In Cooper	IOWA GEOLOGICAL S ation with U. S. G	URVEY eological Survéý f.	<u>W-20.</u>	27
Location:				+
Town: Tipton	()	E) W);County <u>Ceda</u> E.		
<u>NV/c</u>	sec. 6 1.80 N	.,R. 2 W. Center	_1wp.	i
Well name and numo	er <u>lipton Cit</u>	<u>y Well_59</u>		T.
Owner <u>Town</u>	f Tipton	Address		
Tenant		Address		
Contractor <u>D. E</u>	dwards	Address	West Branch	
Drillers	1.Kintz			
Drilling dates _	April 39 1945-	- May 28, 195	15	
Well data: Elevations: Dri	lling curb8/	5 feet; Land su	urface	feet
:	Sugar and		2	
Topographic f Total depth: Re	ported <u>455</u>	feet, Measure	əd	fcet
Drilling method	cable	tool		
Hole and casing	data 132'8	" of 25/botd	nom + 20" to 13	<u></u>
position of s	6" 1916. std p seals and packers;	cementing; how fin:	approx IST 3/4" ho ishedperforated pip	e, screen,
gravel pack, 500 hole 4	open hole, etc.) other 4 length	на эрргох 250 и арргох 250	each	a pp res
*				
Li.				
Original depth to	water <u>63</u> ft	. below <u>aut</u>	_ Date May 28	1935
Original elevati	on of water level	ft.; Sọi	arce of data drug	2ler !!
Sources of water	: Principal Silus	um229-237	; Others	
,	to 308 ft. an	nd 377 to 388	ft	
1 1				the second of

Gina

Production data:		Date	Ma	y 28(?)	1945
Static depth to water	6.3	Measuring	point	0	
Pumping level	170	at ā	0.02	_ g.p.m.	
estrates	1	Althendo	n to vater	Dept	Date.
Specific capacity	2.4 g.p.m	. per ft. drawd	own; Temper	ature. 53	°F.
Pump data; Type pump _	Turbine	Column Dia.	3"	Length	190'
Cylinder or bowls: D	ia. <u>5</u>	Length	Suct	ion pipe	3
Power <u>Electric</u>		Airline			
Estimated rate of pro	duction:		g.p.m. 1	or	_ hrs. a da
Use of water	ity Supply			-	
	WATER ANALYSE	S (in parts per	million)		
Date sampled	10 y 22, 1945				
Sampled by	H.J. & D.A.D.	Real Stammers	-	in the second	Calification .
Total solids	345		-		
Insoluble matter	30.0	Barrier and the state of the second			
Alkalinity (Meo)	292.0		and the second		
Alkalinity (Phn)	<u>e.</u> R				
pH	2.4 .				in the second second
Fe203+ Mn203+A1203	5,0				
Alkali as sodium	16.2				
Calcium	69.3				
Magnesium	24.5				
Iron (unfiltered)	2.0				
Manganese	0.00	and the second second			
Nitrate	1.7				
Fluoride	0.4				
Chloride	2.0 (		n in einen		
Sulfate	8.2	Rendered States and	•		
Bicarbonate 3.	56.2				
Hardness (ppm)	277				
Hardness (gpg)	16.2				
Remarks					
Laboratory data:		Sei	mple storag	e location	
Sample range <u>0-</u>	455 No	. spls	No.	dupls. & co	nd
Spls. prepared by	Push Wa	shed range		. by	
Driller's log and co	nd		-1 1	Chester 3	
Insoluble residues:	Prepared by_	Studi	ed by	Strip 4	.og
Microscopic study_0	- 455	E.S. Strip Log	May-Jung	<u>2 1925 E</u>	· Schultz
Gen. log		Correl. b	y E. S.C.	undy	

15 4 . 13



Fraduoriton date:

# D. E. EDWARDS

File GW

WELL DRILLING, ELECTRIC PUMPS and SUPPLIES PHONE 278 WEST BRANCH, IOWA

#### June 4 1945.

WELL FOR CITY WATER SUPPLY OF TIPTON IOWA.

Drilling began April 30 1945, drilling completed May 28 at 9:30 A.M. 1945, Total depth 455' Static level 63'.

TEMPORARY CASING: The well was started with 10" casing, which was removed at the completion of the well.

PERMANENT CASING: 132' 8" of 8", 251bs per foot standard pipe was set from 20" above ground level to 131' below ground level. 107' 6" of 6" 191bs per foot standard pipe perforated with approximately 1500. 3/4" holes was set from 224' 10" to 332' 4", the top length has approximately 500 3/4" holes in it and the other four lengths has approximately 250 holes each.

#### FORMATION:

From	groun	nd su	rface to 117 consisted of clay with no sand stratas.
117'	to	229'	consisted of a medium soft yellow rock.
553;	to	237!	consisted of a very soft broken yellow rock with practically an open crevis between 235' and 237'.
237'	to	350	consisted of a medium soft yellow rock becoming slightly
350	to	445*	consisted of a light gray rock becoming very chirty in the
445	to	455'	Dark gray to blue rock consisting of some shale bands.
		1.	

#### MAIN WATER STRATAS:

From 229' to 237', the rock was very broken with a considerable amount of yellow clay feeding in between 235' and 237', this strata was surged and bailed until the yellow clay ceased coming and chunks of blue clay was surged into the well, the 8" hole was then drilled to 332' 4", with some water supply between 203' and 208; as the water was fairly clear and the cuttings very clean at this depth, from 377' to 388' the water was clear and we obtained less then one quart of cuttings in the 9' of drilling, and as we drilled by this depth for 30', the cuttings washed across into the old well rileing the water in same.

#### TESTING FOR QUANITY OF WATER:

At a depth of 332' 4" a pumping test was made, pumping 240 G.F.M. for approx inately 4 hrs. from a pumping level of 160' with the pump in the old well shut off, the pump in the old well was started for 5 minutes pumping some water and the pumping level in the new well dropped to 165', the pump in the old well was then stopped and the pumping level in the new well raised back to 160', the main supply of this water is coming from 229' to 237', This test was made in the presence of two men from the State Geological Survey Office of Iowa.

# D. E. EDWARDS

WELL DRILLING, ELECTRIC PUMPS and SUPPLIES PHONE 278

#### WEST BRANCH, IOWA

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At the completion of the drilling a 24 hr. pumping test was made, pumping 340 G.P.M. for several hours and it was pumping 290 G.P.M. at the end of the 24 hour continous pumping test.

This test was made with 7 7/8" O.D. pump bowls and 6 3/4" O.D. column coupling, and it was impossible to use an Electric draw down tester, a 1/4" copper air line was set with the pump but it was mashed in installing, and was of no service.

The bottom of the pump suction pipe was set at 100' and the pumping level was probally close to this depth.

The pump in the old well was running at the beginning of this test, but 5 minutes after starting the test pump, the pump in the old well failed to pump water, this old pump was set at 126° and 3 minutes after the test pump was stopped the pump in the old well started pumping water. The water in the new well pumped very yellow and some particles of rock and blue clay at different intervals for about 90 minutes and before the test pump was removed it was shut off for three minutes a number of times permitting the water to flow down through the 6" pump column and back into the water bearing stratas as the water could not flow up around the 7 7/8" pump bowls very rapidly, by doing this we washed out a considerable amount of clay and particles of rock at each pumping and back washing period. gradually washing out until the water was only slightly riled at each period.

This last pumping test was made in the presence of the City Council, as the State Geological Survey Office was not able to attend same.

D.E. Edwards

D.E.Edwards.

### IOWA GEOLOGICAL SURVEY Iowa City, Iowa Generalized Well Log Based on Examination of Drill Cuttings

Name of Well_Tipton_Town Well #3	Survey No. W2027
Location NW/c Sec. 6 T.80N., R.2W.	County Cedar
Total depth 455 ft. Drilled by D. E. Edwards	DateApril 30-May 28, 1945
Curb elevation 815 ft. Static level 63 ft.; Drawdo	wnft.atg.p.m.
Casing and hole size record 1321 8" of 8" casing from +20	" to 131'; 107' 6" of 6"

perforated casing.

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Description of Formation	Thickness	Depth in From	feet To
Pleistocene system (undifferentiated)			
<ol> <li>Till, buff, oxidized</li> <li>Till, drab, unoxidized, sandy</li> <li>Till, brown</li> </ol>	55 50 12	0 55 105	55 105 117
Silurian system Gower-Hopkinton series			
4. Dolomite, cream to buff, some pink, fine-grained, crystalline, dense at top becoming more porous at base, sandy	271	117	388
Kankakee (?) series			
5. Dolomite, light gray to cream, fine- grained, crystalline, porous, cherty. Chert trace to 10%, white, tripolitic	41	388	429
Kankakee series			
6. Dolomite 50-85%, cream, medium-grained, crystalline, porous. Chert 15-50%, white, opaque, conchoidal	26	429	455

Tipton City Well #3 (?) Notations of Drillers Notes Taken May 21, 1945

May 5 - Depth 220 feet. Pump not running. Static level 60' 1" Recharge 16' 1" after shut down of 10 minutes Crevasses at 229'-230' and 235-237

May 11- <u>Started Surging</u> at 3:00 PM at 31 SPM (strokes per minute) After 15 minutes water level had lowered 192' or static level of 78' 22"

> <u>2nd Surging</u> the surge was increased to 39 SPM Static level equals 80.08'

<u>3rd Surging</u> the surge was increased to 40 SPM When drill bit 1st removed static level was 82.01 After end of 5 minutes static level was 81.08

<u>4th Surging</u> was 40 SPM and static level was  $82! 4\frac{1}{2}"$ at end of 5 minutes the water started rising slowly then about 2 feet of yellow clay surged in the well at each surging.

(copied from-drillers notes by D. A. Barton)

Results of Pumping Test Tipton City Well No. 3 (?) Tipton, Iowa May 21, 1945

Name: Location: Elevation of drilling curb: Owner: Contractor: Driller: Date Started: Date Finished: Depth: Casing:

Producing horizon: Test pump:

Discharge pipe: Measuring point:

Production:

-

Tipton City Well #3 (?) NW/c Sec. 6 T SO N R 2 W 815.0+ City of Tipton D. E. Edwards West Branch, Iowa Joe Kintz May 3, 1945 Will drill farther not finished as of May 21 Present depth 332 feet 36 feet of 10-inch casing from 0 to 36' 127' 6" of 8-inch casing from plus 2' 7" to 125'. Set into rock at 117' 5". 6-inch perforated pipe from 223'-330'. 856' 3/4" holes drilled in first joint, about 420 in each joint thereafter. Silurian dolomite Turbine pump, belt driven by electric motor with 190' of 3" diameter column. 12 feet of 5-inch bowles. 19 stages. 77.6' of 4-inch pipe with four 45° angles . 3 feet above land surface. Measurements made with electric line. Discharge measured by filling 275 gallon galvanized tank. ( at 12 gallons per inch depth ) May 22, 1945

Time	Depth to water in feet below meausring point	Gellons per <u>minute</u>	Remerks	
9:55 am 11:32 11:41	74.91 (steal taps) 63.00 (steel taps)		No. 1 Well pumping No. 1 Well now shut off pump started	
11:47			mining stand	
11:48	75.00		hemiters conficts	
11:50	71.00			
11:53	68.75			
12:01pm	•		barrate started	
12:02:30	114.0			
12:04	117.0			
12:09:30	130.0			
12:10	138.0			
12: 12	140.00			
12:14	141.75			
12:16	143.75			
12:24	146.75	•	vator tomogratura 530F	
12:31	149.16	1997 - 19		
12:37	150.82	6. 1		
12:48	152.70	1 A.		
12:55	153.25		•	
1:06		240	water clear water temperature 539	生
1:11	155.00			-
2:04	158.16 -		some sand and silt yellow sodiment.	
2:10	•	234		
2:15	•		pump in old well started	
2:21	164-0			
2:21			old pump off	
· 2: 22:30	161.33		• •	
2: 24	161.25	•		
2:26	161.08			
2;28	160.92			
2: 30	160.58			
2: 55		•	water sample (bottle g-51) collected.	
3:05	160.92			
3:05:30			pumping stopped	
3:06	150.0	•	recovery measurements	
3:06:15	140.0			
3:06:20	125.0			
3:06:35	120.0			
3:07:00	110.0			
3:08:30	100.0			
3:10	95.0			
3:11	93.0		•	
3:12	91.0		•	
3:15	86.75			
3117130	85.50		•	

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<u>Timo</u>	Depth to water in feet below measuring point	Gallons per minute	Remarks
3:19 3:20:30 3:22 3:24 3.26 3:28 3:30 3:32 3:32 3:34 3:37 3:45 4:01	83.33 82.25 81.37 80.00 79.25 78.33 78.00 77.00 76.42 75.25 73.16 70.25		

			Coded 12/15/72 Pavis
STATE	HYGIENIC LABORATORY	, DES MOINES BRANCH	LAB. NO. 1741
	WATER LABORATORY	DIVISION	MINERAL NO. 2761
	MINERAL ANALY	SIS	- March 22 19 61
OWN	Tipton	COUNTY	Cedar IDWA GEOLOGICAL SURVEY
WNER OF SUPPLY	City		1:10 0 5 1001
OLLECTOR'S NAME	R. B. McAllister		BIENA C / 1301
ATE COLLECTED	Jan. 23, 1961	DATE RECEIVED	Jan. 25, 1961
EPORT TO: NAME	Division of Public H	lealth Eggineering	
ADDRESS	State Department of	Health	
	FI	ELD DATA	
OURCE: WELL NAME,	NUMBER, POINT OF COLLECTION, DE	PTH, CONSTRUCTION DATE, ETC.,	
	Well #3, Pump disch	arge 455' deep, 1946	5
ELL PUMPED	1/4 HRS. AT 275	GPM. DATE OF PREVIOUS SAMPLE	
AS SAMPLE FREE C	F TURBIDITY WHEN COLLECTED_	yes	
EMPERATURE °C	ALKALINITY (ppm CaCO <sub>3</sub> ) P	T	рН
S A POLYPHOSPHAT	E BEING USED ?		
PECIFIC CONDUCTANC	(PARTS Е К АТ 25°С56.8	PER MILLION)	
ISSOLVED SOLIDS	348	SOLUBLE IRON (Fe)	2.39
OTAL SOLIDS	348 SILICA (SI 02)	19.0TOTAL IR	ON (Fe) 2.39
LKALINITY (ppm CaCC	р <sub>3</sub> ) р попе т 320	PH 7.5 DAT	E Jan, 25, 1961
POSITIVE ION	NS	NEGATIVE IONS	
K+	2.0	NO3 — asN	1.2
Na +	9.1	F0	.25
Ca++	88.0	ci- <u> </u>	1.5
Mg++	25.3	so410	1.1
Mn + +	< 0.05	HCO3- 390	<u> </u>
AI + + +	and the state of the second	co <sub>3</sub> non	
			—
	224	19.0	
ARDINESS AS COCO3	with male wall	ppm	gpg
ineral analys	is. Some brown sandy	material settling to	bottom of containe
NALVETRVAD, Eb	ert	R. L.	MORRIS
INALISI		DDINCID	AL CHEMIST

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## THE STATE UNIVERSITY OF IOWA STATE HYGIENIC LABORATORIES IOWA CITY

Colel

No E-5			Mineral Wate	er Analysis		June 30,		9.45
Town	Tipton	. County	Cedar Sour	rce .332!¢	irilled.	Bottle # well.#3.;.	G-51 OwnerCi	ty.of
Collected b	ySE	Harris.&	D. A. Barton	ı	. on	May2.2,.		9.45
Total Solid	s	Susper	ded Solids		Dissolved	Solids		
Turbidity.		Coeffic	eient of Fineness	Co	lor	pH.7.4.	6/.2/45.	
Alkalinity	(to MeO) 292.	0Alkalir	nity (to Phn.)0	.QFr	ee Carbon	Dioxide		
Insoluble M	latter 300	. Silica (Si	0 <sub>2</sub> )F	e <sub>2</sub> O <sub>3</sub> +Al <sub>2</sub> O <sub>3</sub> +	$-Mn_2O_3$	50		
POSITIVE	IONS.	r	rM+	NEGATIVI	IONS.	r	rA <sup>-</sup>	
N as NH <sub>4</sub> +	· x	0.0714 =	·····	N as $NO_2^{-}$		. x 0.0714 ==		
Alkalies as Na+	16,.2 x	0.0435 = .		N as NO <sub>3</sub> <sup></sup>		. x 0.0714 ==	0.026	i
K+	x	0.0256 =		F-		. x 0.0526 ==		•••••
Na+	x	0.0435 =		C1 <sup></sup>	2.0.	. x 0.0282 ==		
Ca++		0.0499 = .		so	8.2.	. x 0.0208 =	0.171	
Mg++	245 x	0.0822 =		HCO3-	.356.2.	. x 0.0164 ==		2
(Fe++)		0.0358 = .		CO3 <sup></sup>		. x 0.0333 ==	·····	
(Mn++)	QQQ. x	0.0364 = .		он-		. x 0.0588 ==		
(Al+++)	x	0.1112 = .		PO4		. x 0.0316 =		
(Pb++)	x	0.0097 =		(BO <sub>3</sub> <sup></sup> )		. x 0.0510 =		
(Zn++)	x	0.0306 =		(Free CO <sub>2</sub> )		. x 0.0454 ==	· · · · · · · · · · · · · · · · · · ·	
TOTALS:	Sum	rM+ =				.Sum rA =	6,116	×
		$\mathbf{E} = \frac{\mathbf{E}}{\mathbf{E}}$	Sum rM+Sum rM++	Sum rA Sum rA	x 100 =	= ./05.0	0/0	
Calculated	Hardness as Ca	CO <sub>3</sub> =(Ca x	2.497) + (Mg x 4.11	15)+(Fe x	1.792) + (Mi)	n x 1.822)=		o.p.m.
rM+		20 	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	50 (	$\begin{bmatrix} 50 & 70 \\ \vdots & \vdots & \vdots \\ \vdots & \vdots & \vdots \end{bmatrix}$	80	90 	
r A								

One space = \_\_\_\_ milligram equivalent

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JUL -3 1945 Genge Matlack Principal Chemist

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State Geological Survey

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M.A.

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Coded 12/15/72

IOWA GEOLOGICAL SURVEY Iowa City, Iowa Water Analysis Report

County	Cedar		Date Sampled <u>4-3-52</u>	
Fown	Tipton		Sampled by M. V. Stephenson	
Location (	of well	V/c sec. 6	_, T. <u>80</u> N., R. <u>2</u> W	Twp.
Owner(	City of Tipton		Well No. 3 Depth	Ft.
lype of well	Drilled	Static level	ft. Curb elevation 815	Ft.
Producing	Formation(s)	Silurian	Depth range	

from 224 to 332'

Dissolved constituents and properties (in parts per million except as indicated): Dissolved solids Silica (S.O.) 335 Hardness (calc. as CaCO3) Iron (Fe) 1.3 Total 323 Manganese (Mn) 0.04 (as grains per gallon) 18.9 Calcium (Ca) 85 Carbonate 323 Magnesium (Mg) 27 0 Noncarbonate Sodiancend potassium 1.5 ( XLEXXXXXXXX sodium 7.0 Alkalinity (as CaCO2) 326 Carbonate (CO3) 0 pH Bicarbonate (HCO3) 398 Specific Conductance (micromhos at 25°C.) Sulfate (So<sub>1</sub>) 552 5.8 Chloride (Cl) Temperature (°F) 2.5 Fluoride (F) 0.3 Nitrate (NO3) 1.8

Analysis No. 19152 (3607) Date analyzed 4-22-52 I.G.S. well No. W-2027 Remarks: Sample collected after well pumped 3 hrs. at 393 gpm.

Coded 12/15/72 Davis

### IOWA GEOLOGICAL SURVEY Iowa City, Iowa Water Analysis Report

CountyC	edar		Date Sa	mpled	January 15, 1954	
Town T	ipton		Sampled	by	Shay	
Location of w	ell	sec, T.	N,,	R	-	_Twp.
Owner T	own		Vell No.	3	Depth	Ft.
Type of	S	tatic	Ft.	Altitude	e	Ft.
Producing Fo	rmation(s)				Depth range	

Notes on condition of well, casing, or formations:

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

Silica (SiO <sub>2</sub> )		Dissolved solids	
Iron (Fe)	1.1	Hardness (calc. as CaCO <sub>3</sub> )	214
Manganese (Mn)	0	(as grains per gallon)	18.4
Calcium (Ca)	83	Carbonate	306
Magnesium (Mg)	26	Noncarbonate	47 (2)
Potassium (K)	1.3	Alkalinity (as CaCO <sub>3</sub> )	306
Sodium (Na)	6.8	pH	8.0
Carbonate (CO3)	0	Specific Conductance	10/
Bicarbonate (HCO <sub>3</sub> )	373	(micromnos at 25°C.)	
Sulfate (SO <sub>4</sub> )	9.3	Temperature ( <sup>0</sup> F.) * * * * * * * *	
Chloride (Cl)	2.0	Analysis No. 14907 (3953)	
Fluoride (F)	0.3	Date Analyzed February 10,	1954
Nitrate (NO3)	0	I.G.S. Well No.	

Remarks: Sample collected at pump discharge after well pumped  $\frac{1}{4}$  hour at 275 gpm. Office Copy

Coded 12/15/12 Davis

## IOV A GEOLOGICAL SURVEY Vater Analysis Report Iowa City, Iowa

CountyCedar		Date Sampled	5/21/57	
Town Tipton		Sampled by F.	M. Hawker	
Location of well	sec,	TN., R	Twp	
Ownercity	•	hell NoD	epthFt.	
Type of	Static	Ft. Altitude	Ft.	
Producing Formation(	a)	Depth	Bange	
Was sample fre Notes on condition of well pumped 2 h yellow turbidity	e of turbidity wh well, casing, or mrs. at 300 gpm when received	len collected? yes formations:		
Dissolved constituents	and properties	(in parts per million exce	ept as indicated):	
Silica (SiO <sub>2</sub> )	2.2 .	Dissolved solids	337	
Iron (Fe)	3.9.	Total solids Hardness (calc. a	as $CaCO_3$	
Iron (Fe) Manganese (Mn)	3.9· 0.07·	(as grains per	312 · galloni 18.2 ·	
Calcium (Ca)	77	Carbonate	308.	
Magnesium (Mg)	29.	Noncarbonate	03-04	
Potassium (K)	3.0.	Alkalinity (as Ca	CO <sub>3</sub> ) <u>308</u>	
Sodium (Na)	7.7.	рН	7.6	
Carbonate (CO <sub>3</sub> )	none	Specific Conducta	Specific Conductance	
Bicarbonate (HCO3)	376.	Temperature (°F	.)	
Sulfate (SO <sub>4</sub> )	13	*** ****	nje nje nje nje nje nje	
Chloride (Cl)	4.0	Analysis No.	26877(5221)	
Fluoride (F)	0.3	Date analyzed		
Nitrate (NO <sub>3</sub> )	13	I.G.S. Well No.		
Remarks.				

IOWA GEOLOGICAL SURVEY Iowa City, Iowa WELL OR WATER SAMPLE DATA WAY 24 1945 Bottle No. 9-51
TOWN Tipton COUNTY Cedeo
LOCATION NUL/cov sec. 6 T. KO N.R. 2 W. Twp.
OWNER OF WELL Tipton, city of WELL NO. 3 The be chushed later
USE OF WATER: City Supply (v); Private-Domestic (); Public Dri ing (); Live- stock (); Industrial (); School Supply (); Air conditioning (); Cooling (); (). CONSTRUCTION OF WELL: Drilled (v); Gravel-Pack type (); Driven (); Dug (): Bored (); Jetted () (). DATE STARTED May 2-1945
CONTRACTOR <u>D.S. Educards</u> <u>Mest Branch, Jour</u> <u>DATE FINISHED</u> CASING OR CURBING DATA: (Show by diagram <u>on opposite side of sheet</u> 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.) 36' 0 10" casing from a - 36' 127' 6" 98" " 1 + 2'7" to 125 feet - Set inte Rocks at 117'5" 6" pipe perforated from 223 feet tillo' (856 three quarter incl here first grint, about 420 in each joint Three first grint (Show 223 feet tillo')
WELL DATA <u>SI5+</u> Ft. <u>Present</u> <u>332</u> Ft. <u>Depth</u> <u>Final</u> Ft.
Ground Elevation 8157 Ft. Topographic Position upland.
Static Level (Depth to Water (Above) Curb) 63 Ft. Pumping 160,9 Ft.
Amount of Drawdown 97.00 Ft. pumping at 235 g.p.m. in 3 hrs. 5 minutes.
Specific Capacity 2,4 g.p.m. per ft. drawdown
Type of Pump Tucking. Power Electric - Belt driver.
Depth of Bottom of Pump 202 ft. with 3 ft. of suction pipe.
TEMPERATURE: Air 74°F.; Water 53 °F., measured after well had pumped 2 hours
35 mins. at 235 g.p.m.; 76.4 ft. from pump after water had passed through the
following pipe 76.6 1 4" pipe Time (P.M.)
SOURCE OF WATER: Recent (Type and Depth)
Glacial Formations (Type) at ft. to ft. Limestone or Dolomite (Age) at ft. to ft.
Sandstone (Age)ft.
Principal Producing Formation 6" Pipe perported from 223 fait to 330 feet civit the "files.
REMARKS: Copy to DE Edwards - West Brand- lows -
* Drillers information St Mr. Lack Stunds Water Supt
Sample taken for: Mineral Analysis (); Sanitary Analysis ()
REPORT Analysis to H. G. Hershey, Iowa Geological Survey. Towa City

OFFICE COPY

IOWA GEOLOGICAL SURVEY Iowa City, Iowa Water Analysis Report

Coded 12/15/72 W-2027

Davis

County	Date Sampled Nov 22, 1946
Town	Sampled byStanloy R. Harris, D. A. Barton
Location of wellsec	_, TN., RTwp.
Owner	Well No Depth Ft.
Type ofStatic63 welllevelbelow	ft. Curb elevationFt.
Producing formation(s)	with Depth range <u>Silverion</u>
Remarks on condition of well, casing, or	formations:
36° of 10" casing from 0-36° 127° 6" of 8" casing from + 2° 7" 6" pipe perforated from 223 ft. to	to 125 feet - set into rocks at 117' 5" 330 ' (856 three quarter inch holes first

joint. About 420 in each joint thereafter)

Constituents:		Parts per million	Constituents:	Parts per million
Total solids		345	Iron (Fe <sup>++</sup> ) (unfiltered)	2.0
рн6/2/45		7.4	Manganese (Mn <sup>++</sup> )	0.00
Alkalinity (MeO)		292.0	Nitrogen as Nitrate (NO3)	0.36
Alkalinity (Phn)		0.0	Fluoride (F <sup>-</sup> )	0.4
Insoluble matter	• • •	30.0	Chloride (Cl <sup>-</sup> )	2.0
$Fe_2O_3 + Al_2O_3 + Mn_2O_3$ .		5.0	Sulphate $(SO_4^{})$	8.2
Alkalies as sodium (Na <sup>+</sup> )		16.2	Bicarbonate (HCO3 <sup>-</sup> )	356.2
Calcium (Ca <sup>++</sup> )	•••	69.3	Carbonate (CO3 <sup></sup> )	
Magnesium (Mg <sup>++</sup> )	• • •	24.5	Calculated hardness as CaCO3 .	277
			Calculated hardness (grains per U. S. gallon)	36.0

Temperature: Air \_74\_ °F. Water 53 °F. measured after well had pumped 2 hours 55 min. at 235 g.p.m.; 766 ft. from pump after water had passed through the following pipe 76.6 of 4" pipe Time 2:55 P.M. Remarks:

Copies sent to: Mr. Dewey E. Edwards Mayor J. E. Martin Mr. Jack Sturdy

Lab. No. 8-588

\_\_\_\_, Date \_\_\_\_ July 5, 1945