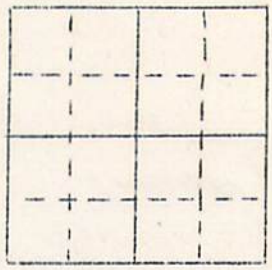
IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

W-1274

RECORD OF WELL



Location:

Town: DURANT (N E / S W); County CEDAR

SW-SE-SW sec. 36 T. 79 N., R. 1 W. Farmington Twp.

Well name and number Town Test Well #3

Owner City of DURANT Address

Tenant Address

Contractor D.E. Edwards Address West Branch

Drillers

Drilling dates Sept. 1940

Well data:

Elevations: Drilling curb 715 feet; Land surface feet

Determined by

Topographic position

Total depth: Reported feet, Measured 78 feet

Drilling method Cable

Hole and casing data 35' of 22" +6" to 34'6", 40'4" of 10" p.p. + 2½ - 52'10"
(Give amount, size, kind, and depth of all casing; type and position of seals and packers; cementing; how finished--perforated pipe, screen, gravel pack, open hole, etc.)

Original depth to water ft. above / below Date

Original elevation of water level ft.; Source of data

Sources of water: Principal 43-78 Pleistocene; Others

Production data: Date _____

Static depth to water 43 Measuring point _____

Pumping level _____ at _____ g.p.m.

_____ _____

_____ _____

_____ _____

Specific capacity _____ g.p.m. per ft. drawdown; Temperature _____ °F.

Pump data; Type pump _____ Column Dia. _____ Length _____

Cylinder or bowls: Dia. _____ Length _____ Suction pipe _____

Power _____ Airline _____

Estimated rate of production: _____ g.p.m. for _____ hrs. a da

Use of water _____

WATER ANALYSES (in parts per million)

Date sampled				
Sampled by				
Total solids				
Insoluble matter				
Alkalinity (Meo)				
Alkalinity (Phn)				
pH				
Fe_2O_3+ Mn_2O_3+Al_2O_3				
Alkali as sodium				
Calcium				
Magnesium				
Iron (unfiltered)				
Manganese				
Nitrate				
Fluoride				
Chloride				
Sulfate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				

Remarks _____

Laboratory data: Sample storage location _____

Sample range 35-78 No. spls. 19 No. dupls. & cond. 19-6

Spls. prepared by Summerford Washed range _____ by _____

Driller's log and cond. _____

Insoluble residues: Prepared by _____ Studied by _____ Strip log _____

Microscopic study 40-78 strip log 7-25-50

Gen. log _____ Correl. by R. Screven

IOWA GEOLOGICAL SURVEY
Well or Water Sample Data Bottle No. G-113.

TOWN Durant COUNTY Cedar

LOCATION SW¼ SE¼ SW¼ Sec. 36 T. 79 N. R. 1 ~~E.~~ W. Farmington Twp.

OWNER OF WELL Town of Durant Well No. 2

USE OF WATER: City Supply (X); Private-Domestic ( ): Public Drinking ( ); Livestock ( ); Industrial ( ); School Supply ( ); Air Conditioning ( ); Cooling ( ); Testing at present (X).

CONSTRUCTION OF WELL: Drilled (X); Gravel-Pack type ( ); Driven ( ); Dug ( ); Bored ( ); Jetted ( ) ( ).

CONTRACTOR D. E. Edwards, West Branch DATE STARTED Oct. 9, 1940
DATE FINISHED Nov. 1, 1940

CASING OR CURBING DATA: (Show by diagram on opposite side of sheet the kind, length and depth of top and bottom of each size of pipe, the amount of overlaps, position of seals or packers, pipe perforation and screens, etc.) 35' of 22" curbing from 6" above ground to 34'6"; 60'4" of 10" pipe from +2½ to 57'10", bottom length W.I., remainder standard black. 8' of 10" 120-slot Johnson Everdure screen, bottom at 76'3" 10' of 10" 100-slot " " " " " 66'3"

WELL DATA

Curb Elevation 719 [*] Ft. Present Depth — Ft. Final Depth 76'3" ~~Ft.~~

Ground Elevation _____ Ft. Topographic Position Slope on upland plain

Static Level (Depth to Water (~~Above~~) (Below) Curb) 45'3" ~~Ft.~~ Pumping Level 67'6" Ft.

Amount of Drawdown 22'3" ~~Ft.~~ pumping at 412+ g.p.m. in 1 hours 30 minutes.

Calculated gals. per ft. drawdown ____ g.p.m.

Type of Pump Turbine. Power Electricity.

Depth of Bottom of Pump 66'2" ft. with 6'7" ~~ft.~~ of suction pipe.

TEMPERATURE: Air 50 °F.; Water 53¼ °F., measured after well had pumped 1 hrs. 30 mins. at 412 g.p.m.; 26 ft. from pump after waterhhad passed through the following pipe 21' of 8", 5' of 4" Time 2:25 (~~A.M.~~) (P.M.)

SOURCE OF WATER: Recent (Type and Depth) _____

Glacial Formations (Type) Sand + gravel at 45 ft. to 76 ft.

Limestone or Dolomite (Age) _____ at ____ ft. to ____ ft.

Sandstone (Age) _____ at ____ ft. to ____ ft.

Principal Producing Formation Pleistocene

REMARKS [* Top of 10" pipe]

Sample taken for: Mineral Analysis (X); Sanitary Analysis ( ).

Data Collected by H. G. Hershey; Date Nov. 1, 1940

Report Analysis to H. G. Hershey, Iowa Geological Survey, Iowa City

coded 12/72 Davis

STATE HYGIENIC LABORATORY, DES MOINES BRANCH
WATER LABORATORY DIVISION
MINERAL ANALYSIS

LAB. NO. 2994
MINERAL NO. 5957
30 June 19 67

TOWN Durant COUNTY Cedar
OWNER OF SUPPLY Town of Durant
COLLECTOR'S NAME Earl C Voelker Sr
DATE COLLECTED 9 May 67 DATE RECEIVED 11 May 67
REPORT TO: NAME Environmental Engineering Service
ADDRESS State Department of Health

FIELD DATA

SOURCE: WELL NAME, NUMBER, POINT OF COLLECTION, DEPTH, CONSTRUCTION DATE, ETC., "Park" Well #2 tap on discharge line 76'

WELL PUMPED 4 HRS. AT 250 GPM. DATE OF PREVIOUS SAMPLE 10 Jan 61
WAS SAMPLE FREE OF TURBIDITY WHEN COLLECTED Yes
TEMPERATURE °F 54 ALKALINITY (ppm $CaCO_3$) P ____ T ____ pH ____
IS A POLYPHOSPHATE BEING USED? No

LABORATORY ANALYSIS
(PARTS PER MILLION)

SPECIFIC CONDUCTANCE K AT 25°C 63 x 10^{-5}. TURBIDITY ____
DISSOLVED SOLIDS 382 SOLUBLE IRON (Fe) 0.04
TOTAL SOLIDS 382 SILICA (SiO_2) 22 TOTAL IRON (Fe) 0.04
ALKALINITY (ppm $CaCO_3$) P None T 282 pH 7.4 DATE 11 May 67

POSITIVE IONS		NEGATIVE IONS	
K^+	0.9	NO_3^-	24
Na^+	11	F^-	0.25
Ca^{++}	80.0	Cl^-	8.5
Mg^{++}	31.1	SO_4^{--}	46
Mn^{++}	< 0.05	HCO_3^-	344
Al^{+++}		CO_3^{--}	None

HARDNESS AS $CaCO_3$ 328 ppm 19.2 gpg

ANALYST Ryan, Peterson
lls

R. L. MORRIS
PRINCIPAL CHEMIST

coded 12/72 Davis

STATE HYGIENIC LABORATORY, DES MOINES BRANCH
WATER LABORATORY DIVISION
MINERAL ANALYSIS

LAB. NO. 1586
MINERAL NO. 2734
Feb. 27 19 61

TOWN Durant COUNTY Cedar
OWNER OF SUPPLY Town of Durant
COLLECTOR'S NAME Kenneth Korthaus
DATE COLLECTED Jan. 10, 1961 DATE RECEIVED Jan. 11, 1961
REPORT TO: NAME Division of Public Health Engineering
ADDRESS State Department of Health

FIELD DATA

SOURCE: WELL NAME, NUMBER, POINT OF COLLECTION, DEPTH, CONSTRUCTION DATE, ETC., Well #2 76 ft

WELL PUMPED ____ HRS. AT ____ GPM. DATE OF PREVIOUS SAMPLE ____
WAS SAMPLE FREE OF TURBIDITY WHEN COLLECTED yes
TEMPERATURE °C 60 F ALKALINITY (ppm $CaCO_3$) P ____ T ____ pH ____
IS A POLYPHOSPHATE BEING USED? no

LABORATORY ANALYSIS
(PARTS PER MILLION)

SPECIFIC CONDUCTANCE K AT 25°C 62.1 x 10^{-5}. TURBIDITY ____
DISSOLVED SOLIDS 367 SOLUBLE IRON (Fe) <0.02
TOTAL SOLIDS 367 SILICA (SiO_2) 21.4 TOTAL IRON (Fe) <0.02
ALKALINITY (ppm $CaCO_3$) P none T 272 pH 7.3 DATE Jan. 11, 1961

POSITIVE IONS		NEGATIVE IONS	
K+	1.1	NO_3 — asN	7.0
Na+	9.4	F−	0.25
Ca++	83.2	Cl−	9
Mg++	31.1	SO_4−−	42.4
Mn++	<0.05	HCO_3−	332
Al+++		CO_3−−	none

HARDNESS AS $CaCO_3$ 336 ppm 19.6 gpg ____

ANALYST Ryan

R. L. MORRIS
PRINCIPAL CHEMIST

bw

Cedar Dam, 6-25-73

DEC -6 1957

STATE HYGIENIC LABORATORY, IOWA CITY, IOWA
WATER LABORATORY DIVISION
MINERAL ANALYSIS

LAB. NO. 9919
MINERAL NO. 5423
12-5-57 19

TOWN Durant COUNTY Cedar
OWNER OF SUPPLY Town of Durant
COLLECTOR'S NAME E. E. Johnson (Supt. of Water)
DATE COLLECTED 10-14-57 DATE RECEIVED 10-15-57
REPORT TO: NAME State Dept. Health
ADDRESS Des Moines, Iowa

FIELD DATA

SOURCE: WELL NAME, NUMBER, POINT OF COLLECTION, DEPTH, CONSTRUCTION DATE, ETC., well #1 85 ft. 1939

WELL PUMPED 2 HRS. AT 175 GPM. DATE OF PREVIOUS SAMPLE 9-30-57
WAS SAMPLE FREE OF TURBIDITY WHEN COLLECTED yes
TEMPERATURE °C ALKALINITY (ppm $CaCO_3$) P T pH
IS A POLYPHOSPHATE BEING USED?

LABORATORY ANALYSIS
(PARTS PER MILLION)

SPECIFIC CONDUCTANCE K AT 25°C 58.5 x 10^{-5}. TURBIDITY
DISSOLVED SOLIDS 366 SOLUBLE IRON (Fe) <0.05
TOTAL SOLIDS 366 SILICA (SiO_2) 21.6 TOTAL IRON (Fe) <0.05
ALKALINITY (ppm $CaCO_3$) P none T 252 pH 7.55 DATE 10-15-57

POSITIVE IONS		NEGATIVE IONS	
K+	<1.0	NO_3 — asN	5.8
Na+	7.5	F—	0.25
Ca++	71.7	Cl—	8.0
Mg++	32.3	SO_4--	34.8
Mn++	<0.05	HCO_3—	307
Al+++		CO_3--	none

HARDNESS AS $CaCO_3$= 312 ppm 18.2 gpg
Clear when received.

ANALYST Dougherty
dt

R. L. MORRIS
PRINCIPAL CHEMIST

Coded 12/14/72
Davis

IOWA GEOLOGICAL SURVEY
Iowa City, Iowa
Water Analysis Report

County Cedar Date Sampled 12-18-51

Town Durant Sampled by M. V. Stephenson

Location of well _____ sec. _____, T. ___ N., R. ___ E W. _____ Twp.

Owner Town of Durant Well No. New well. Depth 76' 3" Ft.

Type of well _____ Static level _____ ft. Curb elevation _____ Ft.

Producing Formation(s) _____ Depth range _____

Notes on condition of well, casing, or formations:

Dissolved constituents and properties (in parts per million except as indicated):

Silica (S_iO_2)		Dissolved solids	500
Iron (Fe)	0	Hardness (calc. as $CaCO_3$)	
Manganese (Mn)	0	Total	403
Calcium (Ca)	97	(as grains per gallon)	23.5
Magnesium (Mg)	39	Carbonate	310
Sodium and potassium (Na+K), as sodium	19	Noncarbonate	93
Carbonate (CO_3)	0	Alkalinity (as $CaCO_3$)	310
Bicarbonate (HCO_3)	378	pH	7.8
Sulfate (So_4)	70	Specific Conductance (micromhos at 25°C.)	709
Chloride (Cl)	20	Temperature (°F)	53.6
Fluoride (F)	0.3		
Nitrate (NO_3)	35		

Analysis No. 12895 (3532) Date analyzed 1-16-52 I.G.S. well No. _____

Remarks: Pump discharge 6' from well. Sample collected after well pumped 5 hrs. at 185 gpm.

Coded 12/14/72 DAVIS D.A.D.

IOWA GEOLOGICAL SURVEY
Water Analysis Report

County Cedar Date Sampled November 1, 1940 193

Town Durant Sampled by H. G. Hershey

Location of Well SW¼ SE ¼, SW ¼, Sec. 36, T. 79 N., R 1 E W.
Farmington Twp.

Owner Town of Durant Well No. 2 : T.D. 76'3" ft.

Type of Well Drilled Static Level 45'3" ft. Curb Elevation 719 ft.

Producing Formation(s) Pleistocene Depth range 45'-76'

Remarks on Condition of Well, Casing or Formations 35' of 22" curbing from 6" above ground to 34'6"; 60'4" of 10" pipe from +2½ to 57'10", bottom length W. I., remainder standard black; 8' of 10" 120-slot Johnson Everdure screen, bottom at 76'3"; 10' of 10" 100-slot Johnson " " " 66'3".

Constituents	Parts Per Million	Constituents	Parts Per Million
Total Solids	544.	Magnesium (Mg)	36.6
Dissolved Solids	.	Iron(Fe) (unfiltered) (filtered)	0.2
Insoluble Matter	7.0	Manganese (Mn)	trace
pH	7.1	Aluminum (Al)	.
Alkalinity (MeO)	298.0	Fluorine (F)	1.1
Alkalinity (Phn)	0.0	Chlorine (Cl)	25.0
R_2O_3	1.0	Sulphate (SO_4)	56.6
Nitrogen as Ammonia(NH_4)	.	Bicarbonate (HCO_3)	363.6
Nitrogen as Nitrite(NO_2)	.	Phosphate (PO_4)	.
Nitrogen as Nitrate(NO_3)	~~0~~ 2.7 60	Borate (BO_3)	.
Alkalies as Sodium(Na)	11.4	Calculated Hardness	389.
Calcium (Ca)	95.1	Hardness Grains per U. S. Gallon	22.7

Temperature: Water 53½ °F. Air 50 °F. Measured at 2:25 P.M. after well had pumped 1 hour 30 ~~mins.~~ at 412 g.p.m.; 26 ft. from pump after water had passed through 21' of 8", 5' of 4" pipe.

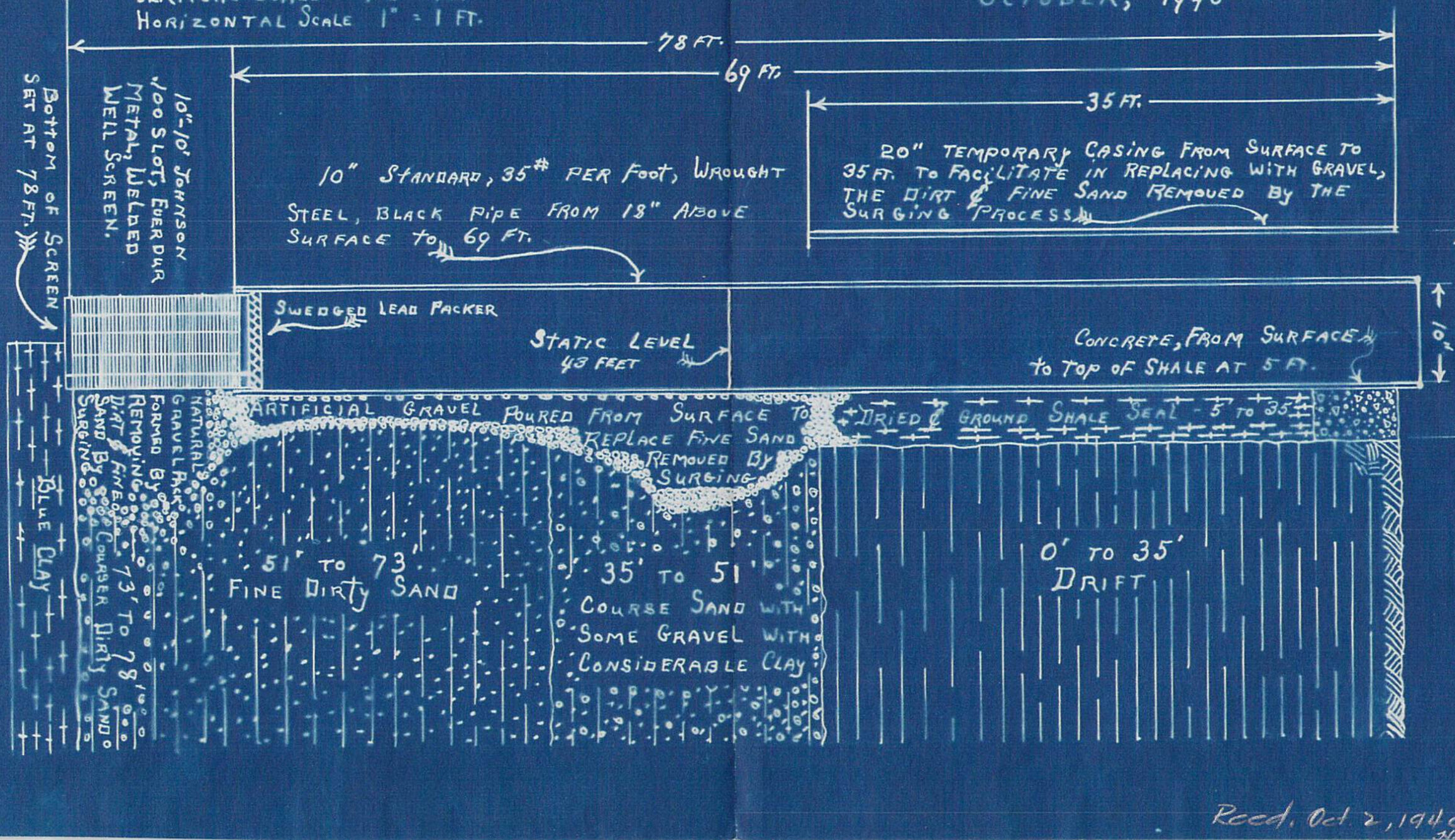
Remarks:

Analysis by State Water Analysis Laboratory, Prof. J. J. Hinman, Jr., Director,
Iowa City, Iowa. Lab. No. 154388, Date January 8, 1940, 193.
Sent to: D. E. Edwards, West Branch: City Clerk, Durant, Iowa.
Date: February 17, 1941. February 18, 1941

Proposed Well — City of Durant, Iowa

Vertical Scale 1½" = 10 Ft.
Horizontal Scale 1" = 1 Ft.

October, 1940



Reed, Oct. 2, 1940