERY LOW	8. LOW	525. VERY HIGH	30030 VERY HIGH	1046. HIGH	231. NONE					343. LOW	340 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 35 - 35 - 0
N P2O5 K2O

Conductivity 178 µmho/cm

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

TOTAL N 900 PPM
TOTAL P _____ PPM
TOTAL K _____ PPM

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SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.3 MODERATELY ALKALINE	2. VERY LOW	8. LOW	525. VERY HIGH	30030 VERY HIGH	1046. HIGH	231. NONE					343. LOW	340 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 75 - 45 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

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SOIL SALINITY REPORT

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LAB # : 27342

SOIL SALINITY ANALYSIS

SAMPLE ID: KRS 6-18

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.9	0.532												
mg/L			25	4	106	3	NA	NA	NA	NA	NA	NA		
meq/L			1.088	0.102	5.289	0.247							0.6539	16.2

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

TE[illegible]EPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
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78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27343

|SAMPLE ID# KRS 18-30

SOIL ANALYSIS

|SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)|

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.5 STRONGLY ALKALINE	1. VERY LOW	10. LOW	305. VERY HIGH	30030 VERY HIGH	1032. HIGH	135. NONE					403. MODERATE	383 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 40 - 35 - 0
N P2O5 K2O

Conductivity 104 umho/cm

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

TOTAL N 360 PPM
TOTAL P ____ PPM
TOTAL K ____ PPM

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27343

|SAMPLE ID# KRS 18-30

SOIL ANALYSIS

|SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)|

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.5 STRONGLY ALKALINE	1. VERY LOW	10. LOW	305. VERY HIGH	30030 VERY HIGH	1032. HIGH	135. NONE					403. MODERATE	383 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 80 - 40 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
LAB DIRECTOR (409) 845-4816

FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27343

SOIL SALINITY ANALYSIS

SAMPLE ID: KRS 18-30

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.9	0.420												
mg/L			24	3	74	2	NA	NA	NA	NA	NA	NA		
meq/L			1.044	0.077	3.693	0.164							0.7521	21.0

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27344

SAMPLE ID# CB 0-6

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.1 MODERATELY ALKALINE	2. VERY LOW	33. MODERATE	943. VERY HIGH	30030 VERY HIGH	1464. HIGH	175. NONE					381. LOW	354 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 35 - 10 - 0
N P2O5 K2O

Conductivity 135 µmho/cm

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

TOTAL N 1800 PPM
TOTAL P ____ PPM
TOTAL K ____ PPM

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27344

SAMPLE ID# CB 0-6

SOIL ANALYSIS

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
	SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)												
8.1 MODERATELY ALKALINE	2. VERY LOW	33. MODERATE	943. VERY HIGH	30030 VERY HIGH	1464. HIGH	175. NONE					381. LOW	354 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 75 - 15 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
LAB DIRECTOR (409) 845-4816

FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27344

SOIL SALINITY ANALYSIS

SAMPLE ID: CB 0-6

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.5	0.942												
mg/L			25	14	223	7	NA	NA	NA	NA	NA	NA		
meq/L			1.088	0.358	11.128	0.575							0.4497	8.3

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27345

SAMPLE ID# CB 6-18

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.3 MODERATELY ALKALINE	1. VERY LOW	21. MODERATE	782. VERY HIGH	30030 VERY HIGH	893. HIGH	163. NONE					356. LOW	360 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 40 - 25 - 0
N P2O5 K2O

Conductivity 126 µmho/cm

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

TOTAL N 1320 PPM
TOTAL P ____ PPM
TOTAL K ____ PPM

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27345

SAMPLE ID# CB 6-18

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.3 MODERATELY ALKALINE	1. VERY LOW	21. MODERATE	782. VERY HIGH	30030 VERY HIGH	893. HIGH	163. NONE					356. LOW	360 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 80 - 30 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
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SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
LAB DIRECTOR (409) 845-4816

FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27345

SOIL SALINITY ANALYSIS

SAMPLE ID: CB 6-18

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.7	0.712												
mg/L			24	9	145	4	NA	NA	NA	NA	NA	NA		
meq/L			1.044	0.230	7.236	0.329							0.5370	11.8

INTERPRETATION

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

SOIL TEST REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
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78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27346

SAMPLE ID# CB 18-30

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.6 STRONGLY ALKALINE	1. VERY LOW	11. MODERATE	305. VERY HIGH	30030 VERY HIGH	824. HIGH	152. NONE					364. LOW	373 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 40 - 35 - 0
N P2O5 K2O

consistency 117 umhos/cm

TOTAL N 290 PPM
TOTAL P PPM
TOTAL K PPM

APPLY PRIOR TO SPRING GROWTH.
IF MOISTURE IS SUITABLE, TOPDRESS WITH 30 LBS/A OF NITROGEN AFTER GRAZE DOWN.
DEFER GRAZING AT LEAST 1 WEEK AFTER FERTILIZING.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
1600B SMITH RD #8 AUSTIN TX. 78721

SOIL TESTING REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE -- THE TEXAS A & M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843

DR. TONY PROVIN
LAB DIRECTOR (409)845-4816

INV# 066932
FOR: PARSONS ENG SCI INC/CASKEY
8000 CENTRE PARK DR STE 200
AUSTIN, TX
78754
FEE : $35.00

DATE RECEIVED : 8/13/9
DATE PROCESSED: 08/17/99
COUNTY : TRAVIS
COUNTY#: 453
LAB # : 27346

SAMPLE ID# CB 18-30

SOIL ANALYSIS

SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)

PH ACIDITY	NITRATE-N	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
8.6 STRONGLY ALKALINE	1. VERY LOW	11. MODERATE	305. VERY HIGH	30030 VERY HIGH	824. HIGH	152. NONE					364. LOW	373 HIGH	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: BLUESTEM (IMPROVED-GRAZING OR HAY)

SUGGESTED FERTILIZER RATE LBS/A: 80 - 40 - 0
N P2O5 K2O

APPLY PRIOR TO SPRING GROWTH. IF MOISTURE IS SUITABLE, TOPDRESS WITH 40 LBS/A OF NITROGEN AFTER GRAZE DOWN. DEFER GRAZING 1 WEEK AFTER FERTILIZING. FOR HAY, TOPDRESS WITH 80 LBS/A OF NITROGEN AFTER CUTTING OF HAY.

FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOUR COUNTY EXTENSION AGENT :
BRAN W. PIERCE
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SOIL SALINITY REPORT

TEXAS AGRICULTURAL EXTENSION SERVICE - - THE TEXAS A&M UNIVERSITY SYSTEM
SOIL TESTING LABORATORY, COLLEGE STATION TX. 77843-2474

BY: DR. TONY PROVIN
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$35.00

DATE RECEIVED: 8/13/99
DATE PROCESSED: 8/19/99
COUNTY: TRAVIS
LAB # : 27346

SOIL SALINITY ANALYSIS

SAMPLE ID: CB 18-30

	pH	SALT mmhos/cm	SODIUM	POTASSIUM	CALCIUM	MAGNESIUM	CHLORIDE	SULFATE	BICARB.	CARBONATE	NITRATE-N	BORON	SAR	SSP
	7.9	0.382												
mg/L			20	3	69	2	NA	NA	NA	NA	NA	NA		
meq/L			0.870	0.077	3.443	0.164							0.6480	19.1

INTERPRETATION

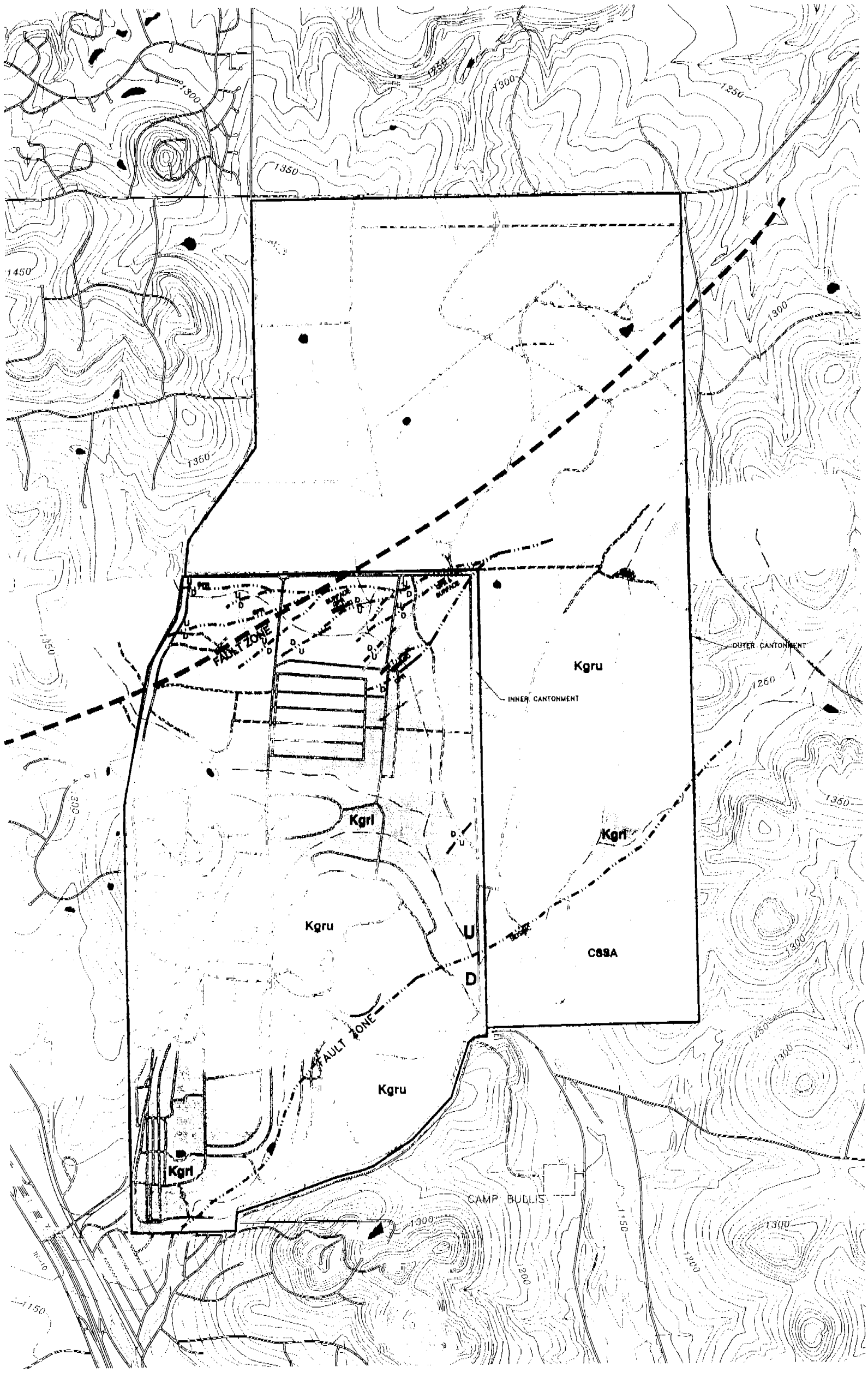
FURTHER INFORMATION AND ASSISTANCE CAN BE OBTAINED FROM YOU COUNTY EXTENSION AGENT:

mg/L = parts per million
meq/L = milliequivalents per liter
N/A = not analyzed in normal detailed salinity suite

Appendix 13

Geologic Maps

Attachment C. Item 15.



LEGEND

U / D — DISPLACEMENT BASED ON GROUND PENETRATING RADAR (GPR) SEISMIC, AND/OR MAPPING "U" INDICATES UPTHROWN SIDE OF FAULT, "D" INDICATES DOWNTHROWN SIDE OF FAULT. AREA SHADED GRAY REPRESENTS FAULT ZONE.

Kgru — UPPER GLEN ROSE FORMATION (WORK PERFORMED BY PARSONS ES)

Kgrl — LOWER GLEN ROSE FORMATION (WORK PERFORMED BY PARSONS ES)

FAULTS FROM HEFNER, RENE G. ENVIRONMENTAL GEOLOGY AND LAND USE CAPABILITY OF THE WESTERN CAMP BULLIS, NORTHEASTERN CASTLE HILLS, NORTHERN HELOTES, AND VAN RAUB QUADRANGLES IN NORTHWEST BEXAR COUNTY, TEXAS. THE UNIVERSITY OF TEXAS AT SAN ANTONIO, M.A. THESIS (UNPUB.) 1993

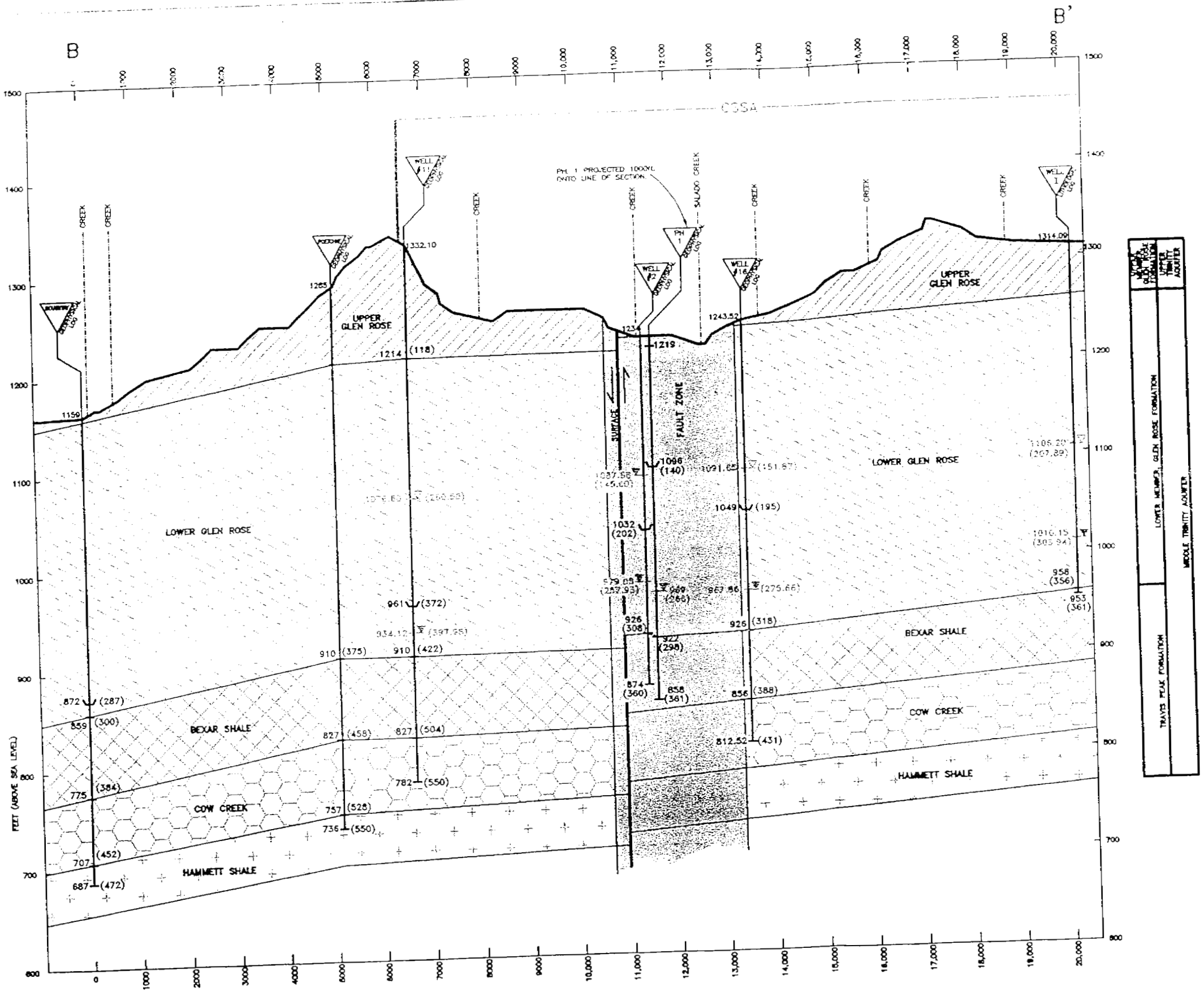
WATERREUS, PETER A. HYDROLOGY OF THE CAMP BULLIS AREA, NORTHERN BEXAR COUNTY, TEXAS, THE UNIVERSITY OF TEXAS AT SAN ANTONIO, M.A. THESIS (UNPUB.), 1992

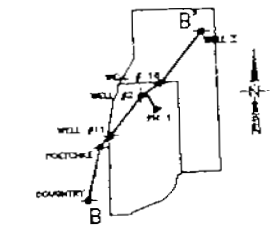
SOIL GAS TRENDS

Appendix 13-1

Site Geologic Map
Camp Stanley Storage Activity

PARSONS ENGINEERING SCIENCE, INC.





1000' 600' 0 1000'
Approximate Scale In Feet

SCALE: 1" = 1000' HORIZ.
1" = 50' VERT.

VERTICAL EXAGGERATION 20x

LEGEND

- WELL DESIGNATION AND TYPE OF LOG USED FOR CROSS SECTION
- 899 ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL).
- (268) DEPTH BELOW TOP OF CASING (BTOC) IN PARENTHESES.
- ARROWS INDICATE DIRECTION OF DISPLACEMENT ALONG FAULT.
- 1187.85 SURVEYED ELEVATION IN FEET MSL
- ELEVATION TAKEN FROM USGS TOPOGRAPHIC MAP AND ESTIMATED LOCATION
- HIGHEST MEASURED TABLE ELEVATION, TAKEN OCTOBER, 1992 OR MAY 1994
- LOWEST MEASURED TABLE ELEVATION, TAKEN APRIL 1998
- TOTAL DEPTH OF WELL CASING
- EXTENT OF CASING UNKNOWN

SEISMIC, SURFACE, GPR: DATA TYPE UPON WHICH INTERPRETATION IS BASED

Appendix 13-2

Geologic Cross Section
Camp Stanley Storage Activity

PARSONS ENGINEERING SCIENCE, INC.

PERMIT NO. 03849
(corresponds to
NPDES PERMIT NO. TX0064505)

This permit supersedes and replaces Permit No. 12111-001 approved October 25, 1990.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
P. O. Box 13087
Austin, Texas 78711-3087
PERMIT TO DISPOSE OF WASTES
under provisions of Chapter 26
of the Texas Water Code

United States Department of the Army

whose mailing address is

25800 Ralph Fair Road
Boerne, Texas 78006-4800

is authorized to treat and dispose of wastes from the Camp Stanley Storage Activity (SIC 9711)

located at Camp Stanley, approximately one mile northeast of the intersection of Interstate Highway 10 and Ralph Fair Road (Farm-to-Market-Road 3351) in Bexar County, Texas

to: Outfall 001 - to an unnamed tributary of Upper Leon Creek, thence to Upper Leon Creek in Segment No. 1907 of the San Antonio River Basin; and Outfall 002 - to an unnamed tributary of Salado Creek, thence to Salado Creek or directly to Salado Creek in Segment No. 1910 of the San Antonio River Basin

only in accordance with effluent limitations, monitoring requirements and other conditions set forth herein, as well as the rules of the Texas Natural Resource Conservation Commission ("Commission"), the laws of the State of Texas, and other orders of the Commission. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the herein described discharge route. This includes property belonging to but not limited to any individual, partnership, corporation or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the herein described discharge route.

This permit and the authorization contained herein shall expire on March 1, 2000.

ISSUED DATE: JUN 07 1996

ATTEST: Gloria A. Vasquez

For the Commission

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge sanitary wastewater and car wash wastewater subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 0.03 million gallons per day (MGD). The total volume discharged during any 24-hour period shall not exceed 0.06 million gallons.

Effluent Characteristic	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Avg (lbs/day)	Daily Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow (MGD)	(Report)		(Report)	N/A	Five/week	Instantaneous
Biochemical Oxygen Demand (5-day)	(5.0)	20	45	65	One/week	Grab
Total Suspended Solids	(5.0)	20	45	65	One/week	Grab
Copper, Total		0.076	0.161	0.23	One/day(*1)	Grab

(*1) See Other Requirement No. 3

2. The effluent shall contain a chlorine residual of at least 1.0 mg/l and shall not exceed a chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes (based on peak flow), and shall be monitored five times per week by grab sample. An equivalent method of disinfection may be substituted only with prior approval of the Commission.

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per month by grab sample.

4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

5. The effluent shall contain a minimum dissolved oxygen of 2 mg/l and shall be monitored once per week by grab sample.

6. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit located near the southwest border of the Camp Stanley facility.

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge groundwater subject to the following effluent limitations(*1):

   The daily average flow of effluent shall not exceed 0.03 million gallons per day (MGD). The total volume discharged during any 24-hour period shall not exceed 0.15 million gallons.

Effluent Characteristic	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow (MGD)	(Report)	(Report)	N/A	One/day(*2)	Instantaneous
Tetrachloroethylene	0.036	0.077	0.108	Twice/week(*2)	Grab
Trichloroethylene	0.036	0.077	0.108	Twice/week(*2)	Grab

(*1) See Other Requirements No. 5
(*2) When discharge occurs.
(*3) See Other Requirements No. 6

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once/day, by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit and prior to discharge to either Salado Creek or the unnamed tributary of Salado Creek (*3).

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§305.121-305.129, Subchapter F, "Permit Characteristics and Conditions" as promulgated under the Texas Water Code, §§5.103 and 5.105, and §§361.017 and 361.024(a) of the Texas Solid Waste Disposal Act establish the characteristics and standards for waste discharge permits, including sewage sludge. The following text includes these conditions and incorporates them into this permit. All definitions contained in Section 26.001 of the Texas Water Code shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

   a. Daily average flow - the arithmetic average of all determinations of the daily discharge within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily discharge, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

   b. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.

   c. 2-hour peak (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. Multiple measurements of instantaneous maximum flow within a two-hour period may be compared to the permitted 2-hour peak flow.

   d. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.

2. Concentration Measurements

   a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit within a period of one calendar month, consisting of at least four separate representative measurements. When four samples are not available in a calendar month, the arithmetic average of the four most recent measurements or the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.

   b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab, within a period of one calendar week, Sunday through Saturday, consisting of at least three separate measurements.

   c. Daily maximum concentration - the maximum concentration measured on a single day, by composite sample, unless otherwise specified elsewhere in this permit.

   d. Fecal Coliform bacteria - the number of colonies per 100 milliliters effluent.

3. Sample Type

   a. Composite sample - a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow collected no closer than two hours for domestic sewage. For industrial wastewater a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow collected no closer than one hour.

   b. Grab sample - an individual sample collected in less than 15 minutes.

4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids separated from wastewater by unit processes which have not been classified as hazardous waste.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

   Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§319.4 - 319.12. Unless otherwise specified, a monthly effluent report shall be submitted each month by the 20th day of the following month for each discharge which is described by this permit whether or not a discharge is made for that month.

As provided by State Law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act, the Texas Water Code, Chapters 26, 27, and 28, and Texas Health and Safety Code, Chapter 361, including but not limited to knowingly making any false statement on any report or document, falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests and calculations shall be accurately accomplished in a representative manner.

3. Records of Results

a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, and the certification required by 40 Code of Federal Regulations §264.73(b)(9) shall be retained at the facility site and/or shall be readily available for review by a TNRCC representative for a period of three years from the date of the record or sample, measurement, report or certification. This period may be extended at the request of the Executive Director.

c. Records of monitoring activities shall include the following:

i. date, time and place of sample or measurement;
ii. identity of individual who collected the sample or made the measurement.
iii. date and time of analysis;
iv. identity of the individual and laboratory who performed the analysis;
v. the technique or method of analysis; and
vi. the results of the analysis or measurement and quality assurance/quality control records.

The period during which records are required to be kept shall be automatically extended to and through the disposition of any administrative or judicial enforcement action that maybe instituted against the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the required monthly effluent report. Increased frequency of sampling shall be indicated on the monthly effluent report.

5. Calibration of Instruments

All automatic flow measuring and/or recording devices and/or totalizing meters required by the permit for measuring permit limited flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be kept at the plant site for at least three years.

6. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the appropriate Regional Office and the Manager, Water Section, Enforcement Division.

7. Noncompliance Notification

a. Unless specified otherwise, any noncompliance which may endanger human health or safety, or the environment shall be reported to the TNRCC. Report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided to the Regional Office and the Manager, Water Section, Enforcement Division within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance and to mitigate its adverse effects.

b. Unauthorized discharges as defined in Permit Condition 2(g) of this permit shall be reported under Part a of this noncompliance notification provision.

c. Notwithstanding any of the above, any effluent violation which deviates from the permitted effluent limitation by more than 40% shall be reported in writing to the Regional Office and the Manager, Water Section, Enforcement Division within 5 working days of becoming aware of the noncompliance.

d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Program Support Team of the Agriculture & Watershed Management Division as promptly as possible. This requirement means to report these types of noncompliance on the monthly self-report form.

8. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

PERMIT CONDITIONS

1. General

a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

b. This permit is granted on the basis of the information supplied and representations made by the permittee during the application process, relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part in accordance with 30 TAC 305.61 - 305.62, during its term for cause including but not limited to, the following:

i. Violation of any terms or conditions of this permit;

ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required by the permit.

2. Compliance

a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgement and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation or suspension, or for denial of a permit renewal application or of an application for a permit for another facility.

c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation which has a reasonable likelihood of adversely affecting human health or the environment.

e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.

f. A permit may be amended, suspended and reissued, or revoked for cause. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to waters in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements of this permit.

h. A temporary diversion of wastewater around a unit or units to a permitted outfall for the purposes of maintenance or repair is not a violation of this permit as long as the wastewater complies with all other standards, terms and conditions of this permit. Notice shall be provided to the Regional Office at least 24 hours in advance of any temporary diversion, where practical. Where prior notice for a temporary diversion is not practical, notice shall be provided to the Regional Office as soon as possible but at least within 24 hours after beginning the temporary diversion. Not withstanding any of the above, the Commission may require that an application be submitted for formal authorization.

3. Inspections and Entry

a. Inspection and entry shall be allowed as prescribed in the Texas Water Code, Chapters 26, 27, and 28, and Texas Health and Safety Code, Chapter 361.

b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state. Members, employees, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his or her presence and shall exhibit proper credentials. If any member, employee, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in Texas Water Code Section 26.123.

4. Permit Amendment

a. The permittee shall give notice to the Executive Director prior to physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements.

b. Prior to any facility modifications, additions and/or expansions of a permitted facility that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.

c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. Authorization to continue such activity will terminate upon the effective denial of said application.

d. Prior to accepting wastes which are not described in the permit application or which would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.

e. Texas Water Code §26.029(b) After a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, to conform to new or additional conditions. The Commission shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Commission may grant additional time.

5. Permit Transfer

a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified, in writing, of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Commission Wastewater Permits Application Team.

b. A permit may be transferred only according to the provisions of 30 TAC §305.64 (relating to Transfer of Permits) and 30 TAC 305.97 (relating to Action on Application for Transfer).

6. Relationship to Hazardous Waste Activities

This permit does not authorize any activity of hazardous waste storage, processing, or disposal which requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

Disposal of treated effluent by any means other than discharge directly to the waters in the state must be specifically authorized in this permit and may require a permit pursuant to Chapter 11 of the Texas Water Code.

8. Property Rights

A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all its systems of collection, treatment, and disposal are properly operated. This includes the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control such as the Commission's "Recommendations for Minimum Process Control Tests for Domestic Wastewater Treatment Facilities." Process control records shall be retained at the facility site and/or shall be readily available for review by a TNRCC representative for a period of three years.

2. Upon request of the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all provisions of 30 TAC §312.1-§312.13 concerning sewage sludge use and disposal and §§319.21 - 319.29 concerning the discharge of certain hazardous metals.

3. Domestic wastewater treatment facilities shall comply with the following provisions:

   a. The permittee shall notify the Executive Director in care of the Commission Wastewater Permits Section, in writing of any closure activity or facility expansion at least 90 days prior to conducting such activity.

   b. Closure activities include those associated with any pit, tank, pond, lagoon, or surface impoundment regulated by this permit.

   c. As part of the notification, the permittee shall submit to the Municipal Wastewater Permits Team in Austin, a closure plan which has been developed in accordance with the "Closure Guidance Documents" available through Record System Services for the Office of Waste Management & Pollution Cleanup.

4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual waste treatment fee to the Commission as required by 30 TAC Chapter 305 (Subchapter M) and an annual water quality assessment fee to the Commission as required by 30 TAC Chapter 320. Failure to pay either fee may result in revocation of this permit.

7. Documentation

   For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification, upon the same basis as self-monitoring data are required to be kept and made available.

8. Facilities which generate domestic wastewater shall comply with these provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

   a. Whenever flow measurements for any domestic sewage treatment facility reach 75 percent of the permitted average daily flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever, the average daily flow reaches 90 percent of the permitted average daily flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility which reaches 75 percent of the permitted daily average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission. If in the judgement of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Manager, Water Section, Enforcement Division of the Commission or an authorized agent, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

   b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 325.

10. Facilities which generate industrial solid waste as defined in 30 Texas Administrative Code (TAC) §335.1 shall comply with these provisions:

    a. Any solid waste generated by the permittee during the management and treatment of wastewater, as defined in 30 Texas Administrative Code (TAC) §335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid) must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

    b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.

    c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC §335.6(g), to the Corrective Action Section of the Commission's Industrial and Hazardous Waste Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.

    d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Waste Evaluation Section of the Commission's Industrial and Hazardous Waste Division. No person may dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC §335.5.

    e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.

    f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:

        i. Volume of waste and date(s) generated from treatment process;
        ii. Volume of waste disposed of on-site or shipped off-site;
        iii. Date(s) of disposal;
        iv. Identity of hauler or transporter;
        v. Location of disposal site; and
        vi. Method of final disposal.

    The above records shall be maintained on a monthly basis and be available at the plant site for inspection by authorized representatives of the Texas Natural Resource Conservation Commission for at least five years.

11. For facilities to which the requirements of 30 Texas Administrative Code (TAC) Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with Chapter 361 of the Health and Safety Code of Texas.

OTHER REQUIREMENTS

c. No wastewater may be applied within twenty-four hours after a measured rainfall of 0.5 inches or greater or to any zone containing standing water.

d. The permittee shall maintain accurate records which include results of the following monitoring:

Parameter	Monitoring Frequency	Sample Type
Flow (MGD for irrigation)	Once/day	Estimate
Tetrachloroethylene	Once/2 weeks	Grab
Trichloroethylene	Once/2 weeks	Grab
pH	Once/day	Grab

The wastewater shall be monitored following final treatment and prior to irrigation. Records shall be maintained on a monthly basis and be made readily available for inspection by authorized representatives of the Texas Natural Resource Conservation Commission for at least five years. An annual summary of these records shall be compiled and submitted to the Program Support Team (MC 148) and the Wastewater Permitting Section (MC 148) of the Agriculture and Watershed Management Division of the TNRCC, in September of each year.

6. The groundwater treatment unit may be relocated in order to serve wells other than Well 16. The permittee shall notice the TNRCC at least thirty (30) days prior to relocation of the groundwater treatment unit and provide a site map denoting the current and proposed locations. Notification shall be made to the Wastewater Permitting Section (MC 148) of the Agriculture and Watershed Management Division of the TNRCC.

7. Reporting requirements pursuant to 30 TAC Sections 319.1-319.12 and any additional effluent reporting requirements contained in the permit for Outfall 002 are suspended from the effective date of the permit until treatment plant start-up or discharge, whichever comes first. The permittee shall provide written notice to the Texas Natural Resource Conservation Commission, Program Support Team, Enforcement Section, Agriculture and Watershed Management Division and Regional Office, forty-five (45) days prior to plant start-up or anticipated discharge.

OTHER REQUIREMENTS

1. Rainfall runoff discharged from any point source from the plant area not identified in this permit by outfall shall not: (a) contain floating solids, visible oil or visible foam in other than trace amounts, (b) have a pH less than 6.0 nor greater than 9.0 standard units at any time, or (c) exceed a chemical oxygen demand of 200 mg/l nor an oil and grease concentration of 15 mg/l on a grab sample.

2. There is no mixing zone established for these discharges to intermittent streams. Acute toxic criteria apply at the points of discharge.

3. Sampling requirements for total copper are only required following the use of copper sulfate (or other copper based agent for the control of aquatic plant growth) in the treatment unit. Sampling shall continue following the final use of copper based treatments until results of analyses indicate the effluent concentration of total copper does not exceed 53 parts per billion for three consecutive days of discharge.

4. This requirement is applicable to the treatment and disposal of domestic wastewater at Outfall 001 only. On-site disposal of sewage sludge is not authorized. The permittee shall ensure that all sewage sludge which is not a hazardous waste (as defined in Chapter 335 of this title) is handled, transported, and disposed of in compliance with the applicable provisions of Chapter 312 of this title. The permittee shall ensure that all sewage sludge which is a hazardous waste (as defined in Chapter 335 of this title) is handled, transported, and disposed of in compliance with the applicable provisions of Chapter 335 of this title. The permittee shall keep records of all sludges removed from the wastewater treatment plant site. Such records will include the following information at a minimum:

   (a) Volume (dry weight basis) of sludge disposed
   (b) Date of disposal
   (c) Identity and registration number of hauler
   (d) Location and registration or permit number of disposal site
   (e) Method of final disposal

   The above records shall be maintained on a monthly basis and be made readily available for inspection by authorized representatives of the Texas Natural Resource Conservation Commission for at least five years.

5. IRRIGATION:

   a. Wastewater, consisting entirely of treated groundwater, may be utilized for on-site irrigation as an alternative to discharge through Outfall 002. Wastewater utilized for irrigation shall meet the same daily average and daily maximum limitations as treated wastewater authorized for discharge from Outfall 002.

   b. Irrigation practices shall be managed so as to prevent ponding of effluent or contamination of groundwater and surface waters and to prevent the occurrence of nuisance conditions. This permit does not authorize the discharge of any pollutant from the irrigation site. Tailwater control facilities shall be provided to prevent the discharge of any irrigated wastewater and subsequent runoff to surface waters of the State of Texas.