

GWPD 15—Obtaining permission to install, maintain, or use a well on private property

VERSION: 2010.1

PURPOSE: To describe a procedure for properly obtaining permission to install, maintain, or use a well on private property, for activities such as geophysical explorations, water-level monitoring, and collection of water samples.

U.S. Geological Survey (USGS) policy for access to private lands is governed by Chapter 500.11 in the Survey Manual. It is USGS policy to obtain written permission before drilling, collecting groundwater samples, maintaining a continuous recorder, or making a groundwater-level measurement on private property, restricted public property, and leased Federal land. Test drilling and data collection preferably should be confined to public lands (Federal, State, county, or municipally owned) when the location will serve as well as one on privately owned land. However, if the information needed can be obtained only at a site on private property, that site may be used if permission to drill test wells, sample, or operate observation wells is obtained in advance.

Materials and Instruments

1. Form 9-1483, Well Drilling/Sampling Agreement
2. Permission to Collect Water Samples form
3. Form 9-3106, Well Transfer Agreement
4. Site location map
5. Field notebook
6. Pencil or pen, blue or black ink. Strikethrough, date, and initial errors; no erasures

Data Accuracy and Limitations

When public land is not suitable, the use of private property is permitted if, prior to drilling, sampling, or data collection operations, a signed agreement for access to and installation, maintenance, and use of the test hole or observation well is obtained from the property owner.

Assumptions

1. Needed information can be collected only at a site on private property.
2. The person requesting permission to install, maintain, or use a well on private property is familiar with Office of Ground Water Technical Memorandum 2003.03 and associated policies.
3. The requestor is also familiar with State law requirements to notify the local One Call Center (in some States referred to as, “call before you dig”) before blasting, boring, digging, drilling, trenching, or other earth moving operations.

Instructions

1. If seeking permission to drill: Complete all the information on the Well Drilling/Sampling Agreement form (fig. 1, Form 9-1483). Attach to the agreement a site map showing the location of each proposed test hole and (or) observation well. Form 9-1483 must be signed by the landowner and a USGS representative.
 - a. Each agreement is assigned a number consisting of the first four digits of the cost center, hyphen, a sequential number beginning with 01, and the year in which the agreement is processed. For example, 4563-0110.
 - b. Form 9-1483 or an equivalent form must be signed by the landowner and a USGS representative.
 - c. When work at a well is completed and the conditions outlined in Office of Ground Water Technical Memorandum 2003.03 are met, ownership of a well may

[Tips on Help Using This Form](#)
 Form 9-1483
 Revised (October 2002)

Agreement Number:

Well Drilling/Sampling Agreement

The landowner agrees that the U.S. Geological Survey (USGS), District may install and maintain a monitoring well on the landowner's property at a mutually agreed-upon site at the location listed below. The landowner also agrees that the USGS will have access to the site, as it reasonably deems necessary for water-level measurements, geophysical measurements and/or water-quality sampling purposes during the life of this agreement.

The monitoring well will be a hole extending into the earth produced by drilling or auguring. The hole may be cased and screened at an appropriate depth for water level measurements and/or sampling. The well water may be sampled for multiple constituents.

Excavation and/or installation of the well may begin at any time after this agreement is fully executed. The well shall be excavated, installed, and properly maintained by the USGS at its own expense. This agreement shall be regarded as granting a license or easement, whichever may be most appropriately characterizes it under applicable state law, in favor of USGS to enter landowner's property for the purposes noted herein.

At the expiration of this Agreement, the well may be abandoned in one of the following ways:

1. The well may be removed, filled and/or plugged, according to federal, state, and local regulations, by the USGS at its own expense within a reasonable time after the expiration of this Agreement. The USGS, soon thereafter, shall restore the property, again at its own expense, as nearly as possible to the same condition as existed prior to the excavation and/or installation of the well, or
2. At the request of the Landowner, and if the well has been in existence for five years or more, ownership of the well may be transferred to the Landowner under a separate Well Transfer Agreement.

During the life of this Agreement, the Federal Government will be liable for any loss related to the installation, operation, maintenance, or other activities associated with the well described above in accordance with, and to the extent permitted, under the Federal tort Claims Act (28 U.S.C. 1346(b) and 2671 et seq.).

This agreement shall be come effective when fully executed and shall continue in force for 5 years unless terminated earlier by the USGS upon 60 days written notice. After 5 years, the Agreement remains in force until terminated by either the USGS or the Landowner upon 90 days written notice to the other party.

Description of well located at Lat. Long. (Attach Drawing)

Landowner:

Address:

Tel. Number: Fax Number

USGS Center Director:

Address:

Tel. Number: Fax Number

USGS Project Chief

Tel. Number: Fax Number

U.S. GEOLOGICAL SURVEY
 By:

 (Name) _____ Date: _____

LANDOWNER
 By:

 Date: _____

Notary Seal:

Figure 1. Well Drilling/Sampling Agreement, Form 9-1483.

As consideration for the rights and privileges granted herein, the USGS shall make a one-time payment to the Landowner in the sum of \$. This Agreement shall be binding upon Landowner's devise, heirs, successors, and assigns.

Landowner:

Address:

Tel. Number: Fax Number:

USGS Center Director:

Address:

Tel. Number: Fax Number:

USGS Project Chief:

Tel. Number: Fax Number:

U.S. GEOLOGICAL SURVEY
By

(Name) Date: _____

LANDOWNER
By

_____ Date: _____

Notary Seal:

Figure 1. Well Drilling/Sampling Agreement, Form 9-1483.—Continued

2. If seeking permission to collect water samples from a well: Experience has shown that oral permission to collect water samples is easier to obtain, but written permission provides stronger legal protection. Form 9-1483 includes permission for the USGS to take water-quality samples from a well being drilled. However, if an existing well is used instead of drilling a well, use of the Permission to Collect Water Samples form (fig. 3) is warranted. Strong consideration should be used to incorporate this form even when Form 9-1483 is in place. Figure 2 or an equivalent form must be signed by the permitter (landowner) and a USGS representative.
3. If seeking permission to maintain a continuous recorder or make a groundwater-level measurement on private property, restricted public property, or leased Federal land: The USGS preferred business practice is that permission for this activity be obtained in writing using Form 9-1483 or equivalent. Long-standing oral agreements and oral agreements made in situations where obtaining written permission would be prohibitive can be documented by using the form shown in figure 4 (Format for Letter Requesting Permission To Enter Private Property) or by obtaining the information included in figure 5 (Documentation of Oral Permission to Access Private Lands) and documenting the oral permission as soon as possible.

(Tips for Using this Form)
 Form 9 3106 U.S. DEPARTMENT OF THE INTERIOR
 (October 2002) U.S. Geological Survey

Agreement Number

Well Transfer Agreement

The U.S. Geological Survey (USGS) agrees to transfer ownership of the observation well(s), hereinafter referred to as "the well," or "wells" located at Lat. Long. , and/or

(Provide other location description and/or attach map, plat, drawings, photographs, or other descriptive information)

to , hereinafter referred to
 (Name of Landowner)

as "Landowner," giving the Landowner all ownership rights to the wells.

Landowner agrees to assume responsibility for the noted well(s). Landowner agrees to accept the well(s) "as is" and to not hold USGS or the U.S. Government responsible in any way for any construction deficiencies or repairs that may be needed to make the well to meet any safety, government, or other standards. Landowner agrees to: (a) accept responsibility for any liability, such as liens, fines, damages, penalties, forfeitures or judgments arising from the continued use of existence of the well(s); (b) release the USGS and the U.S. Government for liability for any injuries or damage to persons and/or property of any kind arising out of the continued use of existence of the well(s); and (c) indemnify the USGS and the U.S. Government from any claims arising out of the use of existence of the well(s). If Landowner chooses or is forced to abandoned a well, Landowner agrees to assume full responsibility for its disposition in compliance with applicable federal, state, and local laws.

The transfer of the noted well(s) is effective on the date this agreement is fully executed.

U.S. GEOLOGICAL SURVEY
 By Date:

(Name)

Transferee
 By Date:

(Name)

Notary Seal:

Figure 2. Well Transfer Agreement form for transfer of well ownership.

Unnumbered form (from WRD Memo No. 90.34)

U.S. GEOLOGICAL SURVEY

Permission to Collect Water Samples.

I (we) _____ hereby give my (our) permission to the U.S. Geological Survey to collect a water sample (s) from my well, spring, stream, lake, or reservoir. I understand that this sample will be analyzed by the U.S. Geological Survey and that the data will be used for scientific purposes. I also understand that I will be furnished a copy of the analysis and that the data will be stored in the Geological Survey's computer storage files and become public information at that time. The U.S. Geological Survey has also informed me (us) that some results of the analysis that exceed the U.S. Environmental Protection Agency's Primary Drinking Water Standard Maximum Contaminant Levels may be reported to a local, State, or Federal regulatory agency.

In addition to collecting a sample (s) for a laboratory analysis, the U.S. Geological Survey may also make a series of concurrent physical measurements such as water level, streamflow, pH, and temperature.

If I (we) have any questions about this program of the U.S. Geological Survey,

I can contact _____

At the following telephone number _____

Signature, Permitter Date

Signature, U.S. Geological Survey Date

Local address

Figure 3. Form to use to obtain permission to collect water samples.



U.S. Geological Survey Manual

Figure 500.11.1

Format for Letter Requesting Permission To Enter Private Property (to be printed on Official Letterhead)

(Insert Name of Private Landowner)
(Insert Address of Private Landowner)

(Insert Date)

Dear (Insert Name of Private Landowner):

The U.S. Geological Survey requires employees to obtain written permission from landowners in certain cases before entering onto private property to conduct new surveys or scientific sampling. Consequently, we are hereby requesting your approval to enter your land for the purpose described below. The data and/or samples collected will be used for scientific purposes and will be provided to you upon request.

Specific information regarding this request is as follows:

1. (proposed date and time of entry and departure, or period of time during which recurring visits will be necessary).
2. (kind and number of vehicles to be used).
3. (number of persons in the party).
4. (name, office address, and contact information of chief of party).
5. (purpose of the work).
6. (locations on the property where work is to be done).
7. (approximate frequency of aircraft flights along lines of sight for temperature and pressure measurements, in connection with geodimeter or similar work, if applicable).

We will make every effort to minimize disturbance or disruption to your property. However, in the unlikely event that property damage results, you are entitled to file a claim to recover your damages (tort claim). Please contact (insert name and telephone number of tort claims contact) immediately if property damage should occur.

If you have any questions about this program of the U.S. Geological Survey, you may contact (insert name of chief of project) at the following telephone number: (insert number).

If you consent to this request, please sign below and (list method of return, e.g., envelope provided, leave at a designated location, etc.). Thank you for your cooperation.

Sincerely,

(Signature and Printed Name of Requestor)

Approval: _____
Landowner Signature
Date

Figure 4. Format for letter requesting permission to enter private property (U.S. Geological Survey Manual 500.11).



U.S. Geological Survey Manual

Figure 500.11.2
Documentation of Oral Permission to Access Private Lands

The U.S. Geological Survey obtained oral permission to access private lands as follows:

Description of the work and/or project title, to include date and time of entry and departure or anticipated duration of the work if recurring visits will be made:

Printed name and address of landowner contacted:

_____ The landowner was provided with the following information:

1. (proposed date and time of entry and departure, or period of time during which recurring visits will be necessary).
2. (kind and number of vehicles to be used).
3. (number of persons in the party).
4. (name, office address, and contact information of chief of party).
5. (purpose of the work).
6. (locations on the property where work is to be done).
7. (approximate frequency of aircraft flights along lines of sight for temperature and pressure measurements, in connection with geodimeter or similar work, if applicable).

Date permission was granted:

Office location of initiating party:

Name and signature of member of field party who obtained permission:

Other persons in the party who witnessed the oral permission (as applicable):

The documentation of an oral agreement should be retained in the project file by the initiating office until the project is completed and in accordance with the *Handbook for Managing USGS Records*, 432-1-H.

Figure 5. Documentation of oral permission to access private lands (U.S. Geological Survey Manual 500.11).

Data Recording

Permission details are recorded on the associated forms. The original form is kept in the office, and a copy is included in the well folder that is brought to the field.

The Agency Use Code (C803) on the Groundwater Site Schedule (Form 9-1904-A; fig. 6) should be used to indicate the type of agreement in place. If the well is not owned by the USGS, use codes A, L, or M when coding the site in the National Water Information System. For further information, refer to USGS Water Resources Discipline Policy Memorandum 2009.02.

Agency use code (C803)	Short description	Long description
A	Active - no/na	Active data collection site with undocumented or unneeded landowner agreement
L	Active - Written	Active data collection site with written landowner agreement (Form 9-1483)
M	Active - Oral	Active data collection site with memo documenting oral landowner agreement

Reference

- U.S. Geological Survey, 2003, Agreement forms for gaging station and observation well installations and transfers: Office of Ground Water Technical Memorandum 2003.03, accessed December 17, 2010, at <http://water.usgs.gov/admin/memo/GW/gw03.03.html>.
- U.S. Geological Survey, 2008, U.S. Geological Survey Manual 500.11—Obtaining permission for access to private lands, accessed December 17, 2010, at <http://www.usgs.gov/usgs-manual/500/500-11.html>.
- U.S. Geological Survey, 2009, Maintaining an auditable record of USGS discontinued water monitoring station liabilities: Water Resources Discipline Policy Memorandum No. 2009.02, accessed at <http://water.usgs.gov/admin/memo/policy/wrdpolicy09.02.pdf>.

FORM NO. 9-1904-A
Revised Sept 2009, NWIS 4.9

File Code _____

Coded by _____
Checked by _____
Entered by _____

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY

Date _____

GROUNDWATER SITE SCHEDULE
General Site Data

AGENCY CODE (C4) **USGS** SITE ID (C1) _____ PROJECT (C5) _____

STATION NAME (C12/900) _____

SITE TYPE (C802) Primary Secondary DISTRICT (C6) _____ COUNTRY (C41) _____ STATE (C7) _____

COUNTY or TOWN (C8) _____ COUNTY code _____

LATITUDE (C9) _____ LONGITUDE (C10) _____ LAT/LONG ACCURACY (C11) **H 1 5 S R F T M U**
Hndrth tenth half 3 5 10 min. Un-known sec. sec. sec. sec. sec. sec. sec.

LAT/LONG METHOD (C35) **C D G L M N R S U** LAT/LONG DATUM (C36) **NAD27 NAD83** ALTITUDE (C16) _____
land DGPS GPS LORAN map inter-reported survey un-polated digital map North American Datum of 1927 North American Datum of 1983

ALTITUDE ACCURACY (C18) _____ ALTITUDE METHOD (C17) **A D G I J L M N R U** ALTITUDE DATUM (C22) **NGVD29 NAVD88**
altimeter DGPS GPS IRSAR LIDAR Level map DEM re-ported un-known National Geodetic Vertical Datum of 1929 North American Vertical Datum of 1988

LAND NET (C13) _____
1/4 1/4 1/4 section township range merid

TOPO-GRAPHIC SETTING (C19) **A B C D E F G H K L M O P S T U V W**
alluvial playa stream depression dunes flat flood-plain hill-top sink-hole lake or mangrove off- ped- hill- ter- undu- valley upland fan channel desion plain top hole swamp shore ment side race lating flat draw

HYDROLOGIC UNIT CODE (C20) _____ DRAINAGE BASIN CODE (C801) _____ STANDARD TIME ZONE (C813) _____ DAYLIGHT SAVINGS TIME FLAG (C814) **Y OR N**

MAP NAME (C14) _____ MAP SCALE (C15) _____

AGENCY USE (C803) **A D I L M O R** 2 NATIONAL WATER-USE (C39) _____
active discon- inactive active active inventory remediated no/na tinued site written oral site

DATA TYPE (C804)
Place an 'A' (active), an 'I' (inactive), or an 'O' (inventory) in the appropriate box

WL cont	WL int	QW cont	QW int	PR cont	PR int	EV cont	EV int	wind vel.	tide cont	tide int	sed. con	sed. ps	peak flow	low flow	state water use
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INSTRUMENTS (C805)
(Place a "Y" in the appropriate box):

digital rec-order	graphic rec-order	tele-metry land line	tele-metry radio	tele-metry satellite	AHDAS	crest-stage gage	tide gage	deflection meter	bubble gage	stilling well	CR type recorder	weighing rain gage	tiping bucket rain gage	acoustic velocity meter	electro-magnetic flowmeter	pressure transducer
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DATE INVENTORIED (C711) _____ RECORD READY FOR WEB (C32) **Y C P L**
month day year ready to display condi- propri- local use tional tary only

REMARKS (C806) _____

FOOTNOTES

1 SITE TYPE (C802)

GL	Glacier	OC	Ocean	GW	Well	SB	Subsurface
WE	Wetland	OC-CO	Coastal	GW-CR	Collector or Ranney type well	SB-CV	Cave
AT	Atmosphere	LK	Lake, Reservoir, Impoundment	GW-EX	Extensometer well	SB-GWD	Groundwater drain
ES	Estuary	SP	Spring	GW-HZ	Hyporheic -zone well	SB-TSM	Tunnel, shaft, or mine
LA	Land	ST	Stream	GW-IV	Interconnected wells	SB-UZ	Unsaturated zone
LA-EX	Excavation	ST-CA	Canal	GW-TH	Test hole not completed as a well		
LA-OU	Outcrop	ST-DCH	Ditch	GW-MW	Multiple wells		
LA-SNK	Sinkhole	ST-TS	Tidal stream				
LA-SH	Soil hole	FA-WIW	Waste-Injection well				
LA-SR	Shore						

2 **WS DO CO IN IR MI LV PH ST RM TE AQ**
water domestic commer- industrial irrigation mining livestock power waste remediation thermo-aqua-culture supply cial cial cial cial cial hydro- electric treatment electric power

C22 Other (see manual for codes)
C36 Other (see manual for codes)
C39 is mandatory for all sites having data in SWUDS.

Figure 6. Groundwater Site Schedule, Form 9-1904-A.

GENERAL SITE DATA

DATA RELIABILITY (C3) **C L M U**
field checked poor location minimal data un-checked

DATE OF FIRST CONSTRUCTION (C21) - -
month day year

USE OF SITE (C23) **A C D E G H M O P R S T U V W X Z**
anode standby emer. supply drain geothermal seismic heat reservoir mine observation oil or gas recharge reprisize test unused with-drawal/return with-drawal waste destroyed

SECONDARY USE OF SITE (C301) TERTIARY USE OF SITE (C302)
(See use of site) (See use of site)

USE OF WATER (C24) **A B C D E F H I J K M N P Q R S T U Y Z**
air cond. bottling comm-ercial water de-power fire domes-tic irri-gation indus-trial (cooling) mining medicinal indus-trial public supply aqua-culture recrea-tions stock insti-tutional unused desalin-ation other

SECONDARY USE OF WATER (C25) TERTIARY USE OF WATER (C26)
(see use of water) (see use of water)

AQUIFER TYPE (C713) **U N C M X**
unconfined single unconfined multiple confined single confined multiple mixed

PRIMARY AQUIFER (C714) NATIONAL AQUIFER (C715)

HOLE DEPTH (C27) . WELL DEPTH (C28) .

SOURCE OF DEPTH DATA (C29) **A D G L M O R S Z**
other gov't driller geol-ogist logs memory owner other reported agency

WATER-LEVEL DATA

DATE WATER-LEVEL MEASURED (C235) - - TIME (C709)
month day year

WATER-LEVEL TYPE CODE (C243) **L M S**
land surface meas. pt. vertical datum

WATER LEVEL (C237/241/242) . MP SEQUENCE NO. (C248) (Mandatory if WL type=M)

WATER-LEVEL DATUM (C245) (Mandatory if WL type=S) **NGVD29 NAVD88**
National Geodetic Vertical Datum of 1929 North American Vertical Datum of 1988 Other (See manual for codes)

SITE STATUS FOR WATER LEVEL (C238) **A B C D E F G H I J M N O P R S T V W X Z**
atmos. pressure tide stage ice dry recently flowing nearby flowing nearby recently flowing injector site injector site monitor plugged measurement discontinued obstruction pumping recently pumped nearby pumping nearby recently pumped foreign sub-stance well des-troyed affected by surface water other

METHOD OF WATER-LEVEL MEASUREMENT (C239) **A B C D E F G H L M N O P R S T V Z**
airline analog calibrated airline differ-ential GPS esti-mated trans-ducer pressure gage calibrated press. gage geophys-ical logs mano-meter non-rec. gage observed acoustic pulse reported steel tape electric tape calibrated elec. tape other

WATER-LEVEL ACCURACY (C276) **0 1 2 9**
foot tenth hun-dredth not to nearest foot

SOURCE OF WATER-LEVEL DATA (C244) **A D G L M O R S Z**
other gov't driller's log geol-ogist geophys-ical logs memory owner other reported agency other

PERSON MAKING MEASUREMENT (C246) (WATER LEVEL PARTY) MEASURING AGENCY (C247) (SOURCE) EQUIP ID (C249) (20 char)

REMARKS (C267) (256 char) RECORD READY FOR WEB (C858) **Y C P L**
ready to display condi-tional propri-etary local use only

CONSTRUCTION DATA

RECORD TYPE (C754) **C O N S** RECORD SEQUENCE NO. (C723)

DATE OF COMPLETED CONSTRUCTION (C60) - -
month day year

NAME OF CONTRACTOR (C63) SOURCE OF DATA (C64) **A D G L M O R S Z**
other gov't driller geol-ogist logs memory owner other reported agency other

METHOD OF CONSTRUCTION (C65) **A B C D H J P R S T V W Z**
air-rotary bored or augered cable tool dug hydraulic rotary jetted air per-cussion reverse rotary sonic trenching driven drive wash other

TYPE OF FINISH (C66) **C F G H O P S T W X Z**
porous concrete gravel w/perf. gravel screen horiz. gallery open end perf or slotted screen sand point walled open hole other

TYPE OF SEAL (C67) **B C G N Z**
bentonite clay cement grout none other

BOTTOM OF SEAL (C68) METHOD OF DEVELOPMENT (C69) **A B C J N P S Z**
air-lift pump bailed compressed air jetted none pumped surged other

HOURS OF DEVELOPMENT (C70) SPECIAL TREATMENT (C71) **C D E F H M Z**
chem-icals dry ice explo-sives defloc-ulent hydro-frac-turing mech-anical other

CONSTRUCTION HOLE DATA (3 sets shown)

RECORD TYPE (C756) **HOLE** RECORD SEQUENCE NO. (C724) SEQUENCE NO. OF PARENT RECORD (C59)

DEPTH TO TOP OF INTERVAL (C73) . DEPTH TO BOTTOM OF INTERVAL (C74) . DIAMETER OF INTERVAL (C75) .

RECORD SEQUENCE NO. (C724)

DEPTH TO TOP OF INTERVAL (C73) . DEPTH TO BOTTOM OF INTERVAL (C74) . DIAMETER OF INTERVAL (C75) .

RECORD SEQUENCE NO. (C724)

DEPTH TO TOP OF INTERVAL (C73) . DEPTH TO BOTTOM OF INTERVAL (C74) . DIAMETER OF INTERVAL (C75) .

CONSTRUCTION CASING DATA (4 sets shown)

RECORD TYPE (C758) **CASING** RECORD SEQUENCE NO. (C725) SEQUENCE NO. OF PARENT RECORD (C59)

DEPTH TO TOP OF CASING (C77) . DEPTH TO BOTTOM OF CASING (C78) . DIAMETER OF CASING (C79) .

⁴ CASING MATERIAL (C80) CASING THICKNESS (C81) .

RECORD SEQUENCE NO. (C725) SEQUENCE NO. OF PARENT RECORD (C59)

DEPTH TO TOP OF CASING (C77) . DEPTH TO BOTTOM OF CASING (C78) . DIAMETER OF CASING (C79) .

⁴ CASING MATERIAL (C80) CASING THICKNESS (C81) .

RECORD SEQUENCE NO. (C725) SEQUENCE NO. OF PARENT RECORD (C59)

DEPTH TO TOP OF CASING (C77) . DEPTH TO BOTTOM OF CASING (C78) . DIAMETER OF CASING (C79) .

⁴ CASING MATERIAL (C80) CASING THICKNESS (C81) .

RECORD SEQUENCE NO. (C725) SEQUENCE NO. OF PARENT RECORD (C59)

DEPTH TO TOP OF CASING (C77) . DEPTH TO BOTTOM OF CASING (C78) . DIAMETER OF CASING (C79) .

⁴ CASING MATERIAL (C80) CASING THICKNESS (C81) .

FOOTNOTE:

⁴ CASING MATERIAL CODES	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	4	6
	abs	brick	concrete	copper	PTFE	Fiber-glass	galv-iron	Fiber-glass	wrought-iron	Fiber-glass	thread-epoxy	PVC-glass	other metal	PVC-glued	PVC or FEP plastic	rock or stone	steel	tile coated steel	stain-less steel	wood	steel carbon	steel galvanized	other mat.	stain-less 304	stain-less 316		

CONSTRUCTION LIFT DATA

RECORD TYPE (C752) **L I F T** RECORD SEQUENCE NO. (C254) TYPE OF LIFT (C43) **A B C J P R S T U X Z**
air bucket centri-fugal jet piston rotary submer-sible turbine un-known no lift other

DATE RECORDED (C38) - - month day year PUMP INTAKE DEPTH (C44) TYPE OF POWER (C45) **D E G H L N S W Z**
diesel electric gaso-line hand LP gas natural gas solar windmill other

HORSE-POWER RATING (C46) . MANUFACTURER (C48) SERIAL NO. (C49)

POWER COMPANY (C50) POWER COMPANY ACCOUNT NUMBER (C51)

POWER METER NUMBER (C52) PUMP RATING (C53) (million gallons/units of fuel) . ADDITIONAL LIFT (C255)

PERSON OR COMPANY MAINTAINING PUMP (C54) RATED PUMP CAPACITY (gpm) (C268) STANDBY POWER (C56) (see TYPE OF POWER)

HORSEPOWER OF STANDBY POWER SOURCE (C57) .

MISCELLANEOUS OWNER DATA

RECORD TYPE (C768) **OWNR** RECORD SEQUENCE NO. (C718) DATE OF OWNERSHIP (C159) - -

WU OWNER TYPE (C350) **CP GV IN MI OT TG WS** END DATE OF OWNERSHIP (C374) - -
Corporation Govern-ment Individual Military Other Tribal Water Supplier

OWNER'S NAME (C161)

EXAMPLES: JONES, RALPH A.
 JONES CONSTRUCTION COMPANY

OWNER'S PHONE NUMBER (C351) ACCESS TO OWNER'S NAME (C352) **0 1 2 3 4**
Public Access Cooperator Only USGS Only District Proprietary Only

OWNER'S ADDRESS (LINE 1) (C353)

OWNER'S ADDRESS (LINE 2) (C354)

OWNER'S CITY NAME (C355)

STATE (C356) OWNER'S ZIP CODE (C357)

OWNER'S COUNTRY NAME (C358)

ACCESS TO OWNER'S PHONE/ADDRESS (C359) **0 1 2 3 4**
Public Access Cooperator Only USGS Only District Proprietary Only

MISCELLANEOUS VISIT DATA

RECORD TYPE (C774) **V I S I T** RECORD SEQUENCE NO. (C737) DATE OF VISIT (C187) - -
month day year

NAME OF PERSON (C188)

MISCELLANEOUS OTHER ID DATA (2 sets shown)

RECORD TYPE (C770)	O T I D	RECORD SEQUENCE NO. (C736)		OTHER ID (C190)	
				ASSIGNER (C191)	
		RECORD SEQUENCE NO. (C736)		OTHER ID (C190)	
				ASSIGNER (C191)	

MISCELLANEOUS OTHER DATA

RECORD TYPE (C772) O T D T RECORD SEQUENCE NO. (C312)

OTHER DATA TYPE (C181)

OTHER DATA LOCATION (C182) C D R Z	DATA FORMAT (C261) F M P Z
Cooperator's Office, District Office Reporting Agency other	files, machine readable, published, other

MISCELLANEOUS LOGS DATA (3 sets shown)

RECORD TYPE (C778)	L O G S	RECORD SEQUENCE NO. (C739)		TYPE OF LOG (C199)	
BEGINNING DEPTH (C200)		ENDING DEPTH (C201)		SOURCE OF DATA (C202)	A D G L M O R S Z
				other gov't driller geol-ogist logs memory owner other reported reporting other agency	
DATA FORMAT (C225)	F M P Z	OTHER DATA LOCATION (C226)			
	files machine readable published other				

RECORD TYPE (C778)	L O G S	RECORD SEQUENCE NO. (C739)		TYPE OF LOG (C199)	
BEGINNING DEPTH (C200)		ENDING DEPTH (C201)		SOURCE OF DATA (C202)	A D G L M O R S Z
				other gov't driller geol-ogist logs memory owner other reported reporting other agency	
DATA FORMAT (C225)	F M P Z	OTHER DATA LOCATION (C226)			
	files machine readable published other				

RECORD TYPE (C778)	L O G S	RECORD SEQUENCE NO. (C739)		TYPE OF LOG (C199)	
BEGINNING DEPTH (C200)		ENDING DEPTH (C201)		SOURCE OF DATA (C202)	A D G L M O R S Z
				other gov't driller geol-ogist logs memory owner other reported reporting other agency	
DATA FORMAT (C225)	F M P Z	OTHER DATA LOCATION (C226)			
	files machine readable published other				

- ACOUSTIC LOG:**
AS Sonic
AV Acoustic velocity
AW Acoustic waveform
AT Acoustic televiewer
- CALIPER LOG:**
CP Caliper
CS Caliper, single arm
CT Caliper, three arm
CM Caliper, multi arm
CA Caliper, acoustic
- DRILLING LOG:**
DT Drilling time
DR Drillers
DG Geologists
DC Core
- ELECTRIC LOG:**
EE Electric
ER Single-point resistance
EP Spontaneous potential
EL Long-normal resistivity
ES Short-normal resistivity
EF Focused resistivity
ET Lateral resistivity
EN Microresistivity
EC Microresistivity, forused
EO Microresistivity, lateral
ED Dipmeter

- ELECTROMAGNETIC LOG:**
MM Magnetic log
MS Magnetic susceptibility log
MI Electromagnetic induction log
MD Electromagnetic dual induction log
MR Radar reflection image log
MV Radar direct-wave velocity log
MA Radar direct-wave amplitude log
- FLUID LOG:**
FC Fluid conductivity
FR Fluid resistivity
FT Fluid temperature
FF Fluid differential temperature
FV Fluid velocity
FS Spinner flowmeter
FH Heat-pulse flowmeter
FE Electromagnetic flowmeter
FD Doppler flowmeter
FA Radioactive tracer
FY Dye tracer
FB Brine tracer
- NUCLEAR LOG:**
NG Gamma
NS Spectral gamma
NA Gamma-gamma
NN Neutron
NT Neutron activation
NM Neuclear magnetic resonance

- OPTICAL LOG:**
OV Video
OF Fisheye video
OS Sidewall video
OT Optical televiewer
- COMBINATION LOG:**
ZF Gamma, fluid resistivity, temperature
ZI Gamma, electromagnetic induction
ZR Long/short normal resistivity
ZT Fluid resistivity, temperature
ZM Electromagnetic flowmeter, fluid resistivity, temperature
ZN Long/short normal resistivity, spontaneous potential
ZP Single-point resistance, spontaneous potential
ZE Gamma, long/short normal resistivity, spontaneous potential, single-point resistance, fluid resistivity, temperature

- WELL CONSTRUCTION LOG:**
WC Casing collar
WD Borehold deviation
- OTHER LOG:**
OR Other

MISCELLANEOUS NETWORK DATA (3 types shown)

RECORD TYPE (C780) **NETW** RECORD SEQUENCE NO. (C730) TYPE OF NETWORK (C706) **QW** BEGINNING YEAR (C115) ENDING YEAR (C116)
water quality

TYPE OF ANALYSIS (C120) **A B C D E F G H I J K L M N P Z**
physical properties common ions trace elements pesticides nutrients sanitary analysis codes D&B codes B&E codes B&C codes B&F codes D&E codes C,D&E all or most codes B&C& radio-active codes B,C&A other

SOURCE AGENCY (C117) ⁷ FREQUENCY OF COLLECTION (C118) ANALYZING AGENCY (C307) ⁸ PRIMARY NETWORK SITE (C257) ⁸ SECONDARY NETWORK SITE (C708)

RECORD TYPE (C780) **NETW** RECORD SEQUENCE NO. (C730) TYPE OF NETWORK (C706) **WL** BEGINNING YEAR (C115) ENDING YEAR (C116)
water level

SOURCE AGENCY (C117) ⁷ FREQUENCY OF COLLECTION (C118) ⁸ PRIMARY NETWORK SITE (C257) ⁸ SECONDARY NETWORK SITE (C708)

RECORD TYPE (C780) **NETW** RECORD SEQUENCE NO. (C730) TYPE OF NETWORK (C706) **WD** BEGINNING YEAR (C115) ENDING YEAR (C116)
pumpage or withdrawals

SOURCE AGENCY (C117) ⁷ FREQUENCY OF COLLECTION (C118) METHOD OF COLLECTION (C133) **C E M U Z** ⁸ PRIMARY NETWORK SITE (C257) ⁸ SECONDARY NETWORK SITE (C708)
calculated estimated metered unknown other

FOOTNOTES:

⁷ FREQUENCY OF COLLECTION CODES **A B C D F I M O Q S W Z 2 3 4 5 X**
annually bi-monthly continuously daily semi-monthly inter-mittent monthly one-time only quarterly semi-annually weekly other bi-annually every 3 years every 4 years every 5 years every 10 years

⁸ NETWORK SITE CODES **1 2 3 4**
national, district, project, co-operator,

MISCELLANEOUS REMARKS DATA (4 types shown)

RECORD TYPE (C785) **RMKIS** RECORD SEQUENCE NO. (C311) DATE OF REMARK (C184) - -
month day year

Subsequent entries may be used to continue the remark. Miscellaneous remarks field is limited to 256 characters.

RECORD TYPE (C788) **RMKIS** RECORD SEQUENCE NO. (C311) DATE OF REMARK (C184) - -
month day year

Subsequent entries may be used to continue the remark. Miscellaneous remarks field is limited to 256 characters.

DISCHARGE DATA

RECORD SEQUENCE NO. (C147)

DATE DISCHARGE MEASURED (C148) month - day - year

TYPE OF DISCHARGE (C703) P F
 pumped flow

DISCHARGE (gpm) (C150) .

ACCURACY OF DISCHARGE MEASUREMENT (C310) E G F P
 excellent good fair poor
 (LT 2%), (2%-5%) (5%-8%) (GT 8%)

SOURCE OF DATA (C151) A D G L M O R S Z
 other gov't driller geologist logs memory owner other reported reporting agency other

METHOD OF DISCHARGE MEASUREMENT (C152) A B C D E F M O P R T U V W X Z
 acoustic meter bailer current meter Doppler meter estimated flume totaling meter orifice pitot-tube reported trajectory venturi meter volumetric meas weir unknown other

PRODUCTION WATER LEVEL (C153) .

STATIC WATER LEVEL (C154) .

SOURCE OF DATA (C155) A D G L M O R S Z
 other gov't driller geologist logs memory owner other reported reporting agency other

METHOD OF WATER-LEVEL MEASUREMENT (C156) A B C D E F G H L M N O P R S T V Z
 airline recorder calibrated differential estimated transducer pressure calibrated geophysical manometer non-rec. observed acoustic reported steel electric calibrated other
 airline recorder calibrated differential estimated transducer pressure calibrated geophysical manometer non-rec. observed acoustic reported steel electric calibrated other
 airline recorder calibrated differential estimated transducer pressure calibrated geophysical manometer non-rec. observed acoustic reported steel electric calibrated other

PUMPING PERIOD (C157) .

SPECIFIC CAPACITY (C272) .

DRAWDOWN (C309) .

GEOHYDROLOGIC DATA

RECORD TYPE (C748) G E O H

RECORD SEQUENCE NO. (C721)

DEPTH TO TOP OF UNIT (C91) .

DEPTH TO BOTTOM OF UNIT (C92) .

UNIT IDENTIFIER (C93)

LITHOLOGY (C96)

CONTRIBUTING UNIT (C304) P Q S N U
 principal aggregate secondary no unknown
 aquifer of lithologic units aquifer contribution

LITHOLOGIC MODIFIER (C97)

GEOHYDROLOGIC AQUIFER DATA

RECORD TYPE (C750) A Q F R

RECORD SEQUENCE NO. (C742)

SEQUENCE NO. OF PARENT RECORD (C256)

DATE (C95) month - day - year

STATIC WATER LEVEL (C126) .

CONTRIBUTION (C132)

SITE LOCATION SKETCH AND DIRECTIONS

Township _____ Range _____
Section # _____

