

Considered: _____

WATER PERMIT NO. 2065-2

HAP No. same 775-2692

Name of Applicant City of Burke

Post Office Address 10th & Main, PO Box 312, Burke SD 57523

Amount of Water Claimed 0.44 cfs Total Acres NA

Source of Water Supply ground water - 2 wells

Water to be used for municipal County Gregory

About _____ miles _____ of S of Burke.

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved 1/25/89 Subject to _____

F.F. & C.L. Adopted _____ Not Approved _____ Deferred _____

PRIORITY _____ Date Received Dec 21, 1988 Fee \$250⁰⁰ Remarks _____

12/21/88

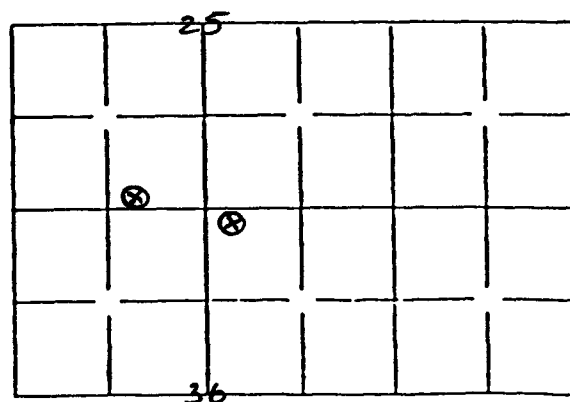
Corrected Application Received _____ Period of Annual Use Jan 1 - Dec 31

WATER QUALITY APPROVAL RECEIVED NA APPROVED/CONDITIONAL (Circle one)

WI-1 Description same as Application YES _____ NO _____ REMARKS _____

Diversion Point 2 wells: NW 1/4 NE 1/4 section 36;
SE 1/4 SW 1/4 section 25; all in T97N-R72W

Land to be Irrigated NA



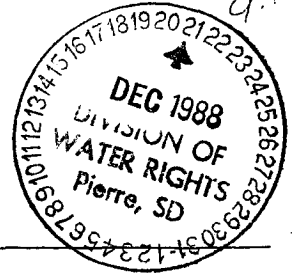
Well Log: Driller Geological Survey (test holes) Licensed YES _____ NO _____

Depth of Well _____ REMARKS _____

Type of Map aerial photo PREPARED BY Donald S. ASCS Reviewed and the Number assigned on Dec. 21, 1988 By Ron Duvall

523 E. Capitol
Pierre, SD 57501
(605) 773-3352No. 2015-2 Hydrologic Unit _____
Map No. _____ Basin _____
Newspaper _____**Application For Permit To Appropriate Water Within The State Of South Dakota**Check use of water: Industrial ☐ Commercial ☐ Municipal ☒ Other Common Distribution System ☐
Rural Water System ☐ Suburban Housing ☐ Geothermal Heat ☐ Institutional ☐ Recreational ☐
Domestic ☐ (above 18gpm) Other ☐

Type of Application: Check one or more of the following

New ☒ Vested Right ☐ Future Use ☐ Change Use ☐☐ Amend Permit No. _____ with old priority date retainedChange diversion point(s) ☐ Add diversion point(s) ☐ Other ☐☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. _____☒ Construction to use water reserved by Future Use Permit No. 1800-2X1. Name of Applicant City of Burke Phone No. 775-2692Post Office Address 10th & Main PO Box 312 Burke State SD Zip Code 57523
(Street, RR or Box) (City)2. Amount of water claimed (c.f.s) -22-C.F.S. 0.44-100-GPM 200 GPM3. Source of water supply Ground water wells (2)4. Location of point of diversion NW 1/4 NE 1/4 36
Section 35, Township 97 North, Range 72 West of the
5th P.M.; SE 1/4 SW 1/4 Section 25-T97N-R72WGregory County SD5. Counties where water will be used Gregory County6. Annual period during which water is to be used -Yearly- January 1 - December 31

7. Give a brief description of proposed project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

The City of Burke, Well #5 developed iron bacteria in 1986; Well #7 for the city will replace #5. The City of Burke had the Geological Survey of Vermillion, SD drill 8 test holes in the fall of 1988 for quality of ground water and water-bearing material.

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map (see instruction)

STATE OF SOUTH DAKOTA)
County of Gregory)^{ss}I, Richard N. Bailey the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.Signed Richard N. BaileySubscribed and sworn to before me this 19th day of December 1988Nancy Pochop
Notary Public

My commission expires: 10-19-91

**SOUTH DAKOTA
WATER PERMIT** No. 2065-2

Date of first receipt of application December 21, 1988

Date of return to applicant for correction, amendments or changes required December 21, 1988

Date of receipt of corrected application December 22, 1988

The Water Management Board approved Water Permit Application No. 2065-2

on January 25, 1989 for the City of Burke

10th & Main, PO Box 312 Burke SD 57523
(Street, RR or Box) (City) (State) (Zip Code)

authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 2065-2 appropriates 0.44 cubic feet of water per second from two wells (Ogallala Aquifer) 160 feet deep to be located in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 36; SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 25; both in T97N-R72W.
2. The water appropriated shall be used for the purpose of supplying the City of Burke
and may not exceed the amount of water needed for beneficial use for municipal purposes
3. The water is to be used during the following described annual period: January 1 - December 31
4. The date from which applicant may claim the right is December 21, 1988
5. One-fifth of the construction is to be completed on or before July 25, 1991
6. All construction is to be completed on or before January 25, 1994
7. Water is to be put to beneficial use on or before January 25, 1998
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The wells authorized by Permit No. 2065-2 shall be constructed by a licensed well driller and construction shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted with cement (bottom to top) from the producing formation to the surface pursuant to Section 74:02:04:30.
2. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

WATER MANAGEMENT BOARD

By: 
Chief Engineer

MAR 10 1989

Division of Water Rights
Dept. of Water and Natural Resources

Supplemental Information

(type or print in ink)

1. Well Information - Proposed construction

- a) Drill Hole Diameter 36 in. Depth 160 ft.
- b) Casing Type steel Diameter 16 in. Thickness .05 in.
- c) Screen Type Stainless steel Diameter 6 in. Thickness .03 in.
- d) Gravel Pack Thickness 20 in. Length of Gravel Pack 66 FT.
- e) Depth to Top of Water Bearing Material 66 FT.
- f) Depth to Water (ground surface to water level) 94 FT.
- g) Distance to nearest existing domestic well:
 On applicants property 712 FT. On property owned by others 4000 FT.

2. Dugout Information Estimates

- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

3. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below. The locations of each dam should be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam please give their name and address

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____
 If Pipe, diameter _____

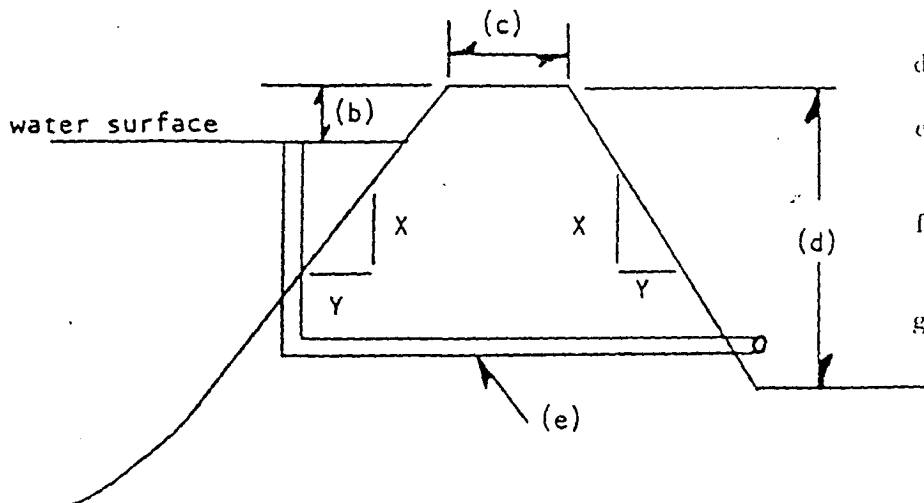
f) Secondary Spillway Capacity _____
 Spillway width _____

g) X & Y Slope
 Upstream _____
 Downstream _____

Surface Area of Impoundment _____

Storage _____ acre feet

Drainage area above dam _____



Richard N. Bailey
 Signature of Applicant

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

411582

Pierre, December 22, 1988

RECEIVED OF City of Burke, PO Box 312, Burke SD

the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>2065-2</u> to Appropriate Water, to construct works and to put water to beneficial use _____	25	00
Fee for Application for Permit No. _____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	25 00

By

Chief Engineer

John Hatch
KS

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

411557

Pierre, December 21, 19 88

RECEIVED OF City of Burke, PO Box 312, Burke SD

the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. 2065-2 to Appropriate Water, to construct works and to put water to beneficial use	225	00
Fee for Application for Permit No. to Appropriate Water for Future Use		
Fee to retain Future Use Permit No. after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No.		
Fee for Filing Transfer Form		
Fee for Filing Extension Request		
Fee for Certified Copy of		
Fee for Print Copy of Map		
Fee for Certifying		
Fee for		
(Any Other Work Provided by Law)	Total	225 00

By

John Hatfield
Chief Engineer

Conversation or File Documentation

NAME OF PERSON OR FILE: Richard Bailey - City of BurkeADDRESS: PO Box 312, Burke SD 57523 COUNTY GregoryDATE: Dec 21, 1988 TELEPHONE _____RE: Revisions to application for water permit

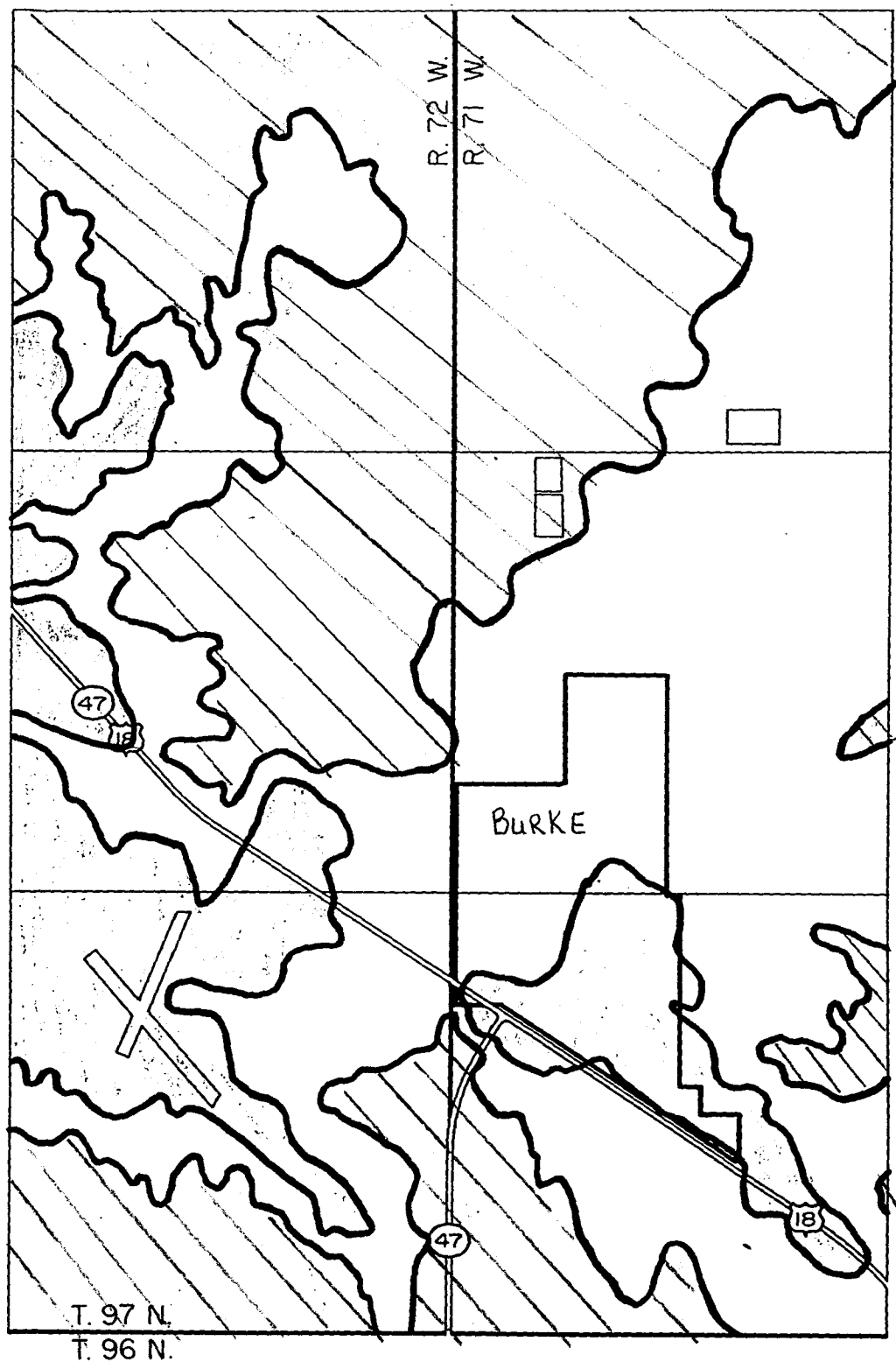
COMMENTS:

Contacted Richard Bailey regarding a water permit application received Dec. 21, 1988. I informed Mr. Bailey that the location of the proposed well was not located within the future use area described on Permit No. 1660-2. Mr. Bailey was not aware of this and indicated that the request to develop reserved water could be deleted. I explained to Mr. Bailey that the priority date from the future use permit could not be used -- he understood a new priority would be assigned if the permit is approved.

Mr. Bailey also wanted to increase the number of wells from one to two and the water claimed from 100 to 200 gpm. Mr. Bailey stated the second well is to be located in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ section 25-T97N-R72W (approx. 1000 feet W of intersection of county road and highway). I informed Mr. Bailey an additional \$25⁰⁰ fee was required to increase the diversion rate. Mr. Bailey stated it would be mailed today and I could make the necessary corrections to the map and application.

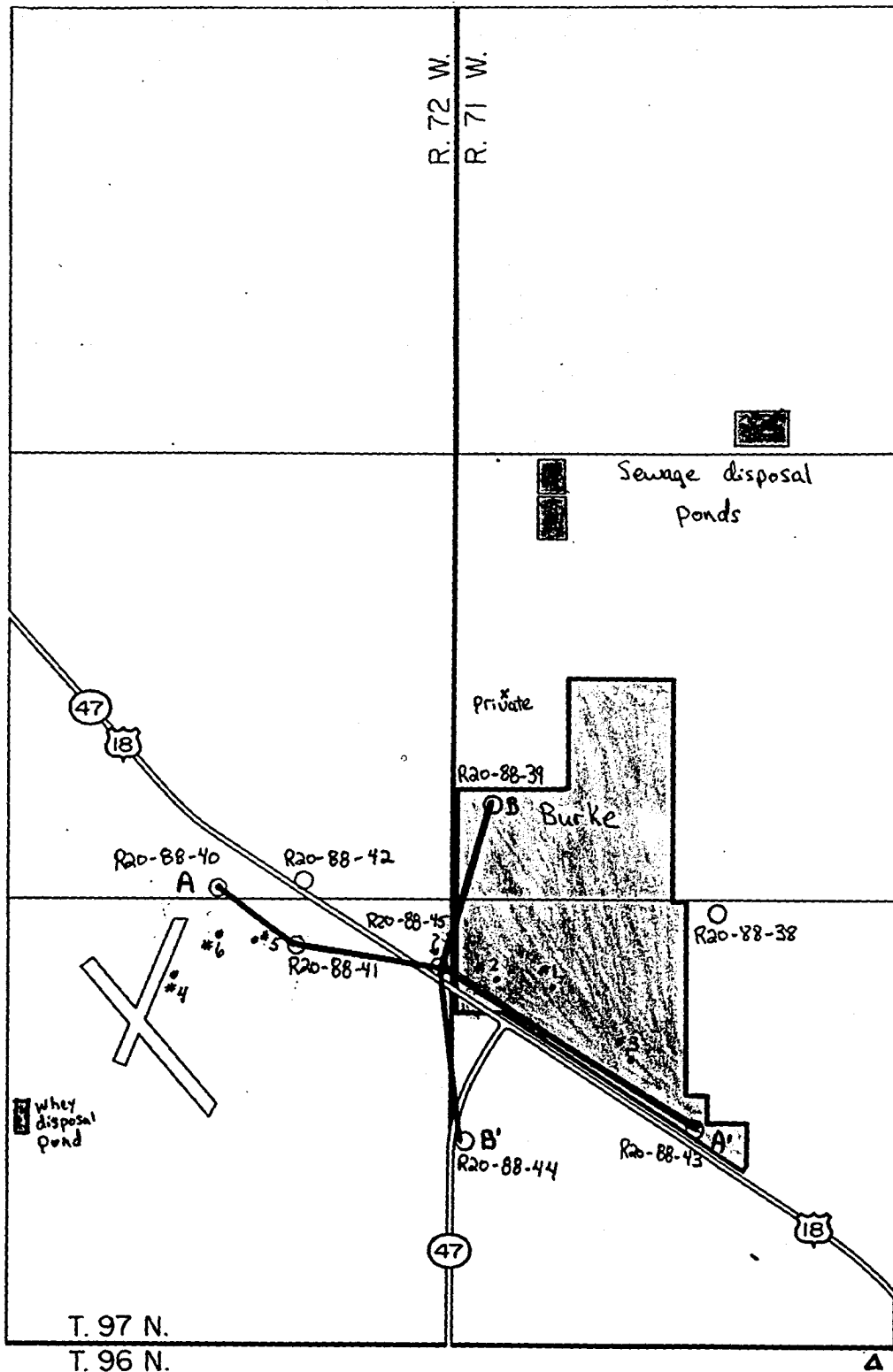
File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME: Ron L. Unwall



Geologic Map of the Burke Area

-  Herrick Formation - coarse fluvial arkosic sands
-  Ash Hollow Formation - fine arkosic sand/sandstone
-  Valentine Formation - fine to very fine arkosic sand; clayey



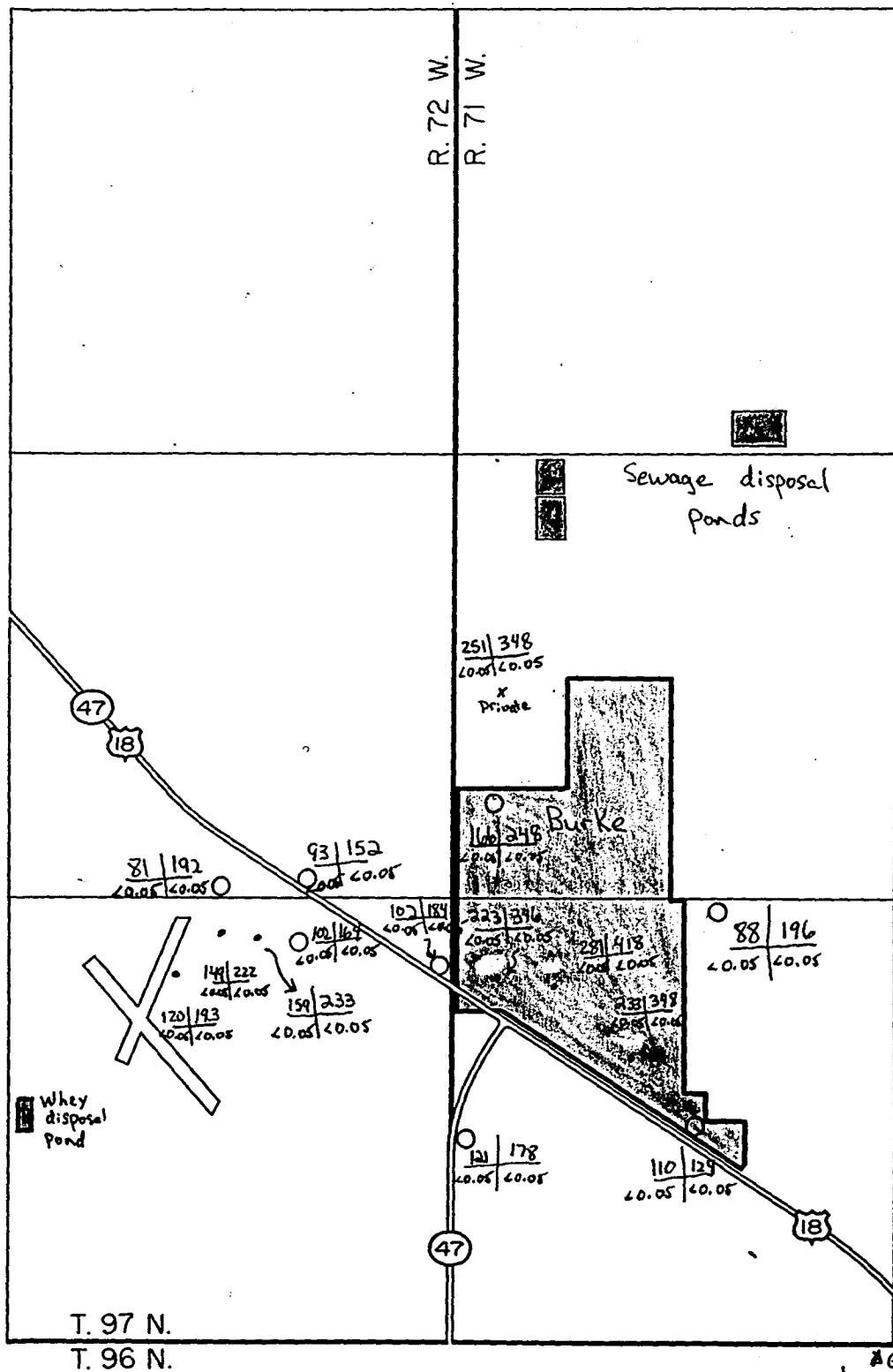
Location of observation wells - Burke area,
and geologic cross-sections.

OSDGS observation well - number indicates well id #

#4 city production well

△ Water Rights well

A Q A' Lines of cross-section



Water quality - Burke area

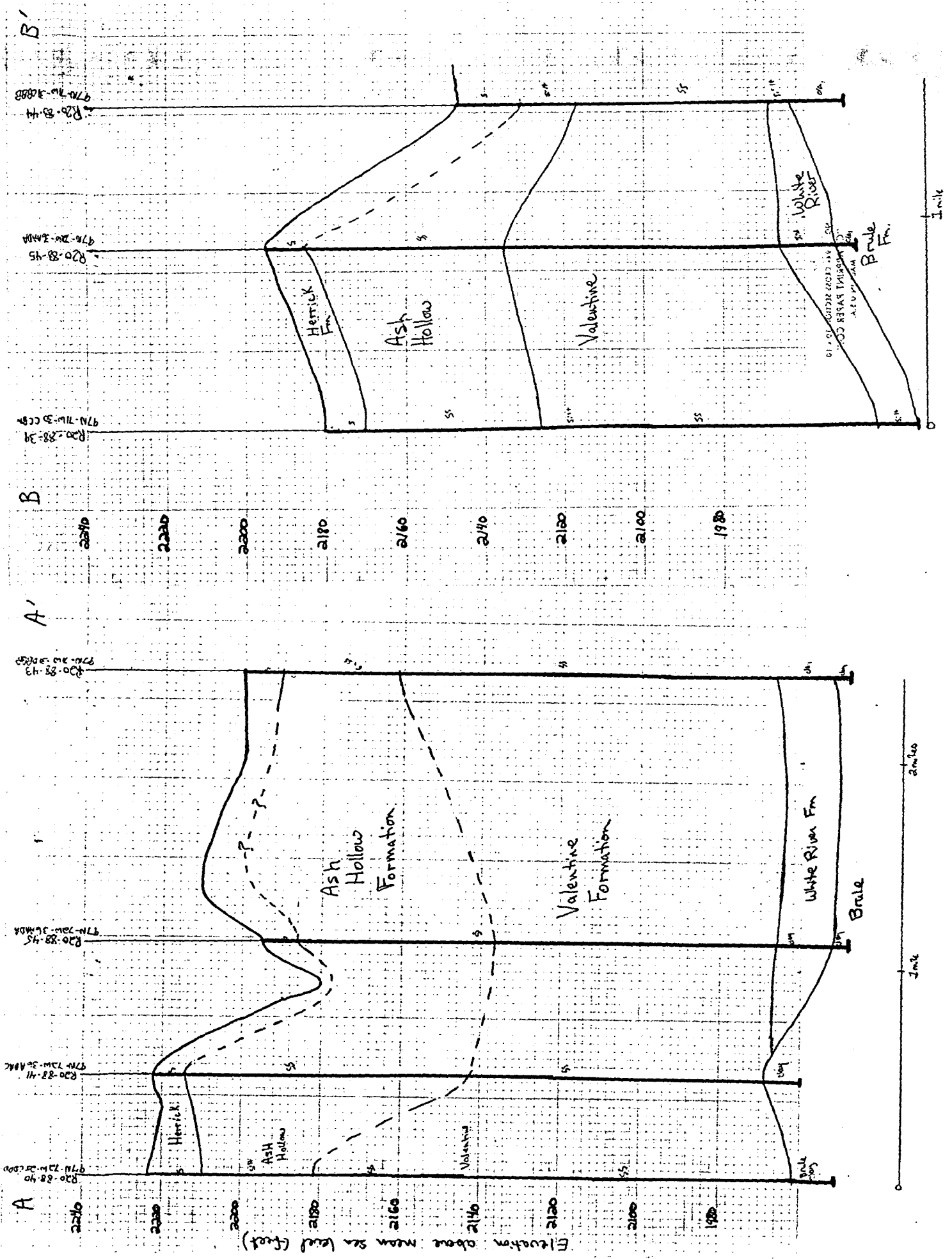
- OSDGS ob. well
- *6 city production well
- Δ Water Rights well

Hardness	TDS
Fe	Mn

Table 1. Chemical analyses of water samples, Burke area

Concentrations Reported in Parts Per Million (PPM)

Legal Location	Well Identification Number	Date of Collection	Aquifer	Well Depth	Conductivity, micromhos per centimeter	Total Dissolved solids, residue at 180 C	Hardness (CaCO ₃)	Iron (Fe)	Manganese (Mn)	Sulfate (SO ₄)	Nitrate-Nitrogen (NO ₃ -N)	Sodium (Na)	Calcium (Ca)	Magnesium (Mg)	Chloride (Cl)	Fluoride (F)	Alkalinity (Alk)
96N-71W-06AAAA	GY-78A	08-25-88	Ogallala	124.5	303	219	134	<0.05	<0.05	5	3.46	9.4	42	7	3	0.31	143
97N-71W-30CCBA	R20-88-39	08-31-88	Ogallala	148	354	248	166	<0.05	<0.05	20	0.90	7.7	55	7	3	0.26	167
97N-71W-31ABBA	R20-88-38	08-24-88	Ogallala	160.75	288	196	88	<0.05	<0.05	8	1.30	26	27	5	2	0.46	138
97N-71W-31CBBB	R20-88-44	09-01-88	Ogallala	98	275	178	121	<0.05	<0.05	3	1.15	8.9	37	7	2	0.22	142
97N-71W-31DBBB	R20-88-43	09-07-88	Ogallala	154	265	124	110	<0.05	<0.05	4	1.33	14	34	6	2	0.28	130
97N-72W-25CDDD	R20-88-40	09-06-88	Ogallala	174	277	192	81	<0.05	<0.05	4	1.39	28	24	5	2	0.41	137
97N-72W-25DCDC	R20-88-42	09-07-88	Ogallala	125	257	152	93	<0.05	<0.05	3	1.23	18	29	5	1	0.31	130
97N-72W-36AADA	R20-88-45	09-07-88	Ogallala	149	270	184	102	<0.05	<0.05	5	1.52	18	31	6	2	0.38	133
97N-72W-36ABAC	R20-88-41	09-01-88	Ogallala	163	248	164	102	<0.05	<0.05	4	1.60	10	31	6	2	0.22	121
97N-71W-31BBCA	City #2	08-01-88	Ogallala	148	498	346	223	<0.05	<0.05	18	10.6	11	73	10	10	0.20	186
97N-71W-31BBDD	City #1	08-01-88	Ogallala	146	649	418	281	<0.05	<0.05	20	7.66	29	91	13	11	0.20	285
97N-71W-31BDAC	City #3	08-01-88	Ogallala	150	508	348	233	<0.05	<0.05	19	8.40	12	75	11	11	0.24	200
97N-72W-36ABBD	City #5	08-01-88	Ogallala	159	343	233	159	<0.05	<0.05	6	1.42	8.4	52	7	4	0.18	169
97N-72W-36BAAD	City #6	08-02-88	Ogallala	158	326	222	149	<0.05	<0.05	5	1.76	7.7	48	7	1	0.20	161
97N-72W-36BACA	City #4	08-02-88	Ogallala	152	262	193	120	<0.05	<0.05	6	2.46	6.3	38	6	1	0.20	128
97N-71W-30CBBA	Private	08-02-88	Ogallala	86.6	543	348	251	<0.05	<0.05	17	8.36	13	89	7	4	0.22	236



COUNTY: GREGORY LOCATION: 097N-71W-30CCBA
MAP LOCATION: 1
LEGAL LOCATION: NE NW SW SW SEC. 30, T. 097 N., R. 71 W.
LATITUDE: 43.1113 LONGITUDE: 99.1508
LAND OWNER:
PROJECT: BURKE CITY STUDY-1988
DRILLING COMPANY: SDGS
DRILLER: B. JENSEN DRILLER'S LOG:
GEOLOGIST: P. DAWSON GEOLOGIST'S LOG: X
DATE DRILLED: 08-24-1988 DRILLING METHOD: ROTARY
GROUND SURFACE ELEVATION: 2180.01 I
TOTAL DRILL HOLE DEPTH: 148.0 TEST HOLE NUMBER: R20-88-39
WATER RIGHTS WELL: SDGS WELL NAME: R20-88-39
OTHER WELL NAME:
BASIN: MISSOURI AQUIFER: DBALLALA
MANAGEMENT UNIT:
SCREEN TYPE: PVC, MFG. SCREEN LENGTH: 10.0
CASING TYPE: PVC CASING DIAMETER: 2.0
CASING TOP ELEVATION: 2181.40 I
CASING STICK-UP: 1.39 TOTAL CASING AND SCREEN: 149.5
WELL MAINTENANCE DATE:
USGS HYDROLOGICAL UNIT CODE: 10140101
ELECTRIC LOG INFORMATION:
SPONTANEOUS POTENTIAL: SINGLE POINT RESISTIVITY: X
NATURAL GAMMA: X EXTRA:
SAMPLES:

40 FEET OF BLANK CASING (OPEN TO SCREEN) FROM
148 TO 108 FEET, SCREENED FROM 108 TO 98 FEET.
BLANK CLOSED AT BOTTOM AND USED AS RESERVOIR.

0	-	3.0	TOPSOIL, BLACK TO DARK-BROWN
3.0	-	10.0	SAND, TAN, VERY FINE TO FINE, SILTY, PEBBLY (HERRICK FORMATION)
10.0	-	32.0	SAND, TAN, FINE, VERY CLAYEY (ASH HOLLOW FORMATION)
32.0	-	51.0	SAND AND SANDSTONE, LIGHT-BROWN, VERY FINE TO FINE, SILTY; CALCAREOUS (ASH HOLLOW FORMATION)
51.0	-	64.0	SILT, TAN, CLAYEY, SANDY; CALCAREOUS
64.0	-	68.0	CLAY, BROWN, SANDY
68.0	-	117.0	SANDSTONE, TAN, VERY FINE TO FINE, SILTY, CLAYEY; CALCAREOUS (VALENTINE FORMATION)
117.0	-	133.0	SILT, TAN, CLAYEY, SANDY; CALCAREOUS (WHITE RIVER GROUP?)
133.0	-	148.0	CLAY, BROWN TO RED-BROWN, SILTY, SANDY; CALCAREOUS (BRULE FORMATION)

COUNTY: GREGORY

LOCATION: 097N-71W-31ABBA 1

MAP LOCATION: 2

LEGAL LOCATION: NE NW NW NE SEC. 31, T. 097 N., R. 71 W.

LATITUDE: 43.1100

LONGITUDE: 99.1703

LAND OWNER:

PROJECT: BURKE CITY STUDY-1988

DRILLING COMPANY: SDGS

DRILLER: G. JENSEN

DRILLER'S LOG:

GEOLOGIST: P. DAWSON

GEOLOGIST'S LOG: X

DATE DRILLED: 08-23-1988

DRILLING METHOD: HOLLOWSTEM

GROUND SURFACE ELEVATION: 2210.00 T

TOTAL DRILL HOLE DEPTH: 52.0

TEST HOLE NUMBER: R20-88-37

USGS HYDROLOGICAL UNIT CODE: 10140101

ELECTRIC LOG INFORMATION:

SPONTANEOUS POTENTIAL:

SINGLE POINT RESISTIVITY:

NATURAL GAMMA: X

EXTRA:

SAMPLES:

0	-	3.0	TOPSOIL, BLACK TO DARK-BROWN
3.0	-	12.0	SAND, BROWN, COARSE, PEBBLY, SUBANGULAR (HERRICK FORMATION)
12.0	-	17.0	SAND, TAN TO LIGHT-GREEN, MEDIUM TO FINE ARKOSIC SAND; CEMENTED, VERY CALCAREOUS, SOME CLAY (ASH HOLLOW FORMATION)
17.0	-	26.0	SAND AND SANDSTONE, TAN, FINE; VERY CEMENTED (ASH HOLLOW FORMATION)
26.0	-	52.0	SAND AND SANDSTONE, LIGHT-TAN TO GREENISH TO LIGHT-BROWN, COLOR CHANGES WITH DEPTH, FINE SAND; UPPER 2 FEET NONCALCAREOUS, 29 TO 52 FEET VERY HARD AND VERY CALCAREOUS, CLAY 34 TO 37 FEET (ASH HOLLOW FORMATION)

HOLE ABANDONED AT 52 FEET, COULD NOT AUGER THROUGH
SANDSTONE MATERIAL.

COUNTY: GREGORY LOCATION: 097N-71W-31ABBA 2
 MAP LOCATION: 3
 LEGAL LOCATION: NE NW NW NE SEC. 31, T. 097 N., R. 71 W.
 LATITUDE: 43.1100 LONGITUDE: 99.1703
 LAND OWNER:
 PROJECT: BURKE CITY STUDY-1988
 DRILLING COMPANY: SDGS
 DRILLER: G. JENSEN DRILLER'S LOG:
 GEOLOGIST: P. DAWSON GEOLOGIST'S LOG: X
 DATE DRILLED: 08-23-1988 DRILLING METHOD: ROTARY
 GROUND SURFACE ELEVATION: 2211.24 I
 TOTAL DRILL HOLE DEPTH: 187.0 TEST HOLE NUMBER: R20-88-38
 WATER RIGHTS WELL: SDGS WELL NAME: R20-88-38
 OTHER WELL NAME:
 BASIN: MISSOURI AQUIFER: OGALLALA
 MANAGEMENT UNIT:
 SCREEN TYPE: PVC, MFG. SCREEN LENGTH: 10.0
 CASING TYPE: PVC CASING DIAMETER: 2.0
 CASING TOP ELEVATION: 2212.64 I
 CASING STICK-UP: 1.41 TOTAL CASING AND SCREEN: 161.5
 WELL MAINTENANCE DATE:
 USGS HYDROLOGICAL UNIT CODE: 10140101
 ELECTRIC LOG INFORMATION:
 SPONTANEOUS POTENTIAL: SINGLE POINT RESISTIVITY: X
 NATURAL GAMMA: X EXTRA:
 SAMPLES:

0	-	3.0	TOPSOIL, BLACK TO DARK-BROWN
3.0	-	27.0	SAND, TAN TO GREENISH-TAN, MEDIUM, PEBBLY; CALCAREOUS (HERRICK FORMATION)
27.0	-	54.0	SAND, TAN TO GREENISH-TAN, MEDIUM TO FINE; CALCAREOUS (ASH HOLLOW FORMATION)
54.0	-	88.0	SAND, TAN, FINE TO MEDIUM, SOMEWHAT CLAYEY; NONCALCAREOUS (VALENTINE FORMATION)
88.0	-	155.0	SAND, BROWN, VERY FINE TO FINE; CLEAN (VALENTINE FORMATION)
155.0	-	161.0	SILT, BROWN TO PINKISH-BROWN, CLAYEY (WHITE RIVER GROUP?)
161.0	-	187.0	CLAY, BROWN TO RED-BROWN, SANDY (BRULE FORMATION)

COUNTY: GREGORY LOCATION: 097N-71W-31CBBB
MAP LOCATION: 4
LEGAL LOCATION: NW NW NW SW SEC. 31, T. 097 N., R. 71 W.
LATITUDE: 43.1034 LONGITUDE: 99.1515
LAND OWNER:
PROJECT: BURKE CITY STUDY-1988
DRILLING COMPANY: SDGS
DRILLER: G. JENSEN DRILLER'S LOG:
GEOLOGIST: K. WILKIE/P. DAWSON GEOLOGIST'S LOG: X
DATE DRILLED: 08-30-1988 DRILLING METHOD: ROTARY
GROUND SURFACE ELEVATION: 2146.54 I
TOTAL DRILL HOLE DEPTH: 97.0 TEST HOLE NUMBER: R20-88-44
WATER RIGHTS WELL: SDGS WELL NAME: R20-88-44
OTHER WELL NAME:
BASIN: PONCA AQUIFER: OGALLALA
MANAGEMENT UNIT:
SCREEN TYPE: PVC, MFG. SCREEN LENGTH: 10.0
CASING TYPE: PVC CASING DIAMETER: 2.0
CASING TOP ELEVATION: 2148.34 I
CASING STICK-UP: 1.80 TOTAL CASING AND SCREEN: 99.0
WELL MAINTENANCE DATE:
USGS HYDROLOGICAL UNIT CODE: 10150001
ELECTRIC LOG INFORMATION:
SPONTANEOUS POTENTIAL: SINGLE POINT RESISTIVITY: X
NATURAL GAMMA: X EXTRA:
SAMPLES:

20 FEET OF BLANK CASING (OPEN TO SCREEN) FROM 97
TO 77 FEET, SCREENED FROM 77 TO 67 FEET.
BLANK CLOSED AT BOTTOM AND USED AS RESERVOIR.

0	-	3.0	TOPSOIL, BLACK TO DARK-BROWN
3.0	-	18.0	SAND, TAN, FINE TO COARSE, PEBBLY; NONCALCAREOUS (HERRICK FORMATION)
18.0	-	35.0	SAND, TAN, FINE, SILTY, CLAYEY; NONCALCAREOUS (ASH HOLLOW FORMATION)
35.0	-	79.0	SANDSTONE, TAN, VERY FINE TO FINE, SILTY; SLIGHTLY CALCAREOUS (VALENTINE FORMATION)
79.0	-	86.0	SILT, TAN, CLAYEY, SANDY; NONCALCAREOUS (WHITE RIVER GROUP?)
86.0	-	97.0	CLAY, RED TO RED-BROWN, SANDY (BRULE FORMATION)

COUNTY: GREGORY LOCATION: 097N-71W-31DBBB
MAP LOCATION: 5
LEGAL LOCATION: NW NW NW SE SEC. 31, T. 097 N., R. 71 W.
LATITUDE: 43.1034 LONGITUDE: 99.1711
LAND OWNER:
PROJECT: BURKE CITY STUDY-1988
DRILLING COMPANY: SDGS
DRILLER: B. JENSEN DRILLER'S LOG:
GEOLOGIST: K. WILKIE/P. DAWSON GEOLOGIST'S LOG: X
DATE DRILLED: 08-30-1988 DRILLING METHOD: ROTARY
GROUND SURFACE ELEVATION: 2200.37 I
TOTAL DRILL HOLE DEPTH: 152.0 TEST HOLE NUMBER: R20-88-43
WATER RIGHTS WELL: SDGS WELL NAME: R20-88-43
OTHER WELL NAME:
BASIN: PONCA AQUIFER: OGALLALA
MANAGEMENT UNIT:
SCREEN TYPE: PVC, MFG. SCREEN LENGTH: 10.0
CASING TYPE: PVC CASING DIAMETER: 2.0
CASING TOP ELEVATION: 2202.90 I
CASING STICK-UP: 2.54 TOTAL CASING AND SCREEN: 154.0
WELL MAINTENANCE DATE:
USGS HYDROLOGICAL UNIT CODE: 10150001
ELECTRIC LOG INFORMATION:
SPONTANEOUS POTENTIAL: SINGLE POINT RESISTIVITY: X
NATURAL GAMMA: X EXTRA:
SAMPLES:

24 FEET OF BLANK CASING (OPEN TO SCREEN) FROM 152
TO 128 FEET, SCREENED FROM 128 TO 118 FEET.
BLANK CLOSED AT BOTTOM AND USED AS A RESERVOIR.

0	-	3.0	TOPSOIL, BLACK TO DARK-BROWN
3.0	-	13.0	SAND, TAN, FINE TO COARSE, PEBBLY; CALCAREOUS (HERRICK FORMATION)
13.0	-	45.0	SAND AND SANDSTONE, TAN, FINE, SILTY, CLAYEY; CALCAREOUS; SILTY LAYER NEAR BOTTOM (ASH HOLLOW FORMATION)
45.0	-	135.0	SANDSTONE, TAN, VERY FINE TO FINE, SILTY; SLIGHTLY CALCAREOUS TO NONCALCAREOUS (VALENTINE FORMATION)
135.0	-	148.0	SILT, TAN, CLAYEY, SANDY; SLIGHTLY CALCAREOUS (WHITE RIVER GROUP?)
148.0	-	152.0	CLAY, BROWN TO RED-BROWN, SANDY, SILTY; SLIGHTLY CALCAREOUS (BRAULE FORMATION)

COUNTY: GREGORY LOCATION: 097N-72W-25CDDD
MAP LOCATION: 6
LEGAL LOCATION: SE SE SE SW SEC. 25, T. 097 N., R. 72 W.
LATITUDE: 43.1102 LONGITUDE: 99.1555
LAND OWNER:
PROJECT: BURKE CITY STUDY-1988
DRILLING COMPANY: SDGS
DRILLER: G. JENSEN DRILLER'S LOG:
GEOLOGIST: P. DAWSON GEOLOGIST'S LOG: X
DATE DRILLED: 08-24-1988 DRILLING METHOD: ROTARY
GROUND SURFACE ELEVATION: 2223.76 I
TOTAL DRILL HOLE DEPTH: 172.0 TEST HOLE NUMBER: R20-88-40
WATER RIGHTS WELL: SDGS WELL NAME: R20-88-40
OTHER WELL NAME:
BASIN: MISSOURI AQUIFER: OGALLALA
MANAGEMENT UNIT:
SCREEN TYPE: PVC, MFG. SCREEN LENGTH: 10.0
CASING TYPE: PVC CASING DIAMETER: 2.0
CASING TOP ELEVATION: 2225.47 I
CASING STICK-UP: 1.71 TOTAL CASING AND SCREEN: 174.0
WELL MAINTENANCE DATE:
USGS HYDROLOGICAL UNIT CODE: 10140101
ELECTRIC LOG INFORMATION:
SPONTANEOUS POTENTIAL: SINGLE POINT RESISTIVITY: X
NATURAL GAMMA: X EXTRA:
SAMPLES:

20 FEET OF BLANK CASING (OPEN TO SCREEN) FROM 172
TO 152 FEET, SCREENED FROM 152 TO 142 FEET.
BLANK CLOSED AT BOTTOM AND USED AS RESERVOIR.

0	-	2.0	TOPSOIL, BLACK TO DARK-BROWN
2.0	-	8.0	SAND, YELLOW-TAN, FINE TO COARSE, SILTY, PEBBLY; NONCALCAREOUS (HERRICK FORMATION)
8.0	-	22.0	CLAY, TAN, VERY SANDY
22.0	-	43.0	SAND AND SANDSTONE, TAN TO GREENISH-TAN, MEDIUM TO COARSE, SILTY, CLAYEY; CALCAREOUS (ASH HOLLOW FORMATION)
43.0	-	156.0	SANDSTONE, TAN, VERY FINE TO FINE; CLEAN, CALCAREOUS, SOME SMALL SILT LAYERS INTERBEDDED (VALENTINE FORMATION)
156.0	-	172.0	CLAY, BROWN TO RED-BROWN, SILTY, SOMEWHAT SANDY; CALCAREOUS (BRULE FORMATION)

COUNTY: GREGORY LOCATION: 097N-72W-25DCDC
 MAP LOCATION: 7
 LEGAL LOCATION: SW SE SW SE SEC. 25, T. 097 N., R. 72 W.
 LATITUDE: 43.1103 LONGITUDE: 99.1540
 LAND OWNER:
 PROJECT: BURKE CITY STUDY-1988
 DRILLING COMPANY: SDGS
 DRILLER: G. JENSEN DRILLER'S LOG:
 GEOLOGIST: K. WILKIE/P. DAWSON GEOLOGIST'S LOG: X
 DATE DRILLED: 08-29-1988 DRILLING METHOD: ROTARY
 GROUND SURFACE ELEVATION: 2203.51 I
 TOTAL DRILL HOLE DEPTH: 147.0 TEST HOLE NUMBER: R20-88-42
 WATER RIGHTS WELL: SDGS WELL NAME: R20-88-42
 OTHER WELL NAME:
 BASIN: MISSOURI AQUIFER: OGALLALA
 MANAGEMENT UNIT:
 SCREEN TYPE: PVC, MFG. SCREEN LENGTH: 10.0
 CASING TYPE: PVC CASING DIAMETER: 2.0
 CASING TOP ELEVATION: 2205.38 I
 CASING STICK-UP: 1.87 TOTAL CASING AND SCREEN: 147.0
 WELL MAINTENANCE DATE:
 USGS HYDROLOGICAL UNIT CODE: 10140101
 ELECTRIC LOG INFORMATION:
 SPONTANEOUS POTENTIAL: SINGLE POINT RESISTIVITY: X
 NATURAL GAMMA: X EXTRA:
 SAMPLES:

20 FEET OF BLANK CASING (CLOSED TO SCREEN) FROM
 145 TO 125 FEET, SCREENED FROM 125 TO 115 FEET.

0	-	3.0	TOPSOIL, BLACK TO DARK-BROWN
3.0	-	12.0	SAND, TAN, FINE TO COARSE, PEBBLY; SLIGHTLY CALCAREOUS (HERRICK FORMATION)
12.0	-	62.0	SAND AND SANDSTONE, TAN, VERY FINE TO FINE, SILTY, CLAYEY; CALCAREOUS (ASH HOLLOW FORMATION)
62.0	-	133.0	SAND, TAN TO GREENISH-TAN, VERY FINE TO FINE, CLAYEY, SILTY; SLIGHTLY CALCAREOUS TO NONCALCAREOUS (VALENTINE FORMATION)
133.0	-	144.0	SILT, TAN, SANDY, CLAYEY; CALCAREOUS (WHITE RIVER GROUP?)
144.0	-	149.0	CLAY, BROWN TO RED-BROWN, SILTY, SANDY; CALCAREOUS (BRULE FORMATION)

COUNTY: GREGORY LOCATION: 097N-72W-36AADA
MAP LOCATION: 8
LEGAL LOCATION: NE SE NE NE SEC. 36, T. 097 N., R. 72 W.
LATITUDE: 43.1052 LONGITUDE: 99.1518
LAND OWNER:
PROJECT: BURKE CITY STUDY-1988
DRILLING COMPANY: SDGS
DRILLER: G. JENSEN DRILLER'S LOG:
GEOLOGIST: K. WILKIE/P. DAWSON GEOLOGIST'S LOG: X
DATE DRILLED: 08-31-1988 DRILLING METHOD: ROTARY
GROUND SURFACE ELEVATION: 2195.18 I
TOTAL DRILL HOLE DEPTH: 147.0 TEST HOLE NUMBER: R20-88-45
WATER RIGHTS WELL: SDGS WELL NAME: R20-88-45
OTHER WELL NAME:
BASIN: MISSOURI AQUIFER: OGALLALA
MANAGEMENT UNIT:
SCREEN TYPE: PVC, MFB. SCREEN LENGTH: 10.0
CASING TYPE: PVC CASING DIAMETER: 2.0
CASING TOP ELEVATION: 2197.12 I
CASING STICK-UP: 1.94 TOTAL CASING AND SCREEN: 149.0
WELL MAINTENANCE DATE:
USGS HYDROLOGICAL UNIT CODE: 10140101
ELECTRIC LOG INFORMATION:
SPONTANEOUS POTENTIAL: SINGLE POINT RESISTIVITY: X
NATURAL GAMMA: X EXTRA:
SAMPLES:

24 FEET OF BLANK CASING (OPEN TO SCREEN) FROM 147
TO 123 FEET, SCREENED FROM 123 TO 113 FEET.
BLANK CLOSED AT BOTTOM AND USED AS RESERVOIR.

0	-	2.0	TOPSOIL, BLACK TO DARK-BROWN
2.0	-	13.0	SAND, TAN, FINE TO COARSE, PEBBLY; CALCAREOUS (HERRICK FORMATION)
13.0	-	42.0	SAND, TAN, FINE, SILTY, CLAYEY (ASH HOLLOW FORMATION)
42.0	-	128.0	SANDSTONE, TAN, VERY FINE TO FINE, SILTY, CLAYEY; SLIGHTLY CALCAREOUS TO NONCALCAREOUS (VALENTINE FORMATION)
128.0	-	136.0	SILT, TAN, CLAYEY, SANDY; SLIGHTLY CALCAREOUS (WHITE RIVER GROUP?)
136.0	-	147.0	CLAY, RED TO RED-BROWN, SILTY, SANDY; SLIGHTLY CALCAREOUS (BRULE FORMATION)

COUNTY: GREGORY LOCATION: 097N-72W-36ABAC
MAP LOCATION: 9
LEGAL LOCATION: SW NE NW NE SEC. 36, T. 097 N., R. 72 W.
LATITUDE: 43.1055 LONGITUDE: 99.1541
LAND OWNER:
PROJECT: BURKE CITY STUDY-1988
DRILLING COMPANY: SDGS
DRILLER: G. JENSEN DRILLER'S LOG:
GEOLOGIST: P. DAWSON GEOLOGIST'S LOG: X
DATE DRILLED: 08-24-1988 DRILLING METHOD: ROTARY
GROUND SURFACE ELEVATION: 2222.03 I
TOTAL DRILL HOLE DEPTH: 164.0 TEST HOLE NUMBER: R20-88-41
WATER RIGHTS WELL: SDGS WELL NAME: R20-88-41
OTHER WELL NAME:
BASIN: PONCA AQUIFER: OGALLALA
MANAGEMENT UNIT:
SCREEN TYPE: PVC, MFG. SCREEN LENGTH: 10.0
CASING TYPE: PVC CASING DIAMETER: 2.0
CASING TOP ELEVATION: 2223.80 I
CASING STICK-UP: 1.77 TOTAL CASING AND SCREEN: 165.0
WELL MAINTENANCE DATE:
USGS HYDROLOGICAL UNIT CODE: 10150001
ELECTRIC LOG INFORMATION:
SPONTANEOUS POTENTIAL: SINGLE POINT RESISTIVITY: X
NATURAL GAMMA: X EXTRA:
SAMPLES:

20 FEET OF BLANK CASING (OPEN TO SCREEN) FROM
163 TO 143 FEET, SCREENED FROM 143 TO 133 FEET.
BLANK CLOSED AT BOTTOM AND USED AS RESERVOIR.

0	-	2.0	TOPSOIL, BLACK TO DARK-BROWN
2.0	-	8.0	SAND, YELLOW-TAN, FINE TO COARSE; SOME PEBBLES, CALCAREOUS (HERRICK FORMATION)
8.0	-	22.0	CLAY, TAN, VERY SANDY
22.0	-	42.0	SAND AND SANDSTONE, TAN, FINE TO MEDIUM, SILTY, CLAYEY; CALCAREOUS (ASH HOLLOW FORMATION)
42.0	-	156.0	SANDSTONE, TAN, VERY FINE TO FINE, VERY SILTY, CLAYEY; SLIGHTLY CALCAREOUS TO NONCALCAREOUS (VALENTINE FORMATION)
156.0	-	162.0	SILT, LIGHT-TAN, CLAYEY, SANDY; SLIGHTLY CALCAREOUS (WHITE RIVER GROUP?)
162.0	-	164.0	CLAY, BROWN TO RED-BROWN, SANDY (BRULE FORMATION)

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2065-2, City of Burke

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning Water Permit Application No. 2065-2, City of Burke, PO Box 312, Burke SD.

The Chief Engineer is recommending APPROVAL of Application No. 2065-2 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) in the public interest with the following qualifications:

1. The wells authorized by Permit No. 2065-2 shall be constructed by a licensed well driller and construction shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted with cement (bottom to top) from the producing formation to the surface pursuant to Section 74:02:04:30.
2. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

See the attached report for additional information.


JOHN HATCH, Chief Engineer
December 22, 1988

REPORT ON APPLICATION NO. 2065-2
CITY OF BURKE
December 22, 1988

This application proposes to appropriate 0.44 cfs from 2 wells approximately 160 feet deep to be used for municipal purposes. The points of diversion are located in the NW 1/4 NE 1/4 of Section 36 (#7) and the SE 1/4 SW 1/4 of Section 25 (#8) all in T97N, R72W in Gregory County.

Aquifer - Ogallala (T0)

The Ogallala consists of fine to medium sands and sandstones with some clays and siltstones. The saturated thickness of the Ogallala is as much as 90 feet in the area and is under water table conditions. The Ogallala underlies 193,280 acres and contains an estimated 1.9 million acre feet of water in storage in Gregory County (Allen, 1984).

The Division of Water Rights monitors 8 observation wells in Gregory County, of which 7 are completed into the Ogallala (Water Rights, 1988). Two of these wells GY-78A and GY-77B are located within 2 miles of Burke and hydrographs for these wells are presently near or at the highest water levels ever recorded indicating recharge to the system.

Review of Existing Water Permits

The City of Burke has 6 permits for groundwater from the Ogallala in this area. This includes 6 wells authorized to pump 1.63 cfs and a future use appropriation of 2.14 cfs. This application request two new wells # 7 and #8 which are located within 1/2 mile of wells #4, #5 and #6. Interference is not expected to be a problem. The aquifer is under water table condition, fine grained and drawdowns created by pumping 100-150 gpm will not extend very far from the production well. The aquifer contains excellent quality water but there are contamination concerns. The City of Burke is concerned about elevated nitrate levels and other potential contaminants in the city and this prompted a recent study by the South Dakota Geological Survey. The City of Burke has selected two additional well sites (this application) to address these concerns.

Conclusions

1. Water is available from the Ogallala group.
2. Interference will not adversely effect existing use. The City of Burke is the major user in the area.
3. The water rights for Burke need to be inspected and/or relicensed to reflect actual use.

4. The wells completed under this application will need to be constructed in compliance with SD Well Construction Standards.


JAMES A GOODMAN
Hydrologist

Bibliography

Allen, J. C., Etal, 1984, Analysis of Ground Water and Streamflow Data Western Dakotas Region of South Dakota, Task 3 and 4, Ground Water Resource Inventory, for US Army Corps of Engineers, DWNr, SDGS, Vermillion SD 57069.

Water Rights, 1988, Observation Well Records for Gregory County SD, DWNr, Division of Water Rights, Joe Foss Building, Pierre SD 57501.

OBSERVATION WELL WATER LEVELS

OBS_WELL	LOCATION	DATE	READING
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10:32 THURSDAY, DECEMBER 22, 1988 1

6Y-77B	097N-72W-27DDDD	09/06/77	-16.7
6Y-77B	097N-72W-27DDDD	10/12/77	-16.7
6Y-77B	097N-72W-27DDDD	05/02/78	-15.7
6Y-77B	097N-72W-27DDDD	05/15/78	-15.9
6Y-77B	097N-72W-27DDDD	06/20/78	-15.6
6Y-77B	097N-72W-27DDDD	07/07/78	-15.6
6Y-77B	097N-72W-27DDDD	08/04/78	-15.6
6Y-77B	097N-72W-27DDDD	08/25/78	-15.8
6Y-77B	097N-72W-27DDDD	09/15/78	-16.0
6Y-77B	097N-72W-27DDDD	10/10/78	-16.4
6Y-77B	097N-72W-27DDDD	10/31/78	-16.5
6Y-77B	097N-72W-27DDDD	12/05/78	-16.4
6Y-77B	097N-72W-27DDDD	03/13/79	-17.0
6Y-77B	097N-72W-27DDDD	04/17/79	-16.7
6Y-77B	097N-72W-27DDDD	04/25/79	-16.3
6Y-77B	097N-72W-27DDDD	06/06/79	-16.6
6Y-77B	097N-72W-27DDDD	06/19/79	-16.5
6Y-77B	097N-72W-27DDDD	07/10/79	-16.2
6Y-77B	097N-72W-27DDDD	07/25/79	-16.3
6Y-77B	097N-72W-27DDDD	08/07/79	-16.4
6Y-77B	097N-72W-27DDDD	08/21/79	-16.4
6Y-77B	097N-72W-27DDDD	09/11/79	-16.6
6Y-77B	097N-72W-27DDDD	10/19/79	-16.5
6Y-77B	097N-72W-27DDDD	12/07/79	-16.8
6Y-77B	097N-72W-27DDDD	02/06/80	-16.7
6Y-77B	097N-72W-27DDDD	03/26/80	-16.7
6Y-77B	097N-72W-27DDDD	05/06/80	-16.6
6Y-77B	097N-72W-27DDDD	06/02/80	-16.8
6Y-77B	097N-72W-27DDDD	06/23/80	-16.7
6Y-77B	097N-72W-27DDDD	07/14/80	-16.8
6Y-77B	097N-72W-27DDDD	08/04/80	-16.9
6Y-77B	097N-72W-27DDDD	08/27/80	-16.9
6Y-77B	097N-72W-27DDDD	09/15/80	-16.9
6Y-77B	097N-72W-27DDDD	11/19/80	-17.2
6Y-77B	097N-72W-27DDDD	02/17/81	-17.1
6Y-77B	097N-72W-27DDDD	04/15/81	-17.2
6Y-77B	097N-72W-27DDDD	05/19/81	-17.2
6Y-77B	097N-72W-27DDDD	06/09/81	-17.2
6Y-77B	097N-72W-27DDDD	06/30/81	-17.3
6Y-77B	097N-72W-27DDDD	07/20/81	-17.0
6Y-77B	097N-72W-27DDDD	08/03/81	-16.7
6Y-77B	097N-72W-27DDDD	08/25/81	-16.7
6Y-77B	097N-72W-27DDDD	09/28/81	-16.7
6Y-77B	097N-72W-27DDDD	11/03/81	-16.9
6Y-77B	097N-72W-27DDDD	12/21/81	-17.2
6Y-77B	097N-72W-27DDDD	03/09/82	-16.4
6Y-77B	097N-72W-27DDDD	04/19/82	-16.2
6Y-77B	097N-72W-27DDDD	06/08/82	-15.6
6Y-77B	097N-72W-27DDDD	06/30/82	-15.7
6Y-77B	097N-72W-27DDDD	07/27/82	-15.8
6Y-77B	097N-72W-27DDDD	08/16/82	-15.8
6Y-77B	097N-72W-27DDDD	09/15/82	-16.0
6Y-77B	097N-72W-27DDDD	10/19/82	-16.0
6Y-77B	097N-72W-27DDDD	03/14/83	-15.4
6Y-77B	097N-72W-27DDDD	04/25/83	-14.8

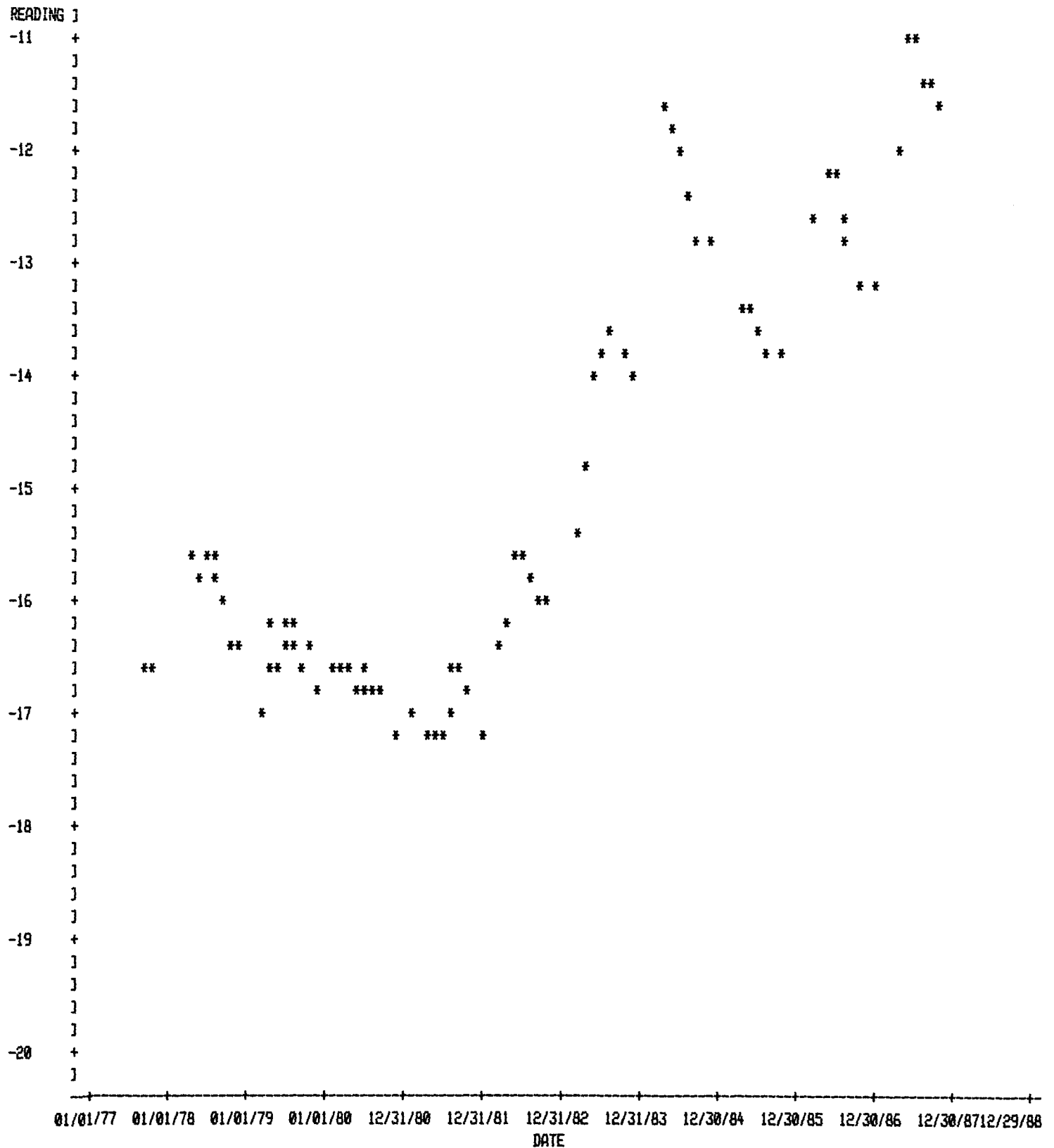
OBSERVATION WELL WATER LEVELS			
OBS_WELL	LOCATION	DATE	READING
GY-77B	097N-72W-270000	05/26/83	-14.1
GY-77B	097N-72W-270000	06/21/83	-13.9
GY-77B	097N-72W-270000	07/26/83	-13.6
GY-77B	097N-72W-270000	08/24/83	-13.7
GY-77B	097N-72W-270000	10/04/83	-13.9
GY-77B	097N-72W-270000	12/12/83	-14.1
GY-77B	097N-72W-270000	04/25/84	-11.6
GY-77B	097N-72W-270000	05/22/84	-11.9
GY-77B	097N-72W-270000	07/12/84	-12.0
GY-77B	097N-72W-270000	08/09/84	-12.4
GY-77B	097N-72W-270000	09/24/84	-12.8
GY-77B	097N-72W-270000	11/13/84	-12.9
GY-77B	097N-72W-270000	04/29/85	-13.4
GY-77B	097N-72W-270000	05/07/85	-13.4
GY-77B	097N-72W-270000	06/17/85	-13.6
GY-77B	097N-72W-270000	07/18/85	-13.7
GY-77B	097N-72W-270000	08/05/85	-13.8
GY-77B	097N-72W-270000	10/01/85	-13.8
GY-77B	097N-72W-270000	03/24/86	-12.6
GY-77B	097N-72W-270000	05/21/86	-12.2
GY-77B	097N-72W-270000	06/25/86	-12.2
GY-77B	097N-72W-270000	07/30/86	-12.6
GY-77B	097N-72W-270000	08/20/86	-12.9
GY-77B	097N-72W-270000	10/28/86	-13.2
GY-77B	097N-72W-270000	12/15/86	-13.3
GY-77B	097N-72W-270000	04/07/87	-12.0
GY-77B	097N-72W-270000	05/12/87	-11.1
GY-77B	097N-72W-270000	06/15/87	-11.1
GY-77B	097N-72W-270000	08/03/87	-11.5
GY-77B	097N-72W-270000	09/29/87	-11.5
GY-77B	097N-72W-270000	11/03/87	-11.6

10:32 THURSDAY, DECEMBER 22, 1988 2

OBSERVATION WELL WATER LEVELS
OBS_WELL=GY-77B

10:32 THURSDAY, DECEMBER 22, 1988 3

PLOT OF READING*DATE SYMBOL USED IS *



NOTE: 9 OBS HIDDEN

OBSERVATION WELL WATER LEVELS

OBS_WELL	LOCATION	DATE	READING
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10:27 THURSDAY, DECEMBER 22, 1988 1

GY-78A	096N-71W-06AAAA	05/16/78	-56.6
GY-78A	096N-71W-06AAAA	06/20/78	-56.2
GY-78A	096N-71W-06AAAA	07/07/78	-56.4
GY-78A	096N-71W-06AAAA	08/04/78	-56.1
GY-78A	096N-71W-06AAAA	08/25/78	-56.0
GY-78A	096N-71W-06AAAA	09/15/78	-55.8
GY-78A	096N-71W-06AAAA	10/10/78	-56.3
GY-78A	096N-71W-06AAAA	10/31/78	-56.5
GY-78A	096N-71W-06AAAA	03/13/79	-56.6
GY-78A	096N-71W-06AAAA	04/17/79	-56.6
GY-78A	096N-71W-06AAAA	04/25/79	-56.0
GY-78A	096N-71W-06AAAA	06/06/79	-55.9
GY-78A	096N-71W-06AAAA	06/19/79	-55.2
GY-78A	096N-71W-06AAAA	07/10/79	-56.0
GY-78A	096N-71W-06AAAA	07/25/79	-56.1
GY-78A	096N-71W-06AAAA	08/07/79	-56.1
GY-78A	096N-71W-06AAAA	09/11/79	-56.0
GY-78A	096N-71W-06AAAA	10/19/79	-55.7
GY-78A	096N-71W-06AAAA	12/07/79	-56.2
GY-78A	096N-71W-06AAAA	02/06/80	-56.1
GY-78A	096N-71W-06AAAA	03/26/80	-56.1
GY-78A	096N-71W-06AAAA	05/06/80	-56.0
GY-78A	096N-71W-06AAAA	06/02/80	-56.3
GY-78A	096N-71W-06AAAA	06/23/80	-56.1
GY-78A	096N-71W-06AAAA	07/14/80	-56.4
GY-78A	096N-71W-06AAAA	08/04/80	-56.4
GY-78A	096N-71W-06AAAA	08/27/80	-56.5
GY-78A	096N-71W-06AAAA	09/15/80	-56.2
GY-78A	096N-71W-06AAAA	11/19/80	-56.8
GY-78A	096N-71W-06AAAA	02/17/81	-56.5
GY-78A	096N-71W-06AAAA	04/15/81	-57.2
GY-78A	096N-71W-06AAAA	05/19/81	-56.9
GY-78A	096N-71W-06AAAA	06/09/81	-57.0
GY-78A	096N-71W-06AAAA	06/30/81	-57.2
GY-78A	096N-71W-06AAAA	07/20/81	-57.2
GY-78A	096N-71W-06AAAA	08/03/81	-57.1
GY-78A	096N-71W-06AAAA	08/25/81	-57.0
GY-78A	096N-71W-06AAAA	09/28/81	-56.9
GY-78A	096N-71W-06AAAA	11/03/81	-57.1
GY-78A	096N-71W-06AAAA	12/21/81	-57.1
GY-78A	096N-71W-06AAAA	03/09/82	-57.4
GY-78A	096N-71W-06AAAA	04/19/82	-57.8
GY-78A	096N-71W-06AAAA	06/08/82	-57.3
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GY-78A	096N-71W-06AAAA	09/15/82	-57.5
GY-78A	096N-71W-06AAAA	10/19/82	-57.2
GY-78A	096N-71W-06AAAA	03/14/83	-56.6
GY-78A	096N-71W-06AAAA	04/25/83	-56.5
GY-78A	096N-71W-06AAAA	05/26/83	-56.6
GY-78A	096N-71W-06AAAA	06/21/83	-56.5
GY-78A	096N-71W-06AAAA	07/26/83	-56.4
GY-78A	096N-71W-06AAAA	08/24/83	-55.7
GY-78A	096N-71W-06AAAA	10/04/83	-55.4

OBSERVATION WELL WATER LEVELS

10:27 THURSDAY, DECEMBER 22, 1988 2

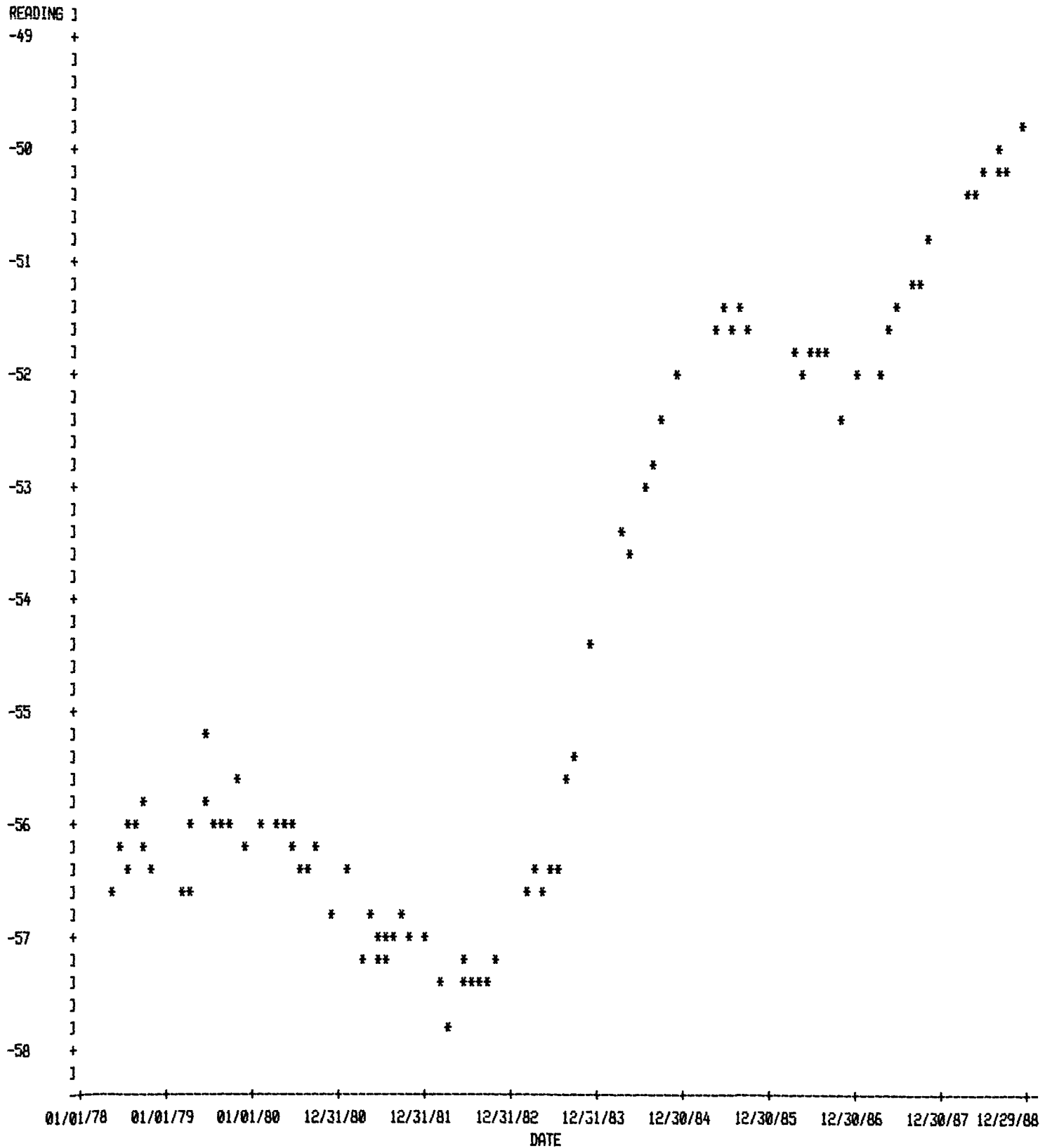
OBS_WELL	LOCATION	DATE	READING
GY-78A	096N-71W-06AAAA	12/12/83	-54.4
GY-78A	096N-71W-06AAAA	04/25/84	-53.5
GY-78A	096N-71W-06AAAA	05/22/84	-53.7
GY-78A	096N-71W-06AAAA	07/12/84	-53.0
GY-78A	096N-71W-06AAAA	08/09/84	-52.8
GY-78A	096N-71W-06AAAA	09/24/84	-52.5
GY-78A	096N-71W-06AAAA	11/13/84	-52.0
GY-78A	096N-71W-06AAAA	04/29/85	-51.7
GY-78A	096N-71W-06AAAA	05/07/85	-51.7
GY-78A	096N-71W-06AAAA	06/17/85	-51.5
GY-78A	096N-71W-06AAAA	07/18/85	-51.6
GY-78A	096N-71W-06AAAA	08/05/85	-51.5
GY-78A	096N-71W-06AAAA	10/01/85	-51.7
GY-78A	096N-71W-06AAAA	03/24/86	-51.9
GY-78A	096N-71W-06AAAA	05/21/86	-52.0
GY-78A	096N-71W-06AAAA	06/24/86	-51.9
GY-78A	096N-71W-06AAAA	07/30/86	-51.9
GY-78A	096N-71W-06AAAA	08/20/86	-51.9
GY-78A	096N-71W-06AAAA	10/28/86	-52.4
GY-78A	096N-71W-06AAAA	12/15/86	-52.0
GY-78A	096N-71W-06AAAA	04/07/87	-52.1
GY-78A	096N-71W-06AAAA	05/12/87	-51.7
GY-78A	096N-71W-06AAAA	06/16/87	-51.5
GY-78A	096N-71W-06AAAA	08/03/87	-51.3
GY-78A	096N-71W-06AAAA	09/29/87	-51.3
GY-78A	096N-71W-06AAAA	11/03/87	-50.9
GY-78A	096N-71W-06AAAA	04/12/88	-50.5
GY-78A	096N-71W-06AAAA	05/17/88	-50.4
GY-78A	096N-71W-06AAAA	06/27/88	-50.2
GY-78A	096N-71W-06AAAA	08/08/88	-50.2
GY-78A	096N-71W-06AAAA	08/29/88	-50.1
GY-78A	096N-71W-06AAAA	10/03/88	-50.2
GY-78A	096N-71W-06AAAA	12/07/88	-49.9

N= 88

OBSERVATION WELL WATER LEVELS
OBS_WELL=GY-78A

10:27 THURSDAY, DECEMBER 22, 1988 3

PLOT OF READING*DATE SYMBOL USED IS *



NOTE: 3 OBS HIDDEN

Instruction to Newspaper - Publish first Notice on or before December 28, 1988 with 2nd publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 2065-2 to Appropriate Water

Notice is given that the City of Burke, PO Box 312, Burke SD 57523 has filed an application for a water permit to appropriate 0.44 cubic feet of water per second from 2 wells (Ogallala Aquifer) 160 feet deep. The 2 wells are to be located in the NW 1/4 NE 1/4 Section 36; SE 1/4 SW 1/4 Section 25; both in T97N, R72W. Water is to be used for municipal purposes by the City of Burke.

Pursuant to SDCL 46-2A-2, the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 2065-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water and 4) it is in the public interest. This application will be considered by the Water Management Board at the Crossroads Hotel, Salon 1, 100 4th St SW, Huron SD on January 25, 1989 at 10:30 am. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer or 4) deny this application based on the facts presented at the public hearing.

Any interested person that intends to participate in the hearing before the Board by presenting evidence or cross-examining witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and Chief Engineer by January 13, 1989. The Chief Engineer's address is "Water Rights Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)". The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application and the signature and mailing address of the petitioner or legal counsel if legal counsel is obtained. The applicant need not file a petition. Contact the Water Rights Division to request information on this application or to assure access to the hearing by the handicapped. If there are any petitions in opposition to Application No. 2065-2, the hearing will be delayed until the regular March 1, 1989 Board meeting. The meeting January 25, 1989 is a special Board meeting.

This hearing is an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. The time of the hearing will also be automatically delayed for at least twenty days upon written request to the Chief Engineer from the applicant or a petitioner. The request for a delay must be received by January 13, 1989.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

December 22, 1988

Burke Gazette
Box 359
Burke SD 57523

Dear Sir:

Enclosed is a Notice of Hearing on Application No. 2065-2 to be published twice. Please publish the first notice on or before December 28, 1988 with the second publication 7 days later.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the first publication. Please BILL the APPLICANT for the cost of publication. The APPLICANT is the City of Burke, PO Box 312, Burke SD 57523.

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return the FIRST publication with the FIRST Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. The permit application cannot be considered by the Water Management Board until proof of publication has been received.

Sincerely,

Ron Duvall
Natural Resources Engineer
605 773-3352

enclosures

CUT HERE

FIRST TRANSMITTAL NOTICE

TO: Ron Duvall
Water Rights Division
Joe Foss Building
Pierre SD 57501-3181

No. _____

Date _____

We are in receipt of your letter of _____ enclosing Notice of Hearing to
Appropriate Water by Application No. _____ which was first published in our issue
of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name _____

Newspaper _____





Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

December 23, 1988

Richard N Bailey
City of Burke
PO Box 312
Burke SD 57523

Dear Mr. Bailey:

Enclosed is a copy of the report and recommendation of the Chief Engineer for Water Permit Application No. 2065-2, the City of Burke.

Sincerely,

Karen Schlaak

KAREN SCHLAACK
Senior Secretary
605 773-3352

enclosures





Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

December 22, 1988

**NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.**

Richard N Bailey
City of Burke
PO Box 312
Burke SD 57523

Dear Mr. Burke:

Your Application No. 2065-2 for a permit to appropriate water for municipal use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of your intent to appropriate water has been sent to the Publisher of the Burke Gazette printed at Burke SD. For your information a copy of the notice is enclosed. The recommendation of the Chief Engineer and a report on the application will be sent later. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice of Intent to Appropriate Water and to arrange for payment. Early contact with the paper can eliminate delays. The publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. We must receive Proof of Publication before the application can be considered by the Water Management Board.

Sincerely,

Ron Duvall
Natural Resources Engineer
605 773-3352

enclosures



PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Gregory) ss.

I, C. J. Fahrenbacher hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Burke Gazette

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the

City of Burke

County of Gregory and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

Wednesday, December 28, 1988

Wednesday, January 4, 1989

C. J. Fahrenbacher
(Signature)

Publisher
(Title)

1-4-89
(Date Signed)

Cost of Printing: 39.71



NOTICE OF HEARING
On Application No. 2065-2
to Appropriate Water

Notice is given that the City of Burke, PO Box 312, Burke, SD 57523 has filed an application for a water permit to appropriate 0.44 cubic feet of water per second from 2 wells (Ogallala Aquifer) 160 feet deep. The 2 wells are to be located in the NW 1/4 NE 1/4 Section 36; SE 1/4 SW 1/4 Section 25; both in T97N, R72W. Water is to be used for municipal purposes by the City of Burke.

Pursuant to SDCL 46-2A-2, the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 2065-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water and 4) it is in the public interest. This application will be considered by the Water Management Board at the Crossroads Hotel, Salon 1, 100 4th St SW, Huron SD on January 25, 1989 at 10:30 am. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer or 4) deny this application based on the facts presented at the public hearing.

Any interested person that intends to participate in the hearing before the Board by presenting evidence or cross-examining witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and Chief Engineer by January 13, 1989. The Chief Engineer's address is "Water Rights Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)". The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application and the signature and mailing address of the petitioner or legal counsel if legal counsel is obtained. The applicant need not file a petition. Contact the Water Rights Division to request information on this application or to assure access to the hearing by the handicapped. If there are any petitions in opposition to Application No.

2065-2, the hearing was delayed until the regular March 1, 1989 Board meeting. The meeting January 25, 1989 is a special Board meeting.

This hearing is an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. The time of the hearing will also be automatically delayed for at least twenty days upon written request to the Chief Engineer from the applicant or a petitioner. The request for a delay must be received by January 13, 1989.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-31, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.
~~Dec 28 Jan 4~~ (100)



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

MAR 10 1989

Richard Bailey
City of Burke
10th & Main, Box 312
Burke, SD 57523

Dear Mr Bailey:

Enclosed is Water Permit No. 2065-2 as approved by the Water Management Board authorizing you to construct your water diversion system and put the water to beneficial use, not exceeding the limits as specified in Water Permit No. 2065-2.

Also enclosed is Form 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Chief Engineer when you have completed the system and/or have put the water to beneficial use. An inspection can then be scheduled so that the Water License may be issued, thus completing your acquisition of a Water Right.

Very truly yours,

A handwritten signature in black ink, appearing to read "John Hatch". The signature is written in a cursive, flowing style.

JOHN HATCH, Chief Engineer
Water Rights Division
605 773-3352

JH:mra

enclosure

PLEASE NOTE: Certain changes can be made in your permit within the five year construction period, usually without affecting the priority date provided an application to amend your permit is made within the five year period - i.e. changes in location or number of diversion points (wells) or location of land to be irrigated. Well locations for wells into the same aquifer can be moved up to 660 feet without application.

Applications to amend a permit after the five year construction period will be assigned a new priority date. Applications to change water sources, to add lands or increase original diversion rates, if approved will usually receive the date of the new application as a priority date regardless of the five year construction period.



2065-2

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

SEP 6 1995

2065A-2

Jerry Jones, Finance Officer
City of Burke
P.O. Box 312
Burke, SD 57523

Dear Mr. Jones:

Enclosed is Water License No. 2065A-2. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 414404 in the amount of \$50.00 which you paid for the inspection and issuance of the Water License.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 2065A-2, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
(605) 773-3352

rd
enclosures

NOTE: The applicable portions of Water Permit No. 2065-2 have been incorporated into this Water License No. 2065A-2.