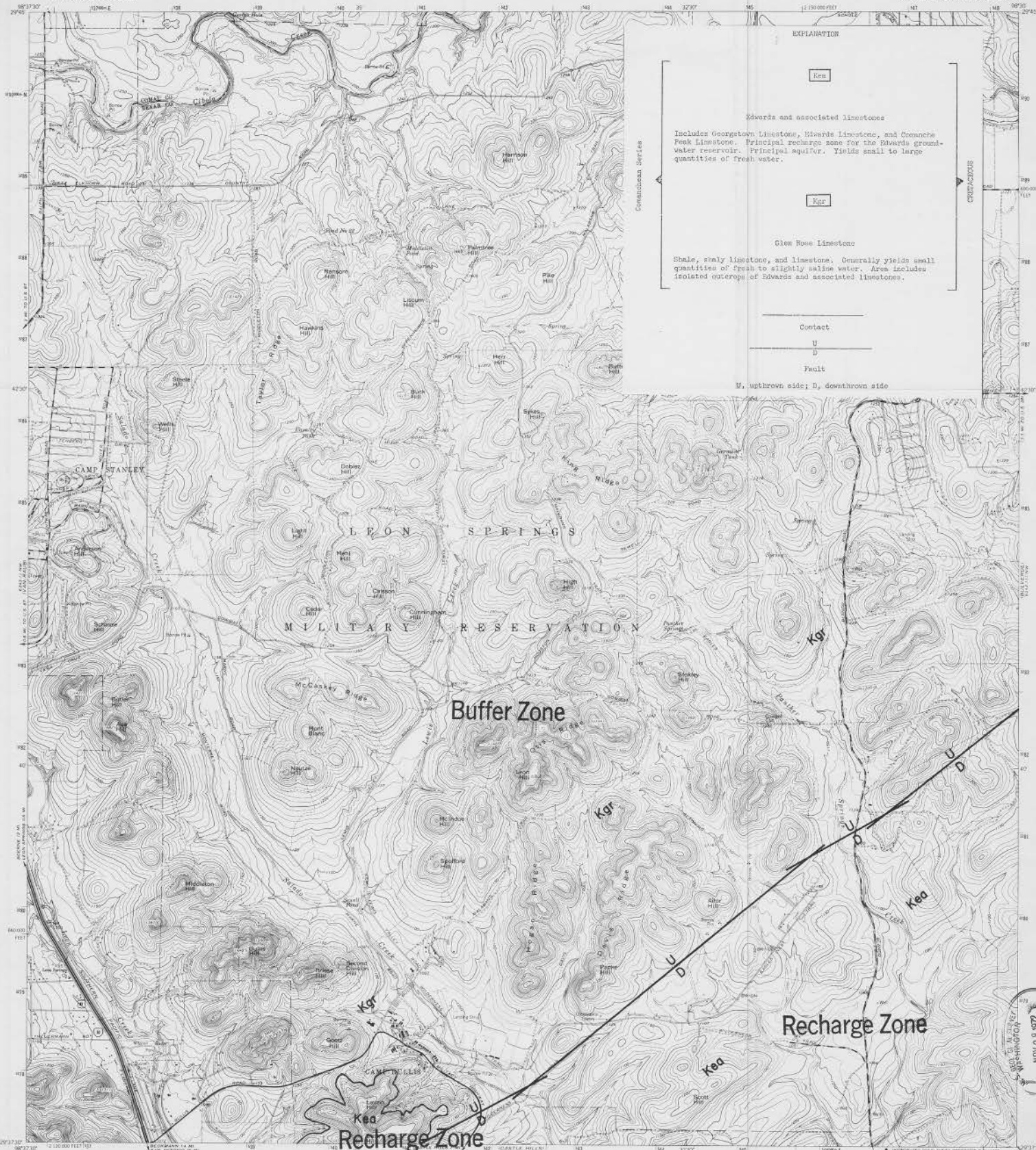




Map by the Army Map Service
Edited and published by the Geological Survey
Control by USGS, USACE, and USGS
Topography by photogrammetric methods from aerial photographs
taken 1952. Field annotated 1953. Revised by Geological Survey
from aerial photographs taken 1963. Field checked 1965.
Population projection: 1957 Route American datum
10,000 feet and based on Texas coordinate system; north central zone
100,000 mile Universal Transverse Mercator grid ticks
zone 14, shown in blue
Fine red dashed lines indicate selected fence lines



SCALE 1:24,000
CONTOUR INTERVAL: 10 FEET
ELEVATION IN FEET
OPEN FILE MAP

Prepared by the U.S. Geological Survey
in cooperation with the
Edwards Underground Water District and the
Texas Water Development Board

ROAD CLASSIFICATION
Heavy duty ——— Light duty ———
Medium-duty ——— Unimproved dirt ———
Interstate Route ——— U.S. Route ———

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A FOLDOUT DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

*Texas (Bexar Co.) Groundwater. 1:24,000. 1972.
sheet 1,
exp. 1*

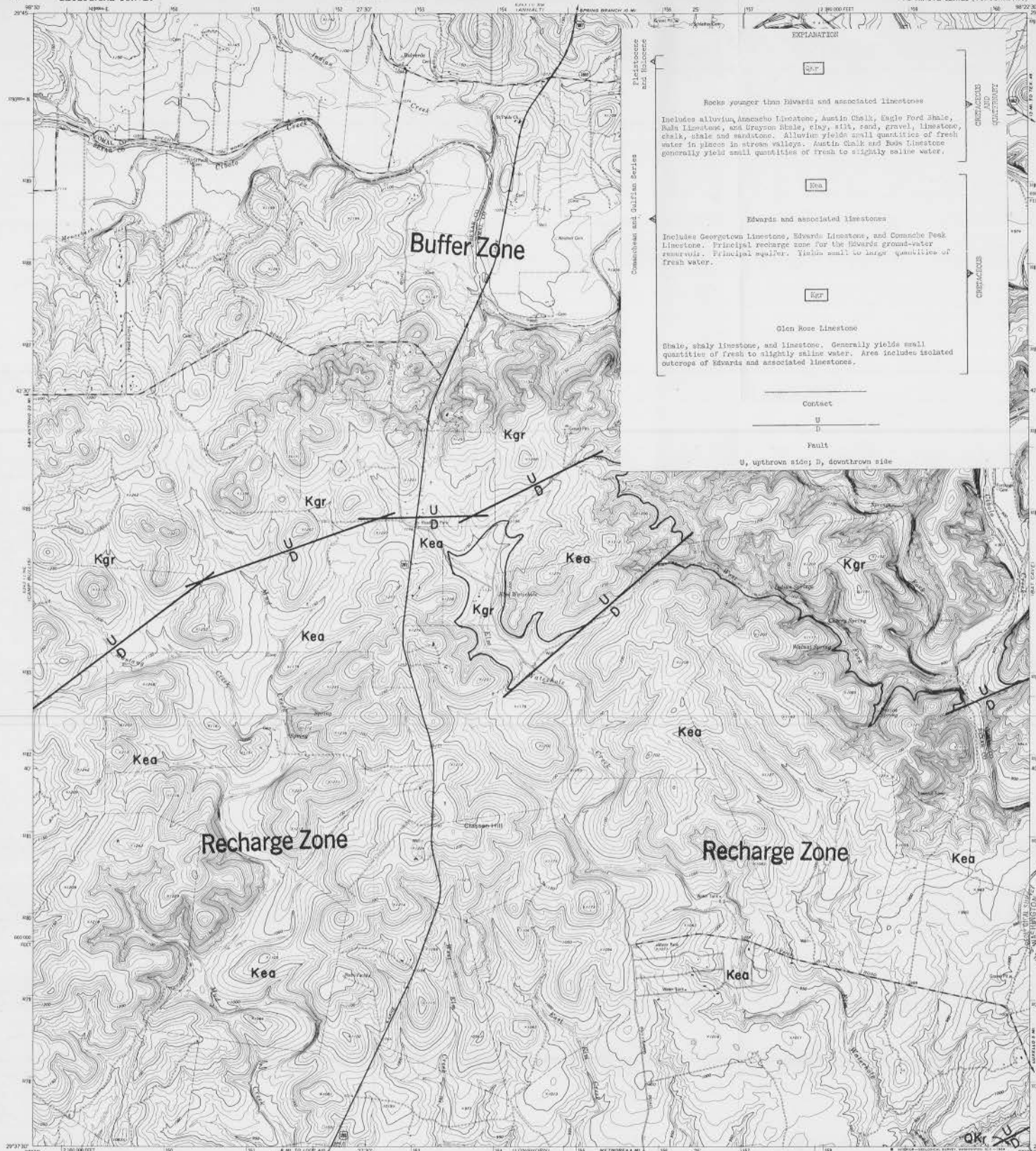
CAMP BULLIS, TEX.
N2937.5-W0810.75
1965

AMS 5243 (1) NE-SERIES 1982

M(200)
R290'
No. 72-310
Sheet 1 of 6
C.I.



open file



Mapped by the Army Map Service
Edited and published by the Geological Survey
Control by USGS and USCGS

Topography by photogrammetry, methods from aerial photographs, taken 1952. Field checked 1953. Revised by Geological Survey from aerial photographs taken 1956. Field checked 1957.
Photocopy projection. 1957 North American datum.
10,000-foot grid based on Texas coordinate system, south central zone.
1000-meter (1/2 inch) Topographic Mercator grid (1:63,360), zone 14, shown in blue.
Five red dashed lines indicate selected fence lines.

UTM GRID AND TIME-MONUMENT NORTH
COORDINATION AT CENTER OF SHEET

SCALE 1:24,000
CONTOUR INTERVAL 30 FEET
DATUM: U.S. MEAN SEA LEVEL

OPEN FILE MAP

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Texas Water Development Board



QUADRANGLE LOCATION

ROAD CLASSIFICATION

Heavy duty ——— Light duty ———
Medium duty ——— Unimproved dirt ———
U.S. Route ——— State Route ———

BULVERDE, TEX.
N29°15'W-98°22'5"E

1967
AMB 8345 (11 NW-SERIES Y882)

**M(200)
R290**

no. 72-310

sheet 2 of 6

c.1

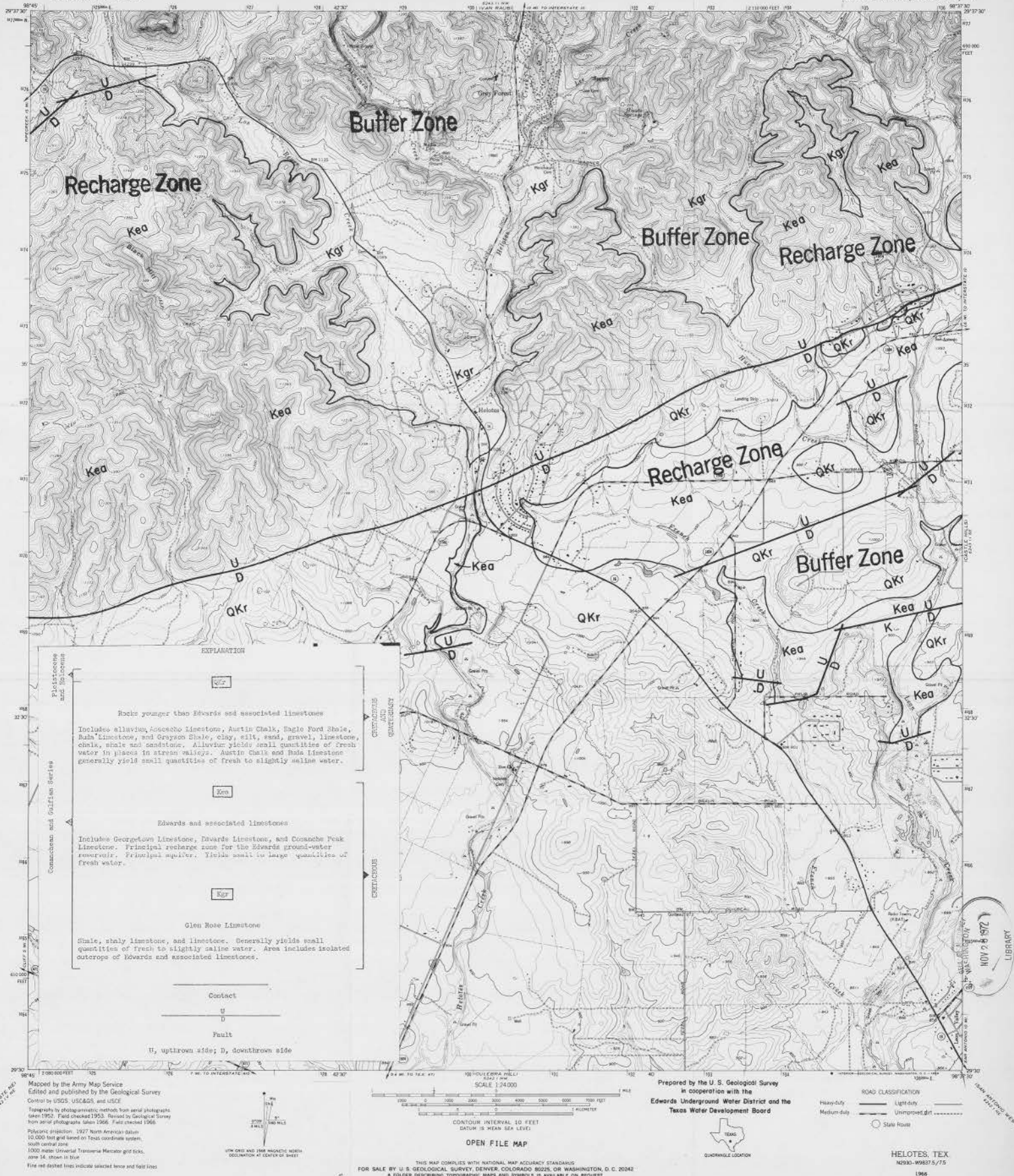
open file

Texas (Bexar Co.) Groundwater 1:24,000 1972

sheet 2

cop. 1





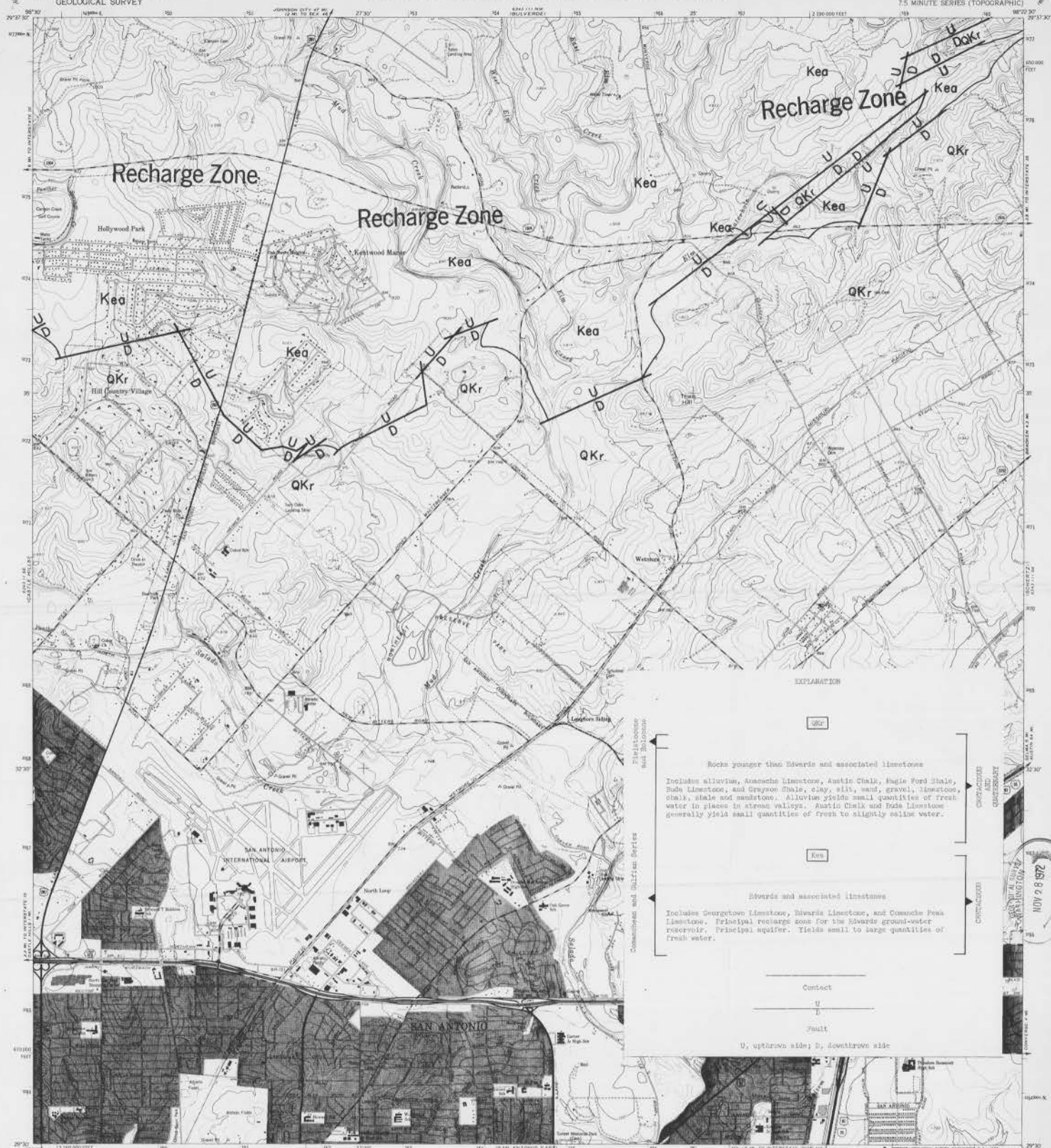
Texas (Bexar Co.) Groundwater. 1:24,000. 1972.
sheet 3,
cap. 1.

HELOTES, TEX
M(200)
R290

no. 71-310
sheet 3 of 6
c.1



3 1818 00261471 5



EXPLANATION

Rocks younger than Edwards and associated limestones
Includes alluvium, Anacostia Limestone, Austin Chalk, Eagle Ford Shale, Buda Limestone, and Grayson Shale, clay, silt, sand, gravel, limestone, chert, shale and sandstone. Alluvium yields small quantities of fresh water in places in stream valleys. Austin Chalk and Buda Limestone generally yield small quantities of fresh to slightly saline water.

Edwards and associated limestones
Includes Georgetown Limestone, Edwards Limestone, and Comanche Peak Limestone. Principal recharge zone for the Edwards ground-water reservoir. Principal aquifer. Yields small to large quantities of fresh water.

Contact
U
D

Fault
U, upthrown side; D, downthrown side

Map by the Army Map Service
Edited and published by the Geological Survey
Control by USGS, USGS/OS, and USGS
Topography by stereographic methods from aerial photographs taken 1952. Field sketches 1953. Revised by Geological Survey from aerial photographs taken 1966. Field sketches 1967
Polyconic projection. 1927 North American datum
10,000 feet grid based on Texas coordinate system, south central zone
1000 meter Universal Transverse Mercator grid, zone 14, shown in blue
Red line indicates areas in which only landmark buildings are shown
Fine red dashed lines indicate selected fence lines

SCALE 1:24,000
CONTOUR INTERVAL 10 FEET
SATURN TO MEAN SEA LEVEL
OPEN FILE MAP

Prepared by the U.S. Geological Survey
in cooperation with the
Edwards Underground Water District and the
Texas Water Development Board

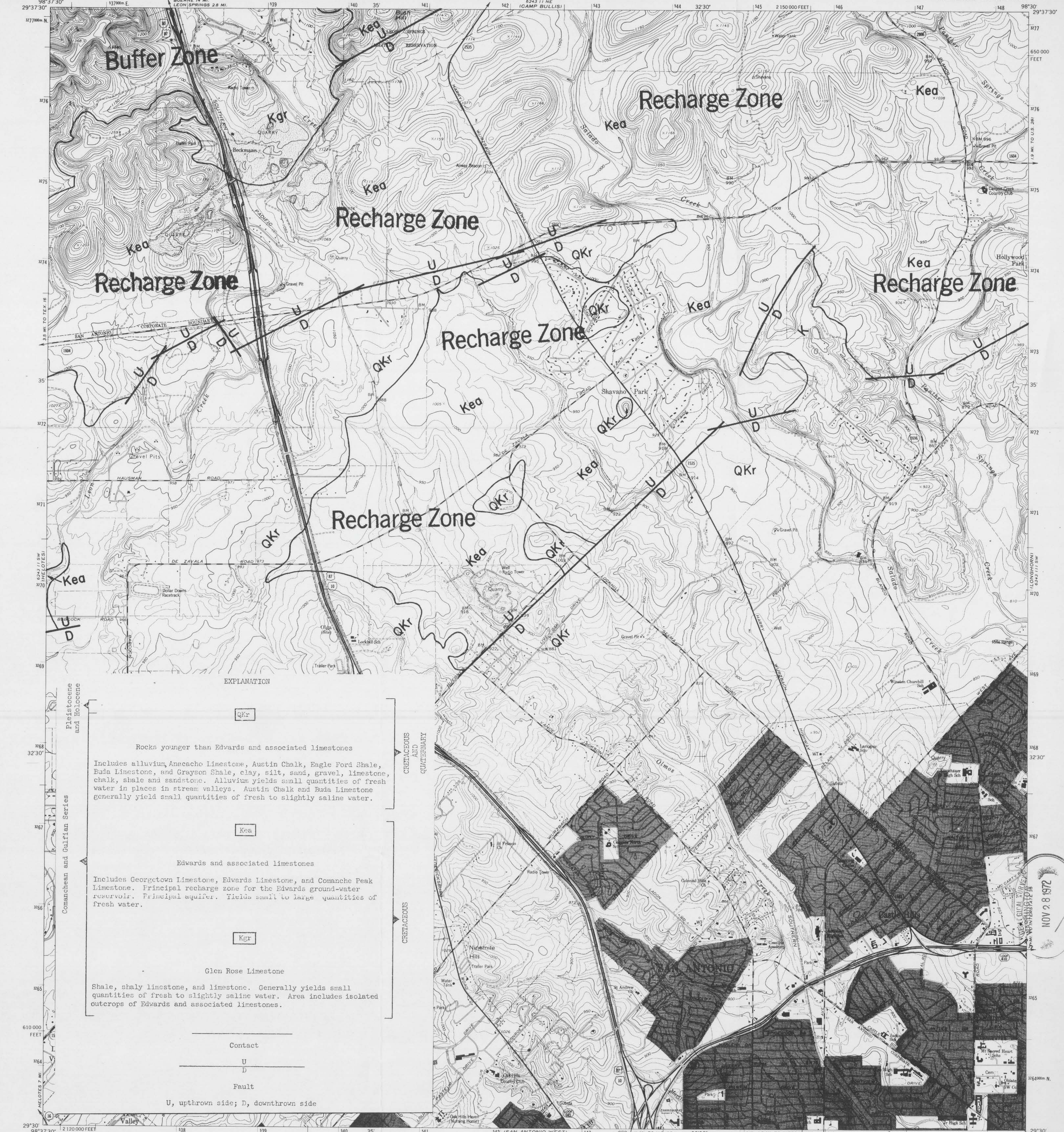
ROAD CLASSIFICATION
Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
Interstate Route — U.S. Route — State Route

THIS MAP COMPILED WITH NATIONAL MAP ACCURACY STANDARDS
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Texas (Bexar Co.) Ground water 1:24,000. 1972.
sheet 4,
cop. 1.

LONGHORN, TEX.
N2930-WR22.5/78
1967
AMS 8047-11 SW - SERIES 4802
M(200)
R290
no. 72-310
sheet 4 of 6
c. 1
open file

3 1818 00261472 3



EXPLANATION

qkr
Rocks younger than Edwards and associated limestones
Includes alluvium, Anacacho Limestone, Austin Chalk, Eagle Ford Shale, Buda Limestone, and Grayson Shale, clay, silt, sand, gravel, limestone, chalk, shale and sandstone. Alluvium yields small quantities of fresh water in places in stream valleys. Austin Chalk and Buda Limestone generally yield small quantities of fresh to slightly saline water.

Kea
Edwards and associated limestones
Includes Georgetown Limestone, Edwards Limestone, and Comanche Peak Limestone. Principal recharge zone for the Edwards ground-water reservoir. Yields small to large quantities of fresh water.

Kgr
Glen Rose Limestone
Shale, shaly limestone, and limestone. Generally yields small quantities of fresh to slightly saline water. Area includes isolated outcrops of Edwards and associated limestones.

Contact
U
D
Fault
U, upthrown side; D, downthrown side

Mapped by the Army Map Service
Edited and published by the Geological Survey
Control by USGS and USC&GS
Topography by photogrammetric methods from aerial photographs taken 1952. Field annotated 1953. Revised by Geological Survey from aerial photographs taken 1966. Field checked 1967
Polyconic projection. 1927 North American datum
10,000-foot grid based on Texas coordinate system, south central zone
1000-meter Universal Transverse Mercator grid ticks, zone 14, shown in blue
Red tint indicates areas in which only landmark buildings are shown
Fine red dashed lines indicate selected fence lines

SCALE 1:24,000
CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL
OPEN FILE MAP

Prepared by the U. S. Geological Survey
in cooperation with the
Edwards Underground Water District and the
Texas Water Development Board

ROAD CLASSIFICATION
Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
○ Interstate Route □ U. S. Route ○ State Route



CASTLE HILLS, TEX.
N2930-W9830/7.5
1967
AMS 6243 II SE-SERIES V882

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Texas (Bexar Co.) Groundwater. 1:24,000. 1972. sheet 5, cop. 1.

M(200) R290
no. 72-310
sheet 5 of 6
c.1
open file



EXPLANATION

Quaternary and alluvial series

Rocks younger than Edwards and associated limestones

Includes alluvium, Amoscho Limestone, Austin Chalk, Eagle Ford Shale, Bell Limestone, and Grayson Shale, clay, silt, sand, gravel, limestone, chert, shale and sandstone. Alluvium yields small quantities of fresh water in places in stream valleys. Austin Chalk and Bell Limestone generally yield small quantities of fresh to slightly saline water.

Edwards and associated limestones

Includes Georgetown Limestone, Edwards Limestone, and Comanche Peak Limestone. Principal recharge zone for the Edwards ground-water reservoir. Principal aquifer. Yields small to large quantities of fresh water.

Glen Rose Limestone

Shale, shaly limestone, and limestone. Generally yields small quantities of fresh to slightly saline water. Area includes isolated outcrops of Edwards and associated limestones.

Contact

U

Fault

U, upthrown side; D, downthrown side

UNMAPED AREA

Buffer Zone

Recharge Zone

Geological Labels: Kgr, Kea, QKr

Scale: SCALE 1:24,000

Contour Interval: 20 FEET

Dotted Lines: REPRESENT 100-FOOT CONTOURS

Datum: IS MEAN SEA LEVEL

OPEN FILE MAP

Prepared by the U.S. Geological Survey in cooperation with the Edwards Underground Water District and the Texas Water Development Board

ROAD CLASSIFICATION

Primary highway, hard surface

Secondary highway, hard surface

Light-duty road, hard or improved surface

Unimproved road

Interstate Route

U.S. Route

State Route

Map Information: Maped, edited, and published by the Geological Survey. Contour by photogrammetric methods from aerial photographs taken 1969. Field checked 1970. Polyconic projection. 1927 North American datum. 10,000-foot grid based on Texas coordinate system, south central zone. 1000-meter Universal Transverse Mercator grid ticks, zone 14, shown in blue. Fine red dashed lines indicate selected fence lines.

NOV 28 1972

Topography by photogrammetric methods from aerial photographs taken 1969. Field checked 1970.
Polyconic projection. 1927 North American datum.
10,000-foot grid based on Texas coordinate system, south central zone.
1000-meter Universal Transverse Mercator grid ticks, zone 14, shown in blue.
Fine red dashed lines indicate selected fence lines.

DIN DRÖ AND 1970 MAGNETIC NORTH
DECLINATION AT CENTERS OF LAKES

OPEN FILE MAP



SAN GERONIMO, TEX.

1920

AMS 6243 II DE-SERIES V880

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ROCKY MOUNTAIN REGION ENGINEER
U.S. GEOLOGICAL SURVEY
BLDG. 25, FEDERAL CENTER
DENVER, COLORADO 80225

SIGNATURE _____

Texas (Bexar Co.) Groundwater. 1970
 Sheet 6, M(200) 1-24,000. 1972
 TO: GROM ENGINEER

**M(200)
R29o**

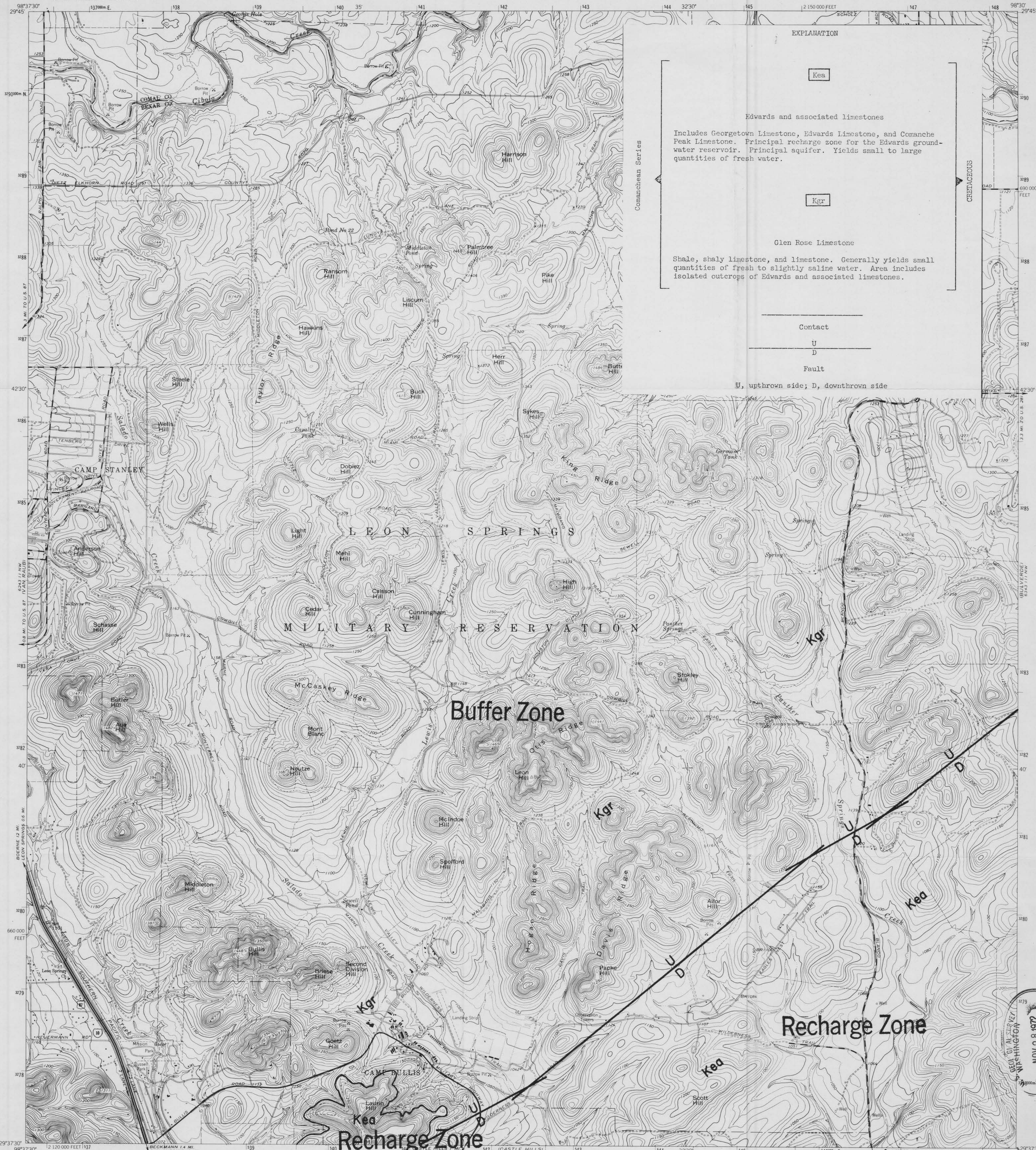
no. 72-310
sheet 6 of 6
S-1

~~000. 1923~~

1172.

3 1818

Note: Large-format versions of the original plates are on the following pages.



EXPLANATION

Kea

Edwards and associated limestones

Includes Georgetown Limestone, Edwards Limestone, and Comanche Peak Limestone. Principal recharge zone for the Edwards ground-water reservoir. Yields small to large quantities of fresh water.

Kgr

Glen Rose Limestone

Shale, shaly limestone, and limestone. Generally yields small quantities of fresh to slightly saline water. Area includes isolated outcrops of Edwards and associated limestones.

Contact

U

D

Fault

U, upthrown side; D, downthrown side

Map by the Army Map Service
Edited and published by the Geological Survey
Control by USGS, USC&GS, and USCE

Topography by photogrammetric methods from aerial photographs taken 1952. Field annotated 1953. Revised by Geological Survey from aerial photographs taken 1963. Field checked 1965.

Polyconic projection. 1927 North American datum
10,000-foot grid based on Texas coordinate system, south central zone
1000-meter Universal Transverse Mercator grid ticks, zone 14, shown in blue

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1965 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24,000

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

OPEN FILE MAP

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Prepared by the U.S. Geological Survey
in cooperation with the
Edwards Underground Water District and the
Texas Water Development Board

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
○ Interstate Route □ U.S. Route

QUADRANGLE LOCATION

CAMP BULLIS, TEX.
N2937 5-W9830/7.5

1965
AMS 6243 11 NE-SERIES V882

M(200)
R296
no. 72-310
sheet 1 of 6
C.1

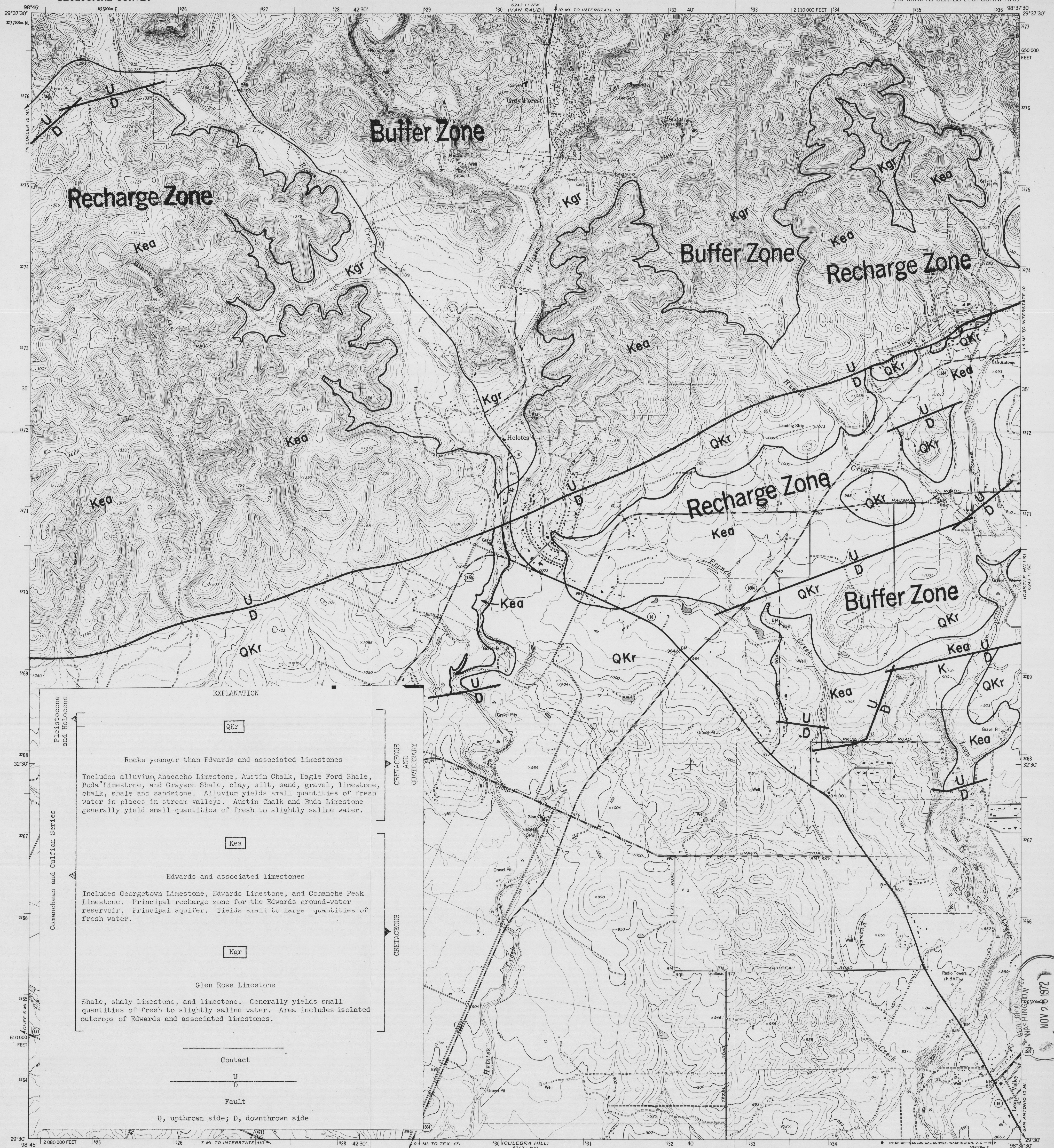
open file

TEXAS (Bexar Co.) Groundwater. 1:24,000. 1972.
sheet 1,
cop. 1.

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3 1818 00261469 9

BULVERDE QUADRANGLE
TEXAS
7.5 MINUTE SERIES (TOPOGRAPHIC)





EXPLANATION

Rocks younger than Edwards and associated limestones

Includes alluvium, Anacacho Limestone, Austin Chalk, Eagle Ford Shale, Buda Limestone, and Grayson Shale, clay, silt, sand, gravel, limestone, chalk, shale and sandstone. Alluvium yields small quantities of fresh water in places in stream valleys. Austin Chalk and Buda Limestone generally yield small quantities of fresh to slightly saline water.

Edwards and associated limestones

Includes Georgetown Limestone, Edwards Limestone, and Comanche Peak Limestone. Principal recharge zone for the Edwards ground-water reservoir. Principal aquifer. Yields small to large quantities of fresh water.

Glen Rose Limestone

Shale, shaly limestone, and limestone. Generally yields small quantities of fresh to slightly saline water. Area includes isolated outcrops of Edwards and associated limestones.

Contact

U
D

Fault

U, upthrown side; D, downthrown side

Mapped by the Army Map Service
Edited and published by the Geological Survey
Control by USGS, USC&GS, and USCE

Topography by photogrammetric methods from aerial photographs
taken 1952. Field checked 1953. Revised by Geological Survey
from aerial photographs taken 1966. Field checked 1966

Polyconic projection. 1927 North American datum
10,000-foot grid based on Texas coordinate system,
south central zone
1000-meter Universal Transverse Mercator grid ticks,
zone 14, shown in blue

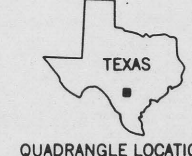
Fine red dashed lines indicate selected fence and field lines

UTM GRID AND 1966 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

OPEN FILE MAP

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in cooperation with the
Edwards Underground Water District and the
Texas Water Development Board



QUADRANGLE LOCATION

ROAD CLASSIFICATION
Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
○ State Route

HELOTES, TEX.
N2930-W9837.5/75

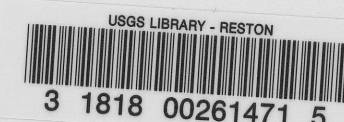
1966

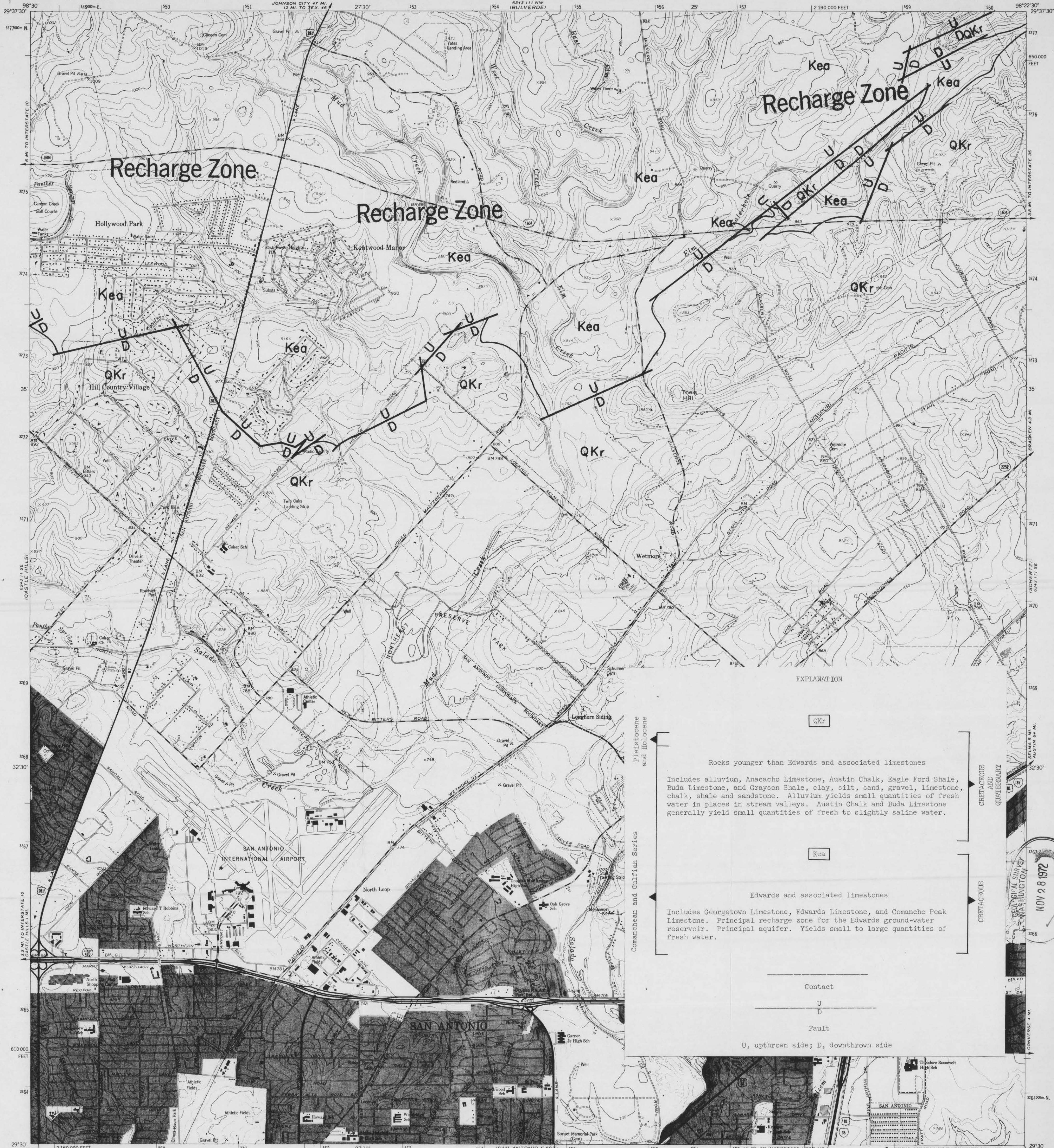
AMS 6243 II SW - SERIES V882

M(200)
R290

no. 72-310
sheet 3 of 6
c.1

open file





EXPLANATION

QKr

Rocks younger than Edwards and associated limestones

Includes alluvium, Anacacho Limestone, Austin Chalk, Eagle Ford Shale, Buda Limestone, and Grayson Shale, clay, silt, sand, gravel, limestone, chalk, shale and sandstone. Alluvium yields small quantities of fresh water in places in stream valleys. Austin Chalk and Buda Limestone generally yield small quantities of fresh to slightly saline water.

Kea

Edwards and associated limestones

Includes Georgetown Limestone, Edwards Limestone, and Comanche Peak Limestone. Principal recharge zone for the Edwards ground-water reservoir. Yields small to large quantities of fresh water.

Contact

U
D

Fault

U, upthrown side; D, downthrown side

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
○ Interstate Route ○ U.S. Route ○ State Route

LONGHORN, TEX.
N2930-W9822.5/7.5

1967

AMS 6343 III SW - SERIES V882

Maped by the Army Map Service
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Control by USGS, USC&GS, and USCE
Topography by photogrammetric methods from aerial photographs
taken 1952. Field annotated 1953. Revised by Geological Survey
from aerial photographs taken 1966. Field checked 1967
Polyconic projection. 1927 North American datum
10,000-foot grid based on Texas coordinate system, south central zone
1000-meter Universal Transverse Mercator grid ticks,
zone 14, shown in blue
Red tint indicates areas in which only landmark buildings are shown
Fine red dashed lines indicate selected fence lines

UTM GRID AND 1967 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

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in cooperation with the
Edwards Underground Water District and the
Texas Water Development Board



QUADRANGLE LOCATION

Texas (Bexar Co.) Ground water 1:24,000. 1972.
sheet 4,
cop. 1.



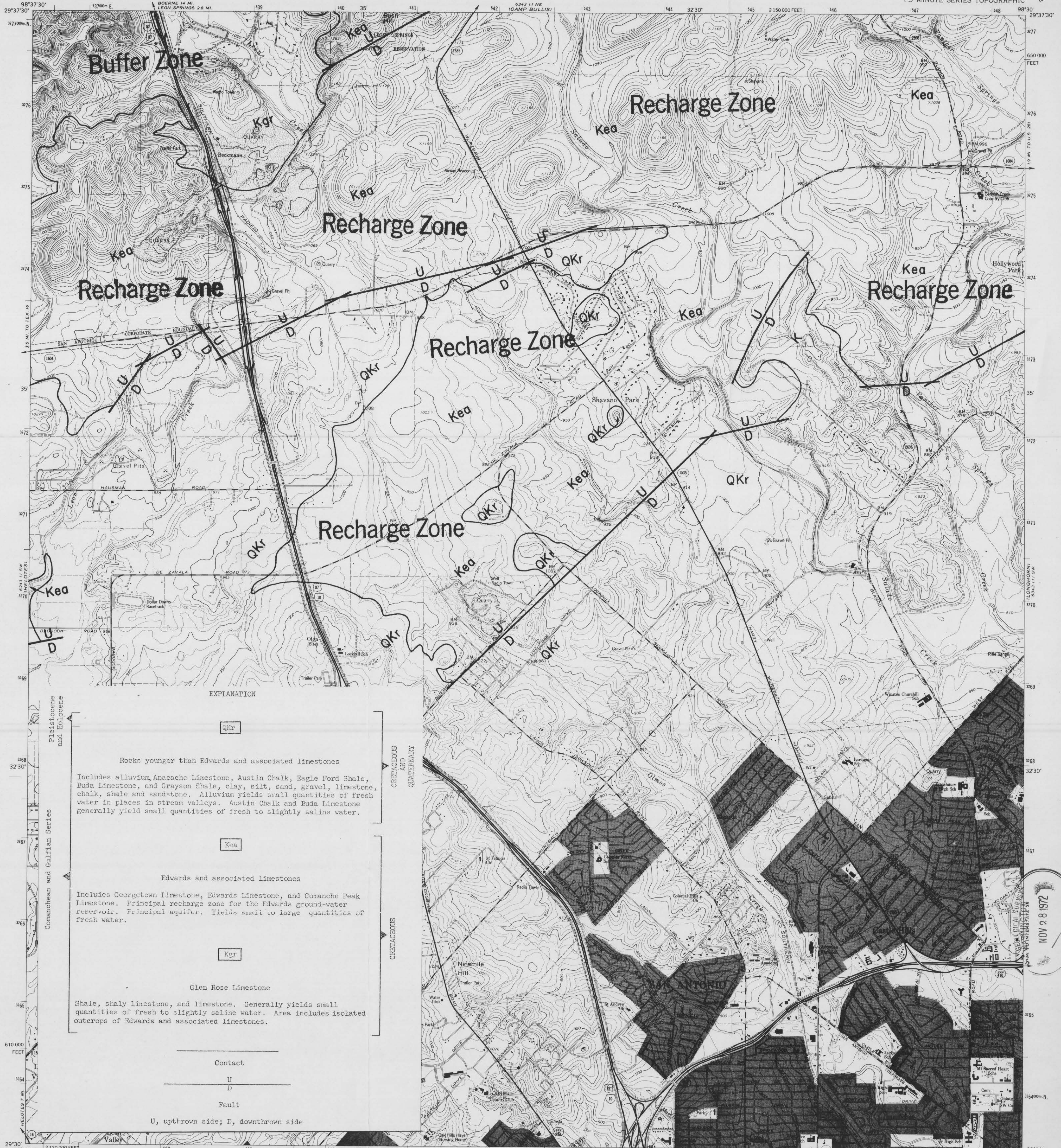
M(200)
R296
no. 72-310
sheet 4 of 6
c.p.

open file

MAPS SHOWING OUTCROPS OF THE EDWARDS AND ASSOCIATED LIMESTONES IN THE PRINCIPAL RECHARGE AREA OF
THE EDWARDS AQUIFER IN BEXAR COUNTY, TEXAS: SHEET 5, CASTLE HILLS QUADRANGLE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CASTLE HILLS QUADRANGLE
TEXAS-BEXAR CO.
7.5 MINUTE SERIES TOPOGRAPHIC



Rocks younger than Edwards and associated limestones
Includes alluvium, Anacacho Limestone, Austin Chalk, Eagle Ford Shale, Buda Limestone, and Grayson Shale, clay, silt, sand, gravel, limestone, chalk, shale and sandstone. Alluvium yields small quantities of fresh water in places in stream valleys. Austin Chalk and Buda Limestone generally yield small quantities of fresh to slightly saline water.

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Glen Rose Limestone
Shale, shaly limestone, and limestone. Generally yields small quantities of fresh to slightly saline water. Area includes isolated outcrops of Edwards and associated limestones.

Contact

U

D

Fault

U, upthrown side; D, downthrown side

Maped by the Army Map Service

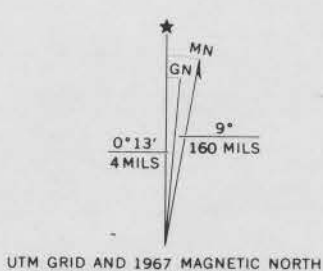
Edited and published by the Geological Survey
Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1952. Field annotated 1953. Revised by Geological Survey from aerial photographs taken 1966. Field checked 1967

Polyconic projection. 1927 North American datum
10,000-foot grid based on Texas coordinate system,
south central zone
1000-meter Universal Transverse Mercator grid ticks,
zone 14, shown in blue

Red tint indicates areas in which only landmark buildings are shown

Fine red dashed lines indicate selected fence lines



SCALE 1:24,000
CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

OPEN FILE MAP

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Prepared by the U.S. Geological Survey
in cooperation with the
Edwards Underground Water District and the
Texas Water Development Board



QUADRANGLE LOCATION

ROAD CLASSIFICATION
Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
○ Interstate Route □ U.S. Route ○ State Route

CASTLE HILLS, TEX.
N2930-W9830/7.5

1967
AMS 6243 II SE-SERIES V882

M(200)
R290

no. 72-310
sheet 5 of 6
c.1



open file

MAPS SHOWING OUTCROPS OF THE EDWARDS AND ASSOCIATED LIMESTONES IN THE PRINCIPAL RECHARGE AREA OF
THE EDWARDS AQUIFER IN BEXAR COUNTY, TEXAS: SHEET 6, SAN GERONIMO QUADRANGLE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ADVANCE PROOF
SUBJECT TO CORRECTION
SCALE 1:24,000
F

SAN GERONIMO QUADRANGLE
TEXAS
7.5 MINUTE SERIES (TOPOGRAPHIC)

