20575

Iowa Department of Natural Resources

Abandoned Water Well
Plugging Record

1. Owner:

Name: City of West Branch City: West Branch State: Iowa
Address: 304 East Main Street Zip: 52358 Phone: (319)643-5888

2. Well (Cistern) Location: PWSID#: 1694000

NW 1/4 of, SE 1/4 of, SE 1/4 of, Section 6, Twp. 79 N, Range 4 (West) East (circle one)
Cedar County, Describe well location on property: Under the old water tower one block west of the water plant

3. Description:

Well depth: 446 ft. Casing material: (steel,) plastic, concrete, clay, brick, stone (circle one)
Depth to water: 136 ft. 2006
Casing diameter: 12 in. Type of construction: (drilled,) driven, bored, dug, augered (circle one)
Yr. or decade constrd.: 1968
Depth of casing: 163 ft. Check ☐ if this is a Monitoring Well Well I D.: _____

Check ☐ if Cistern depth: _____ ft. diameter: _____ ft.

I certify this well has been plugged as required by rule 567-39.8 of the Iowa Administrative Code (IAC). I agree to provide any additional information the county or department may need concerning this well.
Signature of Owner: Brian Brennan Date Plugged: 11-25-08

If plugged by certified well contractor, complete this box:

I have plugged this well as required by rule 567-39.8 of the Iowa Administrative Code (IAC).
Signature of Contractor: _____ Cert. No. 4289

OR, If plugged by well owner, complete this box:

The property owner has plugged this well following requirements in rule 567-39.8 of the Iowa Administrative Code with the oversight and assistance of the designated county agent.
Signature of County Agent: _____ Date Approved: _____

Eligible for Grants-to-Counties cost share: ☐ YES ☐ NO (Determined by County Agent)

Complete one form for each well plugged and submit within 30 days to the local county agent:	or, only if no county agent is available, to:
	Water Supply Section **Department of Natural Resources** **900 East Grand Avenue** **Des Moines, IA 50319-0034**

DNR FORM (REV 12/95) **542-1226**

In 1968, under the supervision of J.A.Sampson of the Howard R.Green Co, consulting Engineers of Cedar Rapids, Iowa, a contract to drill well No. 4 at West Branch Iowa, was let to L.F.Winslow, where as a 20" diameter hole was to be drilled to a depth of 240', and a 12" casing was to be set at 240', and the space between the 12" casing and the 20" hole was to be filled with cement, sealing off the water above 240' from entering the well.

Relying on my past experience of nearly fifty years in drilling wells in this immediate area, I did not feel it would be to the best interest of the people of West Branch, and the Consolidated School to abide by the Engineers specifications, and cement in the 12" casing at a depth of 240'.

Bed rock was encountered at approx. 100', which was a soft crevicy limestone, an approx. 22" diameter casing was set at approx. 106' and an approx. 20" hole was drilled to 160'.

As I had made previous recommendations as to the approx, location, I suggested the well to be drilled, and the prediction that a large amount of water might be expected from this crevicy limestone, I took the responsibility of being with the drillers most of the time, when drilling from 106' to 160'.

Indications were that a large amount of water was available betweem 115' and 150', and by my suggestion and my supervision a pumping test was made with the following data:

Static water level = 94'.

An 8 hour continous pumping test was made,pumping approx. 600 G.P.M.

The first 30 ninutes pumping lowered the water level to 116'.

The next two hours, the pumping level was 119', the next 5 1/2 hours, the pumping level was 125' 10", and still lowering very slowly.

The pumping capacity was then set at 250 G.P.M.and an eight hour continous pumping test was made at 250 G.P.M.

At the completion of this 250 G.P.M. test, the pumping level had raised from 125' 10", up to 119' 7".

D. E. EDWARDS

Well Drilling, Pumping Equipment

Phone 643-2334

WEST BRANCH, IOWA 52358

TOWN OF WEST BRANCH # 2 #.

At my suggestion and supervision a 12" O.D. steel pipe 3/8" wall thickness was set at 163' 9", from the top of same as it is approx. 3' 9", above the original ground level.

This 12" pipe was slotted with 1" torch cut slots, between 125' and 145', these 1" slots afforded approx. 546" of water opening into the 12" well.

A basket type seal was thenm made by welding the lower end of 3/8" X 1 1/2" flat steel bar approx. 18" long, to the 12" casing at an approx. depth of 117' below the ground level, the space between the 1 1/2" bars, and the outside of the 12" casing was filled with old rubber inner-tubes, approx. 3' of rock drilling cuttings, was then placed on top of the basket seal, and approx. 2 ft. of road rock on top of the drill cuttings, and 85 sacks of cement was then placed in the hole, which raised the top of the cement in the 22" casing to approx. 85' below the surface, this cement was per mitted to setnover 60 hours, before drilling was continued.

An approx. 12" hole was then drilled to a total depth of 446', and another 8 hour continous pumping test was made at between 750 and 770 G.P.M., the static level was 94' and a pumping level at 133', which equaled 39' of draw down, as compared to the previous 600 G.P.M. with 32' of draw down, does not indicate much more if any, water was obtained by drilling from 160' to 446'.

The original Engineers pump specifications called for an 1800 R.P.M. submersible pump installed on machined end pump column in 5' and 10' lengths, and an air line and an altitude guage.

Again my many years of expierence with pumps, did not permit me to beleive these pump specifications was not to the best interest of West Branch, I checked with three different pump companys, and learned that an 1800 R.P.M. submersible pump motor would have to be a special order, from some Company in California, with not less than a three month delivery promise, which very possibly meant, that if this motor had to be replaced, we might expect a three months delivery on same, as Standard submersible pump motors are 3450 R.P.M., and I could not belwive pump column with machined ends and in 5' and 10' lengths would be any more serviceable than standard line pipe of random lengths of approx. 21', made of the same material, and I could see little if any use of air line water level equipment, as almost every one uses electric water level equipment.

D. E. EDWARDS

Well Drilling, Pumping Equipment

Phone NI 3-2411

WEST BRANCH, IOWA 52358

If these original pump specifications would have been used. the cost of the pump would have been approx. $2200.00 more than useing Standard pump equipment, and by useing standard 3450 R.P.M. motor, a new motor can be obtained with in a few hpurs.

There fore by my suggestions and supervision on December 20 1968 A Jacuzzi 6", 25 H.P., 3 Ph., 60 cycle., 3450 R.P.M. submersible pump, model No 2586X6 - T was installed in this well No 4, on 147' of 5" line pipe with long recessed couplings and No 6- 3 wire submersible pump cable, and supplyed approx. 295 G.P.M. into the elevated storgge tank.

On Dec. 20 1968, at 9:15 A.M. and the well had not been pumped for more than 12 hours, the static water level was 94' 8", below the top of the present 12" casing, after 3 hrs. 15 min. continous pumping at appro 295 G.P.M. the pumping level was 103' 9".

On May 10 1971, at 8:20 A.M. this pump was shut off.

At 9 A.M. the static level was 99'.

At 9:45 A.M. " " " 96' 9" and raising @ approx. 1/2" per minute.

Pump was started at 9:49 A.M., pumping 295 G.P.M.
At 9:54 A.M. pumpin level 100'
At 9:59 A.M. " " 100' 11 1/2"

Which indicates there is very little difference in the static water level or capacity of the well nearly two years and five months of constant use after wards.

L. F. WINSLOW

Well Drilling

P. O., WALCOTT, IOWA, R. R. 1 52773
RES., MAYSVILLE, IOWA

For West Branch Well # 1 (First Test) Located at West Branch

Make, Kind and Size of Power _____

Bowl No. _____ Size _____ Stages _____

Column Setting _____ ft. Size _____ Shaft size _____ and _____

Static Level Before Pumping _____ After Pumping _____ Temperature _____

Date	Time	Engine R.P.M.	Pump R.P.M.	Pumping Level	Gallons Per. Min.	Temp. Discharge Description	Sand P.P.M. Volume
May 21	3:20			127.10			
	4:25			136.10			
	5:20			137.6			
	6:33			137.11			
	8:10			138.8			
	9:05			149.4			
	9:50			143.6			
	11:20			134.6			
	2:12			133.5			
	5:30			132.0		P.H. 7.3 1/2	
	6:00			132.11		IRON 2.2	
	5:20			137.1			

106' OF 22" CSG. SET @ 104'
OF 12" CSG

163'9" TOTAL STICKUP
PUMP 125-145'

L. F. [illegible]SLOW

Well Drilling

P.O., WALCOTT, IOWA, R.R. 1 52773
RES., MAYSVILLE, IOWA

TO 446' TOP MAQ.

For CITY OF WEST BRANCH Located at NW/C OF TOWN

Make, Kind and Size of Power V 12 G.M.C. DIESEL

Bowl No. _____ Size _____ Stages _____

Column Setting 170 ft. Size 8 Shaft size 1 15/16 and _____

Static Level Before Pumping 92' After Pumping _____ Temperature 53°

Date	Time	Engine R.P.M.	Pump R.P.M.	Pumping Level	Gallons Per. Min.	Temp. Discharge Description	Sand P.P.M. Volume
JUNE 20, 1958	10:45	6" PIPE 5" ORIFICE	—	92	—	STATIC = 92 PUMP ON	WATER CLEAR
	11:00	28 1/4		108	650		
	11:15			108	614		
	11:30			108	614		
	12:00 NOON	44		109	602		
	12:15	44		116	824		
	12:24	39+		116	770		
	12:38	39 -		119	770		
	1:07	37.5		122	754		
	1:20	39		122	770		
	1:40	37.5		124	754		
	2:00	37.-		126	748		
	2:30	38.5		127	732		
	2:45	37.5		131	754		
	3:00	37.5		129	754		
	3:45	38.5			765	TOOK WATER SAMPLE	
	4:00	37.5		132	754		
	4:15	39.0		132	770		
	4:30	38.5		1325	765		
	4:45	38-5		133	765		
	5:00	39.0		83	770		
			TO PUMP UNTIL 7:00 P.M. @ SAME RATE				

At the request of Ed Winslow, I went to West Branch last Thursday afternoon to copy records from the pumping test of their new city well, and to collect a water sample. At the time of my visit, the well was being tested for maximum capacity and after five hours was pumping at a rate of 765 gpm, at a pumping level of 132 feet. Static water level was 92'. This is an unusually high capacity well and most of the water is coming from the Devonian rather than the Silurian. Both of the Devonian and Silurian are open, but a brief test run previously yielded better than 600 gpm from the Devonian alone, Mr. Winslow reports. However, specifications called for drilling the well to the Maquoketa shale, and hence the entire Silurian section was penetrated. The city treatment plant can only handle a little over 200 gpm, unless it is enlarged. They may decide to enlarge its capacity and build a bigger storage tank, as they expect a moderate urban growth at West Branch, with the new Hoover Park and Memorial. The new well yielded 250 gpm with pumping level of only 119 feet. A water sample was collected and has been sent in to the laboratory. Cuttings to total depth of 446 feet were brought back and will be ready for study this week.