IOWA STATE DEPARTMENT OF HEALTH
DIVISION OF PUBLIC HEALTH ENGINEERING AND INDUSTRIAL HYGIENE

GROUND WATER

Town Blairstown County Benton Date August 16 1946

WELL NO. New Active X Standby Abandoned Replaced by No.

LOCATION: Street Freemont Sec. 14 T. 82 N.R. 11 ////// West

Lot 12 Block 1 Township Leroy

OWNERSHIP Blairstown Date Installed 19

CONTRACTOR Hoeg and Ames Address Lincoln, Iowa

DATE RECONDITIONED 19 Contractor Address

CONSTRUCTION EMPLOYED: Drilled

CURB ELEVATION 875.0 REFERENCE I.G.S.

TYPE OF CONSTRUCTION Drilled Depth 748 ft. Diameter 13 in.

CASING: Material Condition New in 1943

SCREEN: Material None Length ft. Diameter in. Slot Opening in.

WELL SEALED Yes How Pump base tight Approved Yes

WELL VENTED Yes How 2 vents- one in pedestal, one in pump base Approved Yes

TYPE OF PUMP Turbine Make Fairbanks Morse Capacity 150 GPM Lubricated Oil

DEPTH TO CYLINDER 210 ft. Tail Pipe 10 ft.(Bowl length--5') ft.

PUMP CONTROL: Manual X Automatic Semi-Automatic

STATIC LEVEL 103 ft. Pumping Level ft. Drawdown ft.

OPTIMUM SPECIFIC YIELD GPM Drawdown ft. Time hrs.

RATE OF DRAWDOWN Rapid Rate of Recovery Rapid

TEMPERATURE OF WATER 56 °F Where Measured at pump Temp. of Atmosphere 39 °F

DRAWDOWN GAUGE INSTALLED No

TOPOGRAPHICAL POSITION OF WELL High ground

WELL SITE INVESTIGATED Yes Approved Yes Why not

WELL CONSTRUCTION REVIEWED Yes Approved Yes Why not

PIT CONSTRUCTION: Purpose None Size and Description

CONDITION: Drainage Facilities

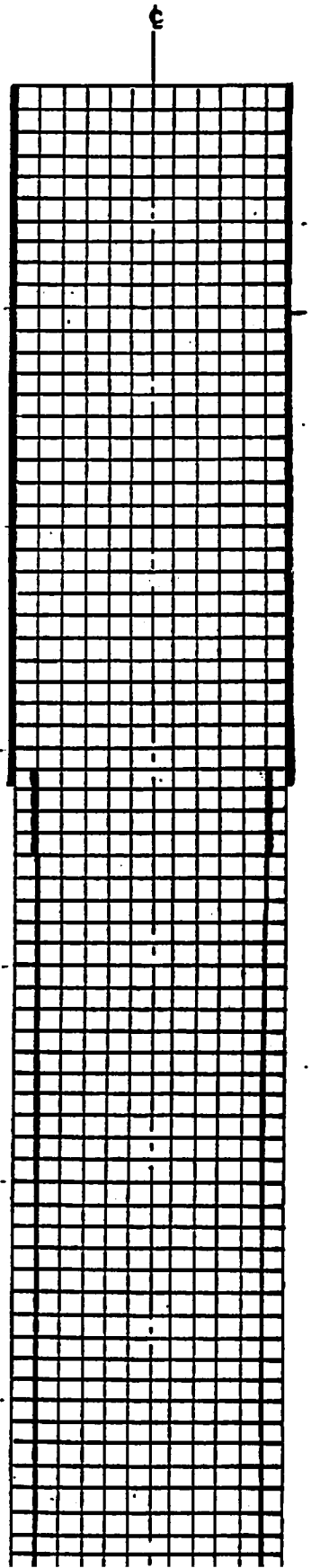
PUMP INSTALLATION: Approved Yes Why Not

CUTTINGS FROM WELL PRESERVED: Yes Where Iowa Geo. Survey

DEPTH TO BED ROCK 225 ft. Depth to Water-bearing Stratum 515

SOURCE OF WATER: Principal Formation Silurian dolomite Other Devonian

GEOLOGICAL DATA			CASING DATA	WELL DATA	
Formation	Material and distance from surface in ft.	Series	Position, kind and extent of casing, liners, shoes, etc.	Scale: Horizontal 1" = 1" Vertical 1" = 10'	Position of seals, screens, static level, etc.
	0'-5' - Sand & silt				
Pleistocene	5-170 Till, sand		318'-11" of 13" O.D. pipe from 0' to 318'-11". 40'-4" of 10" I.D. pipe from 310' to 350' Open 10" hole from 350' to 748'		Static Level - 103'
Pennsylvanian	170-215 Shale & clay				Col. dia.: 8 5/8", Length: 210' Bowl length: 5' Suction pipe: 10'
Mississippian(?)	215-225				
Devonian Lime Creek	225-317 Shale & dolomite				
Devonian Cedar Valley	317-457 Limestone Dolomite				
Devonian Wapsipinicon	457-515 ~~Wapsipinicon~~ Dolomite				
Silurian	515-748 Dolomite Chert				



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STATE OF IOWA
IOWA GEOLOGICAL SURVEY
GEOLOGY ANNEX
IOWA CITY

Results of Production Test

at

Camp Minneyata Well No. 2

near Big Rock, Iowa

June 5, 1944

Name: Camp Minneyata Well No. 2
Location: SE¼ NE¼ SW¼ sec. 36, T. 81 N., R. 1 E.
Elevation: Land surface altitude, 714 feet by Aneroid. Curb (top of 6-inch casing) 715 feet.
Owner: Boy Scouts of America
Contractor: D. E. Edwards
Driller: Joe Kintz
Date started: May 25, 1944
Date finished: June 3, 1944
Depth: 217 feet
Hole size and casing: 8-inch temporary casing set at 20 feet.
8-inch hole drilled to 140 feet
6-inch W.I. casing set at 140 feet and cemented at bottom with 2 sacks of neat cement.
6-inch open hole from 140 to 217 feet.
Chief aquifer: Silurian dolomite from 157 to 173 feet.
Test pump: Set about 80± feet of 4½-inch pipe, 4-inch cylinder set at about 90-foot depth. Powered by drilling rig at rate of 37½ strokes per minute, length of stroke, 1.9 feet.
Discharge measurements: Discharge was determined by time to fill an 85 gallon tank. Discharge line was 6.0 feet in length.
Measuring point: Top of 4 x 6-inch wood clamp 1.5 feet above land surface, 1.3 feet above temporary 8-inch casing, 0.4 foot above top of 6-inch casing, and 2.0 feet below northeast corner of swimming pool walk.

cc to Mr. W. C. Souder, Boy Scouts of America, 614 Putnam Bldg, Davenport, Iowa, June 8
Mr. D. E. Edwards, West Branch, Iowa, June 8, 1944

Time	Depth to water in feet	Discharge Gallons per min.	Remarks
June 5			
11:25 a.m.	49.90		Static level (approximate)
11:54	49.83		Static level (approximate)
11:55			Pumping started.
11:56		50	Measured into 5 gal. bucket, 6 sec. Water very dirty.
12:01 p.m.	51.39		
12:06			Temp. water 51-°F. Still muddy.
12:13	51.65		
12:21			Temp. water 51-°F. Still muddy.
12:24		42	Muddy but clearing appreciably.
12:35	50.84		
12:37			Temp. water 51-°F. Air temp. 65°F.
12:40	51.10		
12:45	54.2		Pumping rate changed. Milky water.
12:54	51.75		
1:23 p.m.	51.75		Milky but clearing.
1:30	51.75	52.5	Temp. water 50.5°F.
2:25	51.70		Slightly milky
3:21	51.67		
3:25	51.70		Collected sample.
3:32		50.5	Water temp. 50+°F., Air temp. 65°F. Fairly clear.
3:33			Pumping stopped.
3:34	49.85		
3:35	49.83		
3:36	49.79		
3:37	49.73		
3:41	49.70		
3:43	49.72		
3:47	49.76		
3:49			Pump started.
3:49:30	51.10		
3:51	51.26		
3:52	51.30		
3:54	51.27		
4:04	51.67		

STATE OF IOWA

IOWA GEOLOGICAL SURVEY

GEOLOGY ANNEX

IOWA CITY

RESULTS OF A PUMPING TEST

on

Blairstown Town Well No. 2
Benton County

November 27, 1943

Location: SW¼ SW¼ SW¼ sec. 14, T. 82 N., R. 11 W., Leroy township.
Owner: Town of Blairstown
Contractor: Hoeg and Ames, Lincoln, Iowa
Driller: Homer Rhodes and Leroy Ames
Depth: 761 feet below drilling platform (to be remeasured)
Elevation of drilling platform: 875' above sea level
Data started: September 22, 1943
Date finished: November 24, 1943

Casing: 0 - 318'11", 318'11" of 13-inch O.D. pipe
310 - 350' 40'4" of 10-inch I.D. pipe
350 - 761' open 10-inch hole

Producing horizon: Silurian dolomites

Water levels: At drilling depth of 665 feet, water level 103.6 feet below top of 13-inch O.D. pipe .4 foot above drilling platform, November 18, 1943.

Measuring point during pumping test was hole in pump base, .56 foot above BM-J-84 and 2.25 feet above land surface. Elevation 875.56 feet above sea level.

Test pump: Right angle drive turbine pump. 210 feet of 3½" pump column, 5 feet of bowls (11 stages) and 10 feet of suction pipe. Powered by gasoline motor with direct drive.

Production: Pumping rate determined by measuring amount of water pumped into tank in 30 seconds. Surface area of tank 1497 sq. in. 1 inch of water - 6.5 gallons.

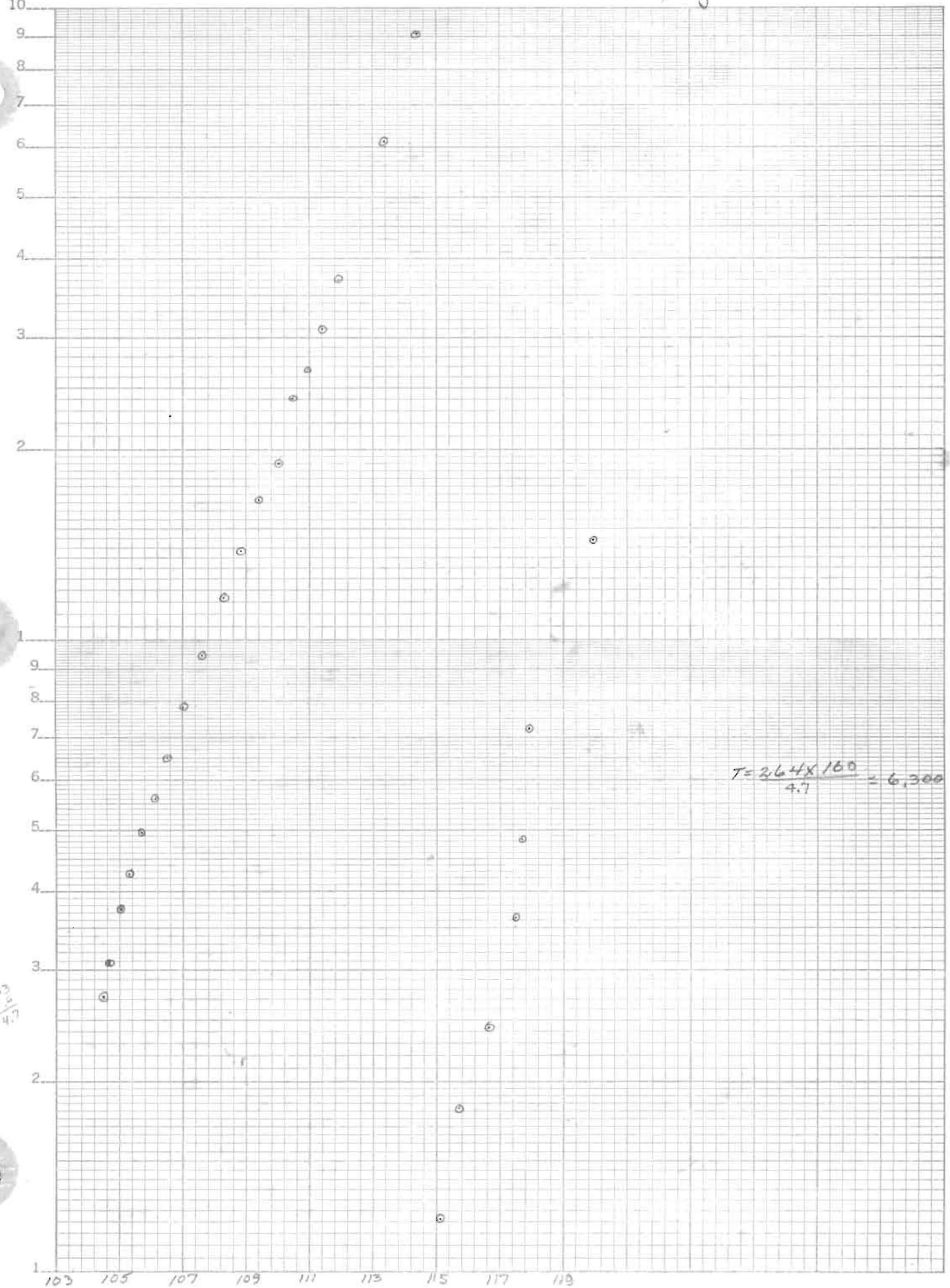
Time	Depth to water	Discharge G.P.M.	Remarks
11-26-43			
9:10 p.m.	103.05		
11-27-43			
9:15 a.m.	103.02 (tape)		
9:52			Pump started.
10:00		95	Water milky color.
10:08	115		
10:17	114.5	103	

cc to S. R. Ames, Lincoln, December 7, 1943; Mayor G. W. Goss, Blairstown, Dec. 7, 1943 and W. E. Hale, USGS, Dec. 6, 1943

Time	Depth to water	Discharge g.p.m.	Remarks
11-27-43			
10:30 a.m.	117.12		Temp. 56° F.
10:40	118.42		
10:45		126	Water cloudy Slight H_2S odor
10:52	119.52		
11:00	119.75		
11:10		141.0	Water cloudy
11:17	120.07		
11:27	120.31		
11:36	120.63		
11:45		130	Water cloudy
11:48	120.25		
12:27 p.m.	120.25		
12:30		133	Temp. 56°F.
12:37	120.57		
12:45	121.10		
1:00		139	Temp. 56½°F.
1:08	121.48		
1:10	121.77		
1:18			Pump stopped
1:19:30			Pump started
1:27		167	Temp. 56½° F.
1:31	125.75		
1:40	126.63		
1:50		187	
1:54	127.15		
2:15	127.65		
2:25		187	
2:30	128.35		
2:40	128.32		
2:55		191	
3:04	128.60		
3:15	129.46		
3:20		198	Water cloudy
3:25	129.67		
3:42			Sample 56½°F. Air about 40°F. Slight H_2S odor.
3:43	129.87		
3:47		201	
3:51	129.84		
3:52			Pump off.
3:52:15	119.97		
3:52:30	117.99		
3:52:45	117.71		
3:53	117.41		
3:53:30	116.63		
3:54	115.70		
3:55	115.11		

Time	Depth to water	Discharge g.p.m.	Remarks
3:56 p.m.	114.44		
3:58	113.36		
4:02	111.93		
4:04	111.40		
4:06	110.96		
4:08	110.55		
4:12	109.95		
4:15	109.41		
4:20	108.84		
4:26	108.28		
4:35	107.62		
4:45	107.02		
4:58	106.50		
5:10	106.06		
5:23	105.71		
5:43	105.34		
6:03	105.06		
6:44	104.65		
7:10	104.54		

Blairstown, Iowa
Well No. 2
Pumping test, Nov. 29



Semi-Logarithmic
2 Cycles x 10 to the inch.
MADE IN U.S.A.

No. 5782

$T = \frac{264 \times 160}{4.7} = 6,300$