USE TYPEWRITER OR BALL POINT PEN-PRESS FIRMLY, PRINT CLEARLY.

WATER WELL RECORD
KSA 82a-1201-1215

Kansas Department of Health and Environment-Division of Environment (Water well Contractors) Topeka, Kansas 66620

1. Location of well:	County: McPherson	Fraction: NW 1/4 SE 1/4 NW 1/4	Section number: 9	Township number: T 20 (S)	Range number: R 1 E (W)

2. Distance and direction from nearest town or city: 3.3 miles S

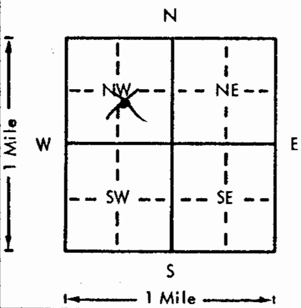
Street address of well location if in city: 4.074 miles W of Canton Kans

3. Owner of well: Rodney Voght (For Rural water Dist. Hillsboro, Kans)

R.R. or street:

City, state, zip code: Canton Kans

4. Locate with "X" in section below:



Sketch map:

X This Obsv well
50' N x 120' W
Voght irrigation well
Cultivated field

6. Bore hole dia. 4 in. Completion date 5-04-76
Well depth 98 ft.

7. __ Cable tool X Rotary __ Driven __ Dug
__ Hollow rod __ Jetted __ Bored __ Reverse rotary

8. Use: __ Domestic __ Public supply __ Industry
__ Irrigation __ Air conditioning __ Stock
__ Lawn __ Oil field water X Other

9. Casing: Material PVC Height: (Above) or below
Threaded ____ Welded ____ Surface 14 in.
RMP ____ PVC ____ Weight ____ lbs./ft.
Dia. 2 in. to 98 ft. depth Wall Thickness: inches or
Dia. ____ in. to ____ ft. depth gage No. ____

10. Screen: Manufacturer's name shop
Type PVC Dia. 2"
Slot/gauze 1/16" Length 20 ft
Set between 78 ft. and 98 ft.
____ ft. and ____ ft.
Gravel pack? X Size range of material 2 mm

11. Static water level: 35.03 ft. below land surface Date May 7, 76 mo./day/yr.

12. Pumping level below land surfaces:
____ ft. after 0.5 hrs. pumping 10 g.p.m.
____ ft. after ____ hrs. pumping ____ g.p.m.
Estimated maximum yield ____ g.p.m.

13. Water sample submitted: mo./day/yr.
__ Yes X No Date —30 ppm Cl

14. Well head completion:
__ Pitless adapter 15 Inches above grade

15. Well grouted? no
With: __ Neat cement __ Bentonite __ Concrete
Depth: From ____ ft. to ____ ft.

16. Nearest source of possible contamination:
ft. ____ Direction ____ Type ____
Well disinfected upon completion? __ Yes __ No

17. Pump: X Not installed
Manufacturer's name ____
Model number ____ HP ____ Volts ____
Length of drop pipe ____ ft. capacity ____ g.p.m.
Type:
__ Submersible __ Turbine
__ Jet __ Reciprocating
__ Centrifugal __ Other

5. Type and color of material

5. Type and color of material	From	To
Pleistocene (Pliocene):		
Clay, tan, gray, green, buff + cream	0	39
Sand, medium to fine	39	54
Clay, brown	54	55
Gravel fine to coarse + sand, some clay interbedded 62 to 68	55	96
Wellington Fm:		
Shale, gray-green	96	98

(Use a second sheet if needed)

18. Elevation:

Topography:
__ Hill
X Slope
__ Upland
__ Valley

19. Remarks: Well used as No. 1 obsv well for pump test. Casing pulled + hole filled after pumping + recovery measurements.

20. Water well contractor's certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
[signature] Drilling Co 126
Business name License No.
Address RR 2 Salina Kans
Signed [signature] Date May 17-76
Authorized representative

18 MAY 1976 DIVISION OF ENVIRONMENT

T R W Sec 1/4 1/4 1/4

Forward the white, blue and pink copies to the Department of Health and Environment

Form WWC-5

Sec 9 T.20.S - R1W

O. S. FENT
Consulting Geologist
ROUTE 2
SALINA, KANSAS 67401

PHONE TA 7-1971

May 13, 1976

Foster - Van Gundy and Associates
Ellsworth, Kansas

Enclosed are the graphs of the pumping test, recovery measurements and logs of observation wells near the Rodney Voght irrigation well in the NW¼ Sec. 9, T.20S., R.1W., McPherson County, Kansas.

With a pump intake setting of 95 ft. below land surface in the well, the well will pump continuously at the following rates for the listed lengths of time before the pumping level reaches the pump intake:

850 gallons per minute, 19 years
1000 gallons per minute, 2.85 years
1300 gallons per minute, 41 days

A pumping rate of 1000 gallons per minute at low head and 850 gallons at higher head should be planned for this well under conditions of 24 hour per day pumping. Normal recharge from rainfall should increase the time-yield of the well to span low rainfall years. (See last segmentof drawdown graphs)

Field tests on a water sample taken near the end of the pumping showed 222 parts per million hardness, less than 1 ppm nitrate, 22 ppm chloride and a combined iron and manganese level tnat could be objectionable under some conditions. A laboratory confirmation on these metals on May 13 yielded iron, 0.28 parts per million and manganese, 0.40 part per million.

The drawdown curves reflect recharge at about 300 minutes into the test. At this time, additional recharge reaching the aquifer is reflected in a flattening of the graph lines , indicating higher productivity for longer periods of pumping. This recharge is probably from recent rains. All time and quantity computations were made on the hydrologic characteristics of the formation on the steeper part of the graph and do not reflect the current recharge. Calculations based upon the flatter segments of the graph, that reflecting the recharge, nearly double the pumping times listed under paragraph 2.

Because of some old oil-field contamination to the west of this area is known and because there is some renewed oil field activity in the vicinity; a thorough program of chloride sampling on wells within a three mile distance to the west and 5 miles to the east should be conducted and correlated with depth and bedrock elevation.

With the exception of the manganese content, which appears to be localized at this well; the general area is adequate to provide for the planned pumping without depletion of the ground water supply.

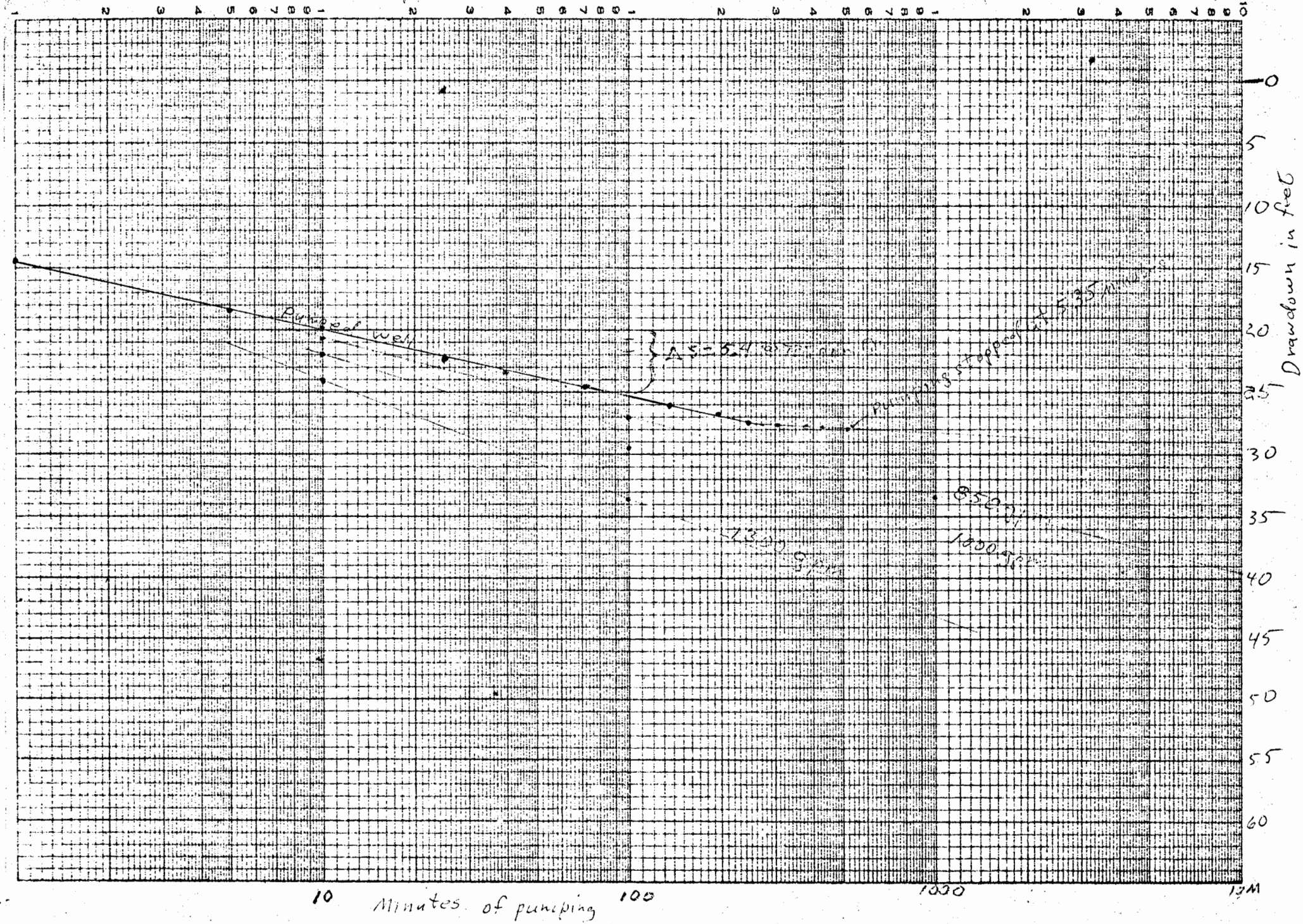
O. S. Fent

O. S. Fent

Encl. 6

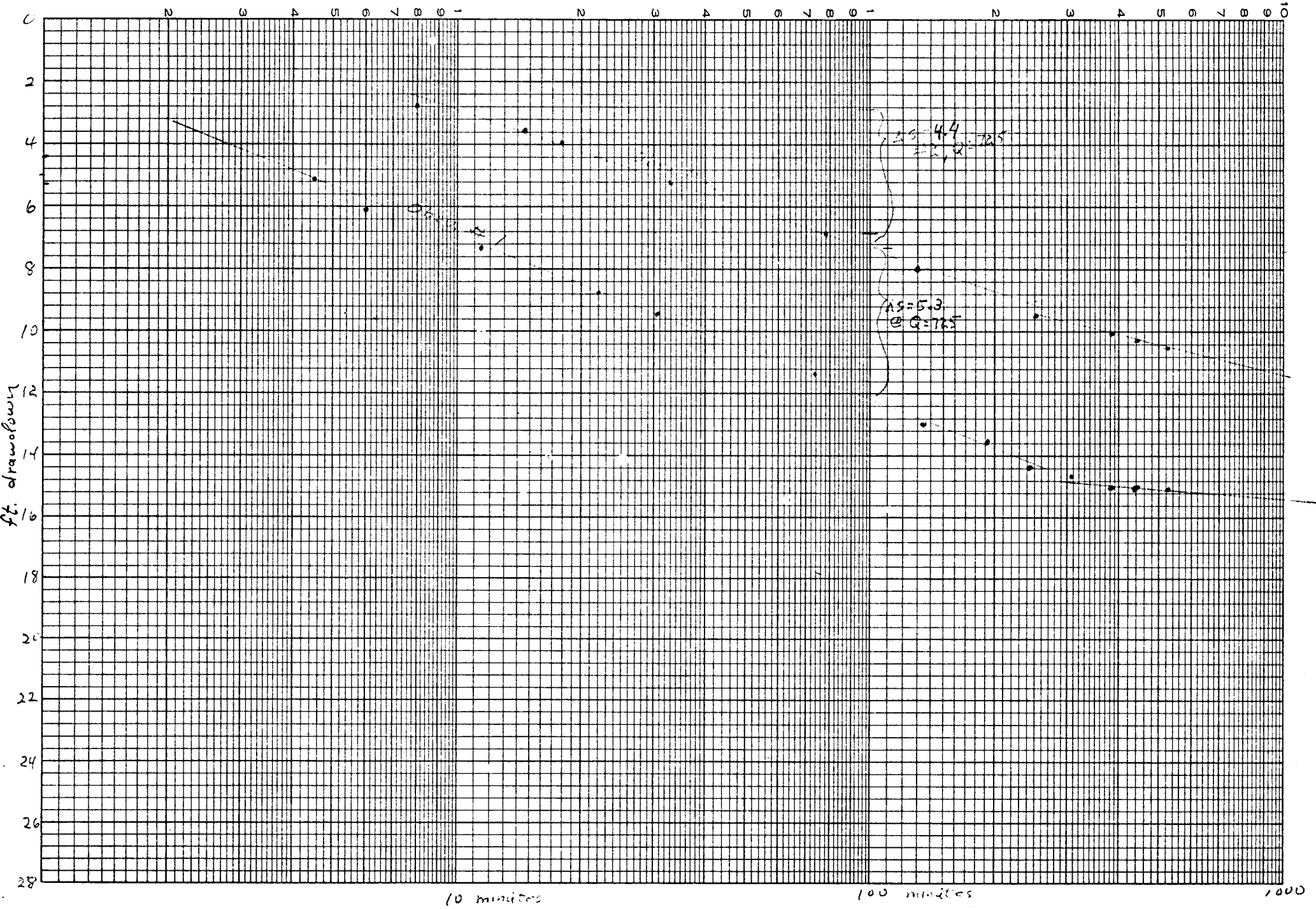
4 CYCLES X 10 DIVISIONS PER INCH

May 7 Pump test Rodney Voght Irrigation well - Drawdown in pumped well Q = 725 gpm



NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.



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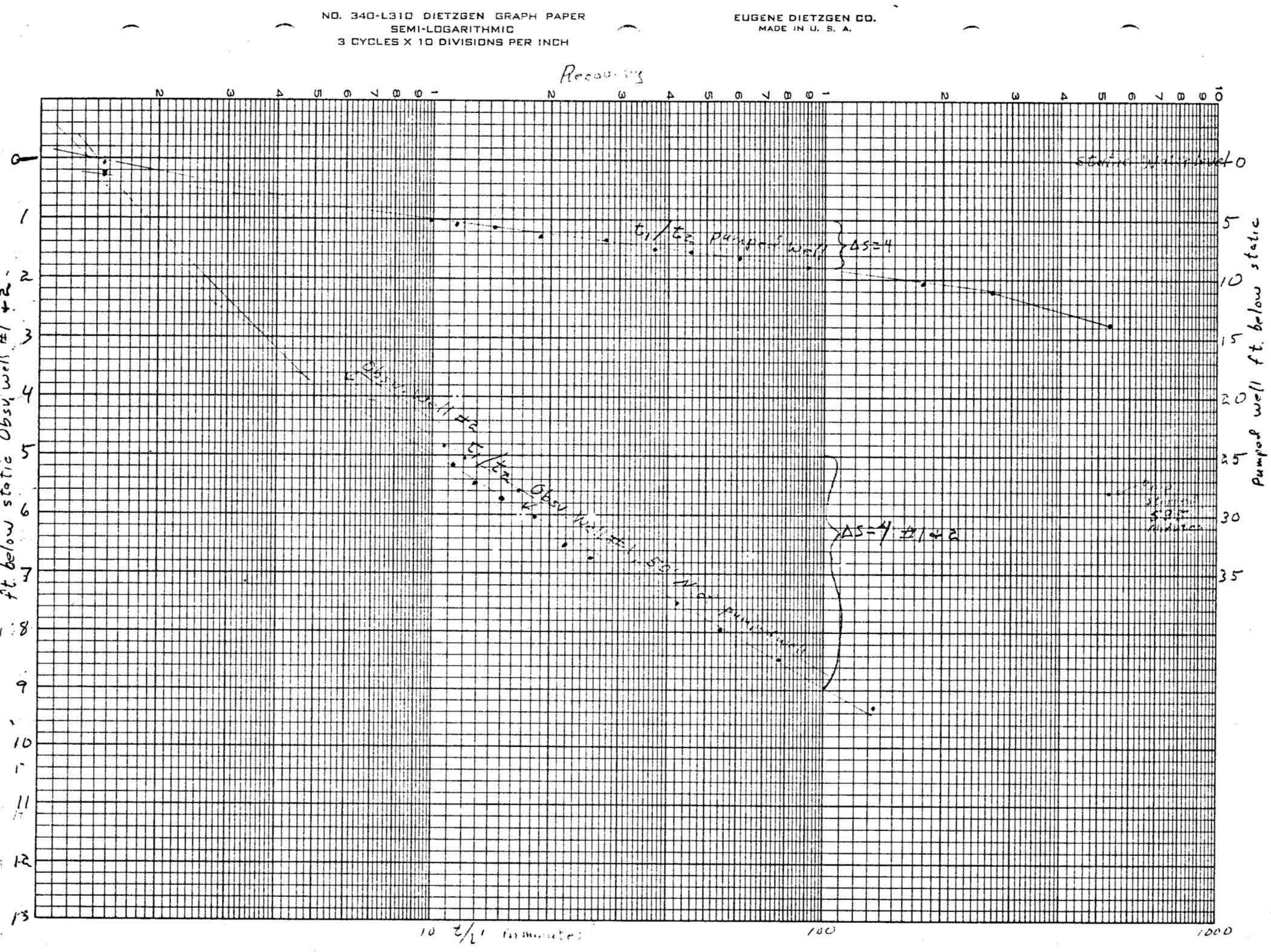

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EUGENE DIETZGEN CO.
MADE IN U. S. A.

Well efficiency - 73%

Distance - drawdown

HYDRAULIC DRILLING COMPANY
ROUTE 2 – BOX 202 A
SALINA, KANSAS 67401
913/827-1971

May 13, 1976

Logs of observation wells drilled for pumping tests on Rodney Voght irrigation well in the NW¼ Sec. 9, t.20S., R.1W., McPherson County

No. 1, 50 ft. north, 12 degrees west of pumped well.

Pleistocene and Pliocene:

0	18	Clay, silty, sandy, tan and gray
18	39	Clay, sandy, gray-green, buff and cream; contains much caliche
39	54	Sand, medium to fine. (0.7 mm top size 39 to 47, 2.0 mm top size 47-54)
54	55	Clay, brown
55	62.5	Gravel fineand sand. (range 1 to 3 mm., little to 5 mm.)
62.5	69	Clay, green; interbedded with gravel fine and sand; little gravel medium to coarse.
69	96	Gravel, fine to coarse and sand.(range 2-5 mm, some to 8mm)

Wellington shale:

96	98	Shale, brittle, thin bedded, gray-green; contains calcite seams

Cased with 2-inch PVC, lower 20 ft. perforated, gravel-packed, air-lift pumped at 10 gallons per minute. Water sample less than 30 ppm chloride. Casing pulled and hole plugged and filled after pump test on irrigation well. Static water level 35.03 ft. below top of casing 1.4 ft. above land surface.

No. 2, 200 ft. north-5 degrees west of pumped well.

Pleistocene and Pliocene:

0	14	Clay, sandy, gray and brown
14	26	Clay, sandy, light gray-green, white and buff; contains some caliche
26	27.5	Sand, coarse to fine (top size 0.7 mm)
27.5	29.5	Clay, sandy, tan; hard caliche 29-29.5
29.5	55	Sand coarse to fine (top size 1 mm) hard caliche 49 to 50.
55	70	Gravel medium to fine and sand(top 20% 2-4 mm, little to 10mm) Green weathered shale fragments throughout
70	88	Gravel, fine to coarse and sand (top 5% above 15 mm) many weathered shale fragments.
88	92	Clay, sandy, gray-brown

Wellington shale:

92	93	Shale, brittle, green with calcite seam fillings.

Cased to 93 ft. with 2-inch PVC, lower 20 ft. perforated, gravel-packed, air-lift pumped at 10 gallons per minute. Water sample less than 30 ppm caloride. Static water level 32.65 ft. below top of casing which is 1.5 ft. above land surface. Casing pulled, hole filled and plugged after pumping test on irrigation well.