Drilled Water Well Records: a review

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Groundwater Section

Drilled Water Well Record

A well is not COMPLETED constructed unless it is properly documented

Human resource, time, money, equipment and other factors need to be considered, but it is the quality of the well construction that is our responsibility.

A critical asset for pollution response and remediation

Water Resources Act

Duties of well driller

59. A well driller shall

(a) within one month after the completion of the drilling of a well make a report to the minister in the required form;

(b) permit an inspector, at a reasonable time, to examine and inspect his or her records and equipment and a well drilling operation being carried on by the well driller;

(c) test as required by regulation, the yield of wells drilled by him or her;

(d) within one month of drilling a well, collect water samples and arrange for the testing of the water quality of those samples at an accredited laboratory and as required by regulation; and

(e) keep and provide the records, returns, test data, geological and other information and specimens that are prescribed by the minister and as required by regulation.

2002 cW-4.01 s59

A few reminders

- Please submit records by the end of each month as this allows us to process them in a timely manner;
- Please report all measurement in metric or clearly indicate type of measurement; and
- Please indicate street address of the well in addition to the owners address.

Newfoundland Labrador

Department of Environment and Conservation

DRILLED WATER WELL RECORD

Well Owner

Name _____

Address _____

_____

Well Location

Community or Area _____

Street or Road _____ Street or Lot No. _____

Sketch

GPS Coordinates

N ____ ____ ° ____ ____ ' ____ ____ " ____

W ____ ____ ____ ° ____ ____ ' ____ ____ " ____

Show two distances from nearest landmarks and indicate North (include scale) road name and house / lot number if available

Type of Water Encountered

☐ Fresh ☐ Salt ☐ Sulphurous ☐ Mineralized

Chemical Sample Taken? ☐ Yes ☐ No

Final Status of Well

☐ Domestic (DO) ☐ Municipal (MU) ☐ Commercial (CO)

☐ Industrial (IN) ☐ Heat Pump (HP) ☐ Observation (OH)

☐ Abandoned (AB) ☐ Other _____

Type of Work Completed

☐ New Well (NW) ☐ Deepened (DP) ☐ Liner Installed (LI)

☐ Well Sealed (WS) ☐ Other _____

Drilling Method

☐ Rotary ☐ Cable Tool ☐ Other _____

Pump Recommendations

Pump Type ☐ Shallow ☐ Deep

Intake Setting _____ m Pumping Rate _____ Lpm

Est. Safe Yield _____ Lpm **Static Water Level** _____ m

Drillers Log

From (m)	To (m)	Colour	Rock Type

Total Depth _____ m **Depth to Bedrock** _____ m

Water Bearing Zone(s)

_____ Lpm at _____ m _____ Lpm at _____ m

_____ Lpm at _____ m _____ Lpm at _____ m

Casing Installed

☐ Steel ☐ Other _____ Wall Thickness _____ mm

Diameter _____ mm From _____ m to _____ m

Diameter _____ mm From _____ m to _____ m

Drive Shoe? ☐ Yes ☐ No

Well Grouted?

☐ Yes, from _____ m to _____ m ☐ No

Type _____

Screen?

Type _____ Slot Size _____

Diameter _____ mm From _____ m to _____ m

Pumping Test

Method ☐ Air ☐ Bailer ☐ Pump

Pumping Rate ____ Lpm Duration _____ min. Drawdown _____ m

Well Overflowing? ☐ Yes, Rate _____ Lpm ☐ No

Drillers Comments

_____

_____

Name of Drilling Company **Licence Number** **Date Well Completed** Day / Month / Year

_____ _____ / /

Important Home Owner's Document

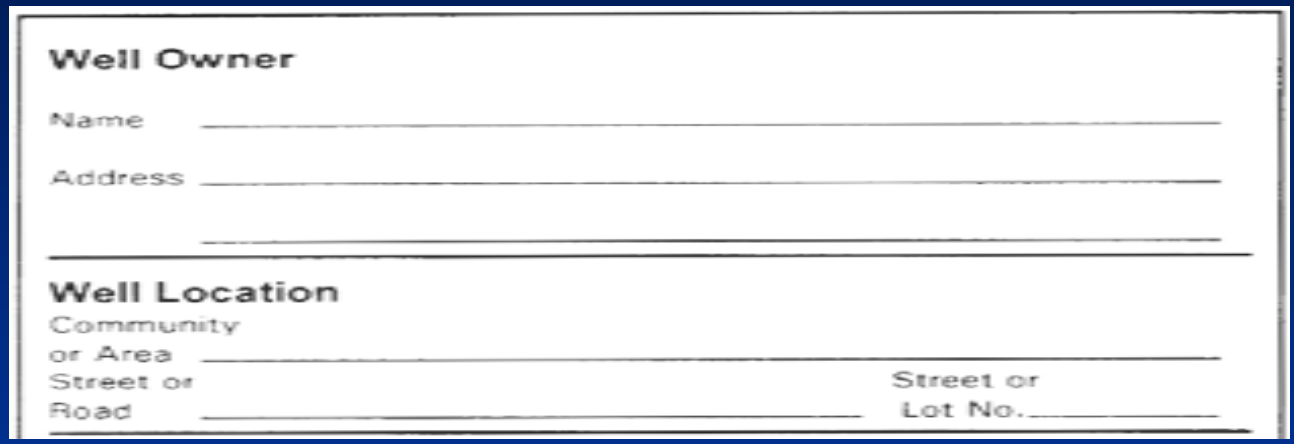
Safeguard with Legal Documents

_____

Signature of Driller

White Copy - Department of Environment & Conservation Yellow Copy - Drilling Company Pink Copy - Well Owner

Well Owner & Location



Well Owner

Name _____

Address _____

_____

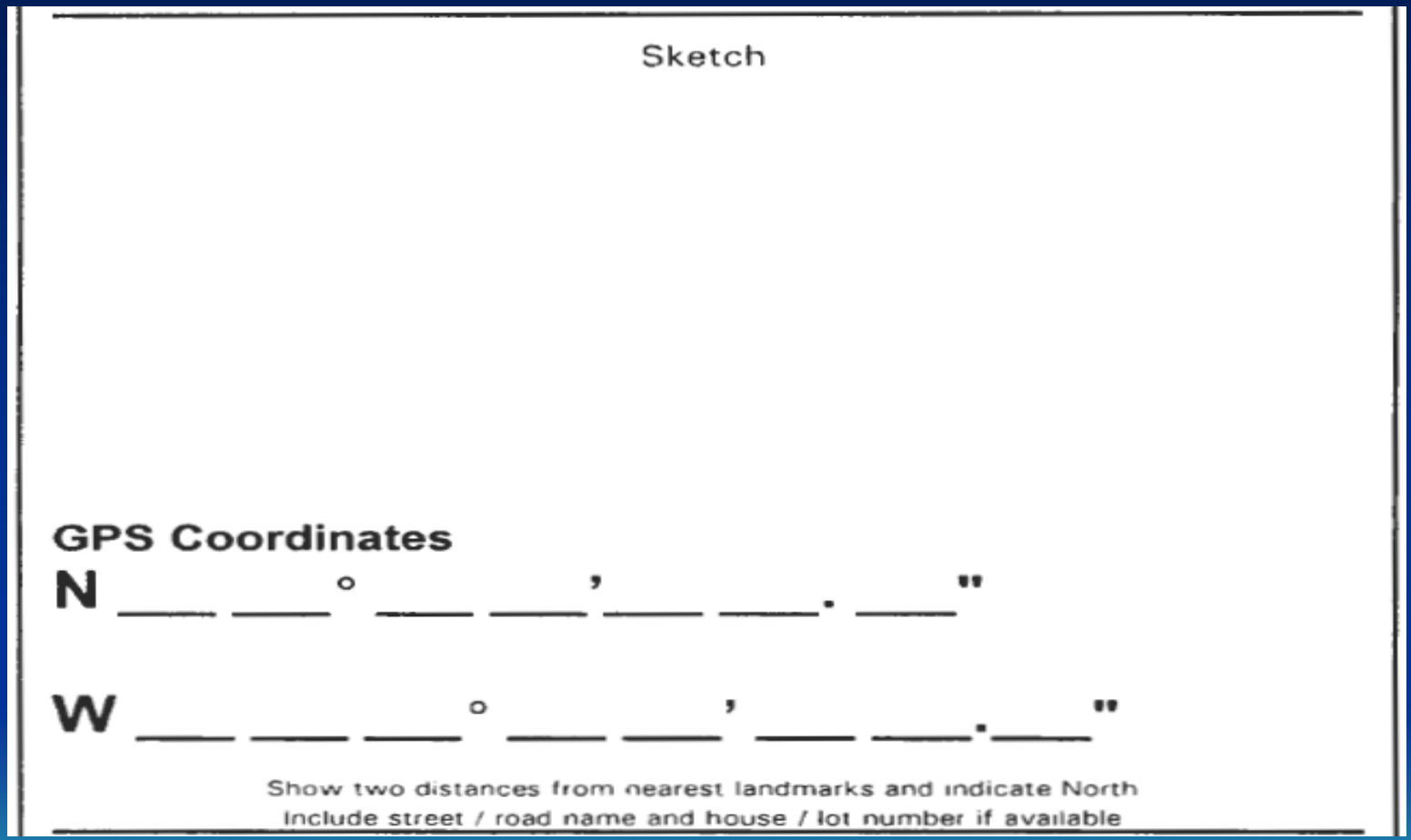
Well Location

Community or Area _____

Street or Road _____ Street or Lot No. _____

- It is necessary for the full name and address (including postal code)* be included here. *Postal codes are very useful in searching our database for records.
- Well location is particularly important if it is different from the well owner's address or if a well owner has multiple properties and wells.

Sketch & GPS Lat and Long


Sketch

GPS Coordinates

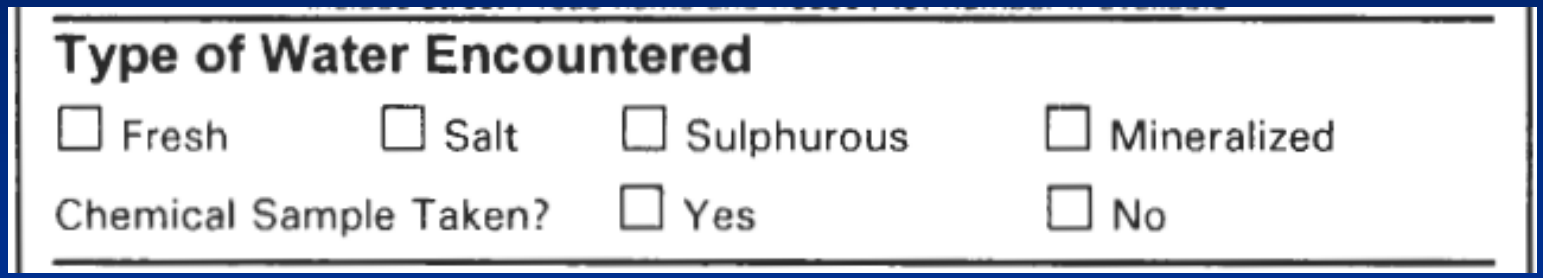
N ___ ___° ___ ___’ ___ ___. ___”

W ___ ___ ___° ___ ___’ ___ ___.___”

Show two distances from nearest landmarks and indicate North
Include street / road name and house / lot number if available

Please use decimal degrees (ddd.mm.ss.s)

Type of Water Encountered



Type of Water Encountered

☐ Fresh ☐ Salt ☐ Sulphurous ☐ Mineralized

Chemical Sample Taken? ☐ Yes ☐ No

Please indicate the type of water and if a chemical water quality sample was taken. If a sample wasn't taken, please check the 'no' box.

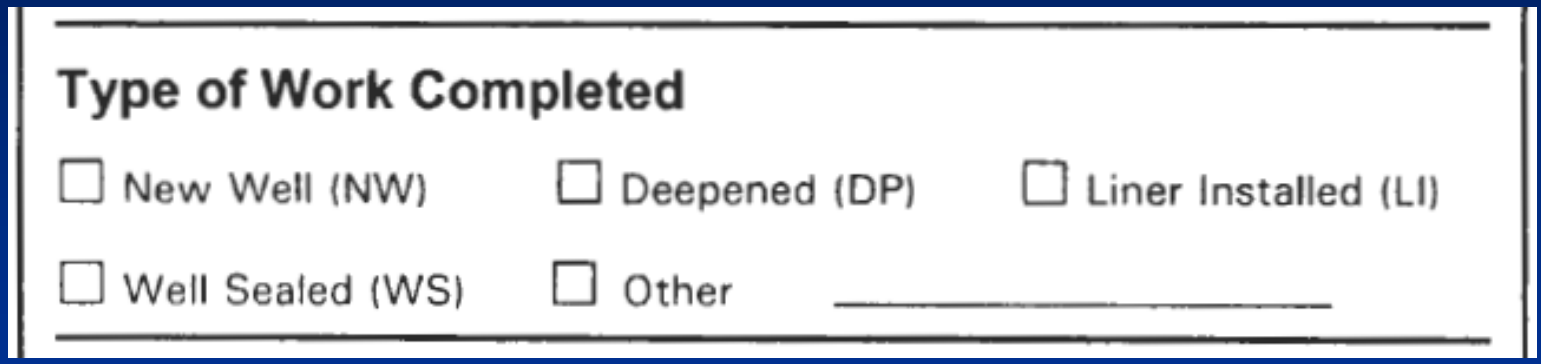
Final Status of Well

Final Status of Well

☐ Domestic (DO)	☐ Municipal (MU)	☐ Commercial (CO)
☐ Industrial (IN)	☐ Heat Pump (HP)	☐ Observation (OH)
☐ Abandoned (AB)	☐ Other _____	

In this section, please indicate the main purpose of the well. A Heat Pump (HP) should be checked as so and not as a domestic well.

Type of Work Completed



A Water Well Record is required if any of the above work has been carried out on a previously drilled well.

Pump Recommendations, Est. Safe Yield & Static Water Level

Pump Recommendations

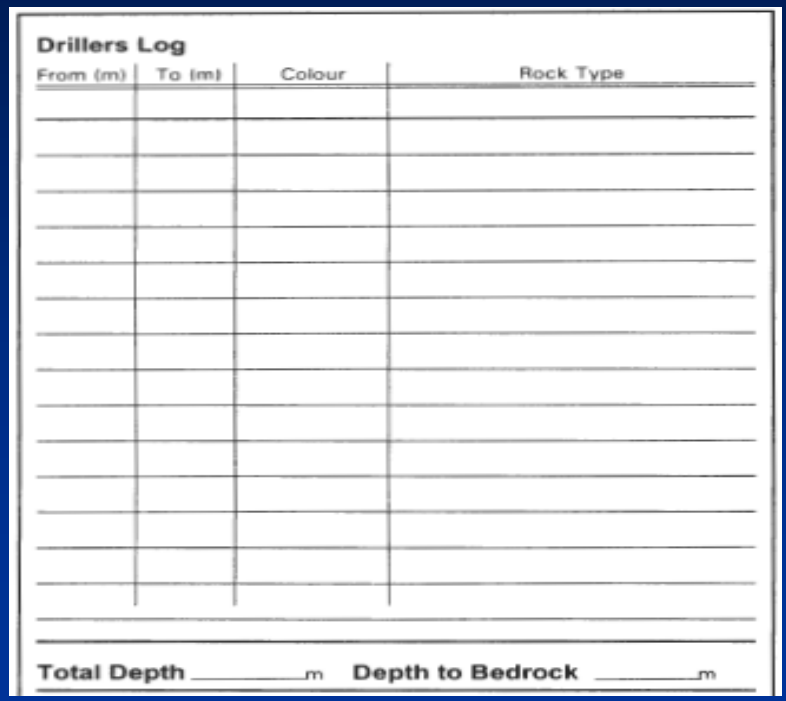
Pump Type ☐ Shallow ☐ Deep

Intake Setting _____ m Pumping Rate _____ Lpm

Est. Safe Yield _____ Lpm **Static Water Level** _____ m

Please indicate if a shallow or deep pump type is needed. Intake Setting and Pumping Rate can be estimated from the Pump Test (later).

Drillers Log



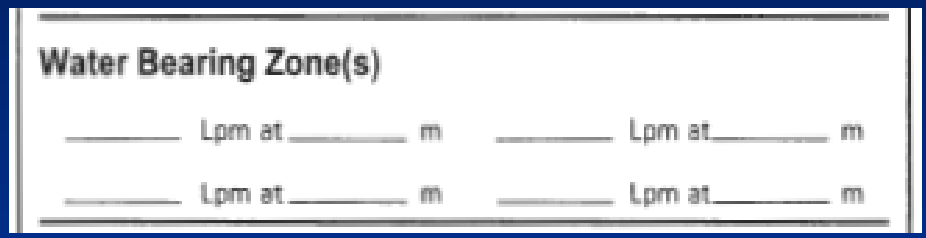
Drillers Log

From (m)	To (m)	Colour	Rock Type

Total Depth _____ m **Depth to Bedrock** _____ m

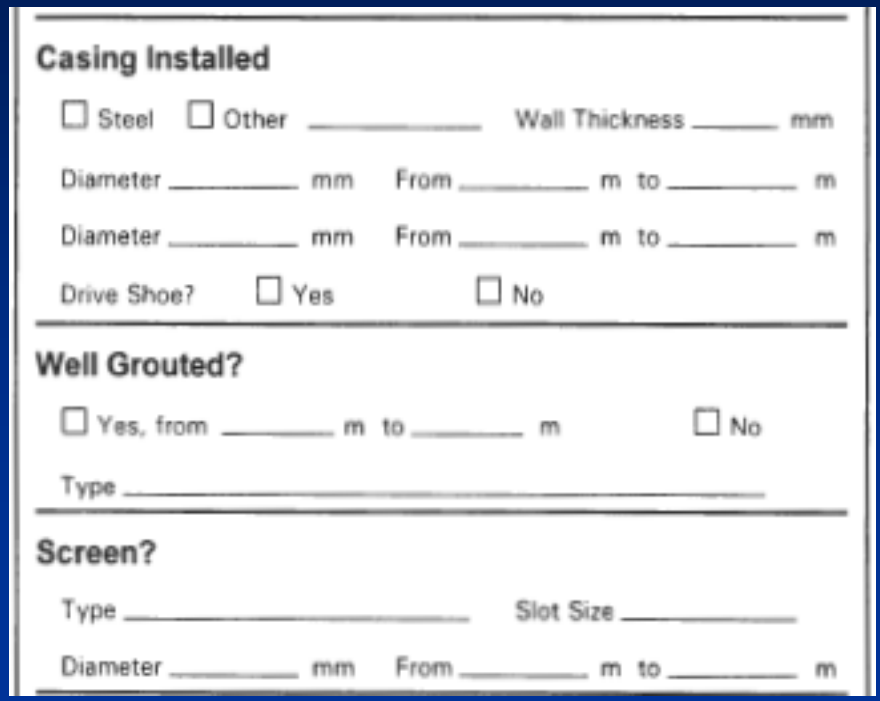
Very important to the Water Resources Management Division to answer questions from the public, consultants (Hydrogeologists, Engineers, etc), and other government departments

Water Bearing Zone(s)



Very useful in identifying aquifers and aquitards and very important if rehabilitation (or abandonment) work has to be carried out on the well at a future date.

Casing Installed



Casing Installed

☐ Steel ☐ Other _____ Wall Thickness _____ mm

Diameter _____ mm From _____ m to _____ m

Diameter _____ mm From _____ m to _____ m

Drive Shoe? ☐ Yes ☐ No

Well Grouted?

☐ Yes, from _____ m to _____ m ☐ No

Type _____

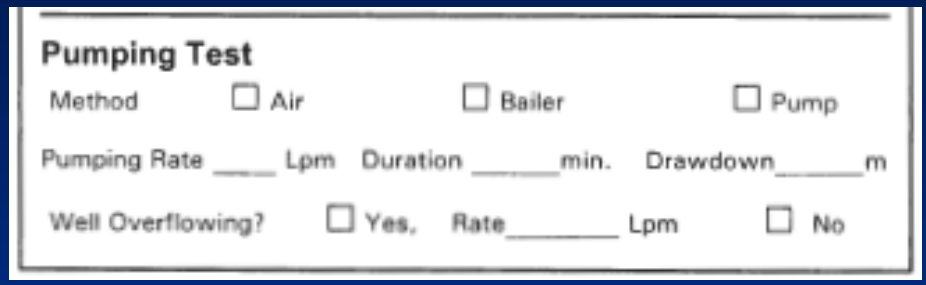
Screen?

Type _____ Slot Size _____

Diameter _____ mm From _____ m to _____ m

Also very important if rehabilitation work has to be carried out on the well at a latter date. Can be critical in identifying a serious problem with quality and quantity.

Pump Test



Pumping Test

Method ☐ Air ☐ Bailer ☐ Pump

Pumping Rate ____ Lpm Duration _____min. Drawdown_____m

Well Overflowing? ☐ Yes, Rate_____ Lpm ☐ No

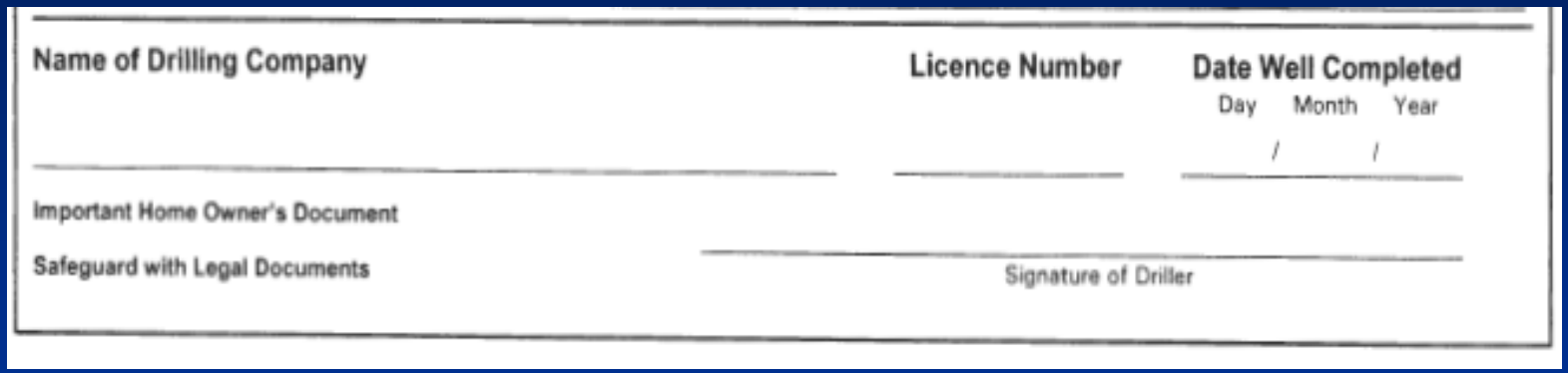
This section should always be filled out.

The Pump Test will give the owner an idea of the capacity of the well, including drawdown, and if special considerations are needed to deal with an overflowing well. Please indicate if the well is overflowing or not.

Driller's Comments

We always appreciate any comments you can provide to the well owner and to us. Please note any pertinent issues/concerns as they will be read by the owner and by us.

Name of Drilling Company



Name of Drilling Company | Licence Number | Date Well Completed (Day / Month / Year)

Important Home Owner's Document

Safeguard with Legal Documents

Signature of Driller

Always fill this section out in full. This is your work and the driller who drilled the well should sign off on it. It is useful if the helpers name/signature also appears on the Drilled Water Well Record.

Pump installers

The Drilled Water Well Record is essential and will save much time for this part of the well construction. A properly filled out record will also help in pump maintenance or replacement in the future.

Environmental
The GUDI Well

An unsealed annular space is a direct pathway for contaminants to enter the aquifer(s) below. Simply filling this space with rock or soil is not considered an impermeable barrier. A faulty annular seal will likely lead to poor water quality or worse – sickness or death directly attributed to surface contamination.

THANK YOU

??Questions??

Groundwater is the ultimate source of freshwater on earth. The Water Well Driller is the first to tap this critical resource and the Drilled Water Well Record is definitely utilized by the public and working professionals. We are stewards of this valuable resource – lets work together to make sure it is protected for future generations.