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

GROUND WATER

Town Charlotte County Clinton Date November 9 19 49

WELL NO. 2 Active X Standby Abandoned Replaced by No.

LOCATION: Street Cor. Louise & Charles St. Sec. 26 T. 83 N.R. 4 East: ~~West~~
Part of Costello Add.
Lot 18 Block Township Waterford

OWNERSHIP Town Date Installed April 17 19 49

CONTRACTOR Layne-Western Co. Address Ames, Iowa

DATE RECONDITIONED 19 Contractor Address

CONSTRUCTION EMPLOYED:

CURB ELEVATION REFERENCE

TYPE OF CONSTRUCTION Drilled Depth 155 ft. Diameter 12 in.

CASING: Material Steel Condition New

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

WELL SEALED Yes How Concrete around pump base Approved Yes

WELL VENTED Yes How Thru pump base - screened turned down ell Approved Yes

TYPE OF PUMP Turbine Make Layne-Western Capacity * 200 GPM Lubricated Water

DEPTH TO CYLINDER ** 50' setting 5' bowl assembly ft. Tail Pipe ** 10 ft.

PUMP CONTROL: Manual Automatic X Semi-Automatic

STATIC LEVEL 37 ft. Pumping Level *** 52 ft. Drawdown 15 ft.

OPTIMUM SPECIFIC YIELD 140/260 GPM Drawdown 10/20 ft. Time 2½/2½ hrs.

RATE OF DRAWDOWN Rapid Rate of Recovery Rapid

TEMPERATURE OF WATER 11°C °F Where Measured End 23'-2" pipe Temp. of Atmosphere °F

DRAWDOWN GAUGE INSTALLED Yes - ? 50' airline

TOPOGRAPHICAL POSITION OF WELL On top hill

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 Why Not

CUTTINGS FROM WELL PRESERVED: Yes Where I.G.S.

DEPTH TO BED ROCK 20' Depth to Water-bearing Stratum 85'

SOURCE OF WATER: Principal Formation Silurian Dolomite Other

DATE RECONDITIONED..... 19..... Contractor..... Address.....

CONSTRUCTION EMPLOYED: .....

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PUMP CONTROL: Manual Automatic X Semi-Automatic

STATIC LEVEL 37 ft. Pumping Level *** 52 ft. Drawdown 15 ft.

OPTIMUM SPECIFIC YIELD 140/200 GPM Drawdown 10/20 ft. Time 3/2½ hrs.

RATE OF DRAWDOWN Rapid Rate of Recovery Rapid

TEMPERATURE OF WATER 11°C °F Where Measured End 23'-2" pipe Temp. of Atmosphere °F

DRAWDOWN GAUGE INSTALLED Yes - ? 50' airline

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DEPTH TO BED ROCK 20' Depth to Water-bearing Stratum 85'

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**** Total Hardness 322 ppm. Total Iron 0.6 ppm. Sulfates 52.7 ppm. Fluorine 0.5 ppm.

Manganese 1.6 ppm. pH 7.2 CO_2 ppm.

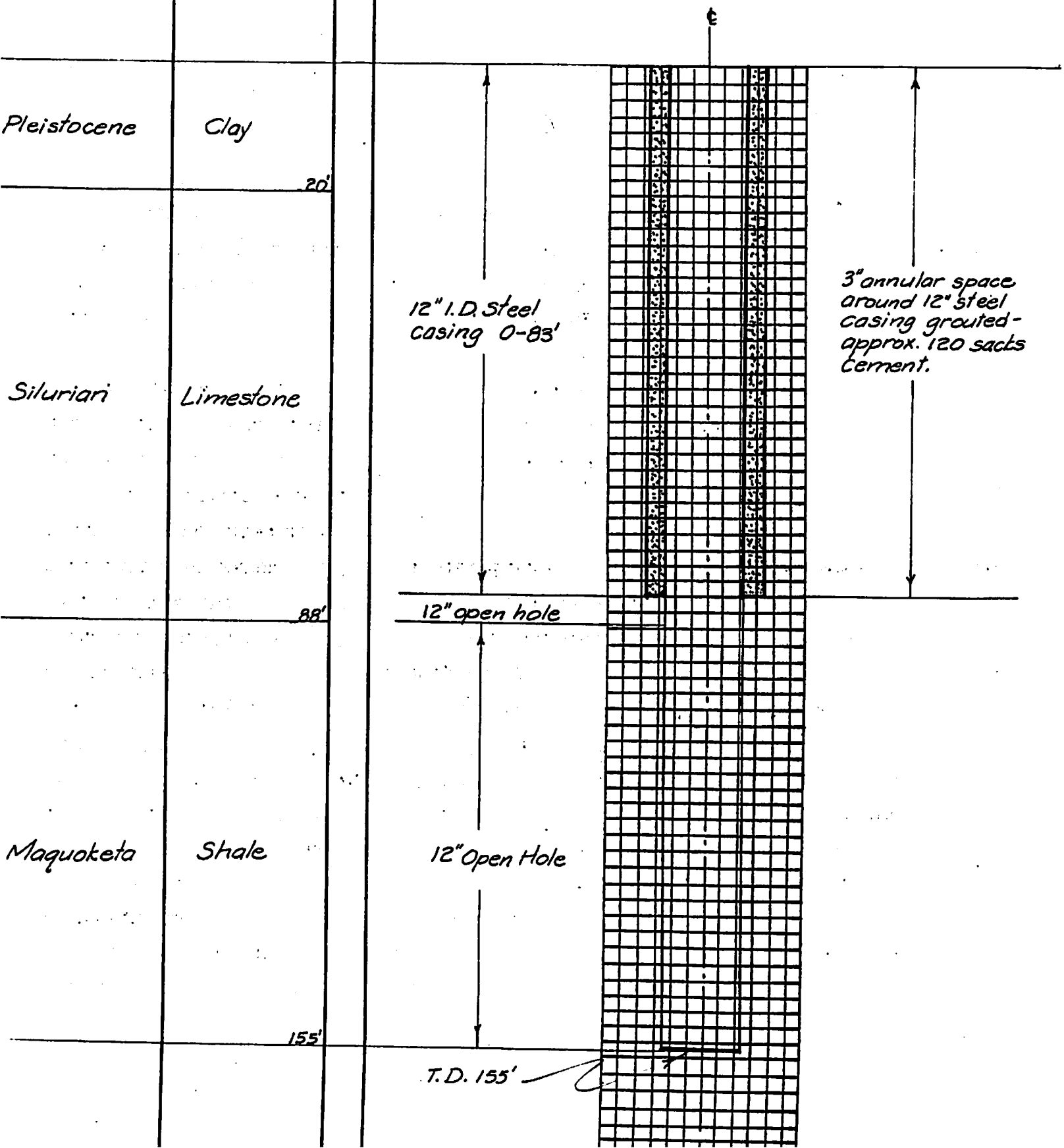
REMARKS: * Against 150' head

** 4" Column & 4" Tail Pipe

*** At approx. 145 g.p.m. - measured by orifice and water press. tube

**** Lab. No. 5462 - Mineral No. 3076 - Sept. 20, 1949

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"= 20" Vertical 1"= 20'	Position of seals, screens, static level, etc.



Northway Well and Pump Co.

4895 8th Avenue
Marion, Iowa 52302

PUMP REPORT

CUSTOMER Charlotte Water Works WELL NO. #2 DATE 6-23-00

WELL DEPTH 109' WELL TOP SIZE 18" SIZE OF CASING 12"

GPM 80 STATIC LEVEL 37' PUMPING LEVEL 56'

CONTROL

MAKE Square D SIZE 2 MODEL

CABLE SIZE #10/3 LENGTH 86 BREAKER SIZE 40

MOTOR

MAKE Crown H.P. 5 VOLT 230 RPM 3450

TYPE VCTI PHASE 3 CODE G FRAME 6"

RING BASE SERIAL

RESISTANCE:				
	WIRE TO WIRE	-0-	-0-	-0-
	WIRE TO GROUND	INF	INF	INF
	RUNNING VOLTAGE	244	244	243
	RUNNING AMPS	33	36	36
	SPLICE	HS		

PUMP

TURBINE ____ SUBMERSIBLE X

DISCHARGE HEAD: MAKE Plate SIZE 3"

TYPE Steel SERIAL

HEADSHAFT: DIA. LENGTH

LOWER DRIVE SHAFT

COLUMN 3" SHAFT MATERIAL Standard

BOWL: MAKE Crown MODEL 51CS80 STAGE 5

SIZE IMP MATERIAL Standard

STEP COUPLING X STRAINER Yes SUCTION DIA.

LENGTH LONGEST LENGTH 21' TOTAL SETTING 86'

GPM 80 TDH 160'

REMARKS: The above pumping equipment was installed new after the existing lineshaft turbine pump was removed and found to be in very poor condition and non repairable.

Phone 319-377-6339 **1-800-747-6339** **FAX 319-377-8148**

Northway Well and Pump Co.

4895 8th Avenue • Marion, Iowa 52302 • Telephone 319-377-6339
100 North 6th Street • Waukee, Iowa 50263 • Telephone 515-987-4575

VIDEO

WATERWELL
LOG

CUSTOMER	City Water Works	**WELL NO.**	#2 **DATE** 6-13-00
LOCATION	Under water tower west of well #2	**CITY**	Charlotte, Iowa
TYPE OF CASING	Steel	**SIZE**	12"
CASING LENGTH	+2 to 77'	**YEAR INSTALLED**	1949

FOOTAGE	CLOSED CIRCUIT TELEVISION FINDINGS
3'	Hole developing in casing wall
15'	Thin area in casing
34'	12" Weld joint
37'	Static water level
72' to 77'	Deep pitting in casing
77'	Bottom of 12" casing
86'	Small piece of plastic draw down
86' to 88'	Large formation crevice
107'	Bottom of well
	NOTE: The casing from 2' to 37' there is a large amount of pipe
	scale on the casing wall. The casing appears to be moderately
	deteriorated above the static water level. The area directly
	beneath the casing is open indicating there is no grout present
	for a seal. The bottom 9' of the well indicates no water flow
	due to the turbidity of the water.

KNOWLEDGE • EQUIPMENT • RELIABILITY • EXPERIENCE