

KEL FOX, CH.  
JOHN L. LEIBER, V. CH.  
WESLEY E. STEINER  
EXECUTIVE DIRECTOR  
AND  
STATE WATER ENGINEER  
VICKIE MOONEY  
SECRETARY



DEPARTMENT OF WATER RESOURCES  
WATER RIGHTS ADMINISTRATION  
222 North Central, Suite 850  
Telephone (602) 255-1581

MEMBERS  
PETER F. BIANCO  
MARYBETH CARLILE  
GLEN G. CURTIS  
W. N. JACK SHAWVER  
J. C. WETZLER  
EX OFFICIO MEMBERS  
JOE T. FALLINI  
MARSHALL HUMPHREY

JUN 26 1980

76413

D-240-240-10DDCGS2

Re: Drilling of Well

05-9

PANAGAKOS  
RR 1  
PALESTINE

A X

IL 62451

Gentlemen:

Water Rights Administration, Department of Water Resources, is engaged in the process of bringing its well files up to date. These files indicate that a drilling card to drill a well was issued to you under file number as stated on address label, a year ago, and that the well has not been reported as completed.

Arizona Revised Statutes 45-596, 45-599, and 45-600 deal with Drilling of Wells and Filing of Log and Completion Report by the Driller.

Critical information included in these statutes requires that:

1. A well must be completed within one year of filing. If the well is not completed within one year, a new filing shall be made before proceeding with further construction.
2. Upon completion of drilling, a copy of the Well Driller Report shall be filed by the Driller with this Department within 30 days of completion of drilling.
3. Within 30 days after installation of pumping equipment, a Completion Report (Equipment Installed) shall be filed with this Department.

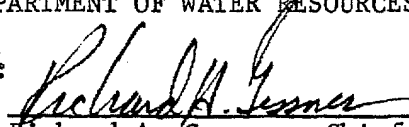
In the event the referenced well has been completed, please forward the Well Drillers and Completion Report of Equipment Installed to this Department within 30 days.

If no response is forthcoming, we will assume that the well is not completed and the related file retired as cancelled.

Yours very truly,

DEPARTMENT OF WATER RESOURCES

By:

  
Richard A. Gessner, Chief  
Records Section



BRUCE BABBITT  
GOVERNOR

# Arizona State Land Department

1624 WEST ADAMS  
PHOENIX, ARIZONA 85007  
602 - 255 - 4634



OFFICE OF  
STATE LAND COMMISSIONER

John M. Little  
Acting

May 7, 1979

Mr. Alfred Panagakos  
R.R. 1  
Palestine, Illinois 62451

File No. \_\_\_\_\_

Dear Sir:

This copy of Notice of Intention to Drill Well in Twp.

D(24-24)10 ddc D & A

35-76413

24 S

24 E

Section 10, SW  $\frac{1}{4}$  SE  $\frac{1}{4}$  SE  $\frac{1}{4}$ , is returned to you for your file. Also

enclosed are:

- WELL DRILLING CARD, which should be in the hands of the driller before construction of the well is started;
- REPORT OF WELL DRILLER form, which may be filled in by the driller but which you should make sure is mailed to us after completion of the well;
- REPORT OF EQUIPMENT INSTALLED form, which shall be filled in by you and sent to us after the installation of the pumping equipment;
- DIAGRAMS of recommended cement grout seal and pump installation, supplied by the Department of Health.

In the event it is necessary to change the location of the proposed well, you should obtain the written permission of the State Land Commissioner before proceeding with the drilling.

Very truly yours,

State Land Commissioner

By:

F. C. Ryan, Director  
Water Rights Division

mm

21-72

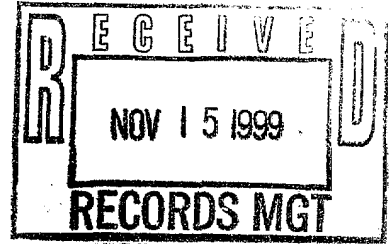
ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street

Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.



1. TANNER WELL SERVICE
7914 NORTH FRONTIER ROAD
MCNEAL, AZ 85617-9718

2. Owner Name: STEVE A. PARRA
Address: PO BOX 5363 BISBEE, AZ. 85603
City State Zip

3. Location: 24 N/S 24 E 5 1/4 NW 1/4 NW 1/4 SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-576415 (Required)
5. Permit No. N/A (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 355 ft.
7. Type of casing STEEL + PVC
8. Diameter and length of casing 6 in. from -1 to 125' 4 1/2 in from 115' to 355'
9. Method of sealing at reduction points 10' OVER LAP
10. Perforated from 255' to 355' from to from to
11. Size of cuts 1 1/8" x 1/6" Number of cuts per foot 3
12. If screen was installed: Length N/A ft. Diam in. Type
13. Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc)
14. Date started 9-23-99
Month Day Year
15. Date completed 10-6-99
Month Day Year
16. Depth to water 263 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
FROM GROUND LEVEL
18. If flowing well, state method of flow regulation: N/A

19. Remarks:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-576415
File No. D(24-24) 5 DBB
Received By
Entered By





**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
500 North Third Street  
Phoenix, Arizona 85004-3903**

**THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS**

**WELL REGISTRATION NO: 55-576414**

**AUTHORIZED DRILLER: SANTA CRUZ WELL & PUMP COMPANY**

**LICENSE NO: 121**

**NOTICE OF INTENTION TO DRILL AN EXEMPT WELL HAS BEEN FILED WITH THE DEPARTMENT BY:**

**WELL OWNER: VIRGINIA MIRANDA 1560 SOUTH 8TH TUCSON, AZ 85713**

**The well(s) is/are to be located in the:**

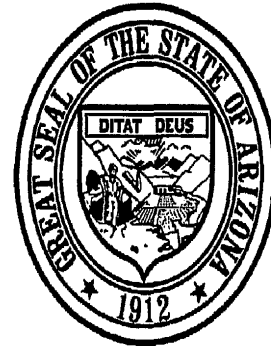
**SE 1/4 of the SE 1/4 of the SW 1/4 Section 25 Township 21 SOUTH Range 10 EAST**

**No. of wells in this project: 1**

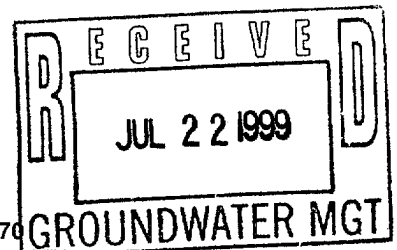
**THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 21ST DAY OF JULY, 2000.**

  
\_\_\_\_\_  
**CHIEF, GROUNDWATER MANAGEMENT SUPPORT**

**THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING**



ARIZONA DEPARTMENT OF WATER RESOURCES  
 GROUNDWATER MANAGEMENT SUPPORT SECTION  
 MAIL TO: P. O. BOX 458, PHOENIX, ARIZONA 85001-0458  
 FOR MORE INFORMATION CALL: MONICA ORTIZ (602)417-2470  
 NOTICE OF INTENTION TO DRILL, DEEPEN, REPLACE OR MODIFY A WELL



PLEASE COMPLETE ALL ITEMS IN THE BOX BELOW TO COUNTY OR LOCAL AUTHORITY ENDORSEMENT. IF ANY WATER FROM THE PROPOSED WELL (LISTED BELOW) WILL BE USED FOR DOMESTIC PURPOSES ON A PARCEL OF LAND 20 OR FEWER ACRES, THE APPLICABLE COUNTY OR LOCAL HEALTH AUTHORITY MUST ENDORSE ALL ITEMS IN THE BOX BEFORE SUBMISSION TO THE DEPARTMENT OF WATER RESOURCES. ITEMS C, D, E, AND F MAY BE AVAILABLE FROM YOUR COUNTY ASSESSOR'S OFFICE.

A. STEVE A. PARRA P.O. Box 5363 BISBEE AZ. 85603  
 LANDOWNER'S NAME CURRENT MAILING ADDRESS CITY STATE ZIP

B. TELEPHONE NO. 520-432-7432 COUNTY ASSESSOR'S PARCEL ID INFORMATION:

C. WELL LOCATED IN COCHISE COUNTY D. 102-39-013 E. 1.05  
 BOOK MAP PARCEL # OF ACRES OFFICIAL SEAL OR STAMP

WELL/LAND LOCATION (MUST BE COMPLETED AS REQUESTED):

F. NW 1/4 NW 1/4 SE 1/4 OF SECTION 5 TOWNSHIP 24 N/S RANGE 24 E/W  
 10AC 40AC 160AC COUNTY OR LOCAL AUTHORITY ENDORSEMENT

CHECK ONE:  
 G. RECOMMEND APPROVAL  ; INSUFFICIENT INFORMATION TO MAKE DETERMINATION \_\_\_\_\_ ; VARIANCE REQUIRED \_\_\_\_\_ (EXPLANATION ATTACHED)

H. DATE 7-19-99 AUTHORIZED SIGNATURE Steve Herbert TITLE Envir. Health Spec.

C.C.H.S.S.  
 1415 W. Melody Lane, Bldg. A  
 Bisbee, Arizona 85603-3090

1. OWNER OF WELL:  
STEVE A. PARRA  
 NAME  
P.O. Box 5363  
 CURRENT MAILING ADDRESS  
BISBEE, AZ. 85603  
 CITY STATE ZIP  
 TELEPHONE NUMBER 520-432-7432

6. LESSEE OF LAND OF WELLSITE:  
NONE  
 NAME  
 CURRENT MAILING ADDRESS  
 CITY STATE ZIP  
 TELEPHONE: \_\_\_\_\_

10. PLACE OF USE (LEGAL DESCRIPTION OF LAND):  
NW 1/4 NW 1/4 SE 1/4 SECTION 5  
 10AC 40AC 160AC  
 TOWNSHIP 24 N/S RANG 24 E/W

2. ACTION REQUESTED:  
 DRILL NEW WELL  DEEPEN \_\_\_\_\_  
 MODIFY \_\_\_\_\_ REPLACE \_\_\_\_\_  
 WELL REGISTRATION NO 55- \_\_\_\_\_  
 FOR A REPLACEMENT WELL PROVIDE:  
 MAX. CAPACITY OF THE ORIGINAL WELL  
 \_\_\_\_\_ GALLONS PER MINUTE;  
 DISTANCE FROM THE ORIGINAL WELL:  
 \_\_\_\_\_ FEET

7. PRINCIPLE USE OF WATER: (BE SPECIFIC)  
DOMESTIC  
 8. OTHER USES OF WATER: (BE SPECIFIC).  
NONE  
 9. IF USE INCLUDES IRRIGATION, STATE TO NEAREST TENTH, THE NUMBER OF ACRES TO BE IRRIGATED: 0

11. TYPE OF WELL (CHECK ONE):  
 EXEMPT  NON-EXEMPT \_\_\_\_\_  
 12. CHECK ONE:  
 RESIDENTIAL  COMMERCIAL \_\_\_\_\_

13. IS THE PROPOSED WELLSITE WITHIN 100 FEET OF A SEPTIC TANK SYSTEM, SEWER DISPOSAL AREA, LANDFILL, HAZARDOUS MATERIALS OR PETROLEUM STORAGE AREAS AND TANKS?  
 YES \_\_\_\_\_ NO

3. CONSTRUCTION WILL START ABOUT:  
 MONTH AUGUST YEAR 1999  
 4. TYPE OF CASING FOR PROPOSED WELL:  
 SURFACE CASING: STEEL  
 DIAMETER: 6 " DEPTH: 20 '  
 DOWNHOLE CASING: PVC  
 DIAMETER: 6 " DEPTH: 400 '  
 5. DESIGN PUMP CAPACITY:  
25 GALLONS PER MINUTE

FOR DEPARTMENT USE ONLY  
 REGISTRATION NO. 55- 576415  
 DATE FILED 7/22/99  
 FILE NO. D(24-24)5DBB  
 AMA/INA \_\_\_\_\_  
 W/S 11 S/B \_\_\_\_\_  
 PROCESSED BY ljp  
 DATE MAILED 7/27/99

14. DRILLING FIRM:  
TANNER WELK SERVICE  
 NAME  
79141 N. FRONTIER RD.  
 MAILING ADDRESS  
McNeal, AZ. 85617  
 CITY STATE ZIP  
(520) 642-3654  
 TELEPHONE NO.  
133  
 DWR LICENSE NUMBER  
C-53  
 ROC LICENSE CATEGORY

I STATE THAT THIS NOTICE IS FILED IN COMPLIANCE WITH A.R.S. § 45-596, IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT I UNDERSTAND THE LIMITATIONS AND CONDITIONS SET FORTH ON THE REVERSE SIDE OF THIS FORM.

STEVE A. PARRA Steve A. Parra 7-15-99  
 15. TYPE OR PRINT NAME AND TITLE 16. SIGNATURE OF LANDOWNER/LESSEE OF WELLSITE 17. DATE

## APPLICATION GUIDELINES

In accordance with Arizona Revised Statutes ("A.R.S.") §§ 41-1008 and 1079, the Department of Water Resources (Department) provides the following information regarding the application review process for authority to drill.

### NECESSARY STEPS & INSTRUCTIONS TO OBTAIN DRILLING AUTHORITY

1. Pursuant to A.R.S. § 45-596, a person may not drill, cause to be drilled, deepen or modify any well for which a permit is not required without first filing a Notice of Intent to Drill with the Department. Only a well drilling contractor licensed in the State of Arizona or a single well licensee (a person licensed to drill or modify one exempt well on his or her own property) is authorized to drill, deepen or modify a well. Drilling may not begin until the well drilling contractor or licensee has possession of a drilling card at the well site, issued by the Director in the name of the well drilling contractor or licensee, and which authorizes the drilling of the specific well in a specific location. To assist you in understanding the requirements for this application, copies of A.R.S. § 45-596 and Arizona Administrative Code ("A.A.C.") R12-15-810 are available at the Department bookstore (602-417-2450 x7127).
2. If replacing, deepening or modifying an existing well, provide the registration number of the existing well in item 2. A replacement well is one located no more than 660 feet from the original well and that is not expected to annually withdraw more groundwater than historically withdrawn from the original well.
3. Information to complete items 3, 4, 5 and 14 may be available from your driller.
4. Information to complete items 10 and 13 may be available from your County Assessor's Office.
5. An exempt well, referred to in Item 11, means a well with a pump with a maximum capacity of not more than thirty-five gallons per minute used primarily for domestic purposes, including the noncommercial irrigation of less than two acres of land.
6. If any water from a proposed well on a parcel of twenty or fewer acres will be used for domestic purposes, as defined in § 45-454, the applicant must submit a well site plan of the property. The plan must be on an 8½" x 11" piece of plain paper with representation of the locations of all structures and proximity of adjacent lot lines, to scale. It must include the county assessor's parcel identification number. The plan must show the proposed well location and the location of any septic tank or sewer system that is either located on the property or within one hundred feet of the proposed well site, as well as indicating the measured shortest distance between the proposed well and existing septic tank system. **The plan must demonstrate that the well will not be drilled within one hundred feet of any septic or sewer system.**
7. The site plan must be approved by the county health authority, or by a local health authority in areas where the county health authority has delegated authority to approve septic or sewer systems. Endorsement by the county/local authority is based solely on the best available judgement that the proposed well, as shown on the site plan submitted, is 100 feet or more from all known and visually identifiable sewage treatment systems. It is not a representation that a well placed at this site will be guaranteed as to quantity or quality. In areas where there is no local or county authority that controls installation of septic tanks or sewer systems, or if the health authority is unable to determine whether the proposed well location complies with state and local requirements, the applicant must apply for approval directly to the Department of Water Resources.
8. If an individual other than the land owner or lessee signs this notice, an original letter of authorization from the land owner/lessee, stating that the individual has permission to sign this specific notice on his or her behalf, must accompany the notice.
9. Please mail **two original Notices with original signatures and two site plans** and, in accordance with A.R.S. § 45-113, a **check or money order (no cash) in the amount of \$10.00** to P. O. Box 458, Phoenix Arizona, 85001-0458, or hand deliver to 500 North Third Street, Phoenix, Arizona.
10. Arizona Revised Statute § 45-596(D) provides that the Director of the Department is to determine whether or not all information required on this form has been submitted. If not, the person filing the Notice will be notified, and the drilling or modification of the well may **not** proceed.
11. This form is not applicable for non-exempt wells (those yielding more than thirty-five gallons per minute) within an Active Management Area. Contact Groundwater Management for further information regarding the appropriate notice to file with the Department.

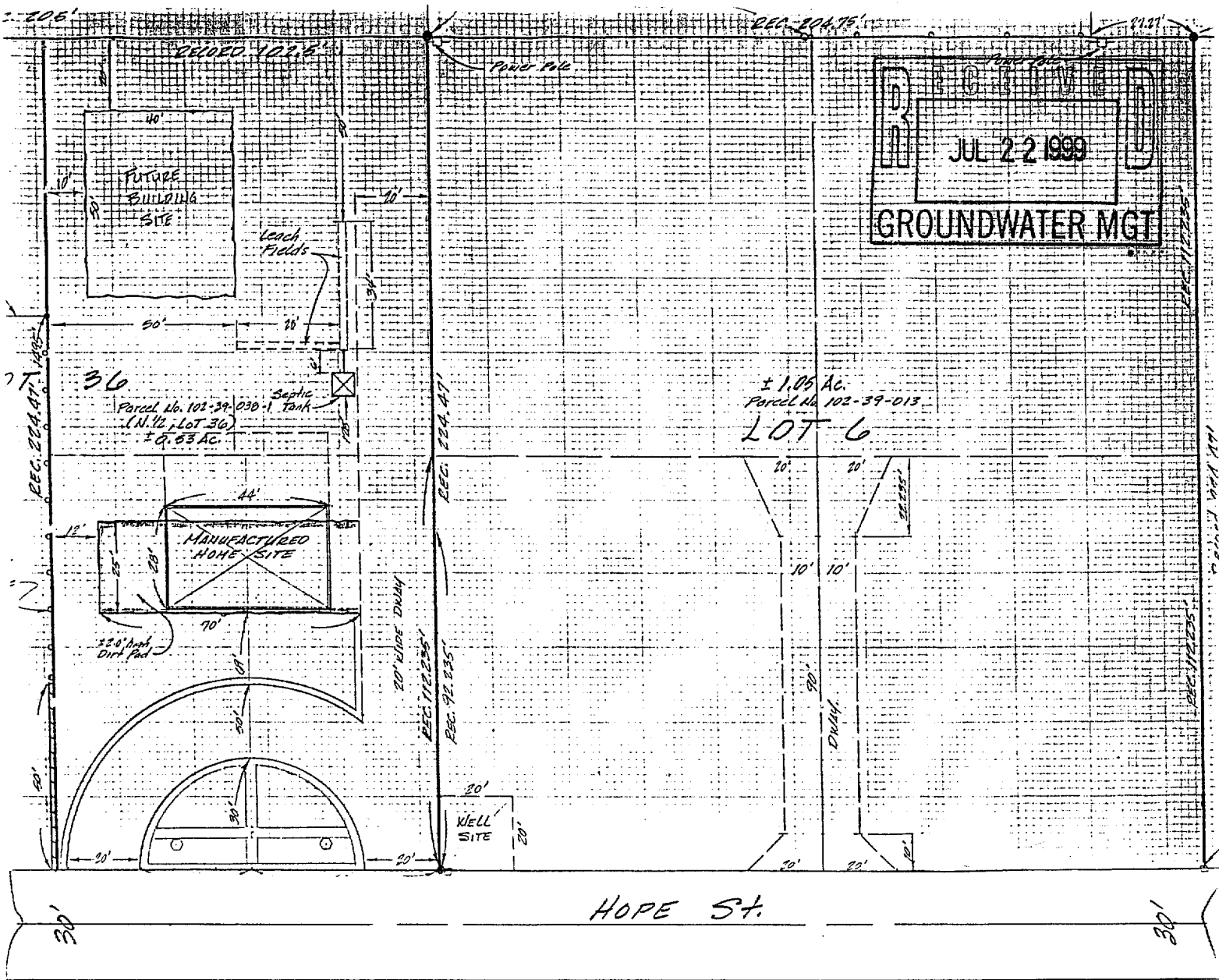
### TIME FRAME FOR REVIEW OF YOUR APPLICATION

Within 15 days after receipt of your Notice of Intention, the Arizona Department of Water Resources ("Department") will determine whether your application should be granted or denied, unless this time is extended for lack of a complete application. If your application is incomplete, the Department will notify you in writing and will specify what information is necessary to make the application complete. Until the missing information is received, the time frame for review of your application will be suspended. Your application will not be complete until all of the requested information is received. If you do not supply the missing information within sixty (60) days, the Department may deem your application withdrawn and close the file.

At the end of its review, the Department will send you written notice either granting or denying your application for drilling authority. If your application is approved, the Drill Card will be mailed directly to the drilling company. If denied, the Department's notice will state justification for the denial and an explanation of your right to appeal.

### CONSTRUCTION AND FOLLOW UP REQUIREMENTS

1. Construction and abandonment standards for wells, including abandonment, must be in accordance with Department Regulations. A.R.S. § 45-594 and Arizona Administrative Code R12-15-811 require the well to be constructed with a twenty foot steel surface seal casing, including a one foot steel stickup and one and one-half inches of grout seal, unless a variance is granted (see A.R.S. § 45-596 (G) for procedure to follow in requesting a variance).
2. Pursuant to § 45-596(E), the drilling, deepening or modification of the well must be completed within one year of the date of the Notice of Intent. If the well is not completed within one year, a new Notice of Intent must be filed before proceeding with further construction.
3. If a well which was originally drilled as an exploration well, a monitor well, a piezometer well or for any use other than domestic use is later proposed to be converted to use for domestic purposes as defined in § 45-454, the well owner must file a Notice of Intention to Drill and comply with the requirements of § 45-596 before the well is converted and any water from that well is used for domestic purposes.
4. Within thirty days after installation of pumping equipment, the registered well owner must file a Completion Report with the Department. The person to whom a well is registered also must notify the Department of a change in ownership or a change in data relating to this well.



Scale 1" = 40'

Site Plan of the N 1/2 of Lot 36 & Lot 6 of the Sunset Acres Subd. Located in the N.W. 1/4, S.E. 1/4 of Section 5, T. 24 S., R. 24 E., G. & S.R.M.

DRAWN BY: S. A. PARRA DATE: 7-14-99

# ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street, Phoenix, Arizona 85004

Telephone (602) 417-2470

Fax (602) 417-2422

July 27, 1999



JANE DEE HULL  
Governor

RITA P. PEARSON  
Director

STEVE A PARRA  
P O BOX 5363  
BISBEE, AZ 85603

Registration No. 55-576415  
File No.D(24-24) 5 DBB

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to drill a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Completion Report is to be submitted when pump equipment is installed. The Drilling Card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the Drilling Card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized.

ARS §45-600 requires the registered well owner to submit a completion report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

**If in the course of drilling a new well**, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.

Per ARS §45-593 (C), the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed a Change of Well Information Form should it be needed in the future.

Sincerely,

Barbara Sims  
Water Resource Technician  
Groundwater Management Support Section



# INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

## General Instructions

1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form in duplicate with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.
2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.
3. No registration fee is required for Exempt Wells. A \$10.00 registration fee must accompany registration forms for all Non-Exempt Wells.
4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.
5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

## INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.
2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.
3.
  - a. Fill in the Section, Township and Range in all cases if it is available.
  - b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.
4. Show all purposes for which the water is used.
5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.
6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.
7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.
8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.
9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.

JUN 11 1991  
8am 700 P.

STATE OF ARIZONA  
COUNTY OF COCHISE } ss.

I hereby certify that the within instrument was filed and recorded

In book  
at the



FEE # 910611234  
OFFICIAL RECORDS  
COCHISE COUNTY  
DATE 06/11/91 HOUR 8

Fee No.  
Compared  
Photostated  
Fee:

For Tax Purposes:  
102-56-038-0  
When recorded, mail to:  
Clarke and Patricia Raymond  
3330 E. OAKHILL  
SIERRA VISTA, AZ  
85635

REQUEST OF  
FIDELITY NATIONAL TITLE  
CHRISTINE RHODES-RECORDER  
FEE : 12.00 PAGES : 3

order

30-021,290-MH

### Warranty Deed

For the consideration of Ten Dollars, and other valuable considerations, I or we,

CAROLINE RITA SHAMRELL, an unmarried woman, TIMOTHY J. SHAMRELL AND ANITA M. SHAMRELL, Husband and Wife

do hereby convey to

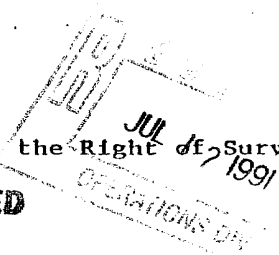
CLARKE RAYMOND AND PATRICIA B. RAYMOND, Husband and Wife, as Joint Tenants with the Right of Survivorship, as to an Und. 1/2 interest and LOREN F. BREWER AND JESSIE A.\* the following real property in Cochise County, Arizona

THE NORTH HALF OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 18, TOWNSHIP 24 SOUTH, RANGE 24 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, COCHISE COUNTY, ARIZONA.

EXCEPT THE EAST 330.00 FEET THEREOF.

\*BREWER, Husband and Wife, as Joint Tenants with the Right of Survivorship, as to an undivided one-half interest.

MICROFILMED



SUBJECT TO: Current taxes, assessments, reservations in patents and all easements, rights of way, encumbrances, liens, covenants, conditions and restrictions as may appear of record.

And I or we do warrant the title against all persons whomsoever subject to the matters above set forth.

Dated this 4th day of June, 1991

*Caroline Rita Shamrell*  
CAROLINE RITA SHAMRELL

*Timothy J. Shamrell*  
TIMOTHY J. SHAMRELL

*Anita M. Shamrell*  
ANITA M. SHAMRELL

This instrument was acknowledged before me this 6th day of June, 1991 by Caroline Rita Shamrell

*Caroline Hite*  
Notary Public

My commission will expire My Commission Expires March 31, 1995

This instrument was acknowledged before me this 6th day of June, 1991 by Timothy J. Shamrell and Anita M. Shamrell

*Caroline Hite*  
Notary Public

My commission will expire My Commission Expires March 31, 1995

STATE OF ARIZONA  
County of COCHISE

STATE OF ARIZONA  
County of PIMA

COURTESY OF

2100153



OK

MAY 18 1992

CHANGE OF WELL INFORMATION

Well Registration No. 55- 613395 File No. D(24-24)18 AAA  
(location)

I/We request the following well information be ~~changed~~ RECORDED:

ONE QUARTER (1/4) INTEREST TRANSFERED TO  
LOREN AND JESSIE BREWER, P.O. Box 399  
BIG TIMBER, MONTANA 59011

Date: 5/9/92 Signatures of Current Well Owner Clarke Raymond  
Patricia B. Raymond  
(DO NOT CUT THIS FORM IN HALF)

STATEMENT OF CHANGE OF WELL OWNERSHIP

Patricia B. & WE CLARKE RAYMOND, state that we are NOW 3/4  
(please print) I am (no longer) the (now)  
owners of the well described below:

1/4 1/4 1/4; Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
10 acre 40 acre 160 acre

Well Registration No. 55- 613395 File No. D(24-24)18 AAA

Patricia B. & CLARKE RAYMOND  
PRINT Previous Owner's Names  
Present (3/4 interest)  
P.O. Box 1010  
Address

(location)  
LOREN AND JESSIE BREWER  
PRINT New Owner's Name 1/4 INTEREST  
P.O. Box 399  
Address

NACO 7 AZ. 85626  
City State Zip

BIG TIMBER MT. 59011  
City State Zip

Date: 5-15-92 Signature of PARTIAL New Owner Loren Brewer & Jessie Brewer

ENTERED MAY 28 1992

NOTE: A.R.S. §45-593.C. requires that the Department be notified of change of well ownership and that the well owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty (30) days after changes take place.

SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.

D(24-24)18 AAA

Clarke Raymond

~~Sheridan, Montana 59744~~  
Box 1010 Naco, Az. 85620

5/1/92

Arizona DEPT. of Water Resources  
Operations Division  
15 S. 15th Ave.  
Phoenix, Az. 85007

Sins -

Herewith report the Transfer of a one-quarter  
(1/4) interest in Well Registration # 55-WR-613395,  
FILE # D 24S - 24E, SECTION 18AAA To LOREN and  
JESSIE BREWER, Box 299, Big Timber, Montana 59011.

Clarke Raymond

Patricia B. Raymond

Dated -  
May 1, 1992

**MICROFILMED**

RECEIVED  
MAY - 4 1992  
OPERATIONS DIV.

ENTERED MAY 12 1992

OK

ARIZONA DEPARTMENT OF WATER RESOURCES  
OPERATIONS DIVISION  
15 SOUTH 15TH AVENUE  
PHOENIX, ARIZONA 85007

JUL 17 1991

CHANGE OF WELL INFORMATION

Well Registration No. 55- WR-613395 File No. D24-24 18AAA  
(location)

I/We request the following well information be changed: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: 7/5/91 Signature of Current Well Owner Caroline R Shamrell  
~~Caroline R Shamrell~~  
(DO NOT CUT THIS FORM IN HALF)

STATEMENT OF CHANGE OF WELL OWNERSHIP

WE, CLARKE & PATRICIA RAYMOND, state that ~~I am~~ <sup>WE ARE</sup> ~~(no longer)~~ the (new)  
(please print) owners of the well described below:

Township 24S Range 24E Section 18; NE 1/4 NE 1/4 NE 1/4

Well Registration No. 55- WR 613395 File No. D24-24 18AAA  
(location)

CAROLINE RITA SHAMRELL  
PRINT Previous Owner's Name

CLARKE & PATRICIA RAYMOND  
PRINT New Owner's Name

Box 4055  
Address

3330 E. DAK HILL ST.  
Address

Bisbee 1A2 185603  
City State Zip

Sierra Vista 1A2 185635  
City State Zip

Dated: 7/3/91 Signature of New Owner Clarke Raymond  
Patricia B. Raymond  
**MICROFILMED**

**ENTERED JUL 17 1991**

**NOTE:** A.R.S. §45-593.C. requires that the Department be notified of change of well ownership and that the well owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty (30) days after changes take place.

SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.

Richardson and Mortensen  
 Box 247  
 Safford, AZ 85546

STATE OF ARIZONA  
 DEPARTMENT OF WATER RESOURCES  
 WATER RIGHTS ADMINISTRATION  
 99 EAST VIRGINIA  
 PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	613366
	THRU
55	613381

FUND SOURCE	ACCOUNT NO.			INT. ACCT.	ITEM DESCRIPTION	RATE	\$ AMOUNT
	AGENCY	CHAPTER	DIV.				
					Fifteen (15) non exempt filing fees for Well registrations		150.00
James Bingham D	(17-21)	31	daa		Gary D. Curtis D(6-25) 36aba		
James Bingham D	(17-21)	31	daa		Gary D. Curtis D(6-25) 25 dcc		
Bowman D	(18-21)	5	caa		Milton D. Curtis D(18-21) 33 aad		
Bowman D	(18-21)	5	caa		Milton D. Curtis D(18-21) 33 aad		
Gary D. Curtis D	(6-25)	25	ddd		Ernest H. Dykes D(11-18) 3dcd		
Gary D. Curtis D	(6-25)	25	ded		Judith H. Dykes D(11-18) 3dcb		
Gary D. Curtis D	(6-25)	25	ddb		Acel East D(16-20) 27 dcc		
					Mt. Graham Comm. Hosp D(7-25) 13		
					Richard Shamrell D(24-24) 18aaa		
						ADMIT PAYMENT	15
						GUESTS	3372
						CHK NO	150
							10.00
						55-I	150.00
						TAX	0.00
						TOTL	150.00
						GEN. CHEK	150.00

Three checks TOTAL \$ 150.00  
 \$90.00 #3372 Richardson & Mortensen  
 \$50.00 #970 Gary Curtis  
 \$10.00 #1476 Acel W. East

# 605 R 15:10  
 \$ 150.00

MICROFILMED

STATE OF ARIZONA

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner John W. Pool Name  
P.O. Box 4051 Bisbee, AZ 85603 Address
2. ~~Lessor or Operator~~ Name J.R. SHARP GENERAL CONTRACTORS  
BOX 4520 312 NACO HWY. Address  
BISBEE, ARIZ. 85603 432-4597
3. Driller Name J.R. SHARP GENERAL CONTRACTORS  
BOX 4520 312 NACO HWY. Address  
BISBEE, ARIZ. 85603 432-4597

4. Location of well: NW SW NW S7 T24S R24E
5. Permit No. \_\_\_\_\_  
(if issued)

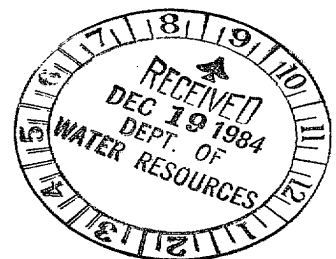
DESCRIPTION OF WELL

6. Total depth of hole 313' 2" ft.
7. Type of Casing P.E. Steel 5 9/16" <sup>o.d.</sup> x .188
8. Diameter and length of casing 6 in. from 0 to 22, 5 9/16 in from 0 to 313.
9. Method of sealing at reduction points
10. Perforated from 213 to 300, from \_\_\_\_\_ to \_\_\_\_\_, from \_\_\_\_\_ to \_\_\_\_\_
11. Size of cuts 1/4 x 6" Number of cuts per foot 2
12. If screen was installed: Length \_\_\_\_\_ ft. Diam \_\_\_\_\_ in. Type \_\_\_\_\_
13. Method of construction drilled dug, driven, bored, jetted, etc.
14. Date started 12-8-84  
Month day year
15. Date completed 12-12-84  
Month day year
16. Depth to water 174 ft. (If flowing well, so state.)
17. Describe point from which depth measurements were made, and give sea-level elevation if available.: Top of casing
18. If flowing well, state method of flow regulation \_\_\_\_\_

19. REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DO NOT WRITE IN THIS SPACE  
OFFICE RECORD  
Registration No. 55-509518  
Received \_\_\_\_\_ By \_\_\_\_\_  
Entered 12-24-84 By Ag  
File No. D(24-24)7cb

(Well log to appear on Reverse side)

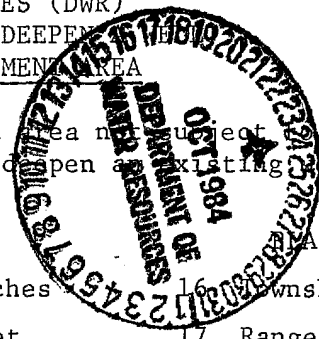




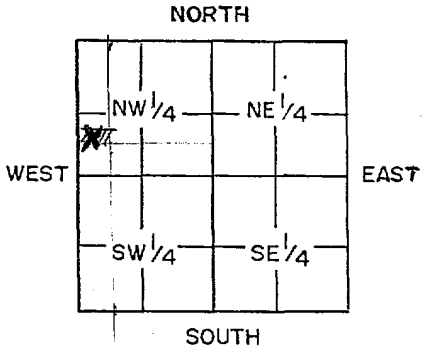


FILING FEE \$10.00

DEPARTMENT OF WATER RESOURCES (DWR)
NOTICE OF INTENTION TO DRILL OR DEEPEN
OUTSIDE OF AN ACTIVE MANAGEMENT AREA



Section 45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill or cause to be drilled any well or deepen an existing well without first filing a Notice of Intention to Drill with the Department.



INDICATE WELL LOCATION BY X
(Above diagram represents one
640 acre section.)

WELL/LAND LOCATION:

- 1. Township 24S
2. Range 24E
3. Section 7
4. NW 1/4, SW 1/4, NW 1/4
10 acre subdivision
5. County Cochise
6. Owner of well: John W Pool
Name
P.O. Box 4051
Address
Bisbee, AZ 85603
City State Zip
Telephone 432-2388
7. Owner of land: Same
Name
Address
City State Zip

DESCRIPTION OF WELL:

- 8. Diameter 5 inches
Depth 250 feet
9. Type of casing P.E. steel
10. Design pump capacity: 35 gallons per minute
11. Estimate of total annual pumping: 1 acre feet
12. Principal use of water: Domestic
(Be Specific)
13. Other uses intended: None
(Be Specific)
14. If for irrigation, state the number of acres to be irrigated: 1 acres
15. Construction will start about: Dec. '84
Month Year

FACE OF USE:

- 16. Township 24S
17. Range 24E
18. Section 7
19. Legal description of land 1/2 NW 1/4 SW 1/4 NW 1/4
20. Type well: Exempt
21. Action Requested: Drill Deepen Replace
55-
22. This notice filed by: Owner
Name see #6
Address
City State Zip
Telephone

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
FILE NO. D(24-24) 76cb
FILED 10-24-84 BY sk
INPUT 10.24.84 BY sk
DUPLICATE MAILED 10-24-84 BY sk
REGISTRATION NO. 55-509518
INA
W/S II S/B

- 23. Driller's Name: J.R. Sharp Gen. Contrs
Name
P.O. Box 4520
Address
Bisbee, AZ 85603
City State Zip
155 27262
DWR License Number

GENERAL INSTRUCTIONS

- 1. Fill out this form in duplicate and send to 99 East Virginia, Suite 100, Phoenix, Az. 85004.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen or replace a well outside of an Active Management Area
4. If the well is a replacement or deepening of an existing well, state the registration number of the existing well in Item 21.
5. Construction standards for new and replacement wells and the deepening and abandonment of existing wells shall be in accordance with Department Rules and Regulations.

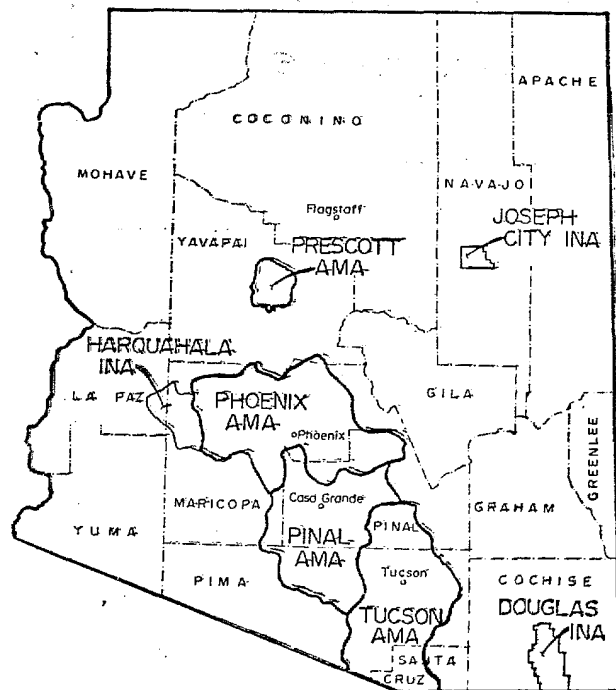
I state that this Notice is filed in compliance with ARS §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well set forth on the reverse side of this form.

DATE 10-23-84 Signature of Person Filing John W Pool
DWR-55-41-10/83



SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS

1. Upon receipt of the return of this annotated Notice, the owner is authorized to proceed in drilling or deepening the well as set forth on this Notice.
2. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.
3. Only one exempt well may be drilled or used to serve the same use at the same location.
4. A non-exempt well is any well which exceeds the limitations, as indicated in paragraph 2 above. However, water from a non-exempt well located in an Irrigation Non-Expansion Area, may not be withdrawn to irrigate any acres which are not eligible to be irrigated pursuant to ARS §45-434 or §45-437. Also, owners of non-exempt wells located in Irrigation Non-Expansion Areas, are subject to the measuring device and annual report requirements of ARS §45-437.
5. The drilling or deepening of this well shall be completed within one (1) year of the date of this Notice.
6. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this Notice.
7. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of the annotated copy of this Notice.
8. A sketch map showing the general boundaries of the Active Management Areas and Irrigation Non-Expansion Areas is shown at the right. Maps of greater detail are available on request.



4/1 MK1

4/1 MS 4/1 MN 2/1 S

J R SHARP GENERAL CONTRACTORS  
 P O BOX 4520  
 BISBEE AZ 85603

STATE OF ARIZONA  
 DEPARTMENT OF WATER RESOURCES  
 WATER RIGHTS ADMINISTRATION  
 99 EAST VIRGINIA  
 PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	509518
	THRU

POOL

FUND SOURCE	ACCOUNT NO.			INT. ACCT.	ITEM DESCRIPTION	RATE	\$ AMOUNT
	AGENCY	CHAPTER	DIV.				
					FILING FEE FOR NOTICE OF INTENTION		10.00
					TO DRILL AN EXEMPT WELL	WRITER	PAYMENT
						GUESTS	1
						CHK NO	10047
						55-1	10.00
						TAX	0.00
					FILE#D(24-24)7bcb Reg#55-509518	TOTL	10.00
						GEN.CHEK	10.00
						# 3278 A	12:13

CHECK#10047 10/24/84/ek

TOTAL

\$ 10.00



Arizona Department of Water Resources  
 Water Management Support Section  
 P.O. Box 458 • Phoenix, Arizona 85001-0458  
 (602) 771-8500 • (800) 352-8488  
 (602) 771-8691 fax • www.azwater.gov

RECEIVED

SEP 7 2007

Notice of Intent to  
 Drill, Deepen, Replace or Modify a Well  
 (except a Non-Exempt Well in an Active Management Area)

\$150 or  
 \$100 FEE

WATER MGMT

- Review instructions prior to completing form in black or blue ink.
  - You must include with your Notice:
  - Check or money order in the amount of the appropriate filing fee. For a well located within an AMA or INA, the fee is \$150.00. For a well not located within an AMA or INA, the fee is \$100.00 if the well will be used solely for domestic purposes (see page 2 and instructions) and will have a pump with a maximum capacity of not more than 35 gallons per minute. Otherwise, the fee is \$150.00.
  - Authority for fee: A.R.S. § 45-596.
- \*\* PLEASE PRINT CLEARLY \*\*

AMA / INA	B	SB
RECEIVED	DATE	WS
ISSUED	DATE	WQARF CERCLA
—	76	11
9-7-07	11	9-10-07

FILE NUMBER
DCA4-2418CCB
WELL REGISTRATION NUMBER
55-216425

db

**SECTION 1. COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL** (if applicable)

If water from the proposed well will be used for domestic purposes on a parcel of land of 5 or fewer acres, the applicable county or local health authority must endorse all items in Section 1 within one year before submission to the Department of Water Resources. You must also attach a site plan (pg. 3).

CHECK ONE

- County or Local Health Authority Recommends Approval (pursuant to A.R.S. § 45-596 (G) and (F))
  - Field Inspection Performed
  - Site Plan Review Only
- Insufficient Information to Make a Determination

Official County or Local Seal or Stamp  
 APPROVED BY THE COCHISE COUNTY  
 ENVIRONMENTAL HEALTH DIVISION

DATE Sept 5, 2007

BY Carlos Diaz R.S.



COUNTY OR LOCAL AUTHORITY NAME AND TITLE  
 CARLOS DIAZ R.S.

TELEPHONE NUMBER DATE  
 520 432 9442 Sept 5, 2007

COUNTY OR LOCAL AUTHORITY SIGNATURE  
 Carlos Diaz R.S.

**SECTION 2. REGISTRY INFORMATION**

<b>Well Type</b>	<b>Proposed Action</b>	<b>Location of Well</b>
CHECK ONE <input checked="" type="checkbox"/> Exempt (Pump has a maximum capacity of not more than 35 gpm and water is not used for irrigation purposes inside an AMA.) (See instructions.) <input type="checkbox"/> Non-Exempt (Pump has a maximum capacity of more than 35 gpm and the well is located outside an AMA.) (See instructions.)	CHECK ONE <input checked="" type="checkbox"/> Drill New Well <input type="checkbox"/> Deepen <input type="checkbox"/> Replace <input type="checkbox"/> Modify If Deepening, Replacing or Modifying: ORIGINAL WELL REGISTRATION NUMBER 55 - MAXIMUM CAPACITY OF ORIGINAL WELL Gallons Per Minute	WELL LOCATION ADDRESS (IF ANY) 3710 Hillman TOWNSHIP (N/S) RANGE (E/W) SECTION 160 ACRE 40 ACRE 10 ACRE 24 24 18 SW 1/4 SW 1/4 NW 1/4 COUNTY ASSESSOR'S PARCEL ID NUMBER # OF ACRES BOOK MAP PARCEL 102 57 183 849 2 1/4 PLACE OF WATER USE (ONLY IF DIFFERENT FROM LOCATION OF WELL) TOWNSHIP (N/S) RANGE (E/W) SECTION 160 ACRE 40 ACRE 10 ACRE 1/4 1/4 1/4 COUNTY WHERE WELL IS LOCATED Cochise
DESIGN PUMP CAPACITY 70 Gallons Per Minute	DISTANCE & DIRECTION FROM ORIGINAL WELL Feet	

**SECTION 3. OWNER INFORMATION**

<b>Well Owner</b>	<b>Landowner</b> (if different from Well Owner)
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL Roberto + AIDA RAMIREZ	FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL
MAILING ADDRESS PO Box 362	MAILING ADDRESS
CITY / STATE / ZIP CODE Naco AZ 85620-0362	CITY / STATE / ZIP CODE
CONTACT PERSON NAME AND TITLE AIDA RAMIREZ	CONTACT PERSON NAME AND TITLE
TELEPHONE NUMBER FAX 520 432 7356	TELEPHONE NUMBER FAX

**SECTION 4.**

Questions	Yes	No	If Yes:
1. Is the proposed well site within 100 feet of a septic tank system, sewer disposal area, landfill, hazardous materials or petroleum storage area or tank?		X	You must also request a variance (A.A.C. R12-15-818).
2. Is there another well name or identification number associated with this well (e.g., Lot 35 Well, Smith Well, etc.)?		X	PLEASE STATE
3. Is the proposed well a NEW well to be located within an Active Management Area? (See instructions)		X	Unless the well is a replacement well and the total number of operable exempt wells on the land is not increasing, you must also file a supplemental form A.R.S. § 45-454(C) & (D).
4. Is the proposed well the second exempt well on this parcel for the same use?		X	If the proposed well is in an Active Management Area, you must also file a supplemental form 55-40A.

PAID 8-2-07 NRH 2070

# RECEIVED

Notice of Intent to Drill, Deepen, Replace or Modify a Well

SEP 7 - 2007

WELL REGISTRATION NUMBER  
**55 - 216425**

SECTION 5. DRILLING AUTHORIZATION		SECTION 6. WATER USE INFORMATION	
<b>Drilling Firm</b>		<b>Principal Use of Water</b>	
NAME: <i>Bradly Deming</i>		CHECK ONE	
DWR LICENSE NUMBER: <i>736</i>	ROC LICENSE CATEGORY: <i>C-53</i>	<input type="checkbox"/> Irrigation <input type="checkbox"/> Utility <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Municipal <input type="checkbox"/> Industrial <input type="checkbox"/> Mining <input type="checkbox"/> Stock <input type="checkbox"/> Recharge <input type="checkbox"/> Dewatering <input type="checkbox"/> Other (please specify):	
TELEPHONE NUMBER: <i>520 456 2355</i>		FAX:	
MAILING ADDRESS: <i>PO Box 4707</i>		CHECK ALL THAT APPLY	
CITY / STATE / ZIP CODE: <i>Ituachuca City AZ 85606</i>		<input type="checkbox"/> Irrigation <input type="checkbox"/> Utility <input type="checkbox"/> Commercial <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal <input type="checkbox"/> Industrial <input type="checkbox"/> Mining <input type="checkbox"/> Stock <input type="checkbox"/> Recharge <input type="checkbox"/> Dewatering <input type="checkbox"/> Other (please specify):	
DATE CONSTRUCTION IS TO BEGIN: <i>Aug 2007</i>			

SECTION 7. PROPOSED WELL CONSTRUCTION DESIGN (attach separate sheet if needed)															
Borehole						Casing									
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)			GROUTING MATERIAL		
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN		MILLS KNIFE	SLOTTED
0	20	12 1/4	0	20	8 7/8	X*				X					Cement
20	300	8"	10	250	6		X			X					
			250	300	6		X						X		

\* ADWR well construction standards require a surface seal consisting of a minimum of 20 feet of steel casing. Cement grout must be used to fill the annular space between the surface casing and the borehole. (A.A.C. R12-15-811(B))

The Department's issuance of an authorization to drill a well is not a determination of whether water withdrawn from the well is legally surface water or groundwater. The legal nature of the water withdrawn from the well may be the subject of court action in the future as part of a determination of surface water rights in your area. If there are court proceedings that could affect your well, you will be notified and be given the opportunity to participate. If you have questions regarding the legal nature of the water to be withdrawn from your proposed well, please consult with an experienced civil engineer, hydrologist or water rights attorney.

For the purposes of determining appropriate fees outside AMAs or INAs, "domestic purposes" is defined as "uses related to the supply, service and activities of households and private residences and includes the application of water to less than 2 acres of land to produce plants or parts of plants for sale or human consumption, or for use as feed for livestock, range livestock or poultry, as such terms are defined in A.R.S. § 3-1201."

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE	
<i>Aida Ramirez</i>	
SIGNATURE OF WELL OWNER	DATE
<i>Aida Ramirez</i>	<i>7-30-07</i>
SIGNATURE OF LANDOWNER, IF APPLICABLE (SEE INSTRUCTIONS)	DATE
<i>Robert R Deming</i>	<i>7-30-07</i>

Notice of Intent to Drill, Deepen, Replace or Modify a Well

**RECEIVED**  
SEP 7 - 2007

WELL REGISTRATION NUMBER  
55 - 216425

CHECK ONE:  FILING MANUALLY  
 FILING ELECTRONICALLY\*

DRILLER'S E-MAIL ADDRESS: **R MGMT**

COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL CODE: \_\_\_\_\_  
If applicant is filing this NOI electronically via the ADWR website and County approval is required, please indicate approval by providing a County Approval Code.

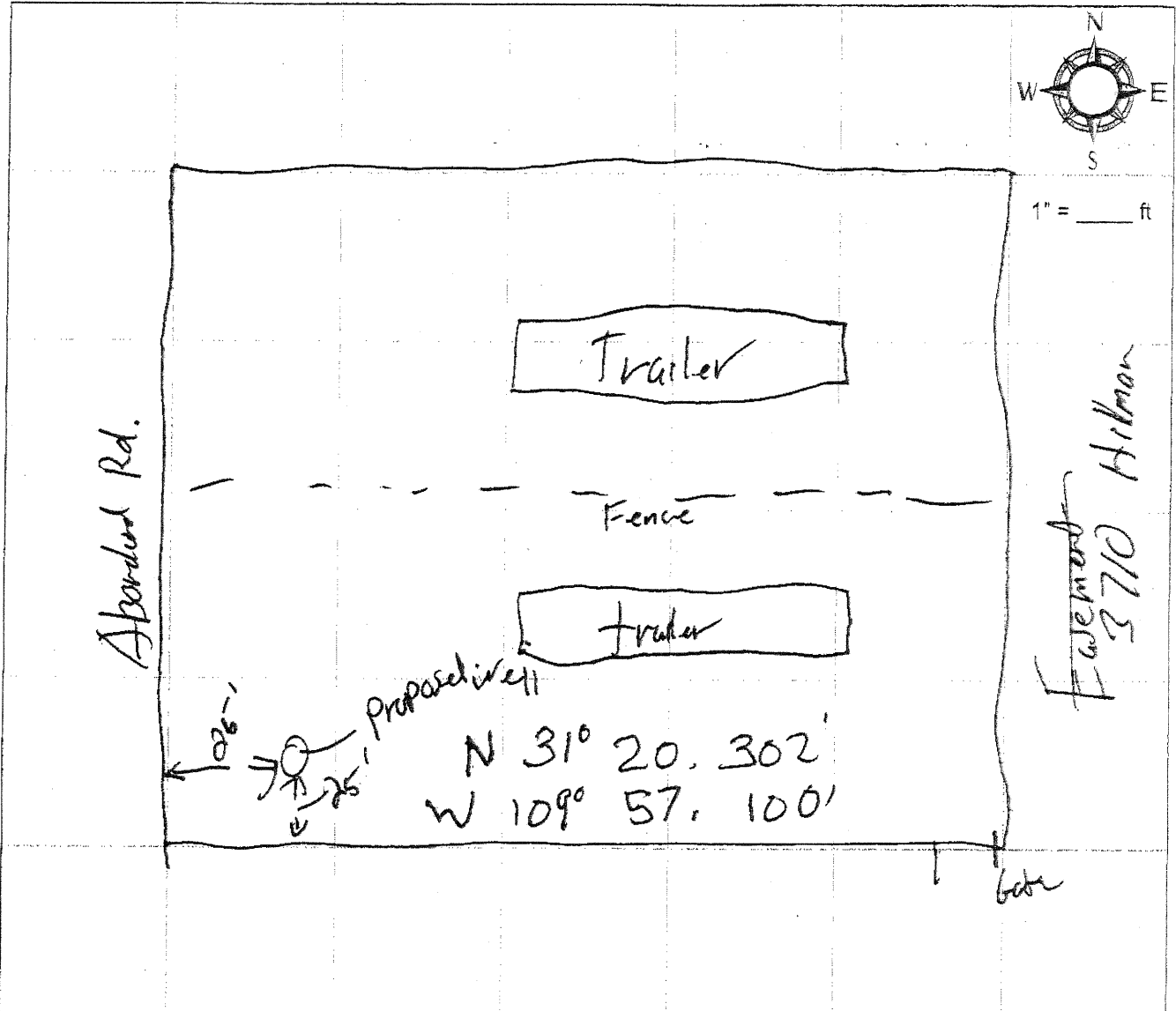
COUNTY APPROVAL CODE: \_\_\_\_\_

**WELL SITE PLAN**

NAME OF WELL OWNER  
**Roberto & Aida Ramirez**

COUNTY ASSESSOR'S PARCEL ID NUMBER  
BOOK **102** MAP **57** PARCEL **183 + 184**

- ❖ If this well will be a domestic well on 5 acres or less, please draw the following: (1) the boundaries of your property; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well. If the parcel is vacant land or lacks a septic tank or sewer system, please indicate this.
- ❖ Indicate the distance between the proposed well location and any septic tank system or sewer system.



COUNTY OR LOCAL AUTHORITY NAME AND TITLE  
**CARLOS DIAZ R.S.**


COUNTY OR LOCAL AUTHORITY SIGNATURE  
**Carlos Diaz R.S.**

TELEPHONE NUMBER **520-432-9442** DATE **Sept 5, 2007**

APPROVED BY THE COCHISE COUNTY ENVIRONMENTAL HEALTH DIVISION  
Official County Seal of Cochise County, Arizona

DATE **Sept 5, 2007**

BY **Carlos Diaz R.S.**



**ARIZONA DEPARTMENT OF WATER RESOURCES**

3550 N. Central Avenue, Phoenix, Arizona 85012

Telephone (602) 771-8500

Fax (602) 771-8691

September 10, 2007



Janet Napolitano  
Governor

Herbert R. Guenther  
Director

ROBERTO & AIDA RAMIREZ  
P O BOX 362  
NACO, AZ 85620 - 0362

Registration No. 55-216425

File No. D(24-24) 18 CCB

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to Drill a well that you recently filed with this Department pursuant to A.R.S. § 45-596. This is to inform you that the Department has approved the NOI and has mailed or otherwise provided drilling card authorizing the drilling of the well to the well driller identified in the NOI. The driller may not begin drilling until he has received the drilling card, which must be displayed on the drill rig during drilling. **PLEASE NOTE** The Authorization to drill this well **DOES NOT constitute or guarantee an approval to use the well for the purpose of withdrawing groundwater for transportation to an Active Management Area (AMA)** pursuant to A.R.S. § 45-553, 45-554 or 45-555(A). Groundwater **may not** be withdrawn from this well for these transportation purposes **without official prior approval from the Department**. Please contact the office in the AMA where the groundwater is to be transported to determine what additional forms are needed and for more information on this process.

Well drilling activities must be completed within one year after the date the NOI was filed with the Department. If drilling is not completed within one year, you must file a new NOI before proceeding with further drilling. If in the course of drilling the well, it is determined that the well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the well must be properly abandoned and a Well Abandonment Completion Report must be filed as required by A.A.C. R12-15-816(F).

If you change drillers, you must notify the Department of the new driller's identity. Please ensure that the new driller is licensed by the Department to drill the type of well you require. A new driller may not begin drilling until he receives a new drilling card from the Department. If you are drilling a new or replacement well and it is necessary to change the location of the proposed well, you may not proceed with drilling until you file an amended NOI with the Department and the Department issues an amended drilling card to the driller. If county approval was required for the original well site plan (this applies to domestic wells on parcels that are five acres or less), you must submit a new well site plan with the new well location to your local county health authority for approval prior to filing the amended NOI with the Department.

A.R.S. § 45-600 requires the registered well owner to complete and file a Pump Installation Completion Report form (DWR form 55-56) within 30 days after the installation of pumping equipment. A form is enclosed for your use. Also enclosed is a well owner's guide that provides useful information and advice concerning your upcoming well construction project. A.R.S. § 45-600 also requires the driller to file a complete and accurate Well Drillers Report and Well Log (DWR form 55-55) within 30 days after completion of drilling. That form was mailed to your driller with the drilling card. You should insist and ensure that all of the required forms are accurately completed and timely filed with the Department.

Please be advised that A.R.S. § 45-593(C) requires the person to whom a well is registered to notify the Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. Any change in well information or a request to change well driller must be filed on a Request to Change Well Information form (DWR form 55-71A) that may be downloaded from the ADWR Internet website at <<http://www.water.az.gov/adwr/content/forms/default.htm#NOI>>.

Sincerely,

Toni Bergeman

NOI Unit

Water Management Support Section

Enclosures

**ARIZONA DEPARTMENT OF WATER RESOURCES  
WATER MANAGEMENT SUPPORT SECTION**

3550 N. Central Avenue  
Phoenix, Arizona 85012

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO: 55-216425

AUTHORIZED DRILLER: BRADLY DRILLING

LICENSE NO: 736

NOTICE OF INTENTION TO DRILL AN EXEMPT WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: ROBERTO & AIDA RAMIREZ P O BOX 362 NACO, AZ 85620

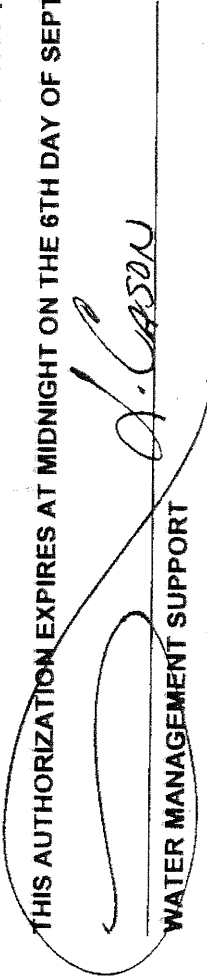
THE WELL(S) IS/ARE TO BE LOCATED IN THE:

NW ¼ OF THE SW ¼ OF THE SW ¼ SECTION 18 TOWNSHIP 24 SOUTH RANGE 24 EAST

NO. OF WELLS IN THIS PROJECT: 1

ASSESSOR PARCEL NO: 102-57-183

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 6TH DAY OF SEPTEMBER, 2008

  
WATER MANAGEMENT SUPPORT

THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING

**NOTICE!** The Authorization to drill this well DOES NOT constitute or guarantee an approval to use the well for the purpose of withdrawing groundwater for transportation to an Active Management Area (AMA) pursuant to A.R.S. § 45-552, 45-553, 45-554 or 45-555(A) without official prior approval from the Department.



Printed: 9/7/2007 2:10:37 PM

Store 001  
Sale Receipt  
9/7/200  
Page

# Arizona Department of Water Resources

3550 N Central Ave  
Phoenix AZ 85012

216425

Date: 9/7/2007

Cashier: WRPAB

Type: Mail

ROBERT R RAMIREZ

PO BOX 362

NACO,AZ

85620

520-432-7356

DCS/INV#	DESCRIPTION	ATTR	SIZE	QTY	PRICE	EXT PRICE
F 72	4439-06 NOTICE OF INTENT TO DRILL WELL	15245		1	100.00	100.00

1 Unit(s)

Subtotal: 100.00

**RECEIPT TOTAL: 100.00**

Tendered: 100.00

Check #: 100.00 # 2204

ROBERTO RAMIREZ

WELL OWNER





**REGISTRATION OF EXISTING WELLS**

INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
PRINT OR TYPE - FILE IN DUPLICATE

16 13

FOR OFFICE USE ONLY

REGISTRATION NO. 55-803772-1

FILE NO. D(24-24) 11 de

FILED 5-19-86 AT 11:23 am

(DATE) (TIME)

INA Douglas

AMA

REGISTRATION FEE (CHECK ONE)

EXEMPT WELL (NO CHARGE)

NON-EXEMPT WELL - \$10.00

LATE FEE \$10.00

1. Name of Registrant: LAWRENCE E. RAY

P.O. Box 4324 BISBEE ARIZONA 85603

(Address) (City) (State) (Zip)

2. File and/or Control Number under previous groundwater law:

N/A 35- N/A

(File Number) (Control Number)

3. a. The well is located within the 1/4 SW 1/4 SE 1/4, Section 11,  
of Township 24 N3 Range 24 E/W, G & SRB & M, in the  
County of Cochise.

b. If in a subdivision: Name of subdivision \_\_\_\_\_  
Lot No. \_\_\_\_\_, Address \_\_\_\_\_

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
DOMESTIC

5. If for irrigation use, number of acres irrigated from well N/A

6. Owner of land on which well is located. If same as Item 1, check this box

\_\_\_\_\_  
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)

a. Depth of Well 100 feet

b. Diameter of casing 8 inches

c. Depth of casing N/A feet

d. Type of casing N/A

e. Maximum pump capacity less than 35 gallons per minute.

f. Depth to water 100 60 feet below land surface.

g. Date well completed N/A  
(Month) (Day) (Year)

8. The place(s) of use of water. If same as Item 3, check this box .

1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE 6 July 82 SIGNATURE OF REGISTRANT [Signature]

MICROFILMED

# INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

## General Instructions

1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form in duplicate with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.
2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.
3. No registration fee is required for Exempt Wells. A \$10.00 registration fee must accompany registration forms for all Non-Exempt Wells.
4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.
5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

## INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.
2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.
3.
  - a. Fill in the Section, Township and Range in all cases if it is available.
  - b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.
4. Show all purposes for which the water is used.
5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.
6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.
7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.
8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.
9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.

D E S C R I P T I O N

PARCEL I:

That portion of the East one-half of the Southwest one-quarter of the Southeast one-quarter of Section 11, Township 24 South, Range 24 East, more particularly described as follows:  
BEGINNING at the Southwest corner of the said Southeast one-quarter; thence North along the West boundary thereof a distance of 416.00 feet, thence East 770.00 feet to the Southwest corner of a parcel of land conveyed to Arthur Jones by Deed recorded in Docket 274, page 94; thence North along the West boundary of the said Jones parcel, a distance of 61.00 feet to the true point of beginning; thence continue North 198 feet; thence East 110.00 feet; thence Southwesterly in a straight line to a point which is located 94.80 feet East of the true point of beginning; thence West 94.80 feet to the true point of beginning.

D E S C R I P T I O N

PARCEL I:

That portion of the East one-half of the Southwest one-quarter of the Southeast one-quarter of Section 11, Township 24 South, Range 24 East, more particularly described as follows:  
BEGINNING at the Southwest corner of the said Southeast one-quarter; thence North along the West boundary thereof a distance of 416.00 feet, thence East 770.00 feet to the Southwest corner of a parcel of land conveyed to Arthur Jones by Deed recorded in Docket 274, page 94; thence North along the West boundary of the said Jones parcel, a distance of 61.00 feet to the true point of beginning; thence continue North 198 feet; thence East 110.00 feet; thence Southwesterly in a straight line to a point which is located 94.80 feet East of the true point of beginning; thence West 94.80 feet to the true point of beginning.

LAWRENCE E. RAY  
P.O. BOX 4324  
Bisbee, Az 85603

STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
WATER RIGHTS ADMINISTRATION  
99 EAST VIRGINIA  
PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	803772-1
	THRU

FUND SOURCE	ACCOUNT NO.			INT. ACCT.	ITEM DESCRIPTION	RATE	\$ AMOUNT
	AGENCY	CHAPTER	DIV.				
					LATE FEE FOR EXISTING WELL REGISTRATION	10.00	10.00
					1 EXEMPT WELL		
					FILE NO. D(24-24)11 dc		
						WRITER PAYMENT	
						GUESTS	1
						CHK NO	7575
						55-1	10.00
						TAX	0.00
						TOTL	10.00
					CHECK NO. 7575	5-20-86 BV	GEN.CHEK 10.00

TOTAL \$ # 1400 B 14:37-  
10.00



**REGISTRATION OF EXISTING WELLS**

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
 PRINT OR TYPE - FILE IN DUPLICATE

**REGISTRATION FEE (CHECK ONE)**

EXEMPT WELL (NO CHARGE)

NON-EXEMPT WELL - \$10.00

11

FOR OFFICE USE ONLY

REGISTRATION NO. 55- 648360-L

FILE NO. D(24-24)18dcd

FILED 6-22-82 AT 10a  
(DATE) (TIME)

INA \_\_\_\_\_

AMA \_\_\_\_\_

- Name of Registrant: JOSEFINA ALVAREZ DE MORA  
117 E ST., (P.O. Box 35) NACO ARIZONA 85620  
(Address) (City) (State) (Zip)  
25
- File and/or Control Number under previous groundwater law:  
 \_\_\_\_\_ 35 \_\_\_\_\_  
(File Number) (Control Number)
- a. The well is located within the SE  $\frac{1}{4}$  SW  $\frac{1}{4}$  SE  $\frac{1}{4}$ , Section 18,  
 of Township 24 N(S), Range 24 (E)W, G & SRB & M, in the  
 County of COCHISE.
- b. If in a subdivision: Name of subdivision TOWNSITE OF NACO,  
 Lot No. 317, Address 319, 321, 323, BLOCK 19. 102-57.
- The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
DOMESTIC
- If for irrigation use, number of acres irrigated from well 0.
- Owner of land on which well is located. If same as Item 1, check this box
- Well data (If data not available, write N/A) WELL DRILLED APPROXIMATELY  
50 YEARS AGO. DATA N/A  
 a. Depth of Well \_\_\_\_\_ feet  
 b. Diameter of casing \_\_\_\_\_ inches  
 c. Depth of casing \_\_\_\_\_ feet  
 d. Type of casing \_\_\_\_\_  
 e. Maximum pump capacity \_\_\_\_\_ gallons per minute.  
 f. Depth to water \_\_\_\_\_ feet below land surface.  
 g. Date well completed \_\_\_\_\_ (Month) \_\_\_\_\_ (Day) \_\_\_\_\_ (Year)
- The place(s) of use of water. If same as Item 3, check this box   
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE 6-18-82 SIGNATURE OF REGISTRANT Josefina A. Alvarez de Mora  
 MICROFILMED

# INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

## General Instructions

1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form **in duplicate** with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.
2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.
3. No registration fee is required for Exempt Wells. A \$10.00 registration fee must accompany registration forms for all Non-Exempt Wells.
4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.
5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

## INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.
2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.
3.
  - a. Fill in the Section, Township and Range in all cases if it is available.
  - b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.
4. Show all purposes for which the water is used.
5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.
6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.
7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.
8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.
9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.

DATA ENTRY INPUT FORM

DATE 7/29/83

TO: \_\_\_\_\_

FROM: \_\_\_\_\_

NUMBER OF FILES 55-6483602 FILE NOS: \_\_\_\_\_

TYPE INPUT TRANSACTION: \_\_\_\_\_

ADD \_\_\_\_\_

CHANGE \_\_\_\_\_

DELETE \_\_\_\_\_

CANCEL \_\_\_\_\_

ASSIGNMENT \_\_\_\_\_

ADDRESS CHANGE  \_\_\_\_\_

PERMIT \_\_\_\_\_

C W R \_\_\_\_\_

STATUS CHANGE \_\_\_\_\_

FILE DISPOSITION \_\_\_\_\_

REMARKS: \_\_\_\_\_

PO Box 25

Naco Ae. 85620



CHANGE OF WELL INFORMATION



Registration No. 55- 648360-L

I request that the following information be changed in Well File Number D(24-24)18 dcd

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date AUGUST 19, 1983, by Josefina Alvarez de Mora  
Signature of Well Owner

STATEMENT OF CHANGE OF WELL OWNERSHIP

I, JOSEFINA ALVAREZ DE MORA, state that I am (no longer) the  
~~owner~~ owner of the well described below:

Township 24S Range 24E Section 18, SE 1/4 SW 1/4 SE 1/4

Registration #55- 648360-L File No. D(24-24)18 dcd

Previous Owner	<u>MANUEL R. RODRIGUEZ</u>
	New Owner
Address	<u>P.O. Box 513</u>
	Address
City	<u>NACO, ARIZONA</u>
State	<u>85620</u>
Zip	City State Zip

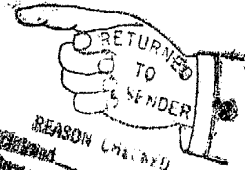
NOTE: ARS 45-593 requires that the Department be notified of change of well ownership and that the well owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within 30 days after changes take place.

NOTE: SAVE THIS FORM TO REPORT FUTURE  
CHANGES IN OWNERSHIP OR WELL  
DATA SUCH AS PUMP CAPACITY, ETC.

*J.A.S.*

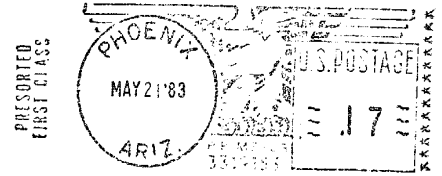
State of Arizona  
DEPARTMENT OF WATER RESOURCES  
99 East Virginia Avenue  
Phoenix, Arizona 85004

*Unknown*



REASON FOR RETURN

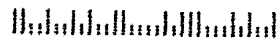
Address Unknown	Returned
Postage Due	
Postage Paid	
Postage Mailed	
Postage Prepaid	
Postage Guaranteed	
Postage Insured	
Postage Restricted	
Postage Special	
Postage Slogan	
Postage Stamp	
Postage Meter	
Postage Label	
Postage Card	
Postage Booklet	
Postage Roll	
Postage Sheet	
Postage Tube	
Postage Box	
Postage Bag	
Postage Parcel	
Postage Parcel Post	
Postage Parcel Post International	
Postage Parcel Post International Restricted	
Postage Parcel Post International Restricted Return to Sender	
Postage Parcel Post International Restricted Return to Addressee	
Postage Parcel Post International Restricted Return to Addressee if Possible	
Postage Parcel Post International Restricted Return to Addressee if Possible and Return to Sender if Not Possible	
Postage Parcel Post International Restricted Return to Addressee if Possible and Return to Sender if Not Possible and Return to Addressee if Not Possible	
Postage Parcel Post International Restricted Return to Addressee if Possible and Return to Sender if Not Possible and Return to Addressee if Not Possible and Return to Addressee if Not Possible	



*D(24.24)18ded*

*648360*

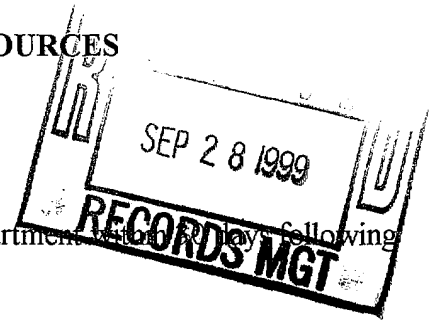
~~Josefina Alvarez DeMora  
117 C St, P.O. Box 35  
Naco, Az. 85620~~



ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street  
Phoenix, Arizona 85004

WELL DRILLER REPORT



This report should be prepared by the driller in all detail and filed with the Department following completion of the well.

1. WEBER DRILLING  
453 MECHAM DRIVE  
SAINT DAVID, AZ 85630

2. Owner Name: MILTON K LUNA  
Address: NACO AZ 85620  
City State Zip

3. Location: 24 N/S 24 E/W 18 1/4 SW 1/4 SE 1/4 NE  
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 573596 (Required)

5. Permit No. (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 290 ft.
- 7. Type of casing STEEL
- 8. Diameter and length of casing 8 in. from 0 to 20, 6 in from 0 to 290
- 9. Method of sealing at reduction points, WELDED
- 10. Perforated from 230' to 290', from to from to
- 11. Size of cuts 1 1/8 x 8 Number of cuts per foot 4
- 12. If screen was installed: Length ft. Diam in. Type
- 13. Method of construction DRILLED (drilled, dug, driven, bored, jetted, etc)
- 14. Date started SEPT 15 1999  
Month Day Year
- 15. Date completed SEPT 16 1999  
Month Day Year
- 16. Depth to water 140 ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available  
GROUND LEVEL
- 18. If flowing well, state method of flow regulation:

19. Remarks:

DO NOT WRITE IN THIS SPACE  
OFFICE RECORD  
Registration No. 55-573596  
File No. D(24-24) 18 ADC  
Received By  
Entered By

ENTERED SEP 29 1999



**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
500 North Third Street  
Phoenix, Arizona 85004-3903**

**THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS**

**WELL REGISTRATION NO: 55-573596**

**AUTHORIZED DRILLER: WEBER DRILLING**

**LICENSE NO: 272**

**NOTICE OF INTENTION TO DRILL AN EXEMPT WELL HAS BEEN FILED WITH THE DEPARTMENT BY:**

**WELL OWNER: MILTON K LUNA 1598 W MULE DEER ST NACO, AZ 85620**

**The well(s) is/are to be located in the:**

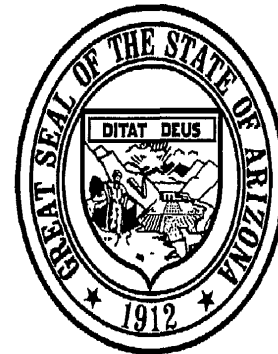
**SW 1/4 of the SE 1/4 of the NE 1/4 Section 18 Township 24 SOUTH Range 24 EAST**

**No. of wells in this project: 1**

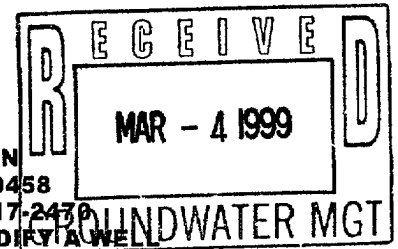
**THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 3RD DAY OF MARCH, 2000.**

  
\_\_\_\_\_  
**CHIEF, GROUNDWATER MANAGEMENT SUPPORT**

**THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING**



**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
MAIL TO: P. O. BOX 458, PHOENIX, ARIZONA 85001-0458  
FOR MORE INFORMATION CALL: MONICA ORTIZ (602)417-2479  
NOTICE OF INTENTION TO DRILL, DEEPEN, REPLACE OR MODIFY A WELL**



PLEASE COMPLETE ALL ITEMS IN THE BOX BELOW DOWN TO COUNTY OR LOCAL AUTHORITY ENDORSEMENT. IF ANY WATER FROM THE PROPOSED WELL (LISTED BELOW) WILL BE USED FOR DOMESTIC PURPOSES ON A PARCEL OF LAND 20 OR FEWER ACRES, THE APPLICABLE COUNTY OR LOCAL HEALTH AUTHORITY MUST ENDORSE ALL ITEMS IN THE BOX BEFORE SUBMISSION TO THE DEPARTMENT OF WATER RESOURCES. ITEMS C, D, E, AND F MAY BE AVAILABLE FROM YOUR COUNTY ASSESSOR'S OFFICE.

A. MILTON K. LUNA - 1598 W MULE DEER ST. NACO, AZ. 85620-0265  
LANDOWNER'S NAME      CURRENT MAILING ADDRESS      CITY      STATE      ZIP

B. TELEPHONE NO. (520) 432-4077      COUNTY ASSESSOR'S PARCEL ID INFORMATION:

C. WELL LOCATED IN Cochise COUNTY      D. 102-56-043      E. 4.00  
BOOK      MAP      PARCEL      # OF ACRES

WELL/LAND LOCATION (MUST BE COMPLETED AS REQUESTED):

F. SW 1/4 SE 1/4 NE 1/4 OF SECTION 18 TOWNSHIP 24 N(S) RANGE 24 W  
10AC      40AC      160AC      COUNTY OR LOCAL AUTHORITY ENDORSEMENT

CHECK ONE:  
 G. RECOMMEND APPROVAL ; INSUFFICIENT INFORMATION TO MAKE DETERMINATION \_\_\_\_\_; VARIANCE REQUIRED \_\_\_\_\_ (EXPLANATION ATTACHED)

H. DATE 3-1-99 AUTHORIZED SIGNATURE Steven Herbert TITLE Environ. Health Spec.

C.C.H.S.S.  
1415 W. Melody Lane, Bldg. A  
Bisbee, Arizona 85603-3090

1. OWNER OF WELL:  
MILTON K. LUNA  
NAME  
1598 W MULE DEER ST.  
CURRENT MAILING ADDRESS  
NACO, AZ. 85620-0265  
CITY      STATE      ZIP  
 TELEPHONE NUMBER (520) 432-4077

6. LESSEE OF LAND OF WELLSITE:  
NAME  
CURRENT MAILING ADDRESS  
CITY      STATE      ZIP  
 TELEPHONE: \_\_\_\_\_

10. PLACE OF USE (LEGAL DESCRIPTION OF LAND):  
SW 1/4 SE 1/4 NE 1/4 SECTION 18  
10AC      40AC      160AC  
 TOWNSHIP 24 N(S) RANG 24 W

2. ACTION REQUESTED:  
 DRILL NEW WELL       DEEPEN \_\_\_\_\_  
 MODIFY \_\_\_\_\_      REPLACE \_\_\_\_\_

7. PRINCIPLE USE OF WATER: (BE SPECIFIC)  
DOMESTIC - Household - Yard - Trees

11. TYPE OF WELL (CHECK ONE):  
 EXEMPT       NON-EXEMPT \_\_\_\_\_

WELL REGISTRATION NO 55- \_\_\_\_\_

FOR A REPLACEMENT WELL PROVIDE:  
 MAX. CAPACITY OF THE ORIGINAL WELL  
20 GALLONS PER MINUTE:  
 DISTANCE FROM THE ORIGINAL WELL:  
41.4" FEET

8. OTHER USES OF WATER: (BE SPECIFIC)  
DOMESTIC - ANIMALS

12. CHECK ONE:  
 RESIDENTIAL       COMMERCIAL \_\_\_\_\_

9. IF USE INCLUDES IRRIGATION, STATE TO NEAREST TENTH, THE NUMBER OF ACRES TO BE IRRIGATED: \_\_\_\_\_

13. IS THE PROPOSED WELLSITE WITHIN 100 FEET OF A SEPTIC TANK SYSTEM, SEWER DISPOSAL AREA, LANDFILL, HAZARDOUS MATERIALS OR PETROLEUM STORAGE AREAS AND TANKS?  
 YES \_\_\_\_\_ NO

3. CONSTRUCTION WILL START ABOUT:  
 MONTH APRIL YEAR 99

**FOR DEPARTMENT USE ONLY**

REGISTRATION NO. 55-573596  
 DATE FILED 3-4-99  
 FILE NO. D(24-24)18 ADC

AMA/INA \_\_\_\_\_  
 W/S 11 S/B \_\_\_\_\_

PROCESSED BY lp  
 DATE MAILED 3/19/99

14. DRILLING FIRM:  
NAME WEBER DRILLING  
MAILING ADDRESS 453 E. MECHAM DRIVE  
CITY      STATE      ZIP ST. DAVID, AZ. 85630  
TELEPHONE NO. (520) 720-4800  
DWR LICENSE NUMBER 272  
ROC LICENSE CATEGORY C53

4. TYPE OF CASING FOR PROPOSED WELL:  
 SURFACE CASING: STEEL  
 DIAMETER: 8 "      DEPTH: 20'  
 DOWNHOLE CASING: 9.56-3/16" wall STEEL  
 DIAMETER: 6 "      DEPTH: 300'

5. DESIGN PUMP CAPACITY:  
20 GALLONS PER MINUTE

I STATE THAT THIS NOTICE IS FILED IN COMPLIANCE WITH A.R.S. § 45-596, IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT I UNDERSTAND THE LIMITATIONS AND CONDITIONS SET FORTH ON THE REVERSE SIDE OF THIS FORM.

MILTON K. LUNA - OWNER      Milton K. Luna      Feb. 24-99  
15. TYPE OR PRINT NAME AND TITLE      16. LANDOWNER/LESSEE OF WELLSITE      17. DATE

## APPLICATION GUIDELINES

In accordance with Arizona Revised Statutes ("A.R.S.") §§ 41-1008 and 1079, the Department of Water Resources (Department) provides the following information regarding the application review process for authority to drill.

### NECESSARY STEPS & INSTRUCTIONS TO OBTAIN DRILLING AUTHORITY

1. Pursuant to A.R.S. § 45-596, a person may not drill, cause to be drilled, deepen or modify any well for which a permit is not required without first filing a Notice of Intent to Drill with the Department. Only a well drilling contractor licensed in the State of Arizona or a single well licensee (a person licensed to drill or modify one exempt well on his or her own property) is authorized to drill, deepen or modify a well. Drilling may not begin until the well drilling contractor or licensee has possession of a drilling card at the well site, issued by the Director in the name of the well drilling contractor or licensee, and which authorizes the drilling of the specific well in a specific location. To assist you in understanding the requirements for this application, copies of A.R.S. § 45-596 and Arizona Administrative Code ("A.A.C.") R12-15-810 are available at the Department bookstore (602-417-2450 x7127).
2. If replacing, deepening or modifying an existing well, provide the registration number of the existing well in item 2. A replacement well is one located no more than 660 feet from the original well and that is not expected to annually withdraw more groundwater than historically withdrawn from the original well.
3. Information to complete items 3, 4, 5 and 14 may be available from your driller.
4. Information to complete items 10 and 13 may be available from your County Assessor's Office.
5. An exempt well, referred to in Item 11, means a well with a pump with a maximum capacity of not more than thirty-five gallons per minute used primarily for domestic purposes, including the noncommercial irrigation of less than two acres of land.
6. If any water from a proposed well on a parcel of twenty or fewer acres will be used for domestic purposes, as defined in § 45-454, the applicant must submit a well site plan of the property. The plan must be on an 8½" x 11" piece of plain paper with representation of the locations of all structures and proximity of adjacent lot lines, to scale. It must include the county assessor's parcel identification number. The plan must show the proposed well location and the location of any septic tank or sewer system that is either located on the property or within one hundred feet of the proposed well site, as well as indicating the measured shortest distance between the proposed well and existing septic tank system. **The plan must demonstrate that the well will not be drilled within one hundred feet of any septic or sewer system.**
7. The site plan must be approved by the county health authority, or by a local health authority in areas where the county health authority has delegated authority to approve septic or sewer systems. Endorsement by the county/local authority is based solely on the best available judgement that the proposed well, as shown on the site plan submitted, is 100 feet or more from all known and visually identifiable sewage treatment systems. It is not a representation that a well placed at this site will be guaranteed as to quantity or quality. In areas where there is no local or county authority that controls installation of septic tanks or sewer systems, or if the health authority is unable to determine whether the proposed well location complies with state and local requirements, the applicant must apply for approval directly to the Department of Water Resources.
8. If an individual other than the land owner or lessee signs this notice, an original letter of authorization from the land owner/lessee, stating that the individual has permission to sign this specific notice on his or her behalf, must accompany the notice.
9. Please mail **two original Notices with original signatures and two site plans** and, in accordance with A.R.S. § 45-113, a **check or money order (no cash) in the amount of \$10.00** to P. O. Box 458, Phoenix Arizona, 85001-0458, or hand deliver to 500 North Third Street, Phoenix, Arizona.
10. Arizona Revised Statute § 45-596(D) provides that the Director of the Department is to determine whether or not all information required on this form has been submitted. If not, the person filing the Notice will be notified, and the drilling or modification of the well may **not** proceed.
11. This form is not applicable for non-exempt wells (those yielding more than thirty-five gallons per minute) within an Active Management Area. Contact Groundwater Management for further information regarding the appropriate notice to file with the Department.

### TIME FRAME FOR REVIEW OF YOUR APPLICATION

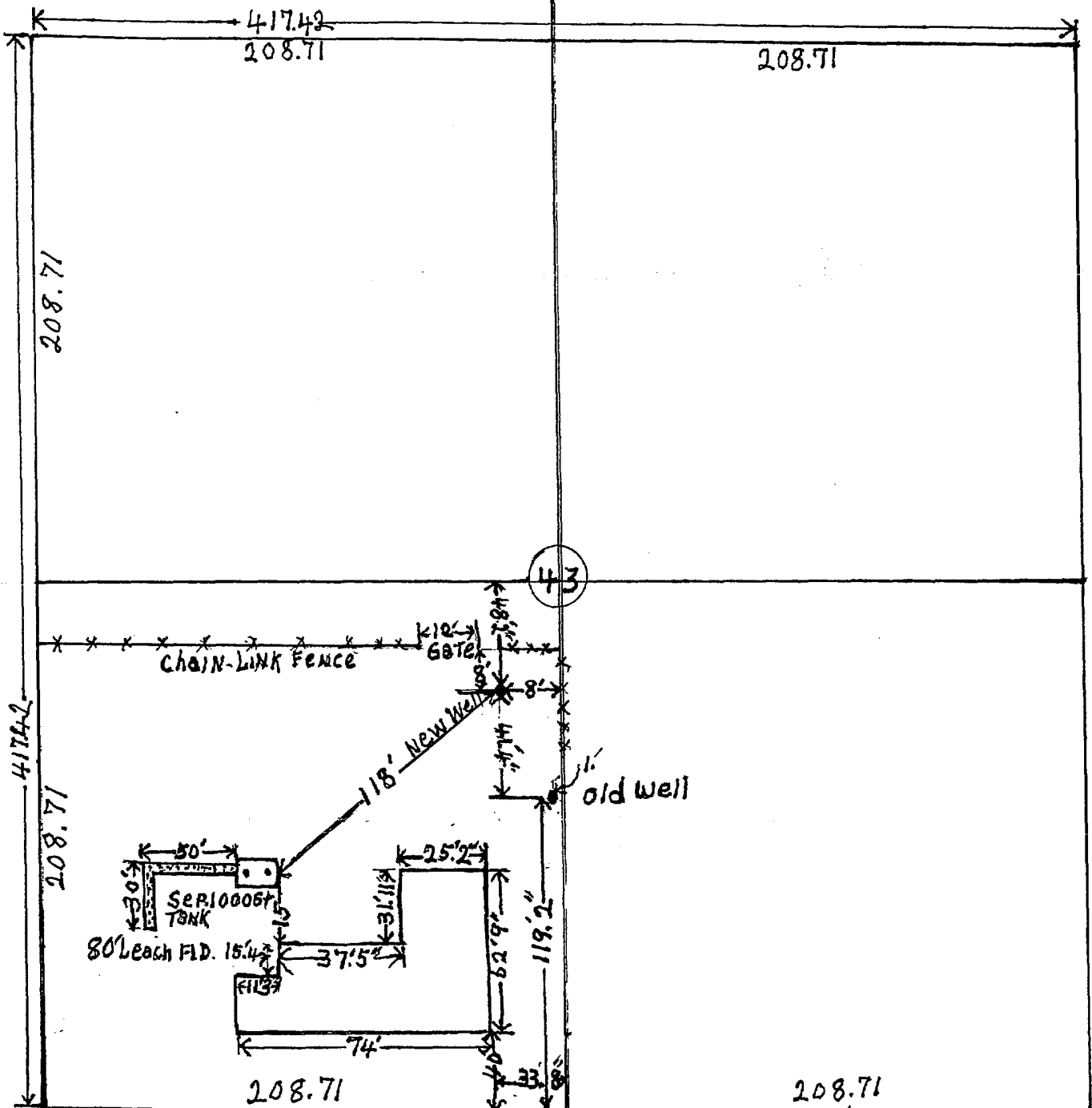
Within 15 days after receipt of your Notice of Intention, the Arizona Department of Water Resources ("Department") will determine whether your application should be granted or denied, unless this time is extended for lack of a complete application. If your application is incomplete, the Department will notify you in writing and will specify what information is necessary to make the application complete. Until the missing information is received, the time frame for review of your application will be suspended. Your application will not be complete until all of the requested information is received. If you do not supply the missing information within sixty (60) days, the Department may deem your application withdrawn and close the file.

At the end of its review, the Department will send you written notice either granting or denying your application for drilling authority. If your application is approved, the Drill Card will be mailed directly to the drilling company. If denied, the Department's notice will state justification for the denial and an explanation of your right to appeal.

### CONSTRUCTION AND FOLLOW UP REQUIREMENTS

1. Construction and abandonment standards for wells, including abandonment, must be in accordance with Department Regulations. A.R.S. § 45-594 and Arizona Administrative Code R12-15-811 require the well to be constructed with a twenty foot steel surface seal casing, including a one foot steel stickup and one and one-half inches of grout seal, unless a variance is granted (see A.R.S. § 45-596 (G) for procedure to follow in requesting a variance).
2. Pursuant to § 45-596(E), the drilling, deepening or modification of the well must be completed within one year of the date of the Notice of Intent. If the well is not completed within one year, a new Notice of Intent must be filed before proceeding with further construction.
3. If a well which was originally drilled as an exploration well, a monitor well, a piezometer well or for any use other than domestic use is later proposed to be converted to use for domestic purposes as defined in § 45-454, the well owner must file a Notice of Intention to Drill and comply with the requirements of § 45-596 before the well is converted and any water from that well is used for domestic purposes.
4. Within thirty days after installation of pumping equipment, the registered well owner must file a Completion Report with the Department. The person to whom a well is registered also must notify the Department of a change in ownership or a change in data relating to this well.

RECEIVED  
 MAR - 4 1999  
 GROUNDWATER MGT



ABOVE PLAT NOT TO SCALE  
 Measured with STEEL TAPE

COCHISE COUNTY  
 PARCEL IDENTIFICATION  
 102-56-043  
 SEC 18 NE - TN 24 - RNG 24





# ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street, Phoenix, Arizona 85004

Telephone (602) 417-2470

Fax (602) 417-2422



JANE DEE HULL  
Governor

RITA P. PEARSON  
Director

March 19, 1999

MILTON K LUNA  
1598 W MULE DEER ST  
NACO, AZ 85620

Registration No. 55-573596  
File No.D(24-24) 18 ADC

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to drill a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Completion Report is to be submitted when pump equipment is installed. The Drilling Card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the Drilling Card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized.

ARS §45-600 requires the registered well owner to submit a completion report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

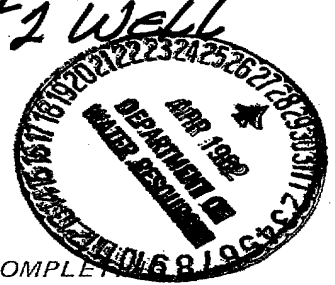
**If in the course of drilling a new well**, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.

Per ARS §45-593 (C), the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed a Change of Well Information Form should it be needed in the future.

Sincerely,

Barbara Sims  
Water Resource Technician  
Groundwater Management Support Section

#2 Well



REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
 PRINT OR TYPE - FILE IN DUPLICATE

**REGISTRATION FEE (CHECK ONE)**

EXEMPT WELL (NO CHARGE)

NON-EXEMPT WELL - \$10.00

FOR OFFICE USE ONLY

REGISTRATION NO. 55- 641801

FILE NO. D(24-24)1899d

FILED 4-28-82 AT 11A  
(DATE) (TIME)

INA \_\_\_\_\_

AMA \_\_\_\_\_

1. Name of Registrant: MILTON K. LUNA  
P.O. Box 265 NACO, AZ. 85620  
(Address) (City) (State) (Zip)

2. File and/or Control Number under previous groundwater law:  
N/A 35- N/A  
(File Number) (Control Number)

3. a. The well is located within the SE 1/4 NE 1/4 NE 1/4, Section 18 NE,  
 of Township 24 S N(S) Range 24 E E(W), G & SRB & M, in the  
 County of Cochise.

b. If in a subdivision: Name of subdivision \_\_\_\_\_  
 Lot No. \_\_\_\_\_, Address \_\_\_\_\_

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
Domestic

5. If for irrigation use, number of acres irrigated from well \_\_\_\_\_

6. Owner of land on which well is located. If same as Item 1, check this box   
 \_\_\_\_\_  
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)

a. Depth of Well 142' feet

b. Diameter of casing 6" inches

c. Depth of casing 142' feet

d. Type of casing 3/8" wall - STEEL

e. Maximum pump capacity 20 gallons per minute.

f. Depth to water 92' feet below land surface.

g. Date well completed Prior to 1960  
(Month) (Day) (Year)

Well #2  
 See Accompanying  
 Map.

8. The place(s) of use of water. If same as Item 3, check this box   
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE 4-26-82 SIGNATURE OF REGISTRANT Milton K. Luna

MICROFILMED

#1 well

DEPARTMENT OF WATER RESOURCES  
99 EAST VIRGINIA AVENUE  
PHOENIX, ARIZONA 85004



REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
PRINT OR TYPE - FILE IN DUPLICATE

FOR OFFICE USE ONLY

REGISTRATION NO. 55-641803

FILE NO. D(24-24)18 dda

FILED 4-28-82 AT 11A  
(DATE) (TIME)

INA \_\_\_\_\_

AMA \_\_\_\_\_

REGISTRATION FEE (CHECK ONE)

EXEMPT WELL (NO CHARGE)

NON-EXEMPT WELL - \$10.00

- Name of Registrant: MILTON K. LUNA  
P.O. BOX 265 (Address) NACO, AZ. (City) 85620 (State) (Zip)
- File and/or Control Number under previous groundwater law:  
N/A (File Number) 35- N/A (Control Number)
- a. The well is located within the NE 1/4 SE 1/4 SE 1/4, Section 18 NE,  
of Township 24 S N S Range 24 E E W, G & SRB & M, in the  
County of COCHISE.
- b. If in a subdivision: Name of subdivision \_\_\_\_\_  
Lot No. \_\_\_\_\_, Address \_\_\_\_\_
- The principal use(s) of water (Examples: irrigation stockwater domestic municipal - industrial)  
Domestic & irrigation
- If for irrigation use, number of acres irrigated from well 4
- Owner of land on which well is located. If same as Item 1, check this box

(Address) (City) (State) (Zip)

- Well data (If data not available, write N/A)
  - Depth of Well 140' feet
  - Diameter of casing 6" inches
  - Depth of casing 140' feet
  - Type of casing 3/8" wall - Steel
  - Maximum pump capacity 20 gallons per minute.
  - Depth to water 92 feet below land surface.
  - Date well completed Prior to 1960  
(Month) (Day) (Year)

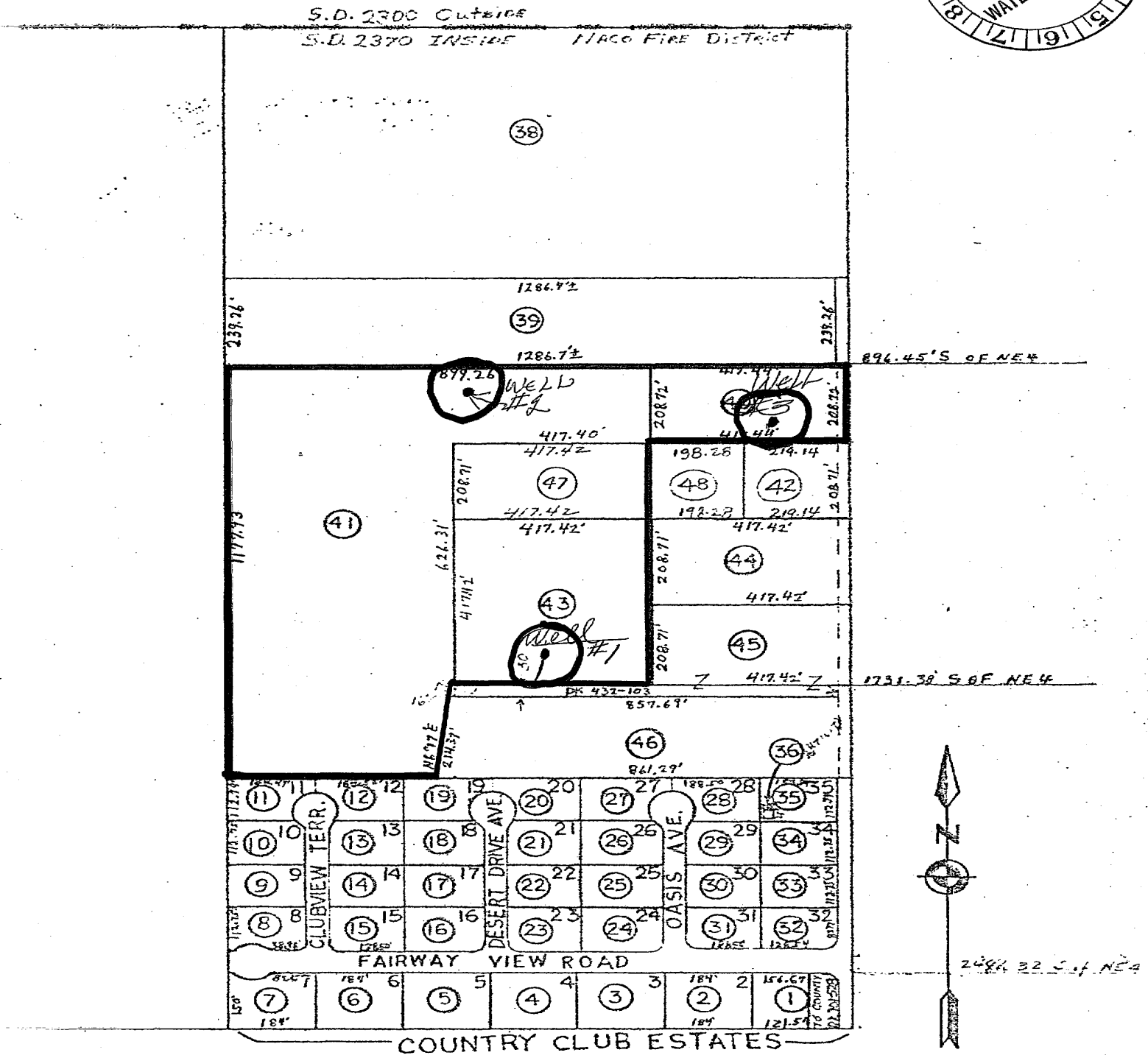
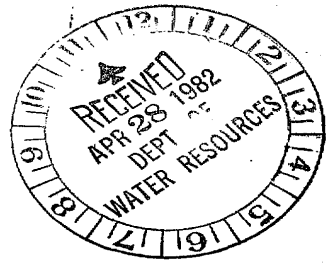
well #1  
see Accomp.  
Map.

- The place(s) of use of water. If same as Item 3, check this box   
 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

- DATE 4-26-82 SIGNATURE OF REGISTRANT Milton K. Luna

MICROFILMED



SCALE 1" = 300'

MICROFILMED



ARIZONA DEPARTMENT OF WATER RESOURCES  
 Information Management Unit  
 P.O. Box 33589, Phoenix, Arizona 85067-3589  
 (602) 771-8527 \* (800) 352-8488  
 www.water.az.gov

Well Driller Report  
 and  
 Well Log

ENTERED

NOV 28 2007

MO

RECEIVED

NOV 26 2007

INFO MGMT

FILE NUMBER  
**D(24-24) 18 BCD**

WELL REGISTRATION NUMBER  
**55-216018**

PERMIT NUMBER ( IF ISSUED )

This report should be prepared by the driller in detail and filed with the Department within 30 days following completion of the well.

\*\* PLEASE PRINT CLEARLY \*\*

**SECTION 1. DRILLING AUTHORIZATION**

Drilling Firm

Mail To:	NAME	DWR LICENSE NUMBER
	BRADLY DRILLING	736
	ADDRESS	TELEPHONE NUMBER
	562 E. HWY 82	520-456-2355
	CITY/STATE/ZIP	FAX
	HUACHUCA CITY, AZ 85616	

**SECTION 2. REGISTRY INFORMATION**

<b>Well Owner</b>		<b>Location of Well</b>					
FULL NAME OF COMPANY, ORGANIZATION OR INDIVIDUAL ERNEST ROGERS		WELL LOCATION ADDRESS (IF ANY)					
MAILING ADDRESS PO BOX 608		TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
CITY / STATE / ZIP NACO, AZ 85620		LATITUDE	LONGITUDE				
CONTACT PERSON NAME AND TITLE		METHOD OF LATITUDE / LONGITUDE (CHECK ONE)			*GPS: Hand-Held		
TELEPHONE NUMBER 520-432-3861		*USGS Quad Map			*GPS: Survey-Grade		
WELL NAME (e.g., MW-1, PZ-3, Lot 25 Well, Smith Well, etc.)		METHOD OF ELEVATION (CHECK ONE)			*GPS: Hand-Held		
		*USGS Quad Map			*GPS: Survey-Grade		
		*IF GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (CHECK ONE)					
		*NAD-83 *Other (please specify):					
		COUNTY Coconino	ASSESSOR'S PARCEL ID NUMBER				
			BOOK	MAP	PARCEL		
			102	57	140		

**SECTION 3. WELL CONSTRUCTION DETAILS**

<b>Drill Method</b>	<b>Method of Well Development</b>	<b>Method of Sealing at Reduction Points</b>
CHECK ONE <input checked="" type="checkbox"/> Air Rotary <input type="checkbox"/> Bored or Augered <input type="checkbox"/> Cable Tool <input type="checkbox"/> Dual Rotary <input type="checkbox"/> Mud Rotary <input type="checkbox"/> Reverse Circulation <input type="checkbox"/> Driven <input type="checkbox"/> Jetted <input type="checkbox"/> Air Percussion / Odex Tubing <input type="checkbox"/> Other (please specify)	CHECK ONE <input checked="" type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Back <input type="checkbox"/> Surge Pump <input type="checkbox"/> Other (please specify)	CHECK ONE <input type="checkbox"/> None <input type="checkbox"/> Packed <input type="checkbox"/> Swedged <input type="checkbox"/> Welded <input checked="" type="checkbox"/> Other (please specify) Native
	<b>Condition of Well</b>	<b>Construction Dates</b>
	CHECK ONE <input checked="" type="checkbox"/> Capped <input type="checkbox"/> Pump Installed	DATE WELL CONSTRUCTION STARTED 9-10-07
		DATE WELL CONSTRUCTION COMPLETED 9-10-07

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

DRILLING FIRM: *Bradly Drilling*

SIGNATURE OF QUALIFYING PARTY: *[Signature]*

DATE: 10-15-07

Well Driller Report and Well Log

WELL REGISTRATION NUMBER  
55-216018

**SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILT)** (attach additional page if needed)

DEPTH OF BORING <i>285</i>	Feet Below Land Surface	DEPTH OF COMPLETED WELL <i>285</i>	Feet Below Land Surface
-------------------------------	-------------------------	---------------------------------------	-------------------------

<b>Water Level Information</b>			
STATIC WATER LEVEL <i>145</i>	Feet Below Land Surface	DATE MEASURED <i>9-10-07</i> <i>3:30 PM</i>	TIME MEASURED <i>3:30 PM</i>
		IF FLOWING WELL, METHOD OF FLOW REGULATION <input type="checkbox"/> Valve <input type="checkbox"/> Other:	

Borehole			Installed Casing														
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (X)				PERFORATION TYPE (X)					SLOT SIZE IF ANY (inches)		
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED		IF OTHER TYPE, DESCRIBE	
<i>0</i>	<i>20</i>	<i>12 1/4</i>	<i>0</i>	<i>20</i>	<i>8 1/4</i>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>						
			<i>5</i>	<i>240</i>	<i>6</i>		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>						
			<i>240</i>	<i>285</i>	<i>6</i>		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>				<i>1/8</i>

Installed Annular Material												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (X)							FILTER PACK			
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE			IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
						GROUT	CHIPS	PELLETS				
<i>0</i>	<i>20</i>		<input checked="" type="checkbox"/>						<i>NATIVE</i>			



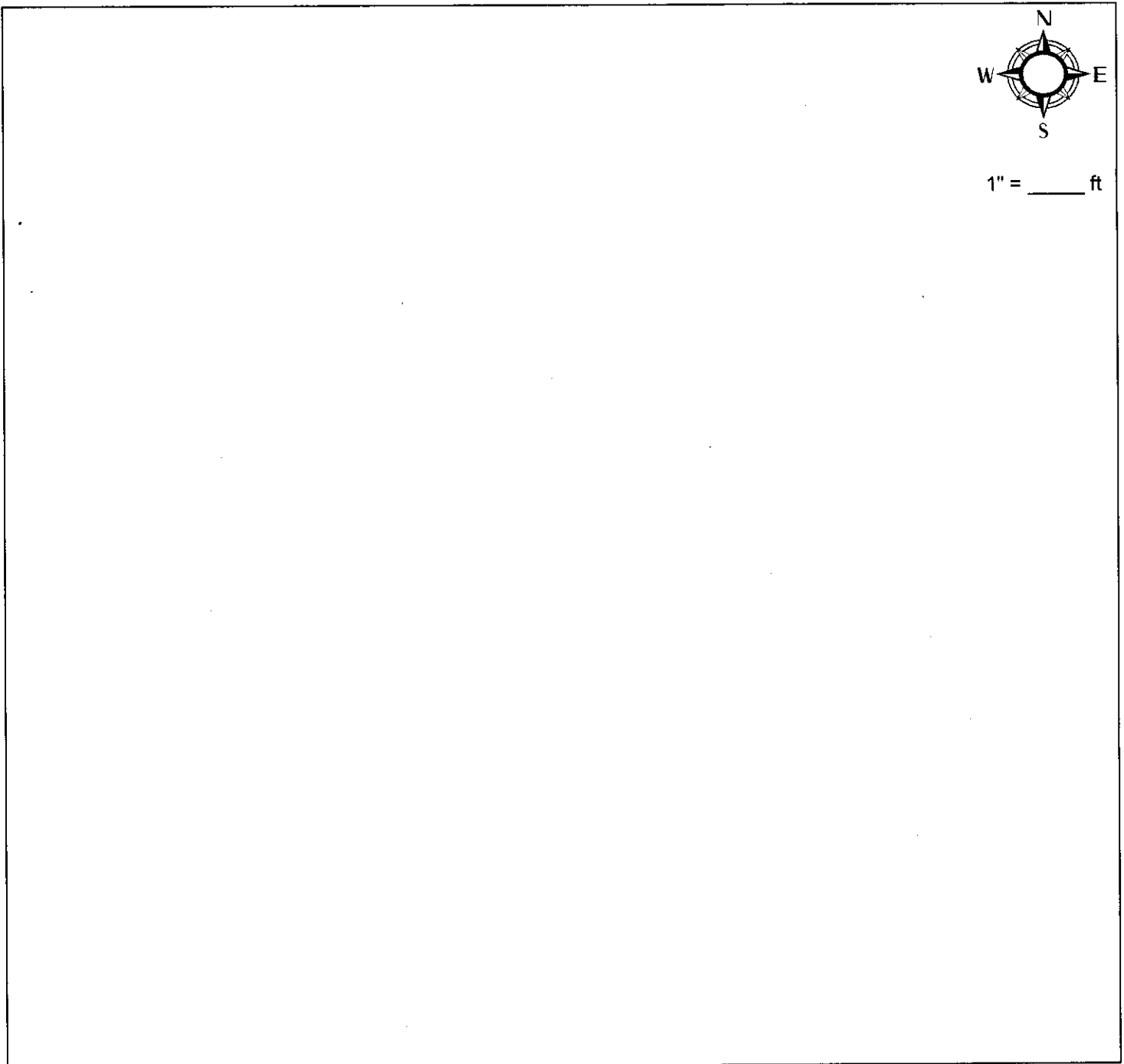


Well Driller Report and Well Log

WELL REGISTRATION NUMBER  
**55- 216018**

SECTION 6. WELL SITE PLAN			
NAME OF WELL OWNER	COUNTY	ASSESSOR'S PARCEL ID NUMBER	
ERNEST ROGERS	BOOK	102	MAP 57 PARCEL 140

- ☐ Please draw the following: (1) the boundaries of property on which the well was located; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well.
- ☐ Please indicate the distance between the well location and any septic tank system or sewer system.



**ARIZONA DEPARTMENT OF WATER RESOURCES  
WATER MANAGEMENT SUPPORT SECTION**

3550 N. Central Avenue  
Phoenix, Arizona 85012

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO: 55-216018

AUTHORIZED DRILLER: BRADLY DRILLING

LICENSE NO: 736

NOTICE OF INTENTION TO DRILL AN EXEMPT WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: ERNEST ROGERS PO BOX 608 NACO, AZ 85620

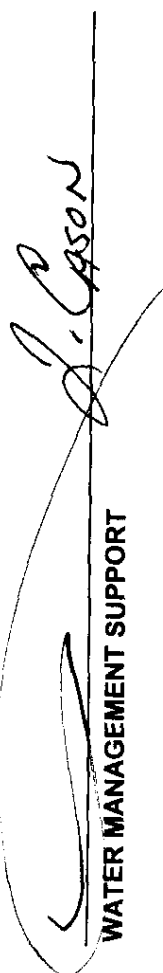
THE WELL(S) IS/ARE TO BE LOCATED IN THE:

SE 1/4 OF THE SW 1/4 OF THE NW 1/4 SECTION 18 TOWNSHIP 24 SOUTH RANGE 24 EAST

NO. OF WELLS IN THIS PROJECT: 1

ASSESSOR PARCEL NO: 102-57-140

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 27TH DAY OF JUNE, 2008

  
WATER MANAGEMENT SUPPORT

THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING

**NOTICE!** The Authorization to drill this well **DOES NOT** constitute or guarantee an approval to use the well for the purpose of withdrawing groundwater for transportation to an Active Management Area (AMA) pursuant to A.R.S. § 45-552, 45-553, 45-554 or 45-555(A) without official prior approval from the Department.

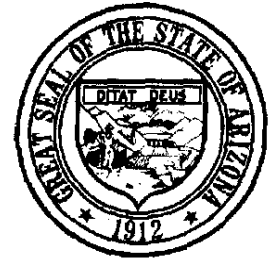


**ARIZONA DEPARTMENT OF WATER RESOURCES**

3550 N. Central Avenue, Phoenix, Arizona 85012

Telephone (602) 771-8500

Fax (602) 771-8691



Janet Napolitano  
Governor

Herbert R. Guenther  
Director

August 14, 2007

ERNEST ROGERS  
PO BOX 608  
NACO, AZ 85620

Registration No. 55-216018

File No. D(24-24) 18 BCD

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to Drill a well that you recently filed with this Department pursuant to A.R.S. § 45-596. This is to inform you that the Department has approved the NOI and has mailed or otherwise provided a drilling card authorizing the drilling of the well to the well driller identified in the NOI. The driller may not begin drilling until he has received the drilling card, which must be displayed on the drill rig during drilling. **PLEASE NOTE:** The Authorization to drill this well **DOES NOT constitute or guarantee an approval to use the well for the purpose of withdrawing groundwater for transportation to an Active Management Area (AMA)** pursuant to A.R.S. § 45-552, 45-553, 45-554 or 45-555(A). Groundwater **may not** be withdrawn from this well for these transportation purposes **without official prior approval from the Department**. Please contact the office in the AMA where the groundwater is to be transported to determine what additional forms are needed and for more information on this process.

Well drilling activities must be completed within one year after the date the NOI was filed with the Department. If drilling is not completed within one year, you must file a new NOI before proceeding with further drilling. If in the course of drilling the well, it is determined that the well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the well must be properly abandoned and a Well Abandonment Completion Report must be filed as required by A.A.C. R12-15-816(F).

If you change drillers, you must notify the Department of the new driller's identity. Please ensure that the new driller is licensed by the Department to drill the type of well you require. A new driller may not begin drilling until he receives a new drilling card from the Department. If you are drilling a new or replacement well and it is necessary to change the location of the proposed well, you may not proceed with drilling until you file an amended NOI with the Department and the Department issues an amended drilling card to the driller. If county approval was required for the original well site plan (this applies to domestic wells on parcels that are five acres or less), you must submit a new well site plan with the new well location to your local county health authority for approval prior to filing the amended NOI with the Department.

A.R.S. § 45-600 requires the registered well owner to complete and file a Pump Installation Completion Report form (DWR form 55-56) within 30 days after the installation of pumping equipment. A form is enclosed for your use. Also enclosed is a well owner's guide that provides useful information and advice concerning your upcoming well construction project.

A.R.S. § 45-600 also requires the driller to file a complete and accurate Well Drillers Report and Well Log (DWR form 55-55) within 30 days after completion of drilling. That form was mailed to your driller with the drilling card. You should insist and ensure that all of the required forms are accurately completed and timely filed with the Department.

Please be advised that A.R.S. § 45-593(C) requires the person to whom a well is registered to notify the Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. Any change in well information or a request to change well driller must be filed on a Request to Change Well Information form (DWR form 55-71A) that may be downloaded from the ADWR Internet website at <<http://www.water.az.gov/adwr/content/forms/default.htm#NOI>>.

Sincerely,

*Toni Bergeman*  
Toni Bergeman

NOI Unit  
Water Management Support Section

Enclosures



Arizona Department of Water Resources  
 Water Management Support Section  
 P.O. Box 458 • Phoenix, Arizona 85001-0458  
 (602) 771-8500 • (800) 352-8488  
 (602) 771-8691 fax • www.azwater.gov

JUN 28 2007

AUG 13 2007  
 Notice of Intent to

\$150 or  
 \$100 FEE

**Drill, Deepen, Replace or Modify a Well**

(Except a Non-Exempt Well in an Active Management Area)

- Review instructions prior to completing form in black or blue ink.
- You must include with your Notice:
- Check or money order in the amount of the appropriate filing fee.  
 For a well located within an AMA or INA, the fee is \$150.00.  
 For a well not located within an AMA or INA, the fee is \$100.00 if the well will be used solely for domestic purposes (see page 2 and instructions) and will have a pump with a maximum capacity of not more than 35 gallons per minute. Otherwise, the fee is \$150.00.
- Authority for fee: A.R.S. § 45-596.

AMA / INA	B	SB
RECEIVED DATE	WS	
ISSUED DATE	WQARF	CERCLA

76  
11

FILE NUMBER
WELL REGISTRATION NUMBER

D(24-24)18 BCD  
55-216018

**SECTION 1. COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL (if applicable)**

If water from the proposed well will be used for domestic purposes on a parcel of land of 5 or fewer acres, the applicable county or local health authority must endorse all items in Section 1 within one year before submission to the Department of Water Resources. You must also attach a site plan (pg. 3).

CHECK ONE

County or Local Health Authority Recommends Approval (pursuant to A.R.S. § 45-596 (G) and (F))


Field Inspection Performed  
 Site Plan Review Only

Insufficient Information to Make a Determination

APPROVED BY THE COCHISE COUNTY ENVIRONMENTAL HEALTH DIVISION

DATE July 31, 2007

BY Carlos Diaz R.S.



COUNTY OR LOCAL AUTHORITY NAME AND TITLE  
 CARLOS DIAZ R.S.

TELEPHONE NUMBER 520-432-9442  
 DATE July 31, 2007

COUNTY OR LOCAL AUTHORITY SIGNATURE  
 Carlos Diaz R.S.

**SECTION 2. REGISTRY INFORMATION**

Well Type	Proposed Action	Location of Well
CHECK ONE <input checked="" type="checkbox"/> Exempt (Pump has a maximum capacity of not more than 35 gpm and water is not used for irrigation purposes inside an AMA.) (See instructions.) <input type="checkbox"/> Non-Exempt (Pump has a maximum capacity of more than 35 gpm and the well is located outside an AMA.) (See instructions.) DESIGN PUMP CAPACITY: 20 Gallons Per Minute	CHECK ONE <input checked="" type="checkbox"/> Drill New Well <input type="checkbox"/> Deepen <input type="checkbox"/> Replace <input type="checkbox"/> Modify If Deepening, Replacing or Modifying: ORIGINAL WELL REGISTRATION NUMBER: 55 - MAXIMUM CAPACITY OF ORIGINAL WELL: Gallons Per Minute DISTANCE & DIRECTION FROM ORIGINAL WELL: Feet	WELL LOCATION ADDRESS (IF ANY) 1820 W DOMINGUEZ ST TOWNSHIP (N/S) RANGE (E/W) SECTION 160 ACRE 40 ACRE 10 ACRE 24 24 18 NW 1/4 SW 1/4 SE 1/4 COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK 102 - MAP 57-140 PARCEL # OF ACRES 11 Lots PLACE OF WATER USE (ONLY IF DIFFERENT FROM LOCATION OF WELL) TOWNSHIP (N/S) RANGE (E/W) SECTION 160 ACRE 40 ACRE 10 ACRE 24 24 18 1/4 1/4 1/4 COUNTY WHERE WELL IS LOCATED Cochise

**SECTION 3. OWNER INFORMATION**

Well Owner	Landowner (if different from Well Owner)
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ERNEST M ROGERS MAILING ADDRESS P.O. Box 608 CITY / STATE / ZIP CODE NACO AZ 85620 CONTACT PERSON NAME AND TITLE SAME TELEPHONE NUMBER 520 432 3861 FAX	FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL MAILING ADDRESS CITY / STATE / ZIP CODE CONTACT PERSON NAME AND TITLE TELEPHONE NUMBER FAX

**SECTION 4.**

Questions	Yes	No	If Yes:
1. Is the proposed well site within 100 feet of a septic tank system, sewer disposal area, landfill, hazardous materials or petroleum storage area or tank?		X	You must also request a variance (A.A.C. R12-15-818).
2. Is there another well name or identification number associated with this well (e.g., Lot 35 Well, Smith Well, etc.)?		X	PLEASE STATE
3. Is the proposed well a NEW well to be located within an Active Management Area? (See instructions)		X	Unless the well is a replacement well and the total number of operable exempt wells on the land is not increasing, you must also file a supplemental form A.R.S. § 45-454(C) & (D).
4. Is the proposed well the second exempt well on this parcel for the same use?		X	If the proposed well is in an Active Management Area, you must also file a supplemental form 55-40A.

LOTS 25 145

ERNEST M ROGERS

Notice of Intent to Drill, Deepen, Replace or Modify a Well

RECEIVED

RECEIVED

AUG 13 2007

JUN 28 2007

WELL REGISTRATION NUMBER  
55 - 216018

SECTION 5. DRILLING AUTHORIZATION		SECTION 6. WATER / SITE INFORMATION	
<b>Drilling Firm</b> NAME: <u>Brady Drilling</u> DWR LICENSE NUMBER: <u>734</u> ROC LICENSE CATEGORY: <u>C-53</u> TELEPHONE NUMBER: <u>520 456 2357</u> FAX: _____ MAILING ADDRESS: <u>PO Box 4707</u> CITY / STATE / ZIP CODE: <u>HC AZ 85614</u> DATE CONSTRUCTION IS TO BEGIN: <u>ASAP</u>		<b>Principal Use of Water</b> CHECK ONE: <input type="checkbox"/> Irrigation <input type="checkbox"/> Utility <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Municipal <input type="checkbox"/> Industrial <input type="checkbox"/> Mining <input type="checkbox"/> Stock <input type="checkbox"/> Recharge <input type="checkbox"/> Dewatering <input type="checkbox"/> Other (please specify): _____	
		<b>Other Uses of Water</b> CHECK ALL THAT APPLY: <input type="checkbox"/> Irrigation <input type="checkbox"/> Utility <input type="checkbox"/> Commercial <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal <input type="checkbox"/> Industrial <input type="checkbox"/> Mining <input type="checkbox"/> Stock <input type="checkbox"/> Recharge <input type="checkbox"/> Dewatering <input type="checkbox"/> Other (please specify): _____	

SECTION 7. PROPOSED WELL CONSTRUCTION DESIGN (attach separate sheet if needed)																
Borehole			Casing													
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)				GROUTING MATERIAL		
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE		SLOTTED	IF OTHER TYPE, DESCRIBE
0	20	12 1/4	0	20	8 5/8	X*					X					Cement
20	30-0	8 5/8	10	200	6		X				X					
			260	300	6		X						X			

\* ADWR well construction standards require a surface seal consisting of a minimum of 20 feet of steel casing. Cement grout must be used to fill the annular space between the surface casing and the borehole. (A.A.C. R12-15-811(B))

The Department's issuance of an authorization to drill a well is not a determination of whether water withdrawn from the well is legally surface water or groundwater. The legal nature of the water withdrawn from the well may be the subject of court action in the future as part of a determination of surface water rights in your area. If there are court proceedings that could affect your well, you will be notified and be given the opportunity to participate. If you have questions regarding the legal nature of the water to be withdrawn from your proposed well, please consult with an experienced civil engineer, hydrologist or water rights attorney.

For the purposes of determining appropriate fees outside AMAs or INAs, "domestic purposes" is defined as "uses related to the supply, service and activities of households and private residences and includes the application of water to less than 2 acres of land to produce plants or parts of plants for sale or human consumption, or for use as feed for livestock, range livestock or poultry, as such terms are defined in A.R.S. § 3-1201."

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE <u>ERNEST MARIEN ROGERS</u>	
SIGNATURE OF WELL OWNER 	DATE <u>6-26-07</u>
SIGNATURE OF LANDOWNER, IF APPLICABLE (SEE INSTRUCTIONS) 	DATE <u>6-26-07</u>

RECEIVED RECEIVED

Notice of Intent to Drill, Deepen, Replace or Modify a Well

AUG 13 2007

JUN 28 2007

WELL REGISTRATION NUMBER  
55-216018

CHECK ONE:  FILING MANUALLY  
 FILING ELECTRONICALLY

DRILLER'S E-MAIL ADDRESS

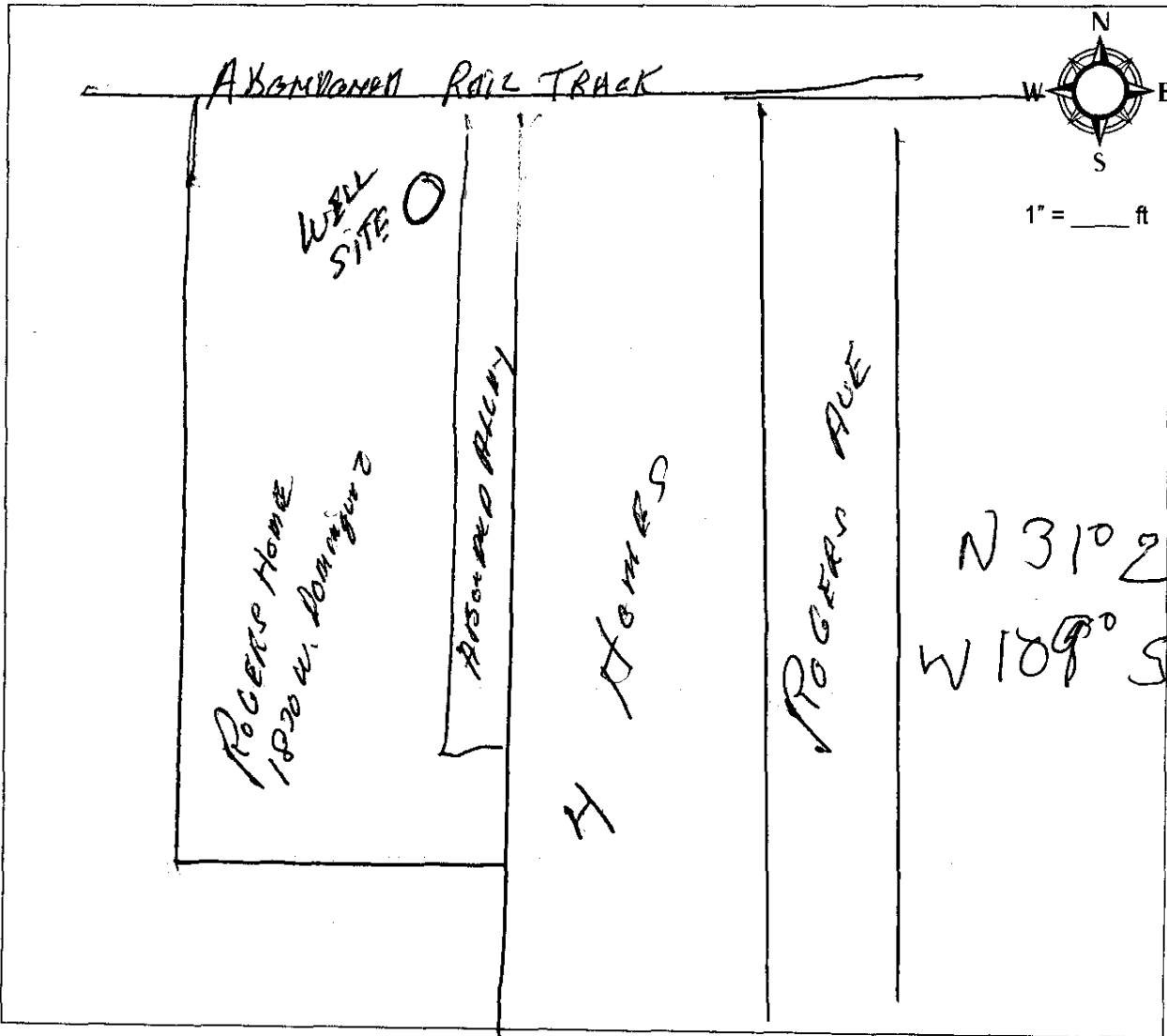
WATER AND WATER MGMT

*COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL CODE	COUNTY APPROVAL CODE
If applicant is filing this NOI electronically via the ADWR website and County approval is required, please indicate approval by providing a County Approval Code.	

WELL SITE PLAN

NAME OF WELL OWNER <b>ERNEST M. ROGER</b>	COUNTY ASSESSOR'S PARCEL ID NUMBER
BOOK	MAP
	PARCEL <b>102-51-140 5</b>

- ❖ If this well will be a domestic well on 5 acres or less, please draw the following: (1) the boundaries of your property; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well. If the parcel is vacant land or lacks a septic tank or sewer system, please indicate this.
- ❖ Indicate the distance between the proposed well location and any septic tank system or sewer system.



COUNTY OR LOCAL AUTHORITY NAME AND TITLE <b>Carlos Diaz R.S.</b>
COUNTY OR LOCAL AUTHORITY SIGNATURE <b>Carlos Diaz R.S.</b>
TELEPHONE NUMBER <b>520-412-9442</b>
DATE <b>July 31, 2007</b>

APPROVED BY THE BOARD OF SUPERVISORS or BOARD OF COUNTY COMMISSIONERS ENVIRONMENTAL HEALTH DIVISION	
DATE <b>July 31, 2007</b>	
BY <b>Carlos Diaz R.S.</b>	

ARIZONA DEPARTMENT OF WATER RESOURCES  
Water Management Support Section – NOI Unit  
3550 N Central Ave, Phoenix, Arizona 85012  
Telephone (602) 771-8646  
Fax (602) 771-8691



Janet Napolitano  
Governor

Herbert R. Guenther  
Director

July 10, 2007

Ernest M. Rogers  
P.O. Box 608  
Naco, AZ 85620

**PLEASE RETURN  
ALL PAPERS**

**Re: Well Registry Number: 55-216018  
File (Location) Number:**

Dear Applicant:

The Department of Water Resources recently received your Notice of Intent (NOI) to Drill, Deepen, Replace or Modify a Well. However, our review indicates that the NOI is incomplete under the Groundwater Management Act for the following reason(s):

- **SECTION 1:** COUNTY APPROVAL IS REQUIRED ON A PARCEL OF LAND OF 5 OR FEWER ACRES FOR WELLS BEING USED FOR DOMESTIC PURPOSES. UNDER SECTION 2 OF YOUR APPLICATION, THE NUMBER OF ACRES FOR THIS PARCEL WAS NOT ANSWERED. **IF THE PARCEL OF LAND IS 5 OR FEWER ACRES, PLEASE COMPLETE ALL UNANSWERED QUESTIONS ON THE FORM AND FORWARD THE NOI FORM TO THE COCHISE COUNTY HEALTH AUTHORITY FOR APPROVAL.**
- **SECTION 2:** PLEASE COMPLETE THE LEGAL DESCRIPTION OF THE WELL; WHICH IS THE TOWNSHIP, RANGE, SECTION AND 160, 40 AND 10 ACRE QUARTER LOCATION. **IF THE WELL IS LOCATED IN AN ACTIVE MANAGEMENT AREA. AND THEREFORE, NEEDS AN AMA CERTIFICATION OF COMPLIANCE FORM "ARS 45-454 (C) & (D)". I HAVE ENCLOSED THE FORM SO PLEASE READ AND SIGN THE EXEMPT WELL CERTIFICATION OF COMPLIANCE FORM.**
- **SECTION 7:** THE ANSWER FOR THE OUTER DIAMETER IS NOT CLEAR. PLEASE INDICATE THE NUMBER OF INCHES.

**IF YOU HAVE ANY QUESTIONS, PLEASE CALL DARLENE SUMPTER-KING AT 602-771-8646.**

In accordance with Arizona Revised Statutes (A.R.S.) § 45-596, Paragraph D, the Department is mailing this "statement of determination" as a request for information necessary to make the NOI complete and correct. Please provide the Department with the additional information and resubmit the corrected NOI form and any attachments (if applicable) to ADWR. The Department's substantive review time frame is suspended until all requested information is provided. If the Department does not receive the necessary information within sixty (60) days, the application may be denied. You would then have to re-initiate the NOI process and pay a new filing fee to receive a drilling authority for this location.

**WHEN RESUBMITTING THE COMPLETED FORM, RETURN TO:  
WATER MANAGEMENT SUPPORT SECTION  
NOI UNIT c/o DARLENE SUMPTER-KING  
PO BOX 458  
PHOENIX, ARIZONA 85001-0458**

216018

### Arizona Department of Water Resources

3550 N Central Ave  
Phoenix AZ 85012

ROGERS BORDER SERVICE

Date: 6/28/2007

Cashier: WRLXS

3847 S TOWNER AVE

Type: Mail

NACO,AZ 85620

520-432-3861

DCS/INV#	DESCRIPTION	ATTR	SIZE	QTY	PRICE	EXT PRICE
F 72	4439-06 NOTICE OF INTENT TO DRILL WELL	15245		1	100.00	100.00
					Subtotal:	100.00
					<b>RECEIPT TOTAL:</b>	<b>100.00</b>
					Tendered:	100.00

Check #: 100.00 # 3548

ERNEST M ROGERS





**REGISTRATION OF EXISTING WELLS**

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
PRINT OR TYPE - FILE IN DUPLICATE

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	<input checked="" type="checkbox"/>
NON-EXEMPT WELL - \$10.00	<input type="checkbox"/>

FOR OFFICE USE ONLY	
REGISTRATION NO. 55-	641750
FILE NO.	D(24-24)18 dda
FILED	5-11-82 AT 11 A
(DATE)	(TIME)
INA	
AMA	

1. Name of Registrant: Mrs Mary W. Rollins  
Naco Hwy P.O. Box 332 (Address) Naco (City), Arizona (State) 85620 (Zip)

2. File and/or Control Number under previous groundwater law:  
 (File Number) N/A (Control Number) 35-N/A

3. a. The well is located within the NE 1/4 SE 1/4 SE 4 1/4, Section 18 NE,  
 of Township 24 S (N/S) Range 24 E (E/W), G & SRB & M, in the  
 County of Cochise.

b. If in a subdivision: Name of subdivision NO  
 Lot No. \_\_\_\_\_, Address \_\_\_\_\_

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
DOMESTIC

5. If for irrigation use, number of acres irrigated from well NO

6. Owner of land on which well is located. If same as Item 1, check this box   
 \_\_\_\_\_  
 (Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)  
 a. Depth of Well 126 ft. feet  
 b. Diameter of casing 2 inch inches  
 c. Depth of casing N/A feet  
 d. Type of casing N/A  
 e. Maximum pump capacity N/A gallons per minute.  
 f. Depth to water N/A feet below land surface.  
 g. Date well completed N/A  
 (Month) (Day) (Year)

8. The place(s) of use of water. If same as Item 3, check this box   
 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE 5-8-82 SIGNATURE OF REGISTRANT Mary W. Rollins

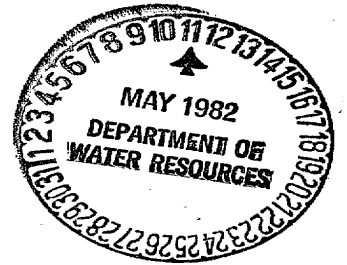
# INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

## General Instructions

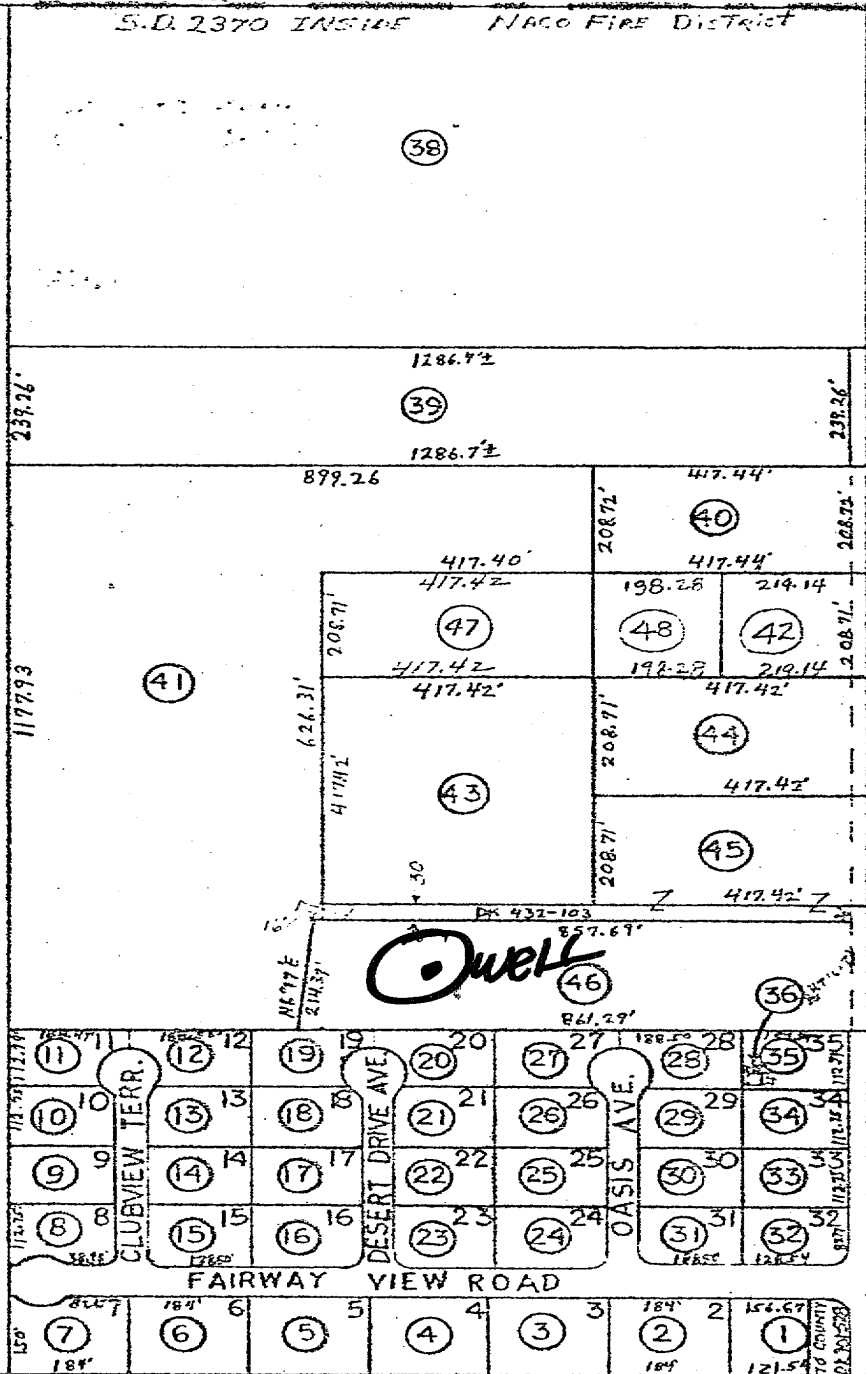
1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form in duplicate with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.
2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.
3. No registration fee is required for Exempt Wells. A \$10.00 registration fee must accompany registration forms for all Non-Exempt Wells.
4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.
5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

## INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.
2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.
3.
  - a. Fill in the Section, Township and Range in all cases if it is available.
  - b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.
4. Show all purposes for which the water is used.
5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.
6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.
7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.
8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.
9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.



S.D. 2300 OUTSIDE  
S.D. 2370 INSIDE NACO FIRE DISTRICT



896.45' S OF NE 4

1731.30' S OF NE 4



2491.32' S of NE 4

COUNTRY CLUB ESTATES

SCALE 1" = 300'

MICROFILMED

COUNTY ASSESSOR'S MAP

STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
99 EAST VIRGINIA AVENUE  
PHOENIX, ARIZONA 85004



WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

- Owner Richard Ross  
Name  
P.O. Box 305 Naco, AZ 85620  
Mailing Address
- Driller Weber Drilling  
Name  
RR-1 Box 276B St. David, AZ 85630  
Mailing Address
- Location of well: TWP 24S Rge 24E Sec. 6 SW 1/4, SW 1/4, NW 1/4
- Permit No. 55-517526  
(if issued)

DESCRIPTION OF WELL

- Total depth of hole 425 ft.
- Type of casing Steel
- Diameter and length of casing 8 in. from 0 to 20, 6 in from 0 to 425.
- Method of sealing at reduction points welded
- Perforated from \_\_\_\_\_ to \_\_\_\_\_, from \_\_\_\_\_ to \_\_\_\_\_, from \_\_\_\_\_ to \_\_\_\_\_.
- Size of cuts 8" x 1/8" Number of cuts per foot 4
- If screen was installed: Length \_\_\_\_\_ ft. Diam \_\_\_\_\_ in. Type \_\_\_\_\_
- Method of construction drilled  
drilled, dug, driven, bored, jetted, etc.
- Date started 4 15 87  
Month Day Year
- Date completed 4 16 87  
Month Day Year
- Depth to water 375 ft. (If flowing well, so state.)
- Describe point from which depth measurements were made, and give sea-level elevation if available Ground Level
- If flowing well, state method of flow regulation: \_\_\_\_\_
- Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

55-517526  
D(24-24)6 bcc  
**ENTERED AUG 26 1987**  
Entered \_\_\_\_\_ By \_\_\_\_\_





DEPARTMENT OF WATER RESOURCES  
99 East Virginia  
Phoenix, Arizona 85004  
Registration 1

55-517526  
D(24-24)6 bcc

File No. \_\_\_\_\_

COMPLETION REPORT

1. Per A.R.S. §45-600, the Completion Report to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
2. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.
3. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.
4. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

LOCATION OF THE WELL:

245                      24E                      6                      SW    SW    NW  
Township                      Range                      Section                       $\frac{1}{4}$      $\frac{1}{4}$      $\frac{1}{4}$

EQUIPMENT INSTALLED:

Kind of pump \_\_\_\_\_  
Turbine, centrifugal, etc.

Kind of power Electric                      H.P. Rating of Motor 3  
Electric, natural gas, gasoline, etc.

Pumping Capacity 35                      Date installed 4-10-87  
Gallons per minute

Electricity is not turned on yet but will be 4/23/87.

WELL TEST:

Test pumping capacity 35                      Date Well Tested \_\_\_\_\_  
Gallons per minute

Method of Discharge Measurement \_\_\_\_\_  
Weir, orifice, current meter, etc.

Static Groundwater Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.

Total Pumping Lift \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ lbs  
(Flowing Well)

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

DATE May 5, \_\_\_\_\_, 19 87

Richard Ross  
Signature

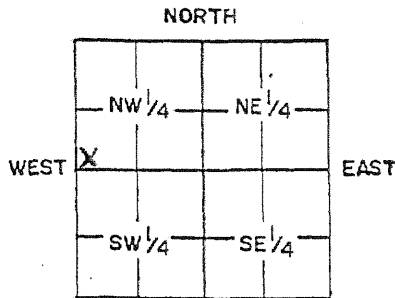
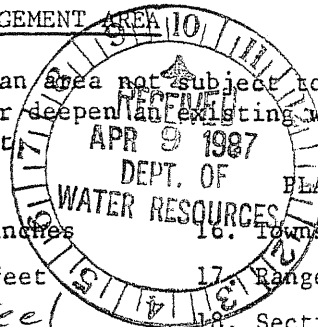
209 Willson Road  
Address

Naco, Arizona 85620  
City                      State                      Zip

FILING FEE \$10.00

DEPARTMENT OF WATER RESOURCES (DWR)
NOTICE OF INTENTION TO DRILL OR DEEPEN A WELL
OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section 45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill or cause to be drilled any well or deepen an existing well without first filing a Notice of Intention to Drill with the Department.



INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section.)

WELL/LAND LOCATION:

- 1. Township 24 S N/S
2. Range 24 E E/W
3. Section 6
4. SW 1/4, SW 1/4, NW 1/4
10 acre subdivision
5. County Cochise

- 6. Owner of well: Richard Ross
Name: Richard Ross
P.O. Box 305
Mailing address: Naco, AZ 85620
City: Naco State: AZ Zip: 85620
Telephone: 432-5967
7. Owner of land: Richard Ross
Name: Richard Ross
P.O. Box 305
Mailing Address: Naco AZ 85620
City: Naco State: AZ Zip: 85620

DESCRIPTION OF WELL:

- 8. Diameter 6 inches
Depth 400 feet
9. Type of casing Steel

- 10. Design pump capacity: 35 gallons per minute
11. Estimate of total annual pumping: N/A acre feet

- 12. Principal use of water: Two homes
(Be Specific)

- 13. Other uses intended: Trees
(Be Specific)

- 14. If for irrigation, state the number of acres to be irrigated: N/A acres

- 15. Construction will start about: 4/87
Month Year

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
FILE NO. D(24-24)6 bcc
FILED 4-9-87 BY SV
INPUT ENTERED APR 6 1987
DUPLICATE MAILED 4-15-87 BY SV
REGISTRATION NO. 55-517526
INA
W/S 13 S/B

PLACE OF USE:

- 16. Township 24 S N/S
17. Range 24 E E/W
18. Section 6

- 19. Legal description of land SW 1/4 SW 1/4 NW 1/4

- 20. Type well: Exempt
Non-Exempt

- 21. Action Requested: Drill Deepen Replace
55-

- 22. This notice filed by: Owner Lessee

Name
Address
City State Zip
Telephone

- 23. Drilling Firm: Weber Drilling
Name: RT 1 Box 2760
Address: St. David AZ 85630
City: St. David State: AZ Zip: 85630
DWR License Number: (272) 55605

- 24. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility or storage area of hazardous materials: Yes No

GENERAL INSTRUCTIONS

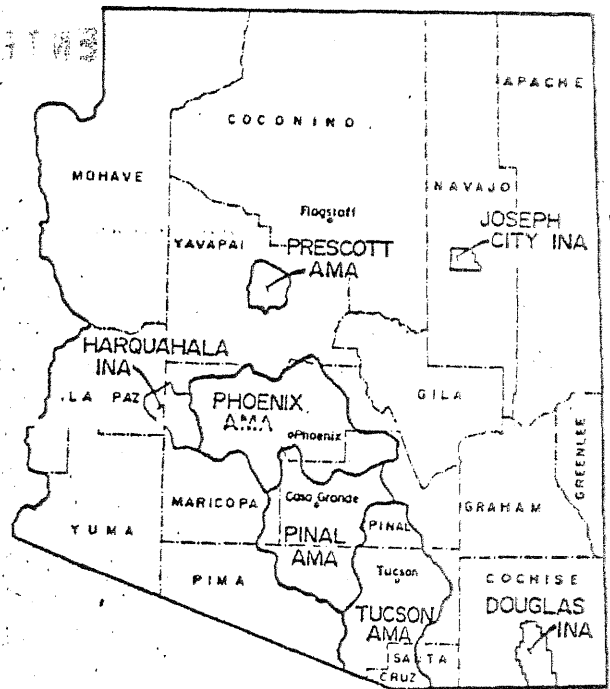
- 1. Fill out this form in duplicate and send to 99 East Virginia, Suite 100, Phoenix, Az. 85004.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen or replace a well outside of an Active Management Area
4. If the well is a replacement or deepening of an existing well, state the registration number of the existing well in Item 21.
5. Construction standards for new and replacement wells and the deepening and abandonment of existing wells shall be in accordance with Department Rules and Regulations.

I state that this Notice is filed in compliance with ARS 845-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well set forth on the reverse side of this form.

DATE 4-2-87 Signature of Person Filing Richard Ross

SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS

1. Upon receipt of the return of this annotated Notice, the owner is authorized to proceed in drilling or deepening the well as set forth on this Notice.
2. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.
3. Only one exempt well may be drilled or used to serve the same use at the same location.
4. A non-exempt well is any well which exceeds the limitations, as indicated in paragraph 2 above. However, water from a non-exempt well located in an Irrigation Non-Expansion Area, may not be withdrawn to irrigate any acres which are not eligible to be irrigated pursuant to ARS §45-434 or §45-437. Also, owners of non-exempt wells located in Irrigation Non-Expansion Areas, are subject to the measuring device and annual report requirements of ARS §45-437.
5. The drilling or deepening of this well shall be completed within one (1) year of the date of this Notice.
6. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this Notice.
7. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of the annotated copy of this Notice.
8. A sketch map showing the general boundaries of the Active Management Areas and Irrigation Non-Expansion Areas is shown at the right. Maps of greater detail are available on request.





STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
15 South 15th Avenue  
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner David G. Ruiz  
P.O. Bx 4205 Bisbee, Ar 85603  
Name Mailing Address

2. Driller L. B. DRILLING  
Box 4166  
Huachuca City, AZ 85515  
Name Mailing Address

3. Location of well: T-24<sup>S</sup> R-24E S-4 SWxSWxNW

4. Permit No. \_\_\_\_\_  
(If issued)

DESCRIPTION OF WELL

5. Total depth of hole 312 ft.

6. Type of casing PVC

7. Diameter and length of casing 6 in. from 0 to 312, in from \_\_\_\_\_ to \_\_\_\_\_.

8. Method of sealing at reduction points \_\_\_\_\_

9. Perforated from 312 to 252, from \_\_\_\_\_ to \_\_\_\_\_, from \_\_\_\_\_ to \_\_\_\_\_.

10. Size of cuts 1/8 Number of cuts per foot Three

11. If screen was installed: Length \_\_\_\_\_ ft. Diam \_\_\_\_\_ in. Type \_\_\_\_\_

12. Method of construction drilled air  
drilled, dug, driven, bored, jetted, etc

13. Date started May 28 1991  
Month Day Year

14. Date completed May 29 1991  
Month Day Year

15. Depth to water 254 ft. (If flowing well, so state)

16. Describe point from which depth measurements were made, and give sea-level elevation if available ground level

17. If flowing well, state method of flow regulation: N/A

18. Remarks: blew 15 gpm

DO NOT WRITE IN THIS SPACE

REG. No. 55-531770  
File No. D(24-24)4 BCC  
Entered \_\_\_\_\_  
**ENTERED AUG 13 1991**

AUG - 9 1991



Registration No. 55-531770  
D(24-24)4 BCC  
File No. \_\_\_\_\_

COMPLETION REPORT

1. Per A.R.S. §45-600, the Completion Report is to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
2. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.
3. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.
4. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

LOCATION OF THE WELL:

24                      24                      4                      SW SW NW  
 Township                      Range                      Section                      1/4 1/4 1/4

EQUIPMENT INSTALLED:

Kind of pump Sub  
 Turbine, centrifugal, etc.  
 Kind of power Electric                      H.P. Rating of Motor 3/4  
 Electric, natural gas, gasoline, etc.  
 Pumping Capacity 10                      Date pump installed: 9 July 91  
 Gallons per minute

WELL TEST:

Test pumping capacity 10                      Date Well Tested: 9 July 91  
 Gallons per minute  
 Method of Discharge Measurement Clock & Bucket  
 Weir, orifice, current meter, etc.  
 Static Groundwater Level 259                      ft. Drawdown 0                      ft.  
 Total Pumping Lift 259                      ft. Drawdown \_\_\_\_\_ lbs.  
 (Flowing Well)

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

David G. Ruiz

Print Well Owner's Name

David G. Ruiz

Signature of Well Owner or Agent

July 23, 1991                      , 1991  
 Date

P.O. Box 4205

Address

Bisbee

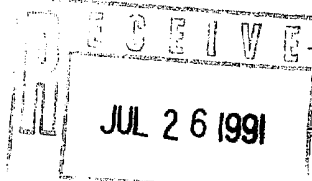
City

AZ

State

85603

Zip

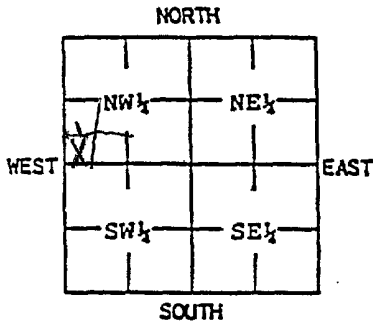


DEPARTMENT OF WATER RESOURCES (DWR)

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

RECEIVED  
MAY - 7 1991

Section 45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.



INDICATE WELL LOCATION BY X  
(Above diagram represents one 640 acre section)

WELL/LAND LOCATION

24 N(S) 1 24 E(W) 1 4

- 1. Township 24 N(S) 1
- 2. Range 24 E(W) 1
- 3. Section 4
- 4. SW 1/4 SW 1/4 NW 1/4
- 10 acre sub-division
- 5. County Cochise

Owner of well:  
X DAVID G Ruiz  
Name P.O. Box 4205

Mailing Address  
Bisbee AZ 85603  
City State Zip  
Telephone: 602-432-4122

7. Owner of land:  
SAME  
Name  
Mailing Address  
City State Zip  
Telephone No.

DESCRIPTION OF PROPOSED WELL

- 8. Diameter 6 inches
- Depth 250 feet
- 9. Type of Casing PVC
- 10. Design Pump Capacity: 40 gallons per minute
- 11. Estimate of total annual pumping: 1.6 acre feet
- 12. Principal use of water:(be specific) irrigation lawn
- 13. Other uses intended:(be specific) domestic
- 14. Number of Multiple Drinking Water connections, if any: TWO
- 15. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: 2 Ac.
- 16. Construction will start about: May 1991  
Month Year

PLACE OF USE

- 17. Township 24 N(S)
- 18. Range 24 E(W)
- 19. Section 4
- 20. Legal description of land:  
a. SW 1/4 SW 1/4 NW 1/4  
10 acre sub-division  
b. County Assessor's I.D. 102 138 1002-3  
Book | Map | Parcel
- 21. Type well: Exempt Non-exempt X
- 22. Action Requested: Drill New Well X; or Deepen Replace Modify Well No. 55-
- 23. Applicant: Owner X Lessee  
David G. Ruiz  
Name P.O. Box 4205  
Mailing Address Bisbee, AZ 85603  
City State Zip  
Telephone: 432-4122

DO NOT WRITE IN THIS SPACE

Office Record

File No. D(24-24)4 BCC

Filed 5-7-91 By EL

Input ENTERED MAY 9 1991

Duplicate

Mailed 5-9-91 By EL

Registration No. 55-531720

INA

W/S LL S/B

DRILLING FIRM

L. B. DRILLING

24. BOX 4166  
Name HUACHUCA CITY, AZ 85616  
D.W.R. LIC. #344  
Address  
R.O.C. LIC. #076141-00 (A4)  
City #058233-0001 C-53 State Zip

L. B. DRILLING  
DWR License Number  
BOX 4166  
HUACHUCA CITY, AZ 85616  
D.W.R. Lic. #344  
R.O.C. LIC. #076141-00 (A4)  
#058233-0001 C-53

25. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility or storage area of hazardous materials? Yes No X

GENERAL INSTRUCTIONS

- 1. Fill out this form in DUPLICATE and send WITH \$10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
- 2. For specific instructions, limitations and conditions, see the reverse side of this form.
- 3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
- 4. If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in Item 21.
- 5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules and Regulations.

I state that Notice is filed in compliance with A.R.S. 45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

May 3 / 91

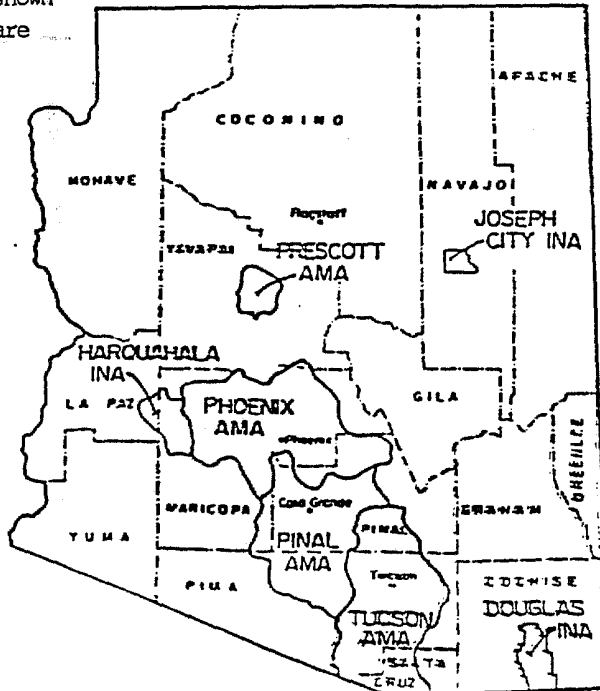
David G. Ruiz

Date

Signature of well owner/lessee

SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS

1. Receipt of this annotated Notice constitutes authorization to proceed in drilling, deepening, or modifying the well as set forth on this Notice.
2. Only a well driller licensed in the State of Arizona is authorized to drill, deepen or modify a well.
3. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.
4. A non-exempt well is any well which exceeds the limitations, as indicated in paragraph 3 above. However, water from a non-exempt well located in an Irrigation Non-Expansion Area, may not be withdrawn to irrigate any acres which are not eligible to be irrigated pursuant to A.R.S. § 45-434 or § 45-437. Also, owners of non-exempt wells located in Irrigation Non-Expansion Areas, are subject to the measuring device and annual report requirements of A.R.S. § 45-437.
5. The drilling, deepening, or modification of this well shall be completed within one (1) year of the date of this Notice.
6. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this Notice.
7. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of the annotated copy of this Notice.
8. A sketch map showing the general boundaries of the Active Management Areas and Irrigation Non-Expansion Areas is shown at the right. Maps of greater detail are available on request.



THIS IS NOT A BILL

L.B. Drilling  
P.O. Box 4166  
Huachuca City, AZ. 85616

STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
OPERATIONS DIVISION  
15 SOUTH 15TH AVENUE  
PHOENIX, ARIZONA 85007

RECEIPT

KIND ENTRY 55  
FILE REFERENCE NO. 531770 THRU \_\_\_\_\_

David G. Ruiz

ITEM DESCRIPTION	RATE	AMOUNT
FILING FEE FOR NOI		10.00
REG. NO. 55-531770		
FILE NO. D(24-24)4 BCC		
	<b>PAID</b>	

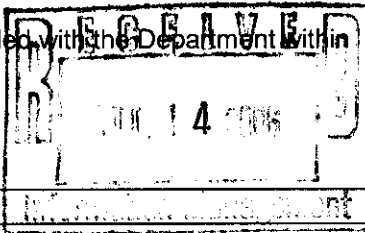
CHECK NO 1480 RECEIVED BY EL DATE 05-08-91

TOTAL \$ 10.00



**ARIZONA DEPARTMENT OF WATER RESOURCES**  
 Records Management Section  
 3550 N. Central Avenue \* Phoenix, Arizona 85012  
 (602) 771-8500 \* (800) 352-8488  
 www.water.az.gov

**Well Driller Report  
 and  
 Well Log**



FILE NUMBER  
**D(24-24) 18 ADC**  
 WELL REGISTRATION NUMBER  
**55-210865**  
 PERMIT NUMBER (IF ISSUED)

This report should be prepared by the driller in detail and filed with the Department within 30 days following completion of the well.

**\*\* PLEASE PRINT CLEARLY \*\***

<b>SECTION 1. DRILLING AUTHORIZATION</b>	
<b>Drilling Firm</b>	
NAME BRADLY DRILLING	DWR LICENSE NUMBER 736
ADDRESS PO Box 4707	TELEPHONE NUMBER 520-456-2355
CITY/STATE/ZIP HUACHUCA CITY, AZ 85616	FAX

<b>SECTION 2. REGISTRY INFORMATION</b>						
<b>Well Owner</b>			<b>Location of Well</b>			
FULL NAME OF COMPANY, ORGANIZATION OR INDIVIDUAL ROBERT & ELIZABETH SCHWARTZ			WELL LOCATION ADDRESS (IF KNOWN)			
MAILING ADDRESS 2003 BRUSH WOOD DR			TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE 1/4
CITY / STATE / ZIP SIERRA VISTA, AZ 85650			LATITUDE °		LONGITUDE °	10 ACRE 1/4
CONTACT PERSON NAME AND TITLE			LAND SURFACE ELEVATION AT WELL Feet Above Sea Level			
TELEPHONE NUMBER 520-458-4311	FAX	METHOD OF LATITUDE / LONGITUDE (CHECK ONE)				
WELL NAME		<input type="checkbox"/> Hand-Held <input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input type="checkbox"/> GPS : <input type="checkbox"/> Survey-Grade				
COUNTY ASSESSOR'S PARCEL ID NUMBER			COUNTY WHERE WELL IS LOCATED			
BOOK 102			MAP 56		PARCEL 009	
			<i>Cochise</i>			

<b>SECTION 3. WELL CONSTRUCTION DETAILS</b>		
<b>Drill Method</b>	<b>Method of Well Development</b>	<b>Method of Sealing at Reduction Points</b>
CHECK ONE <input checked="" type="checkbox"/> Air Rotary <input type="checkbox"/> Bored or Augered <input type="checkbox"/> Cable Tool <input type="checkbox"/> Dual Rotary <input type="checkbox"/> Mud Rotary <input type="checkbox"/> Reverse Circulation <input type="checkbox"/> Driven <input type="checkbox"/> Jetted <input type="checkbox"/> Air Percussion / Odex Tubing <input type="checkbox"/> Other (please specify)	CHECK ONE <input checked="" type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Back <input type="checkbox"/> Surge Pump <input checked="" type="checkbox"/> Other (please specify)	CHECK ONE <input type="checkbox"/> None <input type="checkbox"/> Packed <input type="checkbox"/> Swedged <input type="checkbox"/> Welded <input checked="" type="checkbox"/> Other (please specify) <i>NATIVE</i>
	<b>Condition of Well</b>	<b>Condition of Well</b>
	CHECK ONE <input type="checkbox"/> Capped <input checked="" type="checkbox"/> Pump Installed	DATE WELL CONSTRUCTION STARTED <i>6-10-06</i>
		DATE WELL CONSTRUCTION COMPLETED <i>6-11-06</i>

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

DRILLING FIRM <i>Bradly Drilling</i>	SIGNATURE OF QUALIFYING PARTY <i>[Signature]</i>	DATE <i>6-11-06</i>
---	---	------------------------

Well Driller Report and Well Log

WELL REGISTRATION NUMBER  
**55-210865**

**SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILT)** (attach additional page if needed)

DEPTH OF BORING <b>305'</b> Feet Below Land Surface	DEPTH OF COMPLETED WELL <b>305'</b> Feet Below Land Surface
--	--

<b>Water Level Information</b>			
STATIC WATER LEVEL <b>123'</b> Feet Below Land Surface	DATE MEASURED <b>6-11-06</b>	TIME MEASURED <b>1:00 PM</b>	IF FLOWING WELL, METHOD OF FLOW REGULATION <input type="checkbox"/> Valve <input type="checkbox"/> Other:

Borehole			Installed Casing													
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (X)			PERFORATION TYPE (X)					SLOT SIZE IF ANY (inches)		
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE		SLOTTED	IF OTHER TYPE, DESCRIBE
0	10	12 1/4	0	20	8 5/8	X				X						
20	305	8"	10	260	6		X			X						
			260	305	6		X						X			1/8"

Installed Annular Material												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (X)							FILTER PACK			
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE		IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE	
						GROUT	CHIPS PELLETS					
0	20		X									
20	305							NATIVE				



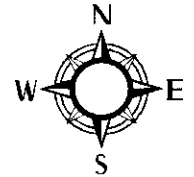
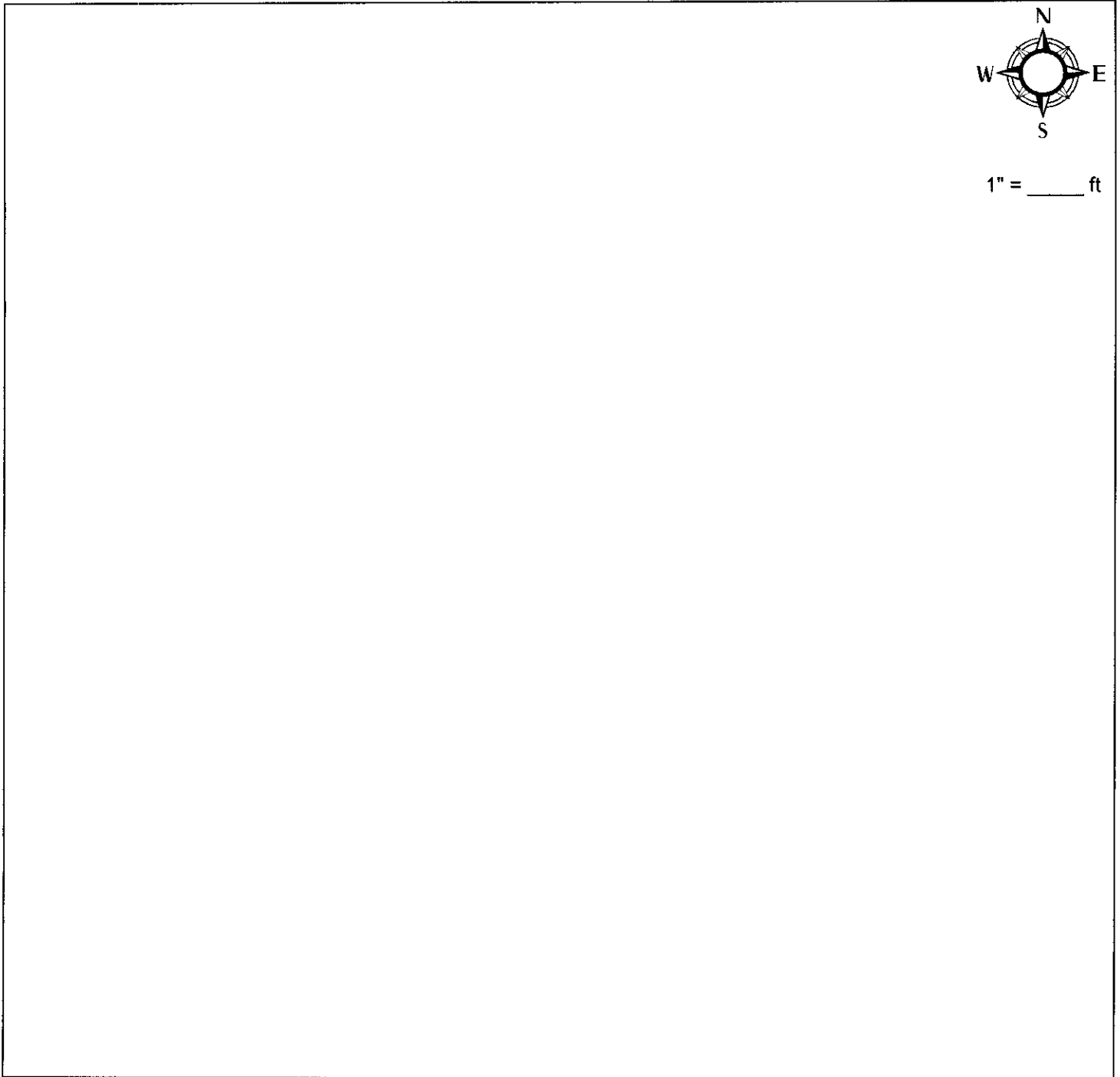


Well Driller Report and Well Log

WELL REGISTRATION NUMBER  
**55- 210865**

SECTION 6. WELL SITE PLAN			
NAME OF WELL OWNER	COUNTY	ASSESSOR'S PARCEL ID NUMBER	
ROBERT & ELIZABETH SCHWARTZ	BOOK	102	MAP 56 PARCEL 009

- ⊛ Please draw the following: (1) the boundaries of property on which the well was located; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well.
- ⊛ Please indicate the distance between the well location and any septic tank system or sewer system.



1" = \_\_\_\_\_ ft



**ARIZONA DEPARTMENT OF WATER RESOURCES**  
 Records Management Section  
 3550 N. Central Avenue \* Phoenix, Arizona 85012  
 (602) 771-8500 \* (800) 352-8488  
 www.water.az.gov

**Pump Installation Completion Report**

**RECEIVED**

JUN 29 2006

**INFORMATION MANAGEMENT**

FILE NUMBER  
**D(24-24) 18 ADC**  
 WELL REGISTRATION NUMBER  
**55-210865**

Review instructions prior to completing form  
 The registered well owner should file this report with the Department within 30 days following installation of pump equipment  
 \*\* PLEASE PRINT CLEARLY \*\*

**SECTION 1. REGISTRY INFORMATION**

<b>Well Owner</b>		<b>Location of Well</b>					
FULL NAME OF COMPANY, ORGANIZATION OR INDIVIDUAL <b>ROBERT &amp; ELIZABETH SCHWARTZ</b>		WELL LOCATION ADDRESS (IF KNOWN) <b>3466 S. CLUBVIEW TERRACE BISHOP, AZ. 85603</b>					
MAILING ADDRESS <b>2003 BRUSH WOOD DR</b>		TOWNSHIP (N/S) <b>24S</b>	RANGE (E/W) <b>24E</b>	SECTION <b>18</b>	160 ACRE <b>NE 1/4</b>	40 ACRE <b>SE 1/4</b>	10 ACRE <b>SW 1/4</b>
CITY / STATE / ZIP <b>SIERRA VISTA, AZ 85650</b>		COUNTY ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK <b>102</b> MAP <b>56</b> PARCEL <b>009</b>					
CONTACT PERSON NAME AND TITLE <b>ROBERT SCHWARTZ</b>		COUNTY WHERE WELL IS LOCATED <b>COCHISE</b>					
TELEPHONE NUMBER <b>520-458-4311</b>	FAX						

**SECTION 2. EQUIPMENT INSTALLED**

DATE PUMP INSTALLED		<b>Power Type</b> CHECK ONE	
<b>Pump Type</b> CHECK ONE		CHECK ONE	
<input type="checkbox"/> Air Lift	<input type="checkbox"/> Rotary	<input type="checkbox"/> Diesel Engine	<input type="checkbox"/> Windmill
<input type="checkbox"/> Bucket	<input checked="" type="checkbox"/> Submersible	<input checked="" type="checkbox"/> Electric Motor	<input type="checkbox"/> Other (please specify)
<input type="checkbox"/> Centrifugal	<input type="checkbox"/> Turbine	<input type="checkbox"/> Gasoline Engine	
<input type="checkbox"/> Jet	<input type="checkbox"/> Other (please specify)	<input type="checkbox"/> Hand	
<input type="checkbox"/> Piston		<input type="checkbox"/> Natural Gas	
RATED PUMP CAPACITY <b>16</b>	Gallons Per Minute	HORSE POWER RATING OF MOTOR <b>2 HP.</b>	

**SECTION 3. WELL TEST**

<b>Pump Test Data</b>		<b>Method of Discharge Measurement</b>	<b>Method of Measuring Water Level</b>
DATE WELL TESTED		CHECK ONE	CHECK ONE
STATIC WATER LEVEL (A) <b>130</b> Feet Below Land Surface		<input type="checkbox"/> Bailer	<input type="checkbox"/> Air Line
PUMPING WATER LEVEL (B) <b>285</b> Feet Below Land Surface		<input checked="" type="checkbox"/> Bucket - Barrel - Stopwatch	<input checked="" type="checkbox"/> Electric Measuring Line (Sounder)
DRAWDOWN [(B) - (A)] <b>155</b>		<input type="checkbox"/> Current	<input type="checkbox"/> Steel Tape
TEST PUMPING RATE <b>16 GPM</b> Gallons Per Minute		<input type="checkbox"/> Estimated - Air Lift	<input type="checkbox"/> Other (please specify)
DURATION OF PUMP TEST, (Minimum 4 Hours) <b>4 hr</b> Hours		<input type="checkbox"/> Gauge	
TOTAL PUMPING LIFT <b>205</b> Feet		<input type="checkbox"/> Meter	
FOR FLOWING WELL, MEASURED SHUT IN HEAD		<input type="checkbox"/> Orifice	
<input type="checkbox"/> FT <input type="checkbox"/> PSI		<input type="checkbox"/> Volume	
		<input type="checkbox"/> Weir - Flume	
		<input type="checkbox"/> Other (please specify)	

**ENTERED JUL 14 2006**

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief according to A.R.S § 45-600(B)

SIGNATURE OF WELL OWNER  
*Robert Schwartz Elizabeth Schwartz*

DATE  
**6/20/06**

DWR-55-56 (Rev. 10/11/01)

**ARIZONA DEPARTMENT OF WATER RESOURCES**  
**WATER MANAGEMENT SUPPORT SECTION**  
3550 N. Central Avenue  
Phoenix, Arizona 85012

**THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS**

**WELL REGISTRATION NO: 55-210865**

**AUTHORIZED DRILLER: BRADLY DRILLING**

**LICENSE NO: 736**

**NOTICE OF INTENTION TO DRILL A NON-EXEMPT WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:**

**WELL OWNER: ROBERT & ELIZABETH SCHWARTZ 2003 BRUSH WOOD DR SIERRA VISTA, AZ 85650**

**THE WELL(S) IS/ARE TO BE LOCATED IN THE:**

**SW ¼ OF THE SE ¼ OF THE NE ¼ SECTION 18 TOWNSHIP 24 SOUTH RANGE 24 EAST**

**NO. OF WELLS IN THIS PROJECT: 1**

**ASSESSOR PARCEL NO: 102-56-009**

**THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 22ND DAY OF JANUARY, 2007**

**WATER MANAGEMENT SUPPORT**

**THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING**





**Arizona Department of Water Resources**  
 Water Management Support Section  
 P.O. Box 158 • Phoenix, Arizona 85001-0458  
 (602) 417-2470 • (800) 352-8488  
 (602) 417-2422 fax • www.water.az.gov

**Notice of Intent to Drill, Deepen, Replace or Modify a Well**  
 (except a Non-Exempt Well in an Active Management Area)

\$150 or \$100 FEE

JAN 23 2006

- Review instructions prior to completing form in black or blue ink.
- You must include with your Notice:
- Check or money order in the amount of the appropriate filing fee. For a well located within an AMA or INA, the fee is \$150.00. For a well not located within an AMA or INA, the fee is \$100.00 if the well will be used solely for domestic purposes (see page 2 and instructions) and will have a pump with a maximum capacity of not more than 35 gallons per minute. Otherwise, the fee is \$150.00.
- Authority for fee: A.R.S. § 45-596

\*\* PLEASE PRINT CLEARLY \*\*

FEB - 6 2006

AMA / INA	B	SB
RECEIVED DATE	WS	
ISSUED DATE	WOARF	CERCLA

76  
11  
2-7-06

FILE NUMBER  
D(24-24)18ADC

WELL REGISTRATION NUMBER  
55-210865

**SECTION 1. COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL (if applicable)**

If water from the proposed well will be used for domestic purposes on a parcel of land of 5 or fewer acres, the applicable county or local health authority must endorse all items in Section 1 with the seal before submission to the Department of Water Resources. You must also attach a site plan (pg. 3).

- CHECK ONE
- County or Local Health Authority Recommends Approval (pursuant to A.R.S. § 45-596 (G) and (F))
- Field Inspection Performed
- Site Plan Review Only
- Insufficient Information to Make a Determination

COUNTY OR LOCAL AUTHORITY NAME AND TITLE

TELEPHONE NUMBER

DATE

520-432-9442

JAN 18, 2006

**Official County or Local Seal or Stamp**

APPROVED BY THE COCHISE COUNTY ENVIRONMENTAL HEALTH DIVISION

DATE Jan 19 2006  
BY Carla Diaz R.S.



COUNTY OR LOCAL AUTHORITY SIGNATURE

**SECTION 2. REGISTRY INFORMATION**

<b>Well Type</b> CHECK ONE <input type="checkbox"/> Exempt (Pump has a maximum capacity of not more than 35 gpm and water is not used for irrigation purposes inside an AMA.) (See instructions.) <input checked="" type="checkbox"/> Non-Exempt (Pump has a maximum capacity of more than 35 gpm or water is used for irrigation purposes inside an AMA.) (See instructions.)	<b>Proposed Action</b> CHECK ONE <input checked="" type="checkbox"/> Drill New Well <input type="checkbox"/> Deepen <input type="checkbox"/> Replace <input type="checkbox"/> Modify If Deepening, Replacing or Modifying: ORIGINAL WELL REGISTRATION NUMBER 55 - MAXIMUM CAPACITY OF ORIGINAL WELL Gallons Per Minute DESIGN PUMP CAPACITY 50 Gallons Per Minute	<b>Location of Well</b> WELL LOCATION ADDRESS (IF ANY) 3466 S. CLUBVIEW TERRACE. BIZBEE AZ. 85603 TOWNSHIP (N/S)   RANGE (E/W)   SECTION   160 ACRE   40 ACRE   10 ACRE 24S   24E   18   NE 1/4   SE 1/4   SW 1/4 COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK   MAP   PARCEL   # OF ACRES 102   56   009   1/2 PLACE OF WATER USE (ONLY IF DIFFERENT FROM LOCATION OF WELL) TOWNSHIP (N/S)   RANGE (E/W)   SECTION   160 ACRE   40 ACRE   10 ACRE COUNTY WHERE WELL IS LOCATED COCHISE
--	---	---

**SECTION 3. OWNER INFORMATION**

<b>Well Owner</b> FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ROBERT ELIZABETH SCHWARTZ MAILING ADDRESS 2003 BRUSHWOOD DRIVE CITY / STATE / ZIP CODE SIERRA VISTA, AZ. 85650 CONTACT PERSON NAME AND TITLE ROBERT SCHWARTZ TELEPHONE NUMBER 520-458-4311	<b>Landowner (if different from Well Owner)</b> FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ROBERT ELIZABETH MAILING ADDRESS 2003 BRUSHWOOD DRIVE CITY / STATE / ZIP CODE SIERRA VISTA, AZ. 85650 CONTACT PERSON NAME AND TITLE ROBERT SCHWARTZ TELEPHONE NUMBER 520-458-4311
--	---

**SECTION 4.**

Questions	Yes	No	If Yes:
1. Is the proposed well site within 100 feet of a septic tank system, sewer disposal area, landfill, hazardous materials or petroleum storage area or tank?		✓	You must also request a variance (A.A.C. R12-15-818).
2. Is there another well name or identification number associated with this well?		✓	PLEASE STATE
3. Is the proposed well the second exempt well on this parcel for the same use?		✓	If the proposed well is in an Active Management Area, you must also file a supplemental form 55-40A.

Notice of Intent to Drill, Deepen, Replace or Modify a Well

WELL REGISTRATION NUMBER  
55 - 210865

**SECTION 5. DRILLING AUTHORIZATION**      **SECTION 6. WATER / SITE INFORMATION**

<b>Drilling Firm</b>		<b>Principal Use of Water</b>		<b>Other Uses of Water</b>	
NAME <b>BRADLEY DRILLING</b>		CHECK ONE		CHECK ALL THAT APPLY	
DWR LICENSE NUMBER <b>736</b>	ROC LICENSE CATEGORY <b>C-53</b>	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Utility	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Utility
TELEPHONE NUMBER <b>520-456-2355</b>	FAX <b>520-456-0247</b>	<input type="checkbox"/> Commercial	<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Commercial	<input checked="" type="checkbox"/> Domestic
MAILING ADDRESS <b>PO Box 4707</b>		<input type="checkbox"/> Municipal	<input type="checkbox"/> Industrial	<input type="checkbox"/> Municipal	<input type="checkbox"/> Industrial
CITY / STATE / ZIP CODE <b>HUACHUCA CITY, AZ. 85616</b>		<input type="checkbox"/> Mining	<input type="checkbox"/> Stock	<input type="checkbox"/> Mining	<input type="checkbox"/> Stock
		<input type="checkbox"/> Recharge	<input type="checkbox"/> Dewatering	<input type="checkbox"/> Recharge	<input type="checkbox"/> Dewatering
		Other (please specify):		Other (please specify):	

**JAN 23 2006**

**FEB - 6 2006**

**GROUNDWATER MGT**

**SECTION 7. PROPOSED WELL CONSTRUCTION DESIGN** (attach separate sheet if needed)      DATE CONSTRUCTION IS TO BEGIN  
**FEB 2006**

Borehole			Casing										GROUTING MATERIAL				
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (J)							
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN		MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	
0	20	12 1/4	0	20	8 5/8	X*					X						Cement
20	300	8	10	260	6		X				X						
			260	300	6		X							X			

\* ADWR well construction standards require a surface seal consisting of a minimum of 20 feet of steel casing. Cement grout must be used to fill the annular space between the surface casing and the borehole. (A.A.C. R12-15-811(B))

The Department's issuance of an authorization to drill a well is not a determination of whether water withdrawn from the well is legally surface water or groundwater. The legal nature of the water withdrawn from the well may be the subject of court action in the future as part of a determination of surface water rights in your area. If there are court proceedings that could affect your well, you will be notified and be given the opportunity to participate. If you have questions regarding the legal nature of the water to be withdrawn from your proposed well, please consult with an experienced civil engineer, hydrologist or water rights attorney.

For the purposes of determining appropriate fees outside AMAs or INAs, "domestic purposes" is defined as "uses related to the supply, service and activities of households and private residences and includes the application of water to less than 2 acres of land to produce plants or parts of plants for sale or human consumption, or for use as feed for livestock, range livestock or poultry, as such terms are defined in A.R.S. § 3-1201."

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE  
**ROBERT SCHWARTZ - OWNER**

SIGNATURE OF WELL OWNER <i>Robert Schwartz</i>	DATE <b>1-10-2006</b>
SIGNATURE OF LANDOWNER, IF APPLICABLE (SEE INSTRUCTIONS) <i>Robert Schwartz</i>	DATE <b>1-10-2006</b>

Notice of Intent to Drill, Deepen, Replace or Modify a Well

CHECK ONE

FILING MANUALLY  
 FILING ELECTRONICALLY\*

FEB - 6 2006

\*DRILLER'S E-MAIL ADDRESS:

JAN 23 2006

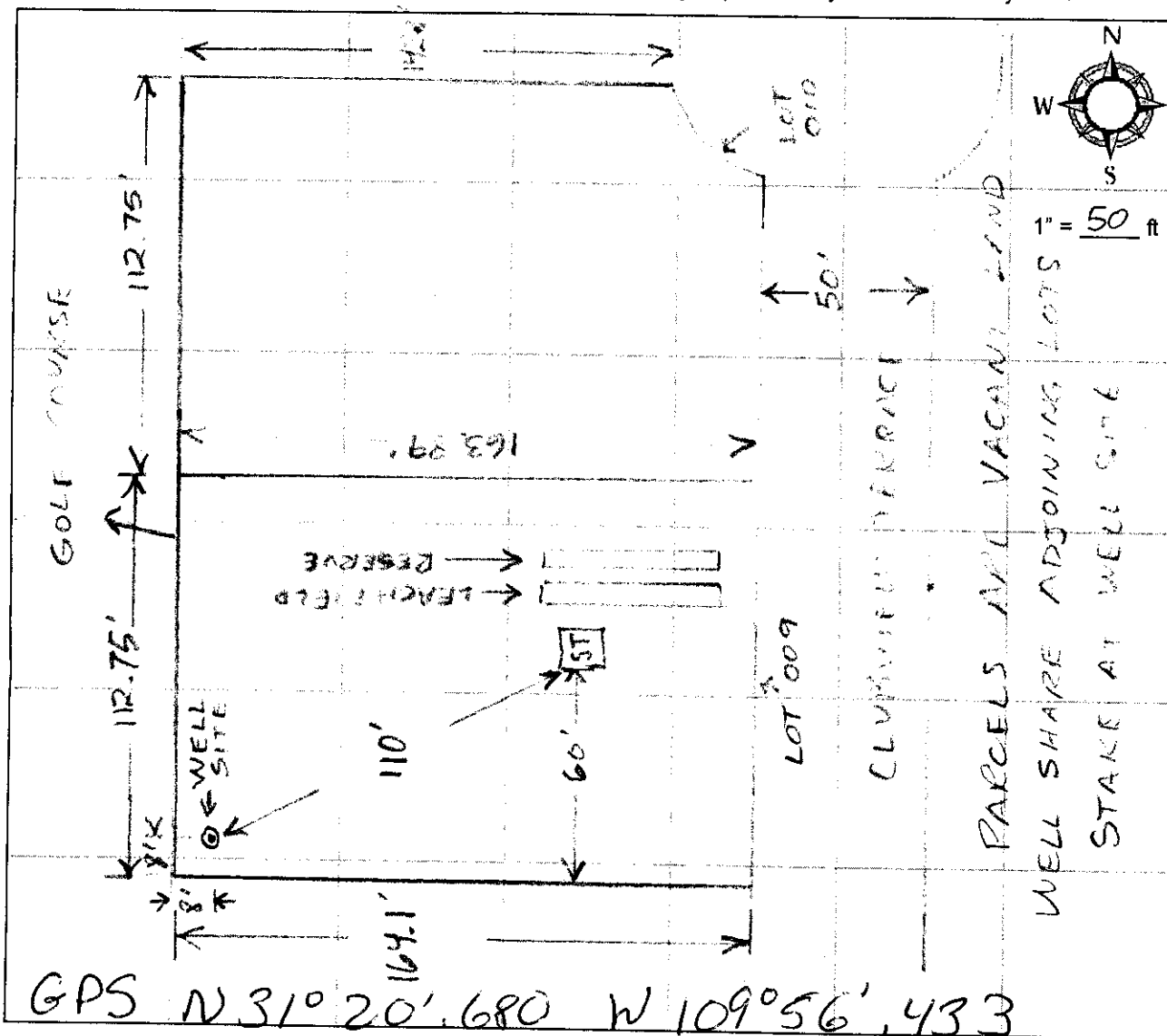
WELL REGISTRATION NUMBER

55 - 210865

COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL CODE	COUNTY APPROVAL CODE
If applicant is filing this NOI electronically via the ADWR website and County approval is required, please indicate approval by providing a County Approval Code.	

WELL SITE PLAN		
NAME OF WELL OWNER		
ROBERT SCHWARTZ		
COUNTY ASSESSOR'S PARCEL ID NUMBER		
BOOK	MAP	PARCEL
102	56	009

- ❖ If this well will be a domestic well on 5 acres or less, please draw the following: (1) the boundaries of your property; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well. If the parcel is vacant land or lacks a septic tank or sewer system, please indicate this.
- ❖ Indicate the distance between the proposed well location and any septic tank system or sewer system.



COUNTY OR LOCAL AUTHORITY NAME AND TITLE	
CARLOS DIAZ RS	
COUNTY OR LOCAL AUTHORITY SIGNATURE	
Carlos Diaz RS	
TELEPHONE NUMBER	DATE
520-432-9442	Jan 18, 2006

APPROVED BY THE COCHISE COUNTY ENVIRONMENTAL HEALTH DIVISION	
DATE	
BY	
Jan 18, 2006	Carlos Diaz RS



**Arizona Department of Water Resources**  
 Water Management Support Section  
 P.O. Box 458 • Phoenix, Arizona 85001-0458  
 (602) 417-2470 • (800) 352-8488  
 (602) 417-2422 fax www.water.az.gov

**Notice of Intent to Drill, Deepen, Replace or Modify a Well**  
 (except a Non-Exempt Well in an Active Management Area)

\$150 or \$100 FEE

- Review instructions prior to completing form in black or blue ink.
  - You must include with your Notice:
  - Check or money order in the amount of the appropriate filing fee. For a well located within an AMA or INA, the fee is \$150.00. If a well is not located within an AMA or INA, the fee is \$100.00 if the well will be used solely for domestic purposes (see page 2 and instructions) and will have a pump with a maximum capacity of not more than 35 gallons per minute. Otherwise, the fee is \$150.00.
  - Authority for fee: A.R.S. § 45-596.
- \*\* PLEASE PRINT CLEARLY \*\***

FEB - 6 2006

JAN 23 2006

AMA / INA	B	SB
RECEIVED	DATE	WS
ISSUED	DATE	WQARF CERCLA

FILE NUMBER

WELL REGISTRATION NUMBER

55 - 210865

**SECTION 1. COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL (if applicable)**

If water from the proposed well will be used for domestic purposes on a parcel of land of 5 or fewer acres, the applicable county or local health authority must endorse all items in Section 1 within one year before submission to the Department of Water Resources. You must also attach a site plan (pg. 3).

CHECK ONE

County or Local Health Authority Recommends Approval (pursuant to A.R.S. § 45-596 (G) and (F))

Field Inspection Performed

Site Plan Review Only

Insufficient Information to Make a Determination

COUNTY OR LOCAL AUTHORITY NAME AND TITLE

COCHISE COUNTY HEALTH DEPT

**Official County or Local Seal or Stamp**

APPROVED BY THE COCHISE COUNTY ENVIRONMENTAL HEALTH DIVISION

DATE Jan 19 2006

BY Carla Deary RS



ROBERT SCHWARTZ  
 ELIZABETH A SCHWARTZ  
 2003 BRUSHWOOD  
 SIERRA VISTA, AZ 85650

754

date 1-10-2006 91-574/1221 963

TY SIGNATURE

RS

PAY TO THE ORDER OF ADRW \$ 150.00

One Hundred Fifty + 00/100 dollars



for WELL PERMIT

PLACE, BIZBEE AZ. 85603

160 ACRE	40 ACRE	10 ACRE
1/4	1/4	1/4

NUMBER

PARCEL	# OF ACRES
009	1/2

PERCENT FROM LOCATION OF WELL)

160 ACRE	40 ACRE	10 ACRE
1/4	1/4	1/4

**SECTION 3. OWNER INFORMATION**

Well Owner		Landowner (if different from Well Owner)	
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL		FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL	
ROBERT ELIZABETH SCHWARTZ		ROBERT ELIZABETH	
MAILING ADDRESS		MAILING ADDRESS	
2003 BRUSHWOOD DRIVE		2003 BRUSHWOOD DRIVE	
CITY / STATE / ZIP CODE		CITY / STATE / ZIP CODE	
SIERRA VISTA, AZ. 85650		SIERRA VISTA, AZ. 85650	
CONTACT PERSON NAME AND TITLE		CONTACT PERSON NAME AND TITLE	
ROBERT SCHWARTZ		ROBERT SCHWARTZ	
TELEPHONE NUMBER	FAX	TELEPHONE NUMBER	FAX
520-458-4311		520-458-4311	

**SECTION 4.**

Questions	Yes	No	If Yes:
1. Is the proposed well site within 100 feet of a septic tank system, sewer disposal area, landfill, hazardous materials or petroleum storage area or tank?		✓	You must also request a variance (A.A.C. R12-15-818).
2. Is there another well name or identification number associated with this well?		✓	PLEASE STATE
3. Is the proposed well the second exempt well on this parcel for the same use?		✓	If the proposed well is in an Active Management Area, you must also file a supplemental form 55-40A.



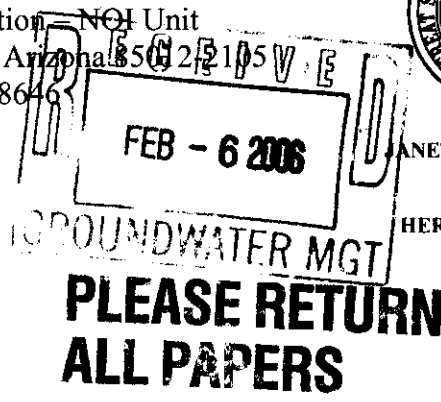
**ARIZONA DEPARTMENT OF WATER RESOURCES**

Water Management Support Section - NOI Unit  
3550 N Central Ave, 2<sup>nd</sup> Fl., Phoenix, Arizona 85001-0458  
Telephone (602) 771-8646  
Fax (602) 771-8691



JANET NAPOLITANO  
Governor

HERB GUENTHER  
Director



January 27, 2006

ROBERT & ELIZABETH SCHWARTZ  
2003 BRUSHWOOD DR  
SIERRA VISTA, AZ 85650

Re: Well Registry Number: 55-210865  
File (Location) Number: D(24-24018)

Dear Applicant:

The Department of Water Resources recently received your Notice of Intent (NOI) to Drill, Deepen, Replace or Modify a Well. However, our review indicates that the NOI is incomplete under the Groundwater Management Act for the following reason(s):

- **NEED ALL QUARTERS SEE ATTACHED SHEET FOR BREAKDOWN OR CONTACT YOUR COUNTY ASSESSORS OFFICE FOR THIS INFORMATION.**

**PLEASE CALL MONICA ORTIZ AT 602-771-8643 WITH ANY QUESTIONS.**

In accordance with Arizona Revised Statutes (A.R.S.) § 45-596, Paragraph D, the Department is mailing this "statement of determination" as a request for information necessary to make the NOI complete and correct. Please provide the Department with the additional information and resubmit the corrected NOI form and any attachments (if applicable) to ADWR. The Department's substantive review time frame is suspended until all requested information is provided. If the Department does not receive the necessary information within sixty (60) days, the application may be denied. You would then have to re-initiate the NOI process and pay a new filing fee to receive a drilling authority for this location.

**ATTACH THIS NOTICE WHEN RESUBMITTING THE COMPLETED NOI AND RETURN TO:**

**WATER MANAGEMENT SUPPORT SECTION  
PO BOX 458  
PHOENIX, ARIZONA 85001-0458**

**YOU MAY ALSO CONTACT YOUR DRILLER OR COUNTY ASSESSOR'S OFFICE FOR ASSISTANCE PERTAINING TO THE NECESSARY INFORMATION THAT IS REQUIRED TO COMPLETE YOUR APPLICATION.**

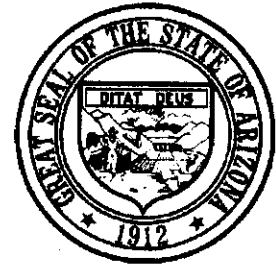
## ARIZONA DEPARTMENT OF WATER RESOURCES

3550 N. Central Avenue, Phoenix, Arizona 85012

Telephone (602) 771-8500

Fax (602) 771-8691

February 07, 2006



Janet Napolitano  
Governor

Herbert R. Guenther  
Director

ROBERT & ELIZABETH SCHWARTZ  
2003 BRUSH WOOD DR  
SIERRA VISTA, AZ 85650

Registration No. 55-210865

File No. D(24-24) 18 ADC

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to Drill a well that you recently filed with this Department pursuant to A.R.S. § 45-596. This is to inform you that the Department has approved the NOI and has mailed or otherwise provided a drilling card authorizing the drilling of the well to the well driller identified in the NOI. The driller may not begin drilling until he has received the drilling card, which must be displayed on the drill rig during drilling.

Well drilling activities must be completed within one year after the date the NOI was filed with the Department. If drilling is not completed within one year, you must file a new NOI before proceeding with further drilling. If in the course of drilling the well, it is determined that the well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the well must be properly abandoned and a Well Abandonment Completion Report must be filed as required by A.A.C. R12-15-816(F).

If you change drillers, you must notify the Department of the new driller's identity. Please ensure that the new driller is licensed by the Department to drill the type of well you require. A new driller may not begin drilling until he receives a new drilling card from the Department. If you are drilling a new or replacement well and it is necessary to change the location of the proposed well, you may not proceed with drilling until you file an amended NOI with the Department and the Department issues an amended drilling card to the driller. If county approval was required for the original well site plan (this applies to domestic wells on parcels that are five acres or less), you must submit a new well site plan with the new well location to your local county health authority for approval prior to filing the amended NOI with the Department.

A.R.S. § 45-600 requires the registered well owner to complete and file a Pump Installation Completion Report form (DWR form 55-56) within 30 days after the installation of pumping equipment. A form is enclosed for your use. Also enclosed is a well owner's guide that provides useful information and advice concerning your upcoming well construction project. A.R.S. § 45-600 also requires the driller to file a complete and accurate Well Drillers Report and Well Log (DWR form 55-55) within 30 days after completion of drilling. That form was mailed to your driller with the drilling card. You should insist and ensure that all of the required forms are accurately completed and timely filed with the Department.

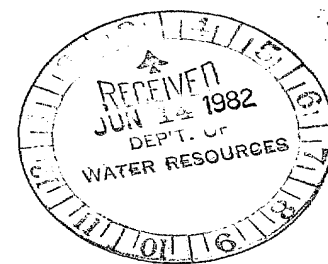
Please be advised that A.R.S. § 45-593(C) requires the person to whom a well is registered to notify the Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. Any change in well information or a request to change well driller must be filed on a Request to Change Well Information form (DWR form 55-71A) that may be downloaded from the ADWR Internet website at <<http://www.water.az.gov/adwr/content/forms/default.htm#NOI>>.

Sincerely,

Monica Ortiz  
NOI Unit  
Water Management Support Section

Enclosures

DEPARTMENT OF WATER RESOURCES  
99 EAST VIRGINIA AVENUE  
PHOENIX, ARIZONA 85004



**REGISTRATION OF EXISTING WELLS**

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
PRINT OR TYPE - FILE IN DUPLICATE

**REGISTRATION FEE (CHECK ONE)**

EXEMPT WELL (NO CHARGE)

NON-EXEMPT WELL - \$10.00

FOR OFFICE USE ONLY

REGISTRATION NO. 55- 649994

FILE NO. D(24-24)18 dcc

FILED 6-14-82 AT SP

(DATE) (TIME)

INA \_\_\_\_\_

AMA \_\_\_\_\_

- Name of Registrant: Shafer, Earnest E.  
315 I St. PO. BOX 545 Naco Arizona 85620  
(Address) (City) (State) (Zip)
- File and/or Control Number under previous groundwater law:  
D(24-24)18 dcc 35-  
(File Number) (Control Number)
- a. The well is located within the SW  $\frac{1}{4}$  SW  $\frac{1}{4}$  SE  $\frac{1}{4}$ , Section 18,  
of Township 24(S) N/S, Range 24(E) E/W, G & SRB & M, in the  
County of Cochise.
- b. If in a subdivision: Name of subdivision \_\_\_\_\_  
Lot No. \_\_\_\_\_, Address \_\_\_\_\_
- The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
domestic
- If for irrigation use, number of acres irrigated from well none.
- Owner of land on which well is located. If same as Item 1, check this box

(Address) (City) (State) (Zip)

- Well data (If data not available, write N/A)
  - Depth of Well 162 feet
  - Diameter of casing 8 inches
  - Depth of casing 162 feet
  - Type of casing welded, steel
  - Maximum pump capacity 30, static 0 psi gallons per minute.
  - Depth to water 120 feet below land surface.
  - Date well completed July 15 1966  
(Month) (Day) (Year)
- The place(s) of use of water. If same as Item 3, check this box .
 

$\frac{1}{4}$   $\frac{1}{4}$   $\frac{1}{4}$ , Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

$\frac{1}{4}$   $\frac{1}{4}$   $\frac{1}{4}$ , Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE June 12/82 SIGNATURE OF REGISTRANT Earnest E. Shafer

MICROFILMED

# INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

## General Instructions

1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form in duplicate with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.
2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.
3. No registration fee is required for Exempt Wells. A \$10.00 registration fee must accompany registration forms for all Non-Exempt Wells.
4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.
5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

## INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.
2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.
3. a. Fill in the Section, Township and Range in all cases if it is available.  
b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.
4. Show all purposes for which the water is used.
5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.
6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.
7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.
8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.
9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.

**PAID**

**ARIZONA DEPARTMENT OF WATER RESOURCES**

**GROUNDWATER MANAGEMENT SUPPORT SECTION**

MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001-0458

500 North Third Street - Phoenix, Arizona 85004-3903

Phone (602) 417-2470

**RECEIVED**  
OCT 10 1996  
GROUNDWATER MGMT.

**NOTICE OF INTENTION TO DRILL, DEEPEN, REPLACE OR MODIFY A WELL**

PLEASE READ SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS ON REVERSE SIDE OF THIS FORM BEFORE COMPLETING.

PLEASE COMPLETE ALL ITEMS IN THE BOX BELOW DOWN TO COUNTY OR LOCAL AUTHORITY ENDORSEMENT. IF ANY WATER FROM THE PROPOSED WELL (LISTED BELOW) WILL BE USED FOR DOMESTIC PURPOSES ON A PARCEL OF LAND 20 OR FEWER ACRES, THE APPLICABLE COUNTY OR LOCAL HEALTH AUTHORITY MUST ENDORSE ALL ITEMS IN THE BOX BEFORE SUBMITTING TO THE DEPARTMENT OF WATER RESOURCES.

Land Owner's Name S. STARK / D. CAMPBELL Current Mailing Address P.O. 4325 City BISBEE State AZ Zip 85603-4325

Telephone No. 520-432-3672

**COUNTY ASSESSOR'S PARCEL ID INFORMATION**

Well Located in COCHISE County 101 43 005 2+  
BOOK MAP PARCEL # of Acres

Well/Land Location (must be completed as requested):  
NE NW SE SW % of Section 11 Township 24 N 24 E Range 24 E  
10AC 40AC 160AC

APPROVED BY THE OFFICIAL SEAL OR STAMP DEPT.  
COCHISE COUNTY HEALTH DEPT.  
DATE 10-7-96  
BY [Signature]  
Sanitarian

Check one: Recommend Approval ; Insufficient Information to Make Determination ; Variance Required  (Explanation attached)

DATE 10-7-96 AUTHORIZED SIGNATURE [Signature] TITLE D. Environmental Health

**GENERAL INSTRUCTIONS FOR FILING NOTICE WITH ADWR**

- Section §45-596(D) provides that the Director shall determine that all information required on this form has been submitted. If not, the person filing will be notified, and the drilling, deepening or modification of the well may not proceed.
- Section §45-596(d) provides that the Department has 15 days after the receipt of a complete and correct notice of intention to record the notice and mail duplicate to owner. Drill card will be mailed directly to drilling firm as stated in item #14.
- Please mail two original notices with original signatures, a site plan in DUPLICATE, and a check or money order (no cash) in the amount of \$10.00 to P.O. Box 458, Phoenix, Arizona 85001-0458 or hand deliver to 500 North Third Street, Phoenix, Arizona 85004-3903. USE BLACK OR BLUE INK.
- If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in item 2.
- Construction standards for wells, including abandonment, shall be in accordance with Department Rules.

- Owner of well: S. STARK / D. CAMPBELL  
Name S. STARK / D. CAMPBELL  
P.O. 4325  
Current Mailing Address BISBEE AZ 85603-4325  
City BISBEE State AZ Zip 85603-4325  
Telephone No. 520-432-3672
- Action requested: Drill New Well ; Deepen  Modify  Replace .  
For a replacement well provide: Maximum capacity of the original well 30 gallons per minute; distance from the original well          feet.  
Well Registration No. 55-643481
- Construction will start about: Month 10 Year 96
- Description of proposed well:  
Diameter 6" inches  
Depth 190' feet  
Type of Casing STEEL
- Design pump capacity: approx 15 gallons per minute
- Lessee of land of wellsite: NONE  
Name           
Current Mailing Address           
City          State          Zip           
Telephone No.
- Principal Use of Water; (be specific): HOME
- Other uses of Water; (be specific): NONE
- If use includes irrigation, state to nearest tenth, the number of acres to be irrigated; NONE
- Place of Use (Legal Description of Land): NW 1/4 SE 1/4 SW 1/4 Section 11  
10 AC 40AC 160AC  
Township 24 N Range 24 E W
- Type of Well (Check One):  
Exempt  Non-Exempt
- Check One: Residential  Commercial
- Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous materials or petroleum storage areas and tanks? Yes  No
- Drilling Firm: OASIS DRILLING  
Name OASIS DRILLING  
P.O. 436  
Mailing Address ANIMAS N.M. 88020  
City          State          Zip           
Telephone No. 327

FOR DEPARTMENT USE ONLY  
File No. D(24-24)11 collb  
Filed 10-10-96 By SW  
Input          By           
DUPLICATE MAILED  
Date 11-7-96  
Registration 55-643481  
AMA/INA           
W/S          S/B         

ENTERED NOV 19 1996

**RECEIVED**  
NOV 14 1996  
DWR License Number 0537 L 53  
ROC License Category           
Date 11/14/96  
GROUNDWATER MGMT.

I State that this Notice is filed in compliance with A.R.S. §§45-595 and 45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations and conditions set forth on the reverse side of this form.

Typed or Printed Name and Title DON CAMPBELL Signature [Signature] Land Owner  Lessee of Wellsite  Title          Date

**SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS**

**PAID**

1. Pursuant to Section §45-596, Arizona Revised Statutes, provides: a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.
2. If any water from a proposed well on a parcel of land of twenty or fewer acres will be used for domestic purposes, as defined in §45-454, the applicant shall submit a site plan to scale of the property with the county assessor's parcel identification number. The site plan:
  - a. Will be on a 8½"x11" piece of plain paper with representation of the locations of all structures, septic tank or sewer systems and proximity of adjacent lot lines to scale.
  - b. Must show the proposed well location and the location of any septic or sewer system that is either located on the property or within one hundred feet of the proposed well site.
  - c. Shall demonstrate to the Director's satisfaction that the well will not be drilled within one hundred feet of any septic or sewer system.
  - d. Must be approved by the county health authority, or by a local health authority in areas where the county health authority has delegated authority to approve septic or sewer systems. Before approval, the health authority shall review the plan and determine whether the proposed well location complies with applicable state and local laws regarding the placement of wells. If so, the health authority shall endorse the site plan and the proposed well placement.
3. Endorsement by the county/local authority is based on the best available judgement that this well, as shown on the site plan submitted, is 100 feet or more from all known and visually identifiable sewage treatment systems. It is not a representation that a well placed at this site will be guaranteed as to quantity or quality. Information brought to light at a future date may render this determination invalid.
4. If a well which was originally drilled as an exploration well, a monitor well, a piezometer well or for any use other than domestic use and is later proposed to be converted to use for domestic purposes, as defined in section §45-454, the well owner shall file a notice of intention to drill and comply with the requirements prescribed pursuant to this section before the well is converted and any water from that well used for domestic purposes.
5. Only a well driller licensed in the State of Arizona is authorized to drill, deepen or modify a well. A well driller may commence drilling a well only if the well drilling contractor or licensee has possession of a drilling card at the well site, issued by the Director in the name of the well drilling contractor or licensee, authorizing the drilling of the specific well in the specific location.
6. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land in an Irrigation Non-Expansion Area or Active Management Area to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.
7. The drilling, deepening, or modification of this well shall be completed within one (1) year of the date of the notice (§45-596.E.).
8. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this notice.
9. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of an annotated copy of this Notice.
10. If an individual other than the land owner or lessee signs this Notice, an original letter of authorization from the land owner/lessee, stating that the individual has permission to sign this specific Notice on their behalf, shall accompany the Notice.

# ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street, Phoenix, Arizona 85004  
Telephone (602) 417-2470  
Fax (602) 417-2422



November 7, 1996

FIFE SYMINGTON  
Governor

RITA P. PEARSON  
Director

STARK/CAMPBELL  
PO BOX 4325  
BISBEE AZ 85603-4325

Registration No. 55-643481  
File No. D(24-24)11 CDB

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to drill/deepen/modify/replace a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Completion Report is to be submitted when pump equipment is installed. The Drilling Card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the Drilling Card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

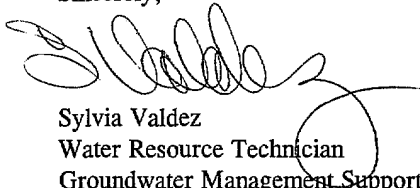
If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized.

ARS §45-600 requires the registered well owner to submit a completion report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

**If in the course of drilling a new well**, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.

Per ARS §45-593 (C), the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed a Change of Well Information Form should it be needed in the future.

Sincerely,



Sylvia Valdez  
Water Resource Technician  
Groundwater Management Support Section

**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001-0458  
500 North Third Street, Phoenix, Arizona 85004-3903  
Phone (602) 417-2470**

**REQUEST FORM TO CHANGE WELL INFORMATION  
OWNERSHIP \* DRILLER \* VARIANCE**

Please complete the appropriate section of this request form and return to P.O. Box 458, Phoenix, Arizona 85001-0458 or hand deliver to the above address with applicable fee. **NOTE:** A.R.S. §45-593.C requires that the Department be notified of change of well ownership and that the new owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty days after changes take place.

**SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.**

**1. CHANGE OF WELL INFORMATION: (NO FEE REQUIRED)**

**NOTE:** If the location of the proposed well changes after drilling authority has been issued, attach a \$10.00 reissue fee for each well.

WELL REGISTRATION NO. 55-\_\_\_\_\_ FILE NO:\_\_\_\_\_

If known, I/We request the following well information be changed:\_\_\_\_\_

Date\_\_\_\_\_ Signature of Current Well Owner\_\_\_\_\_

**2. STATEMENT OF CHANGE OF WELL OWNERSHIP: (\$10.00 FEE REQUIRED)**

**NOTE:** If this change consists of more than one well and the names are common: attach a \$10.00 fee. Otherwise, each well requires a separate fee of \$10.00.

I, \_\_\_\_\_, state that I am the **Previous/New Owner** of the well described below:

\_\_\_\_\_ <sup>1</sup>/<sub>4</sub> \_\_\_\_\_ <sup>1</sup>/<sub>4</sub> \_\_\_\_\_ <sup>1</sup>/<sub>4</sub> of Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
10 Acre      40 Acre      160 Acre

Assessor's tax parcel number of the parcel on which the well is located: Book \_\_\_\_\_ Map \_\_\_\_\_ Parcel \_\_\_\_\_.

Well Registration No. 55-\_\_\_\_\_ File No. \_\_\_\_\_ (if known)

\_\_\_\_\_  
**PRINT Previous Owner's Name**

\_\_\_\_\_  
**PRINT New Owner's Name**

\_\_\_\_\_  
**Mailing Address**

\_\_\_\_\_  
**Mailing Address**

\_\_\_\_\_  
**City State Zip**

\_\_\_\_\_  
**City State Zip**

\_\_\_\_\_  
**Telephone Number**

\_\_\_\_\_  
**Telephone Number**

**Signature of Previous/New Well Owner** \_\_\_\_\_ **Date** \_\_\_\_\_



**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001-0458  
500 North Third Street, Phoenix, Arizona 85004-3903  
Phone (602) 417-2470 Fax (602) 417-2422**

**3. REQUEST TO CHANGE WELL DRILLER      \$10.00 FEE REQUIRED FOR EACH WELL**

This request must be received by this Department and the Drill Card issued to the new drilling firm prior to the drilling or completion of any well.

Well Registration No. 55-\_\_\_\_\_ File No. \_\_\_\_\_

\_\_\_\_\_  
Original Well Driller

\_\_\_\_\_  
New Well Driller

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
ADWR License Number

\_\_\_\_\_  
ADWR License Number

\_\_\_\_\_  
R.O.C. License Category

\_\_\_\_\_  
R.O.C. License Category

\_\_\_\_\_  
Typed or Printed Name of Well Owner

\_\_\_\_\_  
Signature of Well Owner

\_\_\_\_\_  
Date

The fee charge for well ownership and reissue of drill card is authorized by R12-15-151, effective June 30, 1994.

**4. REISSUE OF DRILLING AUTHORITY FOR VARIANCE REQUEST: (\$10.00 EACH WELL)**

**NOTE:** If extraordinary or unusual conditions exist, after the initial drilling authority has been issued, the well owner or well driller may request a variance from the provisions of R12-15-811.

WELL REGISTRATION NO. 55-\_\_\_\_\_ FILE NO: \_\_\_\_\_

I/WE REQUEST THE FOLLOWING WELL DRILLING AUTHORITY BE REISSUED PER THE ATTACHED VARIANCE REQUEST:

\_\_\_\_\_

Signature of Well Owner/Well Driller \_\_\_\_\_ Date \_\_\_\_\_

**STATE OF ARIZONA  
ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION**

500 North Third Street, Phoenix, Arizona 85004-3903  
Phone (602) 417-2470

**COMPLETION REPORT  
(Pump Installation Report)**

1. Per A.R.S. § 45-600, the Completion Report is to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
2. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation. For a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.
3. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.
4. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

**REGISTRATION NO:** 55-\_\_\_\_\_

**FILE NO:** \_\_\_\_\_

**LOCATION OF THE WELL:**

\_\_\_\_\_ N/S \_\_\_\_\_ E/W \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  
Township Range Section 10-acre 40-acre 160-acre

**EQUIPMENT INSTALLED:**

Kind of pump \_\_\_\_\_ Kind of power \_\_\_\_\_  
Turbine, submersible, centrifugal, etc. (Electric, natural gas, gasoline, etc.)

H.P. Rating of Motor \_\_\_\_\_ Pumping Capacity \_\_\_\_\_ Date Pump Installed \_\_\_\_\_

**WELL TEST:**

Test pumping capacity \_\_\_\_\_ Date Well Tested: \_\_\_\_\_  
Gallons per minute

Method of Discharge Measurement \_\_\_\_\_  
Weir, orifice, current meter, etc.

Static Groundwater Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.

Total Pumping Lift \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ lbs.  
(Flowing Well)

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

\_\_\_\_\_  
Print Well Owner's Name Address City State Zip

\_\_\_\_\_  
Signature of Well Owner Phone Number Date

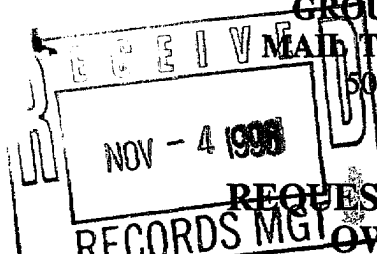
ARIZONA DEPARTMENT OF WATER RESOURCES

GROUNDWATER MANAGEMENT SUPPORT SECTION

MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001-0458

500 North Third Street, Phoenix, Arizona 85004-3903

Phone (602) 417-2470



REQUEST FORM TO CHANGE WELL INFORMATION OWNERSHIP \* DRILLER \* VARIANCE

Please complete the appropriate section of this request form and return to P.O. Box 458, Phoenix, Arizona 85001-0458 or hand deliver to the above address with applicable fee. NOTE: A.R.S. §45-593.C requires that the Department be notified of change of well ownership and that the new owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty days after changes take place.

SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.

1. CHANGE OF WELL INFORMATION: (NO FEE REQUIRED)

NOTE: If the location of the proposed well changes after drilling authority has been issued, attach a \$10.00 reissue fee for each well.

WELL REGISTRATION NO. 55-643481 FILE NO: \_\_\_\_\_

If known, I/We request the following well information be changed: \_\_\_\_\_

Date 10/30/96 Signature of Current Well Owner D.D. Campbell

2. STATEMENT OF CHANGE OF WELL OWNERSHIP: (\$10.00 FEE REQUIRED)

NOTE: If this change consists of more than one well and the names are common: attach a \$10.00 fee. Otherwise, each well requires a separate fee of \$10.00.

I, D. CAMPBELL / S. STARK, state that I am the Previous/New Owner of the well described below:

NW 1/4 SE 1/4 SW 1/4 of Section 11 Township 24 S Range 24 E
10 Acre 40 Acre 160 Acre

Assessor's tax parcel number of the parcel on which the well is located: Book 101 Map 43 Parcel 005.

Well Registration No. 55-643481 File No. \_\_\_\_\_ (if known)

FRED BAKER PRINT Previous Owner's Name D. CAMPBELL / S. STARK PRINT New Owner's Name

Mailing Address PO # 4325

BISBEE AZ 85603-4325

City State Zip 520 432-3672

Telephone Number

Signature of Previous/New Well Owner D.D. Campbell Date 10/31/96

**ARIZONA DEPARTMENT OF WATER RESOURCES**  
**GROUNDWATER MANAGEMENT SUPPORT SECTION**  
**MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001-0458**  
500 North Third Street, Phoenix, Arizona 85004-3903  
Phone (602) 417-2470 Fax (602) 417-2422

**3. REQUEST TO CHANGE WELL DRILLER      **\$10.00 FEE REQUIRED FOR EACH WELL****

This request must be received by this Department and the Drill Card issued to the new drilling firm prior to the drilling or completion of any well.

Well Registration No. 55- \_\_\_\_\_ File No. \_\_\_\_\_

\_\_\_\_\_  
Original Well Driller

\_\_\_\_\_  
New Well Driller

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
ADWR License Number

\_\_\_\_\_  
ADWR License Number

\_\_\_\_\_  
R.O.C. License Category

\_\_\_\_\_  
R.O.C. License Category

\_\_\_\_\_  
Typed or Printed Name of Well Owner

\_\_\_\_\_  
Signature of Well Owner

\_\_\_\_\_  
Date

The fee charge for well ownership and reissue of drill card is authorized by R12-15-151, effective June 30, 1994.

**4. REISSUE OF DRILLING AUTHORITY FOR VARIANCE REQUEST: (\$10.00 EACH WELL)**

**NOTE:** If extraordinary or unusual conditions exist, after the initial drilling authority has been issued, the well owner or well driller may request a variance from the provisions of R12-15-811.

WELL REGISTRATION NO. 55- \_\_\_\_\_ FILE NO: \_\_\_\_\_

I/WE REQUEST THE FOLLOWING WELL DRILLING AUTHORITY BE REISSUED PER THE ATTACHED VARIANCE REQUEST:

\_\_\_\_\_

Signature of Well Owner/Well Driller \_\_\_\_\_ Date \_\_\_\_\_

**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
500 North Third Street  
Phoenix, Arizona 85004-3903**

**THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS**

**WELL REGISTRATION NO: 55-643481**

**AUTHORIZED DRILLER: OASIS DRILLING**

**LICENSE NO: 327**

**NOTICE OF INTENTION TO DEEPEN AN EXISTING WELL HAS BEEN FILED WITH THE DEPARTMENT BY:**

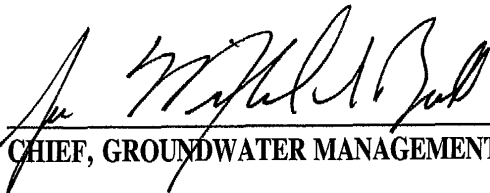
**WELL OWNER: STARK/CAMPBELL**

**The well(s) is/are to be located in the:**

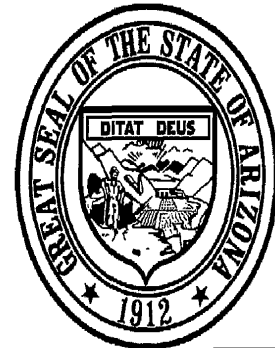
**NW 1/4 of the SE 1/4 of the SW 1/4 Section 11 Township 24 SOUTH Range 24 EAST**

**No. of wells in this project: 1**

**THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 9TH DAY OF OCTOBER, 1997.**

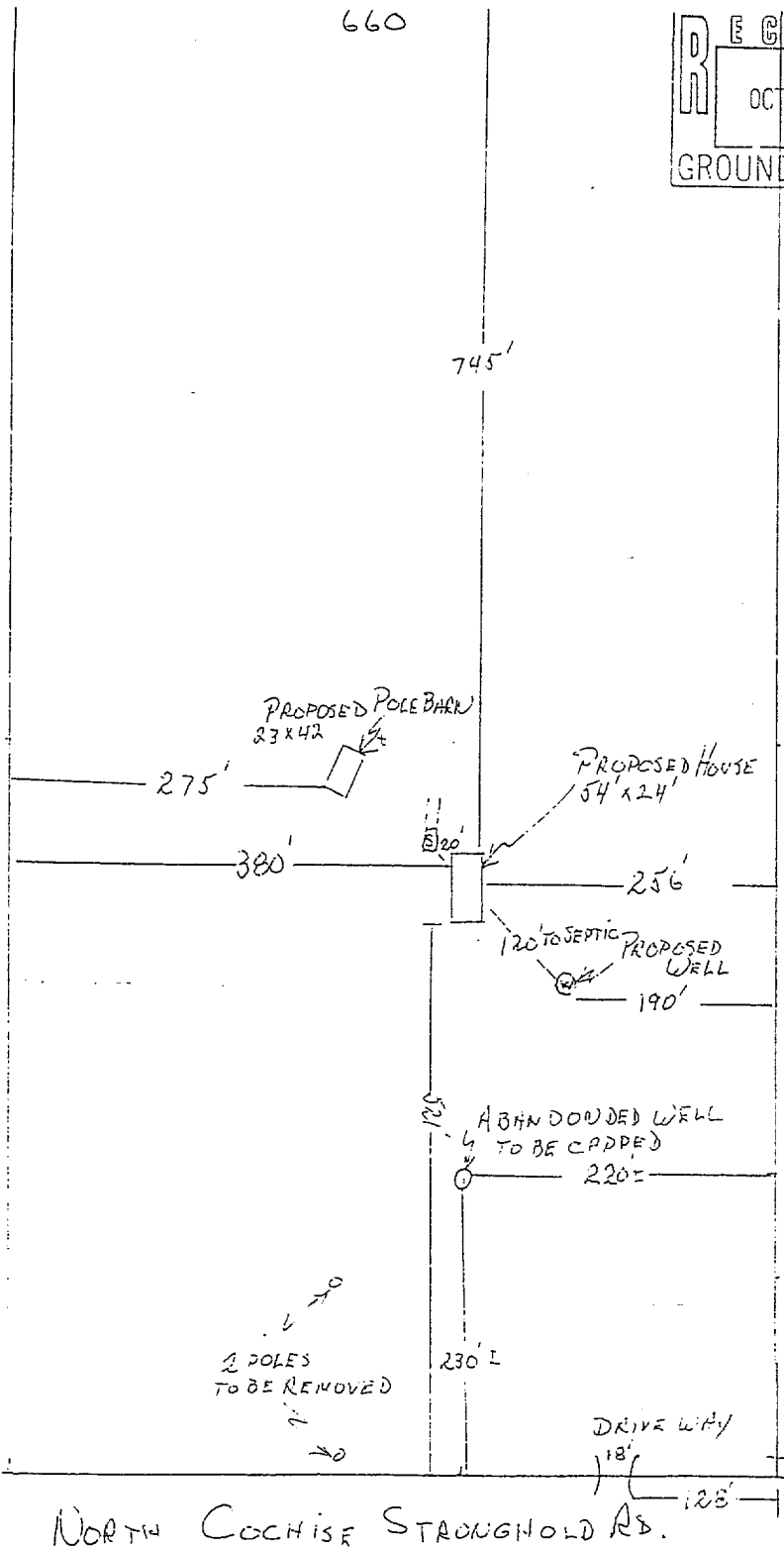
  
\_\_\_\_\_  
**CHIEF, GROUNDWATER MANAGEMENT SUPPORT**

**THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING**



660

RECEIVED  
OCT 23 1996  
GROUNDWATER MGT



ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street

Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. OASIS DRILLING
PO 436
ANIMAS NM 88020

2. Owner Name:
Address:
City State Zip

3. Location: N/S E/W 1/4 1/4 1/4
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- (Required)
5. Permit No. (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole ft.
7. Type of casing
8. Diameter and length of casing in. from to, in from to
9. Method of sealing at reduction points
10. Perforated from to, from to from to
11. Size of cuts Number of cuts per foot
12. If screen was installed: Length ft. Diam in. Type
13. Method of construction (drilled, dug, driven, bored, jetted, etc)
14. Date started Month Day Year
15. Date completed Month Day Year
16. Depth to water ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
18. If flowing well, state method of flow regulation:

19. Remarks:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-643481
File No. D(24-24)11 CDB
Received By
Entered By





**ARIZONA DEPARTMENT OF WATER RESOURCES**  
**GROUNDWATER MANAGEMENT SUPPORT SECTION**  
500 North Third Street  
Phoenix, Arizona 85004-3903

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO: 55-643481

AUTHORIZED DRILLER: OASIS DRILLING

LICENSE NO: 327

NOTICE OF INTENTION TO DEEPEN AN EXISTING WELL HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: STARK/CAMPBELL

The well(s) is/are to be located in the:

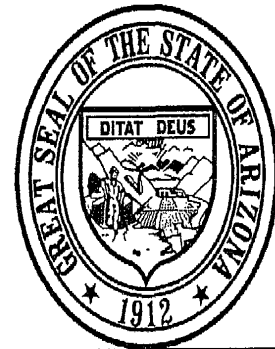
NW 1/4 of the SE 1/4 of the SW 1/4 Section 11 Township 24 SOUTH Range 24 EAST

No. of wells in this project: 1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 9TH DAY OF OCTOBER, 1997.

  
\_\_\_\_\_  
CHIEF, GROUNDWATER MANAGEMENT SUPPORT

THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING



ARIZONA DEPARTMENT OF WATER RESOURCES

**PAID**

GROUNDWATER MANAGEMENT SUPPORT SECTION

MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001-0458

500 North Third Street - Phoenix, Arizona 85004-3903

Phone (602) 417-2470

RECEIVED  
OCT 10 1996  
GROUNDWATER MGMT

**NOTICE OF INTENTION TO DRILL, DEEPEN, REPLACE OR MODIFY A WELL**

PLEASE READ SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS ON REVERSE SIDE OF THIS FORM BEFORE COMPLETING.

PLEASE COMPLETE ALL ITEMS IN THE BOX BELOW DOWN TO COUNTY OR LOCAL AUTHORITY ENDORSEMENT. IF ANY WATER FROM THE PROPOSED WELL (LISTED BELOW) WILL BE USED FOR DOMESTIC PURPOSES ON A PARCEL OF LAND 20 OR FEWER ACRES, THE APPLICABLE COUNTY OR LOCAL HEALTH AUTHORITY MUST ENDORSE ALL ITEMS IN THE BOX BEFORE SUBMITTING TO THE DEPARTMENT OF WATER RESOURCES.

Land Owner's Name: S. STARK/D. CAMPBELL Current Mailing Address: PO. # 4325 City: BISBEE State: AZ Zip: 85603

Telephone No. 520-432-3692

COUNTY ASSESSOR'S PARCEL ID INFORMATION:

Well Located in COCHISE County: 101 02 05 24  
BOOK MAP PARCEL # of Acres

Well/Land Location (must be completed as requested):  
NW SE SW % of Section 11 Township 24 N/S Range 24 E/W  
10AC 40AC 160AC COUNTY OR LOCAL AUTHORITY ENDORSEMENT

Check one: Recommend Approval ; Insufficient Information to Make Determination ; Variance Required  (Explanation attached)

DATE 10-7-96 AUTHORIZED SIGNATURE [Signature] TITLE DR. Environmental Health

APPROVED BY THE  
COCHISE COUNTY HEALTH DEPT.  
OFFICIAL SEAL OR STAMP  
DATE 10-7-96  
BY [Signature]  
Sanitarian

GENERAL INSTRUCTIONS FOR FILING NOTICE WITH ADWR

- Section §45-596(D) provides that the Director shall determine that all information required on this form has been submitted. If not, the person filing will be notified, and the drilling, deepening or modification of the well may not proceed.
- Section §45-596(d) provides that the Department has 15 days after the receipt of a complete and correct notice of intention to record the notice and mail duplicate to owner. Drill card will be mailed directly to drilling firm as stated in item #14.
- Please mail two original notices with original signatures, a site plan in DUPLICATE, and a check or money order (no cash) in the amount of \$10.00 to P.O. Box 458, Phoenix, Arizona 85001-0458 or hand deliver to 500 North Third Street, Phoenix, Arizona 85004-3903. USE BLACK OR BLUE INK.
- If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in item 2.
- Construction standards for wells, including abandonment, shall be in accordance with Department Rules.

1. Owner of well:

Name: S. STARK/D. CAMPBELL  
PO. 4325  
Current Mailing Address: BISBEE AZ 85603  
City: BISBEE State: AZ Zip: 85603  
Telephone No. 432-3672

6. Lessee of land of wellsite:

Name: NONE  
Current Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Telephone No. \_\_\_\_\_

10. Place of Use (Legal Description of Land):

NW SE SW % Section 11  
10 AC 40AC 160AC  
Township 24 N/S Range 24 E/W

2. Action requested: Drill New Well \_\_\_\_\_; Deepen  Modify \_\_\_\_\_ Replace \_\_\_\_\_

For a replacement well provide:  
Maximum capacity of the original well 20 gallons per minute; distance from the original well 196 feet.  
Well Registration No. 55-643481

7. Principal Use of Water; (be specific):

HOME

11. Type of Well (Check One):

Exempt  Non-Exempt

8. Other uses of Water; (be specific):

NONE

12. Check One: Residential  Commercial \_\_\_\_\_

9. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated; NONE

13. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous materials or petroleum storage areas and tanks? Yes \_\_\_\_\_ No

3. Construction will start about: Month 10 Year 96

4. Description of proposed well:

Diameter 6" inches  
Depth 196 feet  
Type of Casing T.RON

5. Design pump capacity: 15 gallons per minute

FOR DEPARTMENT USE ONLY  
File No. D(2424)11 cab  
Filed 10-10-96 By SU  
Input \_\_\_\_\_ By \_\_\_\_\_  
DUPLICATE MAILED  
Date 11-2-96  
Registration 55- 643481  
AMA/INA \_\_\_\_\_  
W/S \_\_\_\_\_ S/B \_\_\_\_\_

14. Drilling Firm: OASIS DRILLING  
Name: OASIS DRILLING  
PO. 436  
Mailing Address: PN. MAS N.M. 88020  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone No. 327  
DWR License Number 93  
ROC License Category 153

I State that this Notice is filed in compliance with A.R.S. §§45-595 and 45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations and conditions set forth on the reverse side of this form.

Typed or Printed Name and Title: DOV CAMPBELL Signature: [Signature] [ ] Land Owner [ ] Lessee of Wellsite, Title: \_\_\_\_\_ Date: NOV 1 1996

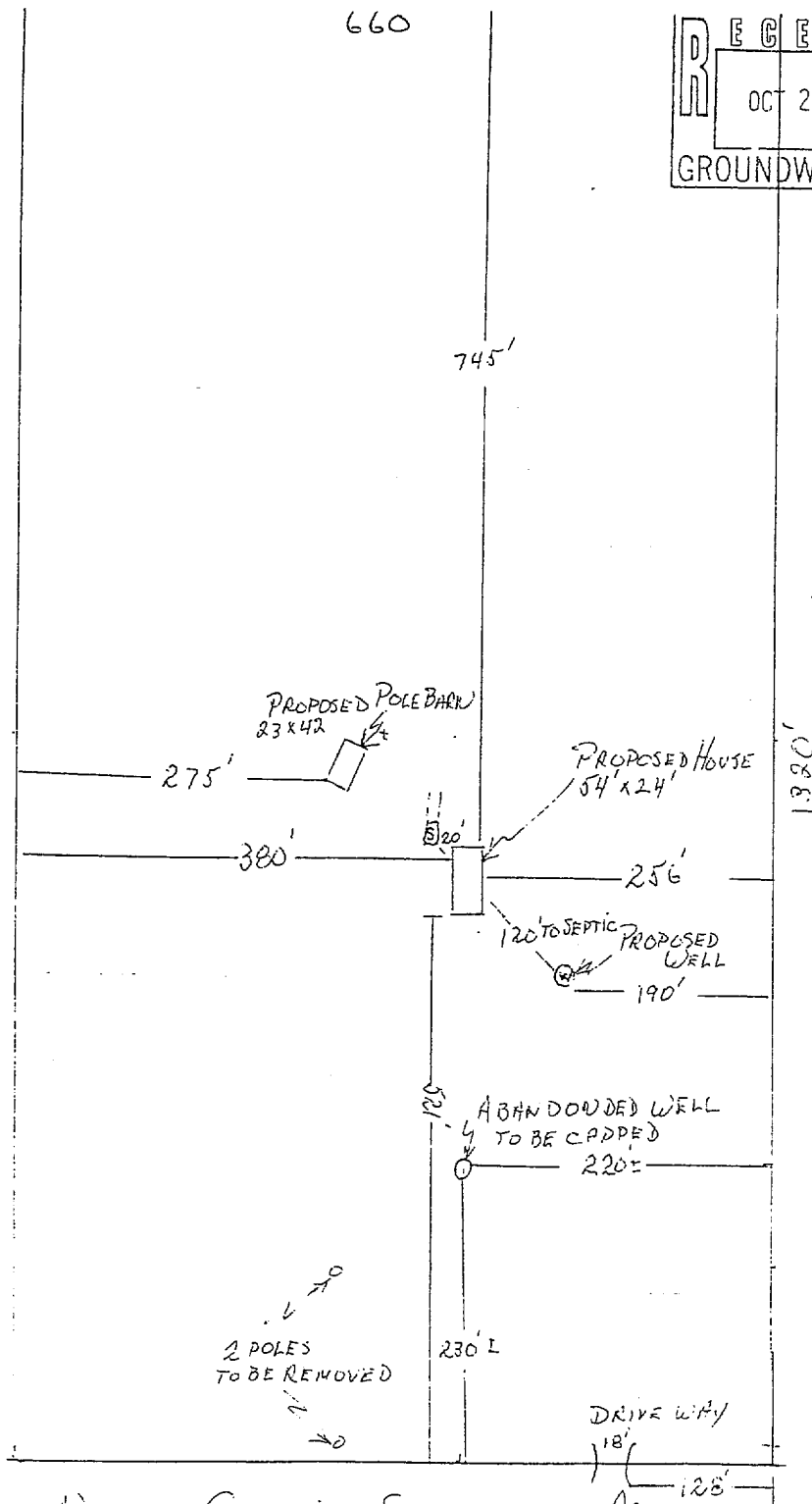
RECEIVED  
NOV 1 1996  
GROUNDWATER MGMT

**SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS**

JIAQ

1. Pursuant to Section §45-596, Arizona Revised Statutes, provides: a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.
2. If any water from a proposed well on a parcel of land of twenty or fewer acres will be used for domestic purposes, as defined in §45-454, the applicant shall submit a site plan to scale of the property with the county assessor's parcel identification number. The site plan:
  - a. Will be on a 8½"x11" piece of plain paper with representation of the locations of all structures, septic tank or sewer systems and proximity of adjacent lot lines to scale.
  - b. Must show the proposed well location and the location of any septic or sewer system that is either located on the property or within one hundred feet of the proposed well site.
  - c. Shall demonstrate to the Director's satisfaction that the well will not be drilled within one hundred feet of any septic or sewer system.
  - d. Must be approved by the county health authority, or by a local health authority in areas where the county health authority has delegated authority to approve septic or sewer systems. Before approval, the health authority shall review the plan and determine whether the proposed well location complies with applicable state and local laws regarding the placement of wells. If so, the health authority shall endorse the site plan and the proposed well placement
3. Endorsement by the county/local authority is based on the best available judgement that this well, as shown on the site plan submitted, is 100 feet or more from all known and visually identifiable sewage treatment systems. It is not a representation that a well placed at this site will be guaranteed as to quantity or quality. Information brought to light at a future date may render this determination invalid.
4. If a well which was originally drilled as an exploration well, a monitor well, a piezometer well or for any use other than domestic use and is later proposed to be converted to use for domestic purposes, as defined in section §45-454, the well owner shall file a notice of intention to drill and comply with the requirements prescribed pursuant to this section before the well is converted and any water from that well used for domestic purposes.
5. Only a well driller licensed in the State of Arizona is authorized to drill, deepen or modify a well. A well driller may commence drilling a well only if the well drilling contractor or licensee has possession of a drilling card at the well site, issued by the Director in the name of the well drilling contractor or licensee, authorizing the drilling of the specific well in the specific location.
6. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land in an Irrigation Non-Expansion Area or Active Management Area to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.
7. The drilling, deepening, or modification of this well shall be completed within one (1) year of the date of the notice (§45-596.E.).
8. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this notice.
9. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of an annotated copy of this Notice.
10. If an individual other than the land owner or lessee signs this Notice, an original letter of authorization from the land owner/lessee, stating that the individual has permission to sign this specific Notice on their behalf, shall accompany the Notice.

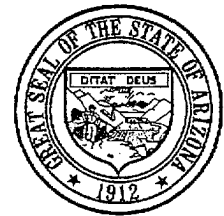
RECEIVED  
OCT 23 1996  
GROUNDWATER MGT



NORTH COCHISE STRONGHOLD RD.

# ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street, Phoenix, Arizona 85004  
Telephone (602) 417-2470  
Fax (602) 417-2422



November 7, 1996

FIFE SYMINGTON  
Governor

RITA P. PEARSON  
Director

STARK/CAMPBELL  
PO BOX 4325  
BISBEE AZ 85603-4325

Registration No. 55-643481  
File No. D(24-24)11 CDB

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to drill/deepen/modify/replace a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Completion Report is to be submitted when pump equipment is installed. The Drilling Card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the Drilling Card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

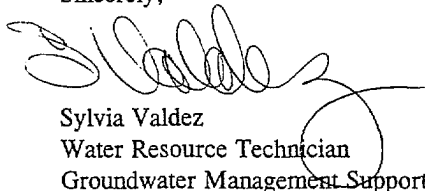
If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized.

ARS §45-600 requires the registered well owner to submit a completion report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

**If in the course of drilling a new well**, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.

Per ARS §45-593 (C), the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed a Change of Well Information Form should it be needed in the future.

Sincerely,



Sylvia Valdez  
Water Resource Technician  
Groundwater Management Support Section

Records Management Unit-Operations Division  
 Arizona Department of Water Resources  
 500 North Third Street  
 Phoenix, Arizona 85004

REQUEST FOR FILES AND COPIES OF FILES

FOR Carlane / Mr. Campbell

DATE OF REQUEST 10-28-96

NAME \_\_\_\_\_

COPY OF DOCUMENT ( )

ADDRESS \_\_\_\_\_

REQUEST OF FILE

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE 520-432-3672

COMPLETE FILE   
 TYPE OF DOCUMENT \_\_\_\_\_

REGISTRATION OR FILE NO.	ACTIVE/INACTIVE	LEGAL DESCRIPTION (FOR WELLS)
--------------------------	-----------------	-------------------------------

- |  |                  |                             |
|--|------------------|-----------------------------|
| 1. <u>D(24-24)11 CDB</u>   | <u>55-643481</u> | <u>Box # 202 Archives -</u> |
| 2. <u>Mr. Campbell has applied to deepen this well.</u>          |                  |                             |
| 3. _____   |                  |                             |
| 4. <u>This file destroyed - spoke w/mr. Campbell</u>             |                  |                             |
| 5. <u>the DA had reposed this well &amp; Mr. Campbell bought</u> |                  |                             |
| 6. <u>it from Va - no registration paperwork was ever</u>        |                  |                             |
| 7. <u>given him. Mr. Baker is now</u>                            |                  |                             |
| 8. <u>deceased. Reconstruct this file</u>                        |                  | <u>2/96</u>                 |
| 9. <u>Carlane</u>  |                  | <u>Destroyed</u>            |
| 10. <u>11-4-96</u>   |                  |                             |

ONLY TEN FILES PER SHEET

NO. OF COPIES \_\_\_\_\_ @ \$.25 PER COPY - TOTAL FEE \_\_\_\_\_

MICROFICHE COPIES \_\_\_\_\_ @ \$.30 PER COPY - TOTAL FEE \_\_\_\_\_

CERTIFIED COPIES \_\_\_\_\_ @ \$2.75

DATE COMPLETED \_\_\_\_\_ BY \_\_\_\_\_

D 240 240 11 CDB WR 643481 FILE TYPE: REGISTRATION WELL TYPE: EXEMPT  
DATE ISSUED: 01 26 984 PLANNED PUMP CAP:

NAME: BAKER IN CARE OF:  
801 BORDER RD  
BISBEE AZ 85603

ACCURACY: NOT VERIFIED WATER USES:  
AREA: OUTSIDE  
SUB-BASIN:  
WATERSHED: SAN PEDRO RIVER WELL USES:  
COUNTY: COCHISE  
OWNER: PRIVATE DRILLER:

WELL DPTH: CASE DIAM: CASE DPTH: METH DET:  
PUMP CAP: FINISH: ACRES IRR: YIELD:  
DRAW DOWN: WATER LVL: LIFT: POWER:  
DATE COMPLETED:  
POU #1: POU #2:

STATUS: DATA OWN LOG N CRT N PQ NBR: IPQ STATUS: CANCELLED

ENTER - READ NEXT RECORD  
4B A

CLEAR TO RETURN TO SELECTION CRITERIA  
↑ ==PC LINE 2 COL 22





State of Arizona  
DEPARTMENT OF WATER RESOURCES  
99 E. Virginia Avenue, Phoenix, Arizona 85004



BRUCE BABBITT, Governor  
WESLEY E. STEINER, Director

October 3, 1983

*no Fee. # listed*

Mr. Baker  
801 Border Rd.  
Bisbee, Arizona 85603

Dear Mr. Baker:

We wrote to you on March 24, 1983, June 24, 1983 and again on July 21, 1983 regarding your well registration. We know that you did, in fact, register your well, but we do not have a copy of the well registration in our files. Until we have a copy of the registration form, we are not able to input the information into our computer.

We are enclosing a set of the well registration forms for your use in the event that you are not able to locate a copy of the original form. Please complete the forms and return two copies to us. We will complete both copies and return one copy to you for your files.

The Groundwater Management Act passed on June 12, 1980 states that a person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing in duplicate with the Department of Water Resources. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.

For your future use, a Change of Well Information form will be enclosed should it become needed. Per A.R.S. 45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate.

Yours truly,

*Marge Watson*  
Marge Watson  
Chief, Groundwater Section

MW:im  
Enclosure

Think Conservation!

Office of Director 255-1534

Administration 255-1550, Water Resources and Flood Control Planning 255-1566, Dam Safety 255-1541,  
Flood Warning Office 255-1548, Water Rights Administration 255-1581, Hydrology 255-1586.

006219

006219

State of Arizona  
DEPARTMENT OF WATER RESOURCES  
99 E. Virginia Avenue, Phoenix, Arizona 85004



BRUCE BABBITT, Governor  
WESLEY E. STEINER, Director

July 21, 1983

Mr. Baker  
801 Border Rd.  
Bisbee, Arizona 85603

Dear Mr. Baker:

We are in the process of purifying the 51,953 wells that were registered to comply with the Arizona Groundwater Management Act that was passed on June 12, 1980. Of these 51,953 wells registered, only 24 problem areas remain.

Our review indicates that we inadvertently did not keep a copy of your well registration form or that we simply lost it. We wrote to you on March 24, 1983 and again on June 24, 1983, asking for your help in obtaining a copy for our empty file folder. In order to input the information on your well into our computer and thus to assure that you were timely filed and in compliance with the law, we must have a copy of the form with our stamp which shows the original date received.

Your cooperation in this matter will be greatly appreciated and again we apologize for any inconvenience this may have caused you.

If you have any questions, please contact me at the above address or call at 602-255-1581.

Sincerely,

Marge Watson  
Chief, Groundwater Section

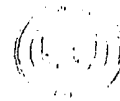
MW:im

Think Conservation!

Office of Director 255-1554

Administration 255-1550, Water Resources and Flood Control Planning 255-1566, Dam Safety 255-1541,  
Flood Warning Office 255-1547, Water Rights Administration 255-1581, Hydrology 255-1586

State of Arizona  
DEPARTMENT OF WATER RESOURCES  
99 L. Virginia Avenue, Phoenix, Arizona 85004



June 26, 1983

BRUCE BABBITT, Governor  
WESLEY L. STEUBER, Director

Mr. Baker  
801 Border Road  
Bisbee, Arizona 85603

Re: 55-643481  
D(24-24)11 cbl

Dear Mr. Baker:

In regard to the above referenced Registration of Existing Well File, it appears that we have no copy of the Well Registration for our files.

Please send us a copy of the Registration form which was returned to you.

If you have any questions, please contact me at the above address or at 602-255-1581.

Sincerely,

*Marge Watson*

Marge Watson  
Chief, Groundwater Section

MW:cj

Think Conservation!

Office of Director 255 1554

Administration 255 1550, Water Resources and Flood Control Planning 255 1566, Dam Safety 255 1544  
Flood Warning Office 255 1548, Water Rights Administration 255 1581, Hydrology 255 1586

006219

006219

State of Arizona  
DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004



BRUCE BABBITT, Governor  
WESLEY E. STEINER, Director

3/24/83

*432-290*

MR BAKER  
801 BORDER RD  
BISBEE AZ 85603

DEAR MR BAKER:

Recently, in reviewing our files, it has been discovered that your application for well registration is missing from the folder. In order to assure your best interests, it is necessary for us to retain a copy of your application for our files for future reference.

Kindly send us a copy for our records. I am enclosing a stamped addressed envelope for your use.

I anticipate your cooperation and greatly appreciate it.

May I apologize for any inconvenience this may cause you.

Sincerely,

*Ellen Kane*

ELLEN KANE  
OPERATIONS DIV

Think Conservation!

Office of Director 255-1554

Administration 255-1550, Water Resources and Flood Control Planning 255-1566, Dam Safety 255-1541,

Flood Warning Office 255-1548, Water Rights Administration 255-1501, Hydrology 255-1506

Vertical text on the right edge of the document, possibly from a binder or folder.



**ARIZONA DEPARTMENT OF WATER RESOURCES**  
 Records Management Section  
 500 N. 3rd Street \* Phoenix, Arizona 85004  
 (602) 417-2405 \* (800) 352-8488  
 www.water.az.gov

**RECEIVED**  
**WELL DRILLER REPORT**  
**and**  
**WELL LOG**  
 FEB - 3 2004  
**Information Management**

FILE NUMBER  
**D(24-24) 3 ADA**  
 WELL REGISTRATION NUMBER  
**55-201531**  
 PERMIT NUMBER ( IF ISSUED )

- ◆ Review instructions prior to completing form
- ◆ This report should be prepared by the driller in detail and filed with the Department within 30 days following completion of the well.

**\*\* PLEASE PRINT CLEARLY \*\***

SECTION 1. REGISTRY INFORMATION						
Well Owner			Location of Well			
FULL NAME OF COMPANY, ORGANIZATION OR INDIVIDUAL <b>SUNBELT MARKETING INC</b>			WELL LOCATION ADDRESS (IF KNOWN)			
MAILING ADDRESS <b>PO BOX 4006</b>			TOWNSHIP (N/S) <b>24 S</b>	RANGE (E/W) <b>24 E</b>	SECTION <b>3</b>	160 ACRE <b>NE 1/4</b>
CITY / STATE / ZIP <b>BISBEE, AZ 85603</b>			LATITUDE <b>31 ° 22 ' 52 " N</b>	LONGITUDE <b>109 ° 53 ' 12 " W</b>		
CONTACT PERSON NAME AND TITLE			LAND SURFACE ELEVATION AT WELL <b>4773</b> Feet Above Sea Level			
TELEPHONE NUMBER <b>520-432-7864</b>	FAX		METHOD OF LATITUDE / LONGITUDE (CHECK ONE) <input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input checked="" type="checkbox"/> GPS : <input type="checkbox"/> Survey-Grade <input checked="" type="checkbox"/> Hand-Held			
COUNTY ASSESSOR'S PARCEL ID NUMBER			BOOK <b>101</b>	MAP <b>41</b>	PARCEL <b>007C</b>	
COUNTY WHERE WELL IS LOCATED <b>COCHISE</b>						

SECTION 2. DRILLING AUTHORIZATION	
Drilling Firm	
NAME <b>TANNER WELL SERVICE</b>	
DWR LICENSE NUMBER <b>133</b>	
TELEPHONE NUMBER <b>520-642-3654</b>	FAX <b>520-803-7400</b>

SECTION 3. WELL CONSTRUCTION DETAILS		
DATE WELL CONSTRUCTION STARTED <b>1-12-04</b>	DATE WELL CONSTRUCTION COMPLETED <b>1-15-04</b>	IF FLOWING WELL, METHOD OF FLOW REGULATION <input type="checkbox"/> Valve <input type="checkbox"/> Other
Drill Method	Method of Well Development	Method of Sealing at Reduction Points
CHECK ONE <input checked="" type="checkbox"/> Air Rotary <input type="checkbox"/> Bored or Augered <input type="checkbox"/> Cable Tool <input type="checkbox"/> Dual Rotary <input type="checkbox"/> Mud Rotary <input type="checkbox"/> Reverse Circulation <input type="checkbox"/> Driven <input type="checkbox"/> Jetted <input type="checkbox"/> Air Percussion / Odex Tubing <input type="checkbox"/> Other (please specify)	CHECK ONE <input checked="" type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Back <input type="checkbox"/> Surge Pump <input type="checkbox"/> Other (please specify)	CHECK ONE <input checked="" type="checkbox"/> None <input type="checkbox"/> Packed <input type="checkbox"/> Swedged <input type="checkbox"/> Welded <input type="checkbox"/> Other (please specify)
<b>Water Level Information</b>		
STATIC WATER LEVEL <b>296</b> Feet Below Land Surface		
DATE MEASURED <b>1-19-04</b>		

ANSWERED FEB - 3 2004

**SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILT)** (attach additional page if needed)

Borehole			Installed Casing													
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (X)			PERFORATION TYPE (X)					SLOT SIZE IF ANY (inches)		
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE		SLOTTED	IF OTHER TYPE, DESCRIBE
0	20	12	0	20	8 <sup>5</sup> / <sub>8</sub>	X				X						
20	380	8	0	300	6 <sup>5</sup> / <sub>8</sub>		X			X						
			300	380	6 <sup>5</sup> / <sub>8</sub>		X						X			1/8" x 6"

Installed Annular Material												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (X)						FILTER PACK				
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE			IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
						GROUT	CHIPS	PELLETS				
0	20			X								

DEPTH OF BORING <b>380</b>	Feet Below Land Surface	DEPTH OF COMPLETED WELL <b>380</b>	Feet Below Land Surface
-------------------------------	-------------------------	---------------------------------------	-------------------------

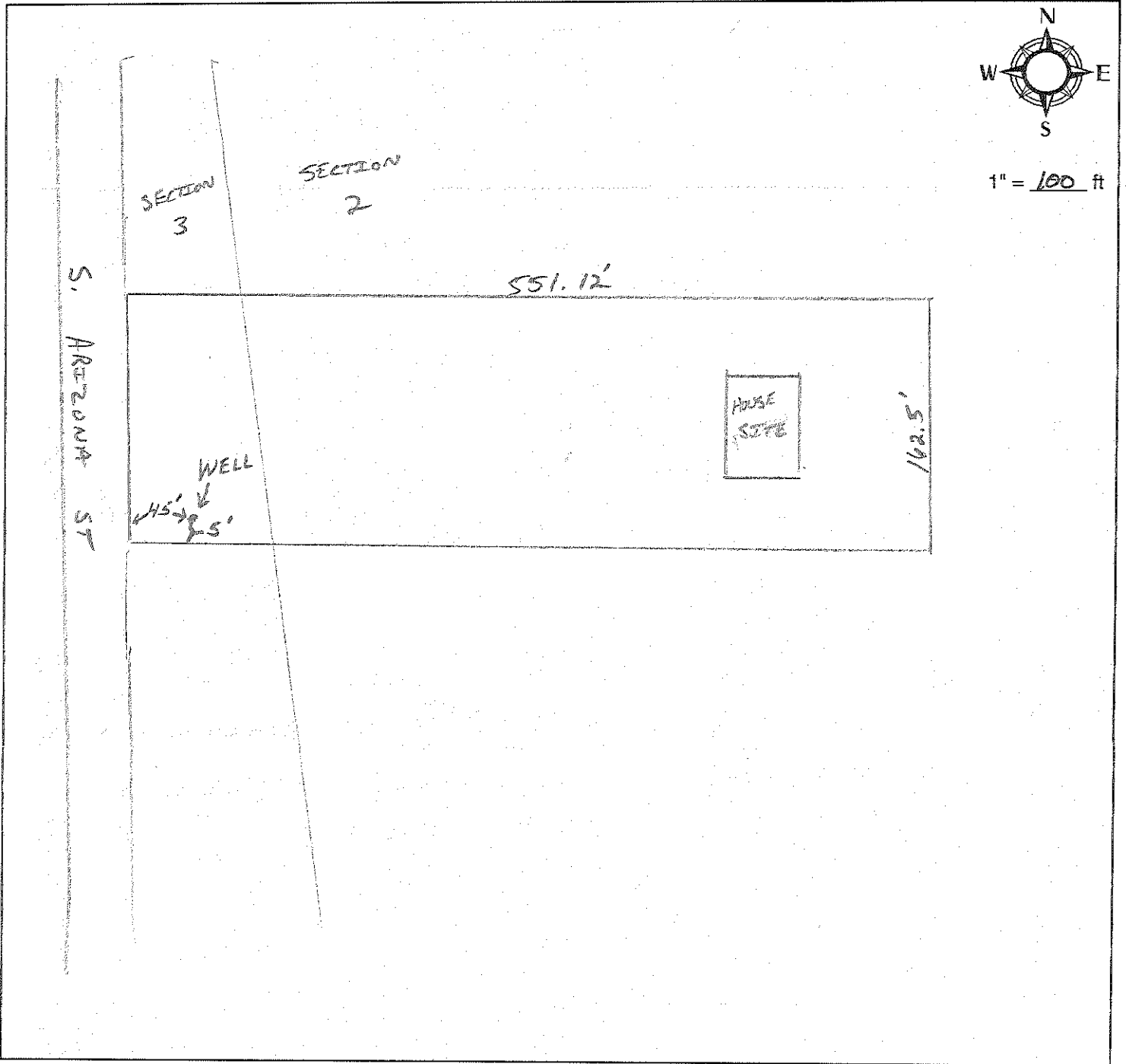


Well Driller Report and Well Log

WELL REGISTRATION NUMBER  
**55- 201531**

SECTION 6. WELL SITE PLAN			
NAME OF WELL OWNER	COUNTY ASSESSOR'S PARCEL ID NUMBER		
SUNBELT MARKETING INC	BOOK 101	MAP 41	PARCEL 007C

- ◆ Please draw the following: (1) the boundaries of property on which the well was located; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well.
- ◆ Please indicate the distance between the well location and any septic tank system or sewer system.



I state that this notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief.		
DRILLING FIRM	SIGNATURE OF QUALIFYING PARTY	DATE
TANNER WELL SERVICE, L.L.C.	<i>Matthew L. Tanner</i>	1-31-04



**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION**

500 North Third Street  
Phoenix, Arizona 85004

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO: 55-201531

AUTHORIZED DRILLER: TANNER WELL SERVICE

LICENSE NO: 133

NOTICE OF INTENTION TO DRILL AN EXEMPT WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: SUNBELT MARKETING INC PO BOX 4006 BISBEE, AZ 85603

The well(s) is/are to be located in the:

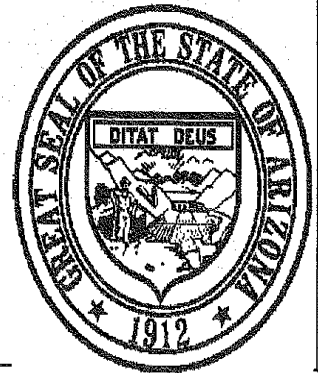
NE ¼ of the SE ¼ of the NE ¼ Section 3 Township 24 SOUTH Range 24 EAST

No. of wells in this project: 1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 2ND DAY OF DECEMBER, 2004

  
\_\_\_\_\_  
GROUNDWATER MANAGEMENT SUPPORT

THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING



# ARIZONA DEPARTMENT OF WATER RESOURCES

500 North 3rd Street, Phoenix, Arizona 85004

Telephone (602) 417-2470

Fax (602) 417-2422

December 04, 2003



Janet Napolitano  
Governor

Herb Guenther  
Director

SUNBELT MARKETING INC  
PO BOX 4006  
BISBEE, AZ 85603

Registration No. 55-201531

File No. D(24-24) 3 ADA

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to Drill a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Pump Installation Completion Report is to be submitted when pump equipment is installed. The drilling card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the drilling card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended drilling card must be in the possession of the driller before drilling commences at a different location than originally authorized.

ARS §45-600 requires the registered well owner to submit a Pump Installation Completion Report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate Well Drillers Report and Well Log within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

If in the course of drilling a new well, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.

Per ARS §45-593 (C), the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed a Change of Well Information Form should it be needed in the future.

Sincerely,

A handwritten signature in cursive script that reads "Sharon Ward".

Sharon Ward

NOI Unit

Water Management Support Section

Enclosures



Arizona Department of Water Resources  
 Water Management Support Section  
 P.O. Box 438 Phoenix, Arizona 85001-0438  
 (602) 417-2470 (800) 352-8488  
 www.water.az.gov

DEC - 3 2003

\$150 or  
\$50 FEE

**Notice of Intent to  
 Drill, Deepen, Replace or Modify a Well**  
 (except a Non-Exempt Well in an Active Management Area)

- Review instructions prior to completing form in black or blue ink.
- You **must** include with your Notice:
- Check or money order in the amount of the appropriate filing fee. For a well located within an AMA or INA, the fee is \$150.00. For a well not located within an AMA or INA, the fee is \$50.00 if the well will be used solely for domestic purposes (see page 2 and instructions) and will have a pump with a maximum capacity of not more than 35 gallons per minute. Otherwise, the fee is \$150.00.
- Authority for fee: A.R.S. § 45-596.

**\*\* PLEASE PRINT CLEARLY \*\***

AMA/INA	B	ES
RECEIVED	DATE	WG
12/3/03		11
ISSUED	DATE	WCA#
12/4/03		

204-243 ADA  
 WELL REGISTRATION NUMBER  
 55  
 201531

**SECTION 1. COUNTY OR LOCAL HEALTH AUTHORITY ENDORSEMENT (if applicable)**

If water from the proposed well will be used for domestic purposes on a parcel of land of 5 or fewer acres, the applicable county or local health authority must endorse all items in Section 1 before submission to the Department of Water Resources. You must also attach a site plan (see instructions).

CHECK ONE

County or Local Health Authority Recommends Approval (pursuant to A.R.S. § 45-596 (G) and (F))

Field Inspection Performed  
 Site Plan Review Only

Insufficient Information to Make a Determination

COUNTY OR LOCAL AUTHORITY NAME AND TITLE  
 CARLOS DIAZ ENV. Hlth Spec I

TELEPHONE NUMBER  
 520-432-9442

DATE  
 Dec 01, 2003


**Official County or Local Seal or Stamp**

APPROVED BY THE COCHISE COUNTY ENVIRONMENTAL HEALTH DIVISION

DATE Dec 1, 2003

BY Carlos Diaz

COUNTY OR LOCAL AUTHORITY SIGNATURE  
Carlos Diaz



**SECTION 2. REGISTRY INFORMATION**

Well Type	Proposed Action	Location of Well
CHECK ONE	CHECK ONE	WELL LOCATION ADDRESS (IF ANY)
<input checked="" type="checkbox"/> Exempt (Pump has a maximum capacity of not more than 35 gpm and water is not used for irrigation purposes inside an AMA.) (See instructions.)	<input checked="" type="checkbox"/> Drill New Well <input type="checkbox"/> Deepen <input type="checkbox"/> Replace <input type="checkbox"/> Modify If Deepening, Replacing or Modifying:	TOWNSHIP (NS)   RANGE (E/W)   SECTION   160 ACRE   40 ACRE   10 ACRE 24 S   24 E   3   NE 1/4   SE 1/4   NE 1/4
<input type="checkbox"/> Non-Exempt (Pump has a maximum capacity of more than 35 gpm or water is used for irrigation purposes inside an AMA.) (See instructions.)	ORIGINAL WELL REGISTRATION NUMBER 55 -	COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK   MAP   PARCEL   # OF ACRES 101   41   007C   2
DESIGN PUMP CAPACITY 25 Gallons Per Minute	MAXIMUM CAPACITY OF ORIGINAL WELL Gallons Per Minute	PLACE OF WATER USE (ONLY IF DIFFERENT FROM LOCATION OF WELL) TOWNSHIP (NS)   RANGE (E/W)   SECTION   160 ACRE   40 ACRE   10 ACRE       1/4   1/4   1/4
	DISTANCE & DIRECTION FROM ORIGINAL WELL Feet	COUNTY WHERE WELL IS LOCATED COCHISE

**SECTION 3. OWNER INFORMATION**

Well Owner	Landowner (if different from Well Owner)
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL SUNBELT MARKETING INC.	FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL
MAILING ADDRESS P.O. Box 4006	MAILING ADDRESS
CITY / STATE / ZIP CODE BISBEE AZ. 85603	CITY / STATE / ZIP CODE
CONTACT PERSON NAME AND TITLE DON LAEDING	CONTACT PERSON NAME AND TITLE
TELEPHONE NUMBER 520-432-7804	TELEPHONE NUMBER
FAX	FAX

**SECTION 4.**

Questions	Yes	No	If Yes
1. Is the proposed well site within 100 feet of a septic tank system, sewer disposal area, landfill, hazardous materials or petroleum storage area or tank?		X	You must also request a variance (A.A.C. R12-15-818).
2. Is there another well name or identification number associated with this well?		X	PLEASE STATE
3. Is the proposed well the second exempt well on this parcel for the same use?		X	If the proposed well is in an Active Management Area, you must also file a supplemental form 55-40A.

Notice of Intent to Drill, Deepen, Replace or Modify a Well

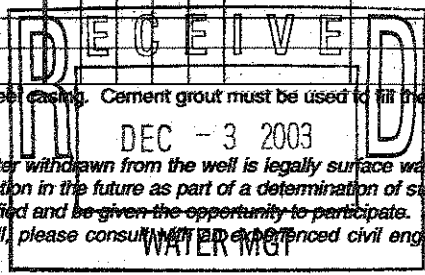
WELL REGISTRATION NUMBER  
55-201531

SECTION 5. DRILLING AUTHORIZATION SECTION 6. WATER / SITE INFORMATION

<b>Drilling Firm</b>		<b>Principal Use of Water</b>		<b>Other Uses of Water</b>	
NAME TANNER WELL SERVICES, L.L.C.		CHECK ONE		CHECK ALL THAT APPLY	
DWR LICENSE NUMBER 133	ROC LICENSE CATEGORY C-53	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Utility	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Utility
TELEPHONE NUMBER 520-378-1606	FAX 520-803-7400	<input type="checkbox"/> Commercial	<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Commercial	<input checked="" type="checkbox"/> Domestic
MAILING ADDRESS 7914 N. FRONTIER RD.		<input type="checkbox"/> Municipal	<input type="checkbox"/> Industrial	<input type="checkbox"/> Municipal	<input type="checkbox"/> Industrial
CITY / STATE / ZIP CODE McNair, Ar. 85617		<input type="checkbox"/> Mining	<input type="checkbox"/> Stock	<input type="checkbox"/> Mining	<input type="checkbox"/> Stock
		<input type="checkbox"/> Recharge	<input type="checkbox"/> Dewatering	<input type="checkbox"/> Recharge	<input type="checkbox"/> Dewatering
		<input type="checkbox"/> Other (please specify):		<input type="checkbox"/> Other (please specify):	

SECTION 7. PROPOSED WELL CONSTRUCTION DESIGN (attach separate sheets if needed) DATE CONSTRUCTION IS TO BEGIN  
DECEMBER 2003

Borehole			Casing										GROUTING MATERIAL			
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)						
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN		MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE
0	20	12	0	20	8 5/8	X*										Cement
20	320	8	0	240	6	X				X						
			240	320	6	X						X				



\* ADWR well construction standards require a surface seal consisting of a minimum of 20 feet of steel casing. Cement grout must be used to fill the annular space between the surface casing and the borehole. (A.A.C. R12-15-811(B))

The Department's issuance of an authorization to drill a well is not a determination of whether water withdrawn from the well is legally surface water or groundwater. The legal nature of the water withdrawn from the well may be the subject of court action in the future as part of a determination of surface water rights in your area. If there are court proceedings that could affect your well, you will be notified and be given the opportunity to participate. If you have questions regarding the legal nature of the water to be withdrawn from your proposed well, please consult with an experienced civil engineer, hydrologist or water rights attorney.

For the purposes of determining appropriate fees outside AMAs or INAs, "domestic purposes" is defined as "uses related to the supply, service and activities of households and private residences and includes the application of water to less than 2 acres of land to produce plants or parts of plants for sale or human consumption, or for use as feed for livestock, range livestock or poultry, as such terms are defined in A.R.S. § 3-1201."

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE  
Dora Laeding Pres.

SIGNATURE OF WELL OWNER OR LANDOWNER  
*[Signature]*

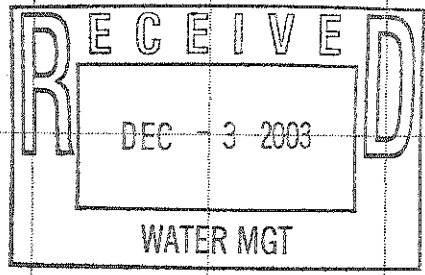
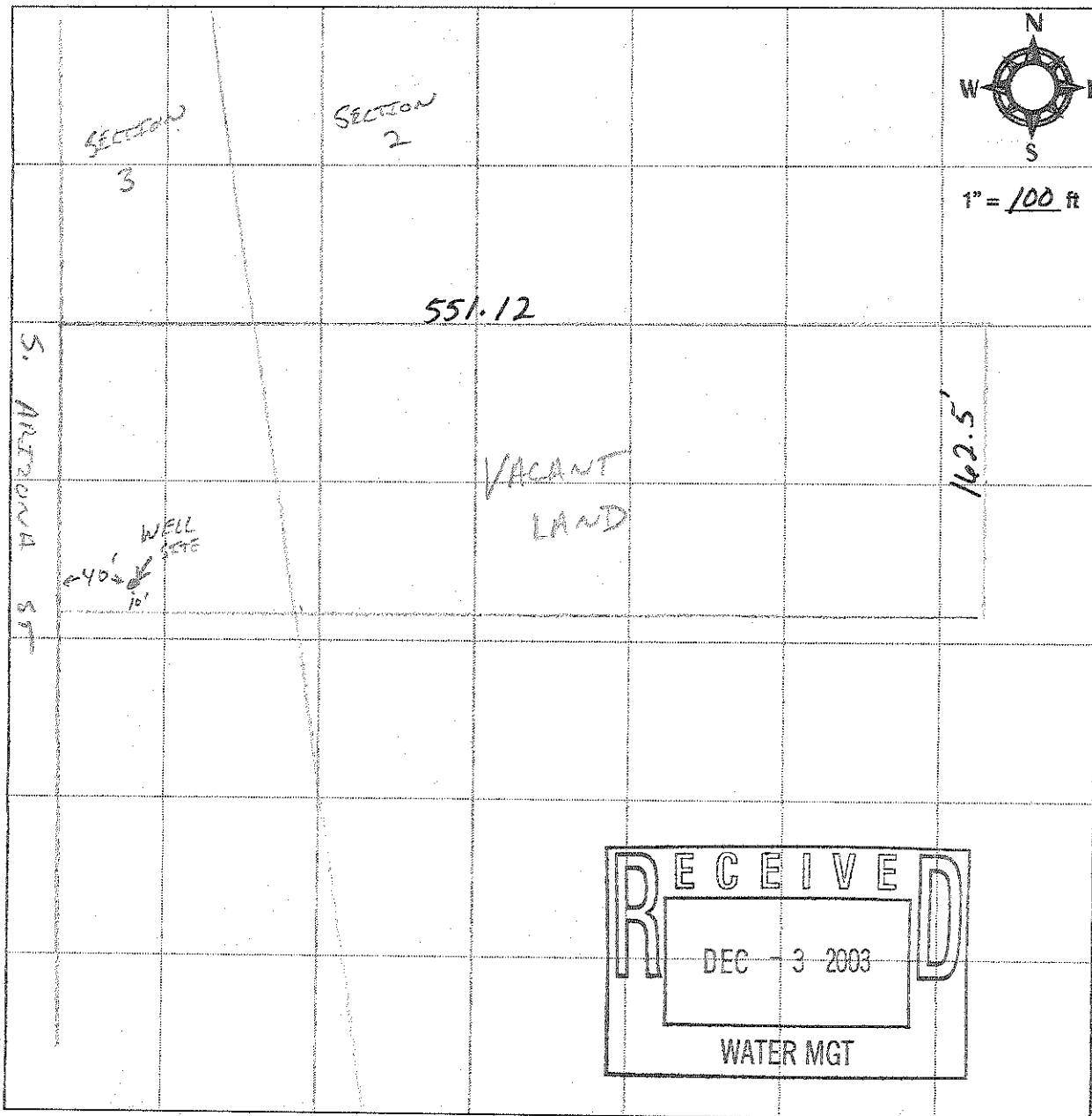
DATE  
11/14/03


Notice of Intent to Drill, Deepen, Replace or Modify a Well

REGISTRATION NUMBER  
55-211931

WELL SITE PLAN		
NAME OF WELL OWNER <b>SUNBELT MARKETING / DON LEONDE</b>	COUNTY ASSESSOR'S PARCEL ID NUMBER	
	BOOK <b>101</b>	MAP <b>41</b>
		PARCEL <b>007C</b>

- ❖ If this well will be a domestic well on 5 acres or less, please draw the following: (1) the boundaries of your property; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well. If the parcel is vacant land or lacks a septic tank or sewer system, please indicate this.
- ❖ Indicate the distance between the proposed well location and any septic tank system or sewer system.



COUNTY OR LOCAL AUTHORITY NAME AND TITLE <b>Carlos Diaz Env Hlth Spc</b>	APPROVED BY THE COCHISE COUNTY ENVIRONMENTAL HEALTH DIVISION	
COUNTY OR LOCAL AUTHORITY SIGNATURE <b>Carlos Diaz</b>	DATE <b>Dec 1, 2003</b>	
TELEPHONE NUMBER <b>520-432-9442</b>	DATE <b>Dec 01, 2003</b>	BY <b>Carlos Diaz</b>



Arizona Department of Water Resources  
 Water Management Support Section  
 P.O. Box 4006 Phoenix, Arizona 85003-4006  
 (602) 417-2470 (800) 352-8488  
 www.water.az.gov

DEC - 3 - 2003

\$150 or \$50 FEE

**Notice of Intent to Drill, Deepen, Replace or Modify a Well**  
 (except a Non-Exempt Well in an Active Management Area)

- Review instructions prior to completing form in black or blue ink.
- You must include with your Notice:
  - Check or money order in the amount of the appropriate filing fee. For a well located within an AMA or INA, the fee is \$150.00. For a well not located within an AMA or INA, the fee is \$50.00 if the well will be used solely for domestic purposes (see page 2 and instructions) and will have a pump with a maximum capacity of not more than 35 gallons per minute. Otherwise, the fee is \$150.00.
  - Authority for fee: A.R.S. § 45-596.

**\*\* PLEASE PRINT CLEARLY \*\***

AMA/INA	DATE	NO.	OFFICER
RECEIVED	DATE	NO.	OFFICER
ISSUED	DATE	NO.	OFFICER

FILE NUMBER
WELL REGISTRATION NUMBER
55-101531

If water from the proposed well will be used for domestic purposes on a parcel of land of 5 or fewer acres, the applicable county or local health authority must endorse all items in Section 1 before submission to the Department of Water Resources. You must also attach a site plan (see instructions).

CHECK ONE

County or Local Health Authority Recommends Approval (pursuant to A.R.S. § 45-596 (G) and (F))

Field Inspection Performed

Site Plan Review Only


Insufficient Information to Make a Determination

**Official County or Local Seal or Stamp**

APPROVED BY THE COCHISE COUNTY ENVIRONMENTAL HEALTH DIVISION

DATE Dec 1, 2003

BY Carlos Diaz



COUNTY OR LOCAL AUTHORITY SIGNATURE Carlos Diaz

COUNTY OR LOCAL AUTHORITY NAME AND TITLE  
CARLOS DIAZ ENV. Hlth Spec I

TELEPHONE NUMBER 520-432-9442 DATE Dec 01, 2003

<p>WELL TYPE</p> <p>CHECK ONE</p> <p><input checked="" type="checkbox"/> Exempt          (Pump has a maximum capacity of not more than 35 gpm and water is not used for irrigation purposes inside an AMA.) (See instructions.)</p> <p><input type="checkbox"/> Non-Exempt          (Pump has a maximum capacity of more than 35 gpm or water is used for irrigation purposes inside an AMA.) (See instructions.)</p> <p>DESIGN PUMP CAPACITY  <u>25</u> Gallons Per Minute</p>	<p>PROPOSED ACTION</p> <p>CHECK ONE</p> <p><input checked="" type="checkbox"/> Drill New Well</p> <p><input type="checkbox"/> Deepen</p> <p><input type="checkbox"/> Replace</p> <p><input type="checkbox"/> Modify</p> <p>If Deepening, Replacing or Modifying:</p> <p>ORIGINAL WELL REGISTRATION NUMBER  <u>55 -</u></p> <p>MAXIMUM CAPACITY OF ORIGINAL WELL          Gallons Per Minute</p> <p>DISTANCE &amp; DIRECTION FROM ORIGINAL WELL          Feet</p>	<p>LOCATION OF WELL</p> <p>WELL LOCATION ADDRESS (IF ANY)</p> <table border="1"> <tr> <td>TOWNSHIP (NS)</td> <td>RANGE (EW)</td> <td>SECTION</td> <td>160 ACRE</td> <td>40 ACRE</td> <td>10 ACRE</td> </tr> <tr> <td><u>24 S</u></td> <td><u>24 E</u></td> <td><u>2</u></td> <td><u>NE 1/4</u></td> <td><u>SE 1/4</u></td> <td><u>NE 1/4</u></td> </tr> </table> <p>COUNTY ASSESSOR'S PARCEL ID NUMBER</p> <table border="1"> <tr> <td>BOOK</td> <td>MAP</td> <td>PARCEL</td> <td># OF ACRES</td> </tr> <tr> <td><u>101</u></td> <td><u>41</u></td> <td><u>007C</u></td> <td><u>2</u></td> </tr> </table> <p>PLACE OF WATER USE (ONLY IF DIFFERENT FROM LOCATION OF WELL)</p> <table border="1"> <tr> <td>TOWNSHIP (NS)</td> <td>RANGE (EW)</td> <td>SECTION</td> <td>160 ACRE</td> <td>40 ACRE</td> <td>10 ACRE</td> </tr> <tr> <td></td> <td></td> <td></td> <td><u>1/4</u></td> <td><u>1/4</u></td> <td><u>1/4</u></td> </tr> </table> <p>COUNTY WHERE WELL IS LOCATED  <u>COCHISE</u></p>	TOWNSHIP (NS)	RANGE (EW)	SECTION	160 ACRE	40 ACRE	10 ACRE	<u>24 S</u>	<u>24 E</u>	<u>2</u>	<u>NE 1/4</u>	<u>SE 1/4</u>	<u>NE 1/4</u>	BOOK	MAP	PARCEL	# OF ACRES	<u>101</u>	<u>41</u>	<u>007C</u>	<u>2</u>	TOWNSHIP (NS)	RANGE (EW)	SECTION	160 ACRE	40 ACRE	10 ACRE				<u>1/4</u>	<u>1/4</u>	<u>1/4</u>
TOWNSHIP (NS)	RANGE (EW)	SECTION	160 ACRE	40 ACRE	10 ACRE																													
<u>24 S</u>	<u>24 E</u>	<u>2</u>	<u>NE 1/4</u>	<u>SE 1/4</u>	<u>NE 1/4</u>																													
BOOK	MAP	PARCEL	# OF ACRES																															
<u>101</u>	<u>41</u>	<u>007C</u>	<u>2</u>																															
TOWNSHIP (NS)	RANGE (EW)	SECTION	160 ACRE	40 ACRE	10 ACRE																													
			<u>1/4</u>	<u>1/4</u>	<u>1/4</u>																													

SECTIONS: OWNER INFORMATION	
WELL OWNER	LANDOWNER (if different from Well Owner)
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL <u>SUNBELT MARKETING INC.</u>	FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL
MAILING ADDRESS <u>P.O. Box 4006</u>	MAILING ADDRESS
CITY / STATE / ZIP CODE <u>BISBEE AZ 85603</u>	CITY / STATE / ZIP CODE
CONTACT PERSON NAME AND TITLE <u>DDN LAEDING</u>	CONTACT PERSON NAME AND TITLE
TELEPHONE NUMBER <u>520-432-7864</u>	TELEPHONE NUMBER
FAX	FAX

JNBELT MARKETING, INC. 05-96  
 O BOX 4006 520-432-7864  
 BISBEE, AZ 85603-4006

91-170 2987  
 2533-1221-AZ  
 Date 11/11/03

variance (A.A.C. R12-15-818).

pay to the order of ADWR

Fifty Dollars \$ 50.00

Bank of America

In Active Management Area, you must m 55-40A.



D(24-24)17 BCB



Arizona Department of Water Resources  
Groundwater Management Support Section  
P.O. Box 458 • Phoenix, Arizona 85001-0458  
(602) 417-2470 • (800) 352-8488  
www.water.az.gov

### Request to Change Well Information

JAN 30 2006

Review instructions prior to completing form in back or blue ink.

FILE NUMBER

WELL REGISTRATION NUMBER

55 - 588270

INFORMATION MANAGEMENT

Notice:  
check or money order for any required fee(s)

Authority for fee: A.A.C. R12-15-151(B)(4)(a), A.R.S. § 45-113(B)

\*\* PLEASE PRINT CLEARLY \*\*

#### SECTION 1. REGISTRY INFORMATION

<b>Well Owner</b>	<b>Location of Well</b>					
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL	WELL LOCATION ADDRESS (IF ANY)					
MAILING ADDRESS	TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
	24S	24E	17	NW ¼	SW ¼	NW ¼
CITY / STATE / ZIP CODE	LATITUDE					

## Pioneer Title Agency, Inc.

P.O. BOX 1900  
Sierra Vista, AZ 85636

NATIONAL BANK OF ARIZONA  
1160 E. Fry Blvd.  
Sierra Vista, Arizona 85635  
91-532/1221

NO. 696527

FILE NUMBER	DATE	AMOUNT
00911557 - 006 DB	01/23/06	\$10.00

**PAY** TEN DOLLARS and no/100

TO THE ARIZONA DEPARTMENT OF WATER  
ORDER P.O. BOX 458  
OF PHOENIX, AZ 85004

ACCOUNT  
[REDACTED]

**ANSWERED** FEB 01 2006

#### STATEMENT OF CHANGE OF WELL OWNERSHIP (\$10 Fee Required)

**\$10 FEE**

If this change pertains to more than one well and the names are the same, only one \$10 fee is required.

<b>Previous Well Owner</b>		<b>New Well Owner</b>	
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL EARNEST ROGERS		FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL SUNNYSIDE HOLDINGS, LLC	
MAILING ADDRESS P.O. BOX 608		MAILING ADDRESS P.O. BOX 1303	
CITY / STATE / ZIP CODE NACO, AZ 85620		CITY / STATE / ZIP CODE HEREFORD, AZ 85615	
CONTACT PERSON NAME AND TITLE		CONTACT PERSON NAME AND TITLE	
TELEPHONE NUMBER	FAX	TELEPHONE NUMBER	FAX

#### SECTION 4. CHANGE OF WELL INFORMATION (No Fee Required)

**NO FEE**

NOTE: Applies only to wells that have already been drilled. For proposed wells, an amended Notice of Intent to Drill a Well must be filed.

EXPLAIN

*[Handwritten mark]*

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE  
**Ernest Rogers**

SIGNATURE OF WELL OWNER  
*[Handwritten Signature]*

D24-24)17 BCB

Arizona Department of Water Resources  
Groundwater Management Support Section  
P.O. Box 458 • Phoenix, Arizona 85001-0458  
(602) 417-2470 • (800) 352-8488  
www.water.az.gov

### Request to Change Well Information

♦ Review instructions prior to completing form in back or blue ink.

FILE NUMBER  
WELL REGISTRATION NUMBER  
**55-588270**

**INFORMATION MANAGEMENT**

♦ Authority for fee: A.A.C. R12-15-151(B)(4)(a), A.R.S. § 45-113(B)  
♦ Check or money order for any required fee(s)

\*\* PLEASE PRINT CLEARLY \*\*

#### SECTION 1. REGISTRY INFORMATION

<b>Well Owner</b>		<b>Location of Well</b>					
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL		WELL LOCATION ADDRESS (IF ANY)					
MAILING ADDRESS		TOWNSHIP (N/S)	RANGE (E/W)	SECTION	180 ACRE	40 ACRE	10 ACRE
CITY / STATE / ZIP CODE		24S	24E	17	NW ¼	SW ¼	NW ¼
CONTACT PERSON NAME AND TITLE		LATITUDE			LONGITUDE		
TELEPHONE NUMBER		°	'	"N	°	'	"W
FAX		Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
		COUNTY ASSESSOR'S PARCEL ID NUMBER		PARCEL			
		BOOK	MAP				
		COUNTY WHERE WELL IS LOCATED					

**Type of Request (CHECK ONE)**

Change of Well Drilling Contractor (Fill out Section 2)

**Change of Well Ownership** (Fill out Section 3)

Change of Well Information (location, use, etc.) (Fill out Section 4)

#### SECTION 2. REQUEST TO CHANGE WELL DRILLING CONTRACTOR (\$10 Fee Required)

♦ If drilling or abandoning a well, the Department must receive this request and issue authorization to the new drilling form prior to the commencement of well drilling or abandonment. **\$10 FEE**

<b>Current Well Drilling Contractor</b>		<b>New Well Drilling Contractor</b>	
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL		FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL	
DWR LICENSE NUMBER		DWR LICENSE NUMBER	ROC LICENSE CATEGORY
TELEPHONE NUMBER	FAX	TELEPHONE NUMBER	FAX

#### SECTION 3. STATEMENT OF CHANGE OF WELL OWNERSHIP (\$10 Fee Required)

♦ If this change pertains to more than one well and the names are the same, only one \$10 fee is required. **\$10 FEE**

<b>Previous Well Owner</b>		<b>New Well Owner</b>	
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL EARNEST ROGERS		FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL SUNNYSIDE HOLDINGS, LLC	
MAILING ADDRESS P.O. BOX 608		MAILING ADDRESS P.O. BOX 1303	
CITY / STATE / ZIP CODE NACO, AZ 85620		CITY / STATE / ZIP CODE HEREFORD, AZ 85615	
CONTACT PERSON NAME AND TITLE		CONTACT PERSON NAME AND TITLE	
TELEPHONE NUMBER	FAX	TELEPHONE NUMBER	FAX

#### SECTION 4. CHANGE OF WELL INFORMATION (No Fee Required)

NOTE: Applies only to wells that have already been drilled. For proposed wells, an amended Notice of Intent to Drill a Well must be filed. **NO FEE**

EXPLAIN

*CB*

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE: **Ernest Rogers**

SIGNATURE OF WELL OWNER: *Ernest Rogers*



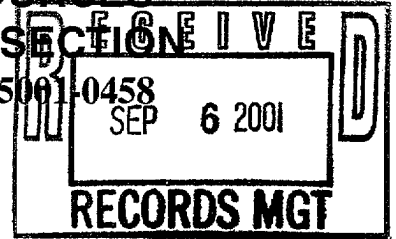
**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION**

MAIL TO: P. O. BOX 458 - PHOENIX ARIZONA 85001-0458

Phone 602-417-2470

**COMPLETION REPORT**

(Pump Installation Report)



- A. Per A.R.S. § 45-600.B, the Completion Report is to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
- B. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operations. For a flowing well the shut-in pressure should be measured in feet above the land surface or in pounds per square inch at the land surface.
- C. The static groundwater level should be measured in feet from the land surface immediately prior to the capacity test.
- D. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well be measuring the natural flow at the land surface.
- E. Items 1 and 2 are available from the Notice of Intent to Drill.
- F. Items 3 and 4 may be available from the driller.

**1. REGISTRATION NO:** 55- 588270 **FILE NO:** D(24-24)17 BCB

**2. LOCATION OF THE WELL:**

24 N(S) 24 (E/W) 17 1/4 NW 1/4 SW 1/4 NW  
 Township Range Section 10-acre 40-acre 160-acre

**3. EQUIPMENT INSTALLED:**

Kind of pump SUBMERSIBLE Kind of power ELEC.  
 Turbine, Submersible, Centrifugal, etc. Electric, natural gas, gasoline, etc.  
 H.P. Rating of Motor 1 Pumping Capacity 10 Date Pump Installed 8/28/01

**4. WELL TEST:**

Test pumping capacity 10 Date Well Tested 8/28/01  
 Gallons per minute  
 Method of Discharge Measurement ORIFICE  
 Weir, orifice, current meter, etc.  
 Static Groundwater Level 115 ft. Drawdown 125 ft.  
 Total Pumping Lift 160 ft. Drawdown — lbs  
 (Flowing Well)

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

ERNEST ROGERS P.O. Box 608 NACD AZ 85620  
 Print Well Owner's Name Address City State Zip  
[Signature] 432-3861 8/30/01  
 Signature of Well Owner Phone Number Date

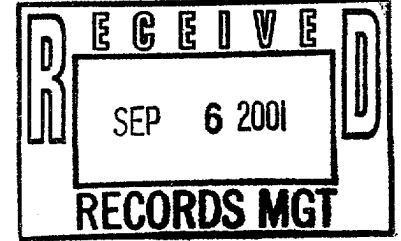
ANSWERED SEP 7 2001

ARIZONA DEPARTMENT OF WATER RESOURCES

500 North 3rd Street  
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.



1. JS & K DRILLING, INC.  
2235 N. RANCH TRAIL  
HUACHUCA CITY, AZ 85616-8283

2. Owner Name: ERNEST ROGERS  
Address: NACO AZ 85620  
City State Zip

3. Location: 24 N(S) 24 (EW) 17 1/4 NW 1/4 SW 1/4 NW  
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-588270 (Required) N 31° 20.732

5. Permit No. \_\_\_\_\_ (If Issued) W 109° 56.089

DESCRIPTION OF WELL

6. Total depth of hole 200 ft.

7. Type of casing PVC

8. Diameter and length of casing 8 in. from 0' to 20', 6 in from 10' to 200'

9. Method of sealing at reduction points NATIVE SOIL

10. Perforated from 160 to 200, from \_\_\_\_\_ to \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_

11. Size of cuts 1/8 Number of cuts per foot 2

12. If screen was installed: Length \_\_\_\_\_ ft. Diam \_\_\_\_\_ in. Type \_\_\_\_\_

13. Method of construction DRILLED  
(drilled, dug, driven, bored, jetted, etc)

14. Date started Aug 27 01  
Month Day Year

15. Date completed Aug 28 01  
Month Day Year

16. Depth to water 115 ft. (If flowing well, so state)

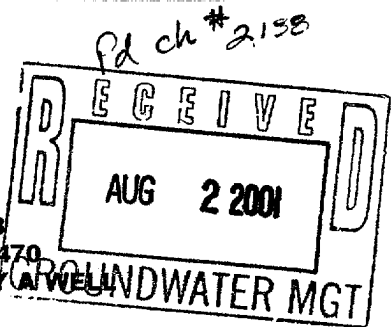
17. Describe point from which depth measurements were made, and give sea level elevation if available  
TO OF SURFACE 4594'

18. If flowing well, state method of flow regulation: -

19. Remarks: -  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DO NOT WRITE IN THIS SPACE  
OFFICE RECORD  
Registration No. 55- 588270  
File No. D(24-24) 17 BCB  
Received \_\_\_\_\_ By \_\_\_\_\_  
Entered \_\_\_\_\_ By \_\_\_\_\_





ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
MAIL TO: P. O. BOX 458, PHOENIX, ARIZONA 85001-0458  
FOR MORE INFORMATION CALL: MONICA ORTIZ 602-417-2470  
NOTICE OF INTENTION TO DRILL, DEEPEN, REPLACE OR MODIFY A WELL

PLEASE COMPLETE ALL ITEMS IN THE BOX BELOW DOWN TO COUNTY OR LOCAL AUTHORITY ENDORSEMENT. IF WATER FROM THE PROPOSED WELL (LISTED BELOW) WILL BE USED FOR DOMESTIC PURPOSES ON A PARCEL OF LAND 20 OR FEWER ACRES, THE APPLICABLE COUNTY OR LOCAL HEALTH AUTHORITY MUST ENDORSE ALL ITEMS IN THE BOX BEFORE SUBMISSION TO THE DEPARTMENT OF WATER RESOURCES. ITEMS C, D, E, AND F MAY BE AVAILABLE FROM YOUR COUNTY ASSESSOR'S OFFICE.

A. ERNEST M ROGERS PO. Box 608 NACO AZ 85620  
LANDOWNER'S NAME CURRENT MAILING ADDRESS CITY STATE ZIP  
B. TELEPHONE NO. 432 3861 COUNTY ASSESSOR'S PARCEL ID INFORMATION:  
C. WELL LOCATED IN COCHISE COUNTY D. 102-53-019-020-021 E. 16  
BOOK MAP PARCEL # OF ACRES OFFICIAL SEAL OR STAMP  
WELL/LAND LOCATION (MUST BE COMPLETED AS REQUESTED):  
F. NW 1/4 SW 1/4 NW 1/4 OF SECTION 17 TOWNSHIP 24 N/S RANGE 24 E/W  
10AC 40AC 160AC COUNTY OR LOCAL AUTHORITY ENDORSEMENT  
CHECK ONE:  
G. RECOMMEND APPROVAL X; INSUFFICIENT INFORMATION TO MAKE A DETERMINATION \_\_\_\_\_; VARIANCE REQUIRED \_\_\_\_\_ (EXPLANATION ATTACHED)  
H. DATE 7/20/01 AUTHORIZED SIGNATURE John Titan TITLE Env. Health Spec.

1. OWNER OF WELL:

NAME ERNEST M ROGERS  
CURRENT MAILING ADDRESS PO. Box 608 NACO AZ 85620  
CITY STATE ZIP  
TELEPHONE NUMBER 432 3861

2. ACTION REQUESTED:  
DRILL NEW WELL X DEEPEN \_\_\_\_\_  
MODIFY \_\_\_\_\_ REPLACE \_\_\_\_\_  
WELL REGISTRATION NO 55- \_\_\_\_\_

FOR A REPLACEMENT WELL PROVIDE:  
MAX. CAPACITY OF THE ORIGINAL WELL \_\_\_\_\_ GALLONS PER MINUTE;  
DISTANCE FROM THE ORIGINAL WELL: \_\_\_\_\_ FEET

3. CONSTRUCTION WILL START ABOUT:  
MONTH SEPT YEAR 01

4. TYPE OF CASING FOR PROPOSED WELL:  
SURFACE CASING: STEEL  
DIAMETER: 8 " DEPTH: 20 '  
DOWNHOLE CASING: PVC  
DIAMETER: 6 " DEPTH: 160 '

5. DESIGN PUMP CAPACITY:  
15 GALLONS PER MINUTE

6. LESSEE OF LAND OF WELLSITE:

NAME \_\_\_\_\_  
CURRENT MAILING ADDRESS \_\_\_\_\_  
CITY STATE ZIP  
TELEPHONE: \_\_\_\_\_

7. PRINCIPAL USE OF WATER: (BE SPECIFIC)  
DOMESTIC

8. OTHER USES OF WATER: (BE SPECIFIC)  
\_\_\_\_\_

9. PLACE OF USE (LEGAL DESCRIPTION OF LAND):

NW 1/4 SW 1/4 NW 1/4 SECTION 17  
10AC 40AC 160AC  
TWN SHP 24 N/S RNG 24 E/W

10. TYPE OF WELL (CHECK ONE):  
EXEMPT X NON-EXEMPT \_\_\_\_\_

11. CHECK ONE:  
RESIDENTIAL X STOCKWATER \_\_\_\_\_  
OTHER \_\_\_\_\_

12. IS THE PROPOSED WELLSITE WITHIN 100 FEET OF A SEPTIC TANK SYSTEM, SEWER DISPOSAL AREA, LANDFILL, HAZARDOUS MATERIALS OR PETROLEUM STORAGE AREAS AND TANKS?  
YES \_\_\_\_\_ NO X

\* FOR DEPARTMENT USE ONLY  
REGISTRATION NO. 55- 528270  
DATE FILED 8-2-01  
FILE NO. D(24-24)17 BCB  
AMA/INA \_\_\_\_\_  
W/S 11 S/B 76  
PROCESSED BY KL3  
DATE MAILED 8-6-01  
MO. \_\_\_\_\_

13. DRILLING FIRM:  
NAME JS & K DRILLING, INC.  
MAILING ADDRESS 2235 N. RANCH TR.  
HUACHUCA CITY AZ 85761  
CITY STATE ZIP  
TELEPHONE NO. 520 956-2855  
DWR LICENSE NUMBER 365  
ROC LICENSE CATEGORY 253

I STATE THAT THIS NOTICE IS FILED IN COMPLIANCE WITH A.R.S. § 45-596, IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT I UNDERSTAND THE LIMITATIONS AND CONDITIONS SET FORTH ON THE REVERSE SIDE OF THIS FORM.

ERNEST M ROGERS

[Signature]

14. TYPE OR PRINT NAME AND TITLE

15. SIGNATURE OF LANDOWNER/LESSEE OF WELLSITE

7/27/01  
DATE

## APPLICATION GUIDELINES

In accordance with Arizona Revised Statutes ("A.R.S.") §§ 41-1008 and 1079, the Department of Water Resources (Department) provides the following information regarding the application review process for authority to drill.

### NECESSARY STEPS & INSTRUCTIONS TO OBTAIN DRILLING AUTHORITY

1. Pursuant to A.R.S. § 45-596, a person may not drill, cause to be drilled, deepen or modify any well for which a permit is not required without first filing a Notice of Intent to Drill with the Department. Only a well drilling contractor licensed in the State of Arizona or a single well licensee (a person licensed to drill or modify one exempt well on his or her own property) is authorized to drill, deepen or modify a well. Drilling may not begin until the well drilling contractor or licensee has possession of a drilling card at the well site, issued by the Director in the name of the well drilling contractor or licensee, and which authorizes the drilling of the specific well in a specific location. To assist you in understanding the requirements for this application, copies of A.R.S. § 45-596 and Arizona Administrative Code ("A.A.C.") R12-15-810 are available at the Department bookstore (602-417-2450 x7127).
2. If replacing, deepening, or modifying an existing well, provide the registration number of the existing well in item 2. A replacement well is one located no more than 660 feet from the original well and that is not expected to annually withdraw more groundwater than historically withdrawn from the original well.
3. Information to complete items 3, 4, 5 and 13 may be available from your driller.
4. Information to complete items 9 and 12 may be available from your County Assessor's Office.
5. For item 10, in an Active Management Area, A.R.S. § 45-454 only allows non-irrigation uses for "exempt" wells. If the proposed use includes the growing of 2 or more acres of plants for sale or human/animal consumption (irrigation use), the well does not qualify as an exempt well.
6. An exempt well, referred to in Item 10, means a well with a pump with a maximum capacity of not more than thirty-five gallons per minute and used for non-irrigation purposes.
7. For item 11, in an Active Management Area, A.R.S. § 45-454 allow up to 56 acre feet per year of pumping from a domestic (residential) or stock watering exempt well, and up to 10 acre ft per year from an exempt well used for other (usually commercial non-irrigation) purposes.
8. If any water from a proposed well on a parcel of twenty or fewer acres will be used for domestic purposes, as defined in § 45-454, the applicant must submit a well site plan of the property. The plan must be on an 8½" x 11" piece of plain paper with representation of the locations of all structures and proximity of adjacent lot lines, to scale. It must include the county assessor's parcel identification number. The plan must show the proposed well location and the location of any septic tank or sewer system that is either located on the property or within one hundred feet of the proposed well site, as well as indicating the measured shortest distance between the proposed well and existing septic tank system. **The plan must demonstrate that the well will not be drilled within one hundred feet of any septic or sewer system.**
9. The site plan must be approved by the county health authority, or by a local health authority in areas where the county health authority has delegated authority to approve septic or sewer systems. Endorsement by the county/local authority is based solely on the best available judgement that the proposed well, as shown on the site plan submitted, is 100 feet or more from all known and visually identifiable sewage treatment systems. It is not a representation that a well placed at this site will be guaranteed as to quantity or quality. In areas where there is no local or county authority that controls installation of septic tanks or sewer systems, or if the health authority is unable to determine whether the proposed well location complies with state and local requirements, the applicant must apply for approval directly to the Department of Water Resources.
10. If an individual other than the land owner or lessee signs this notice, an original letter of authorization from the land owner/lessee, stating that the individual has permission to sign this specific notice on his or her behalf, must accompany the notice.
11. Please mail two original Notices with original signatures and two site plans and, in accordance with A.R.S. § 45-113, a check or money order (no cash) in the amount of \$10.00 to P. O. Box 458, Phoenix Arizona, 85001-0458, or hand deliver to 500 North Third Street, Phoenix, Arizona.
12. Arizona Revised Statute § 45-596(D) provides that the Director of the Department is to determine whether or not all information required on this form has been submitted. If not, the person filing the Notice will be notified, and the drilling or modification of the well may not proceed.
13. This form is not applicable for non-exempt wells (those yielding more than thirty-five gallons per minute) within an Active Management Area. Contact Groundwater Management for further information regarding the appropriate notice to file with the Department.

### TIME FRAME FOR REVIEW OF YOUR APPLICATION

Within 15 days after receipt of your Notice of Intention the Arizona Department of Water Resources ("Department") will determine whether your application should be granted or denied, unless this time is extended for lack of a complete application. If your application is incomplete, the Department will notify you in writing and will specify what information is necessary to make the application complete. Until the missing information is received, the time frame for review of your application will be suspended. Your application will not be complete until all of the requested information is received. If you do not supply the missing information within sixty (60) days, the Department may deem your application withdrawn and close the file.

At the end of its review, the Department will send you a written notice either granting or denying your application for drilling authority. If your application is approved, the Drill Card will be mailed directly to the drilling contractor. If denied, the Department's notice will state justification for the denial and an explanation of your right to appeal.

### CONSTRUCTION AND FOLLOW UP REQUIREMENTS

1. Construction and abandonment standards for wells, must be in accordance with Department Regulations. A.R.S. § 45-594 and Arizona Administrative Code R12-15-811 require the well to be constructed with a twenty foot steel surface seal casing, including a one foot steel stickup and one and one-half inches of grout seal around the casing from the surface to a depth of twenty feet, unless a variance is granted (see A.R.S. § 45-596 (G) for procedure to follow in requesting a variance).
2. Pursuant to § 45-596(E), the drilling, deepening or modification of the well must be completed within one year of the date of the Notice of Intent. If the well is not completed within one year, a new Notice of Intent must be filed before proceeding with further construction.
3. If a well which was originally drilled as an exploration well, a monitor well, a piezometer well or for any use other than domestic use is later proposed to be converted to use for domestic purposes as defined in § 45-454, the well owner must file a Notice of Intention to Drill and comply with the requirements of § 45-596 before the well is converted and any water from that well is used for domestic purposes.
4. Within thirty days after installation of pumping equipment, the registered well owner must file a Completion Report with the Department. The person to whom a well is registered also must notify the Department of a change in ownership or a change in data relating to this well.

R E C E I V E D  
AUG 2 2001  
GROUNDWATER MGT

SEC 17

TN 24

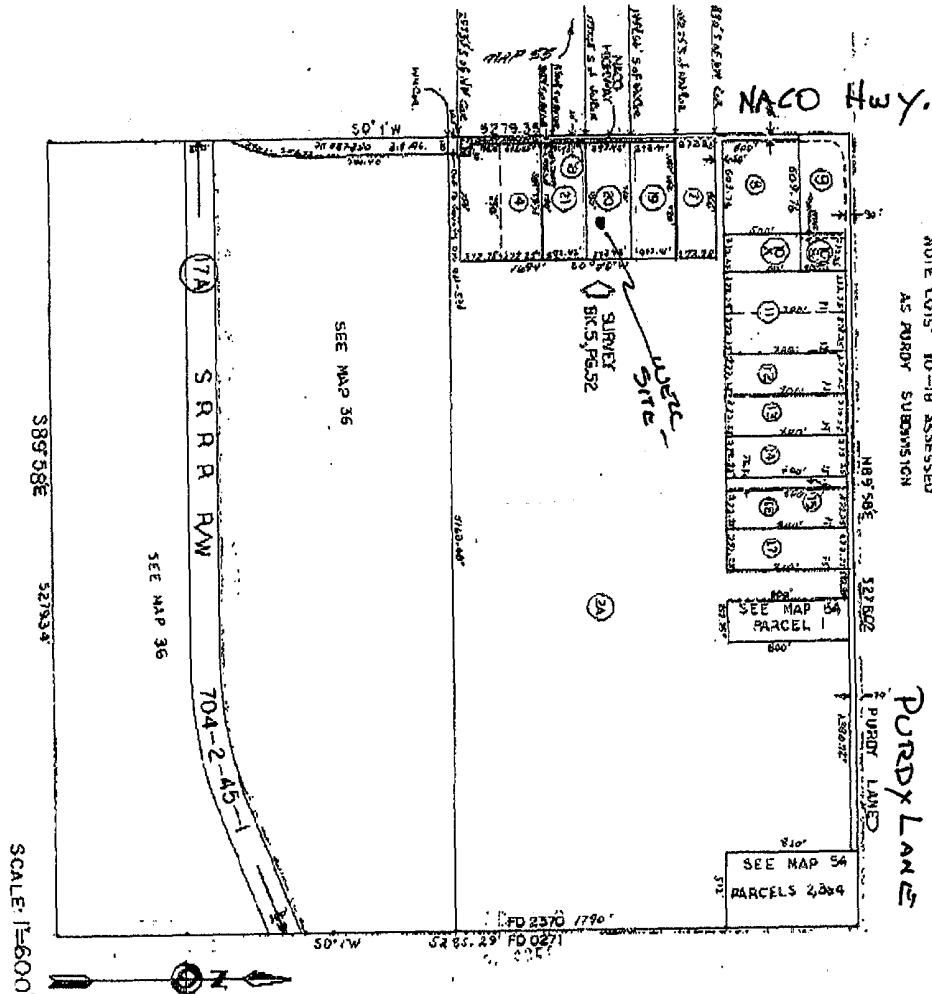
RG 24

BOOK 102  
MAP 53

FD 2370 - REB-76, 8-28-87-2177

1-800-345-7334

SCALE IN 1/8" OR ALL THERE



SCALE 1"=600'

COUNTY ASSESSOR'S MAP

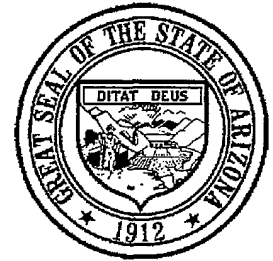
ALL INTERESTS ARE  
AS SHOWN ON THE  
AS SHOWN ON THE  
AS SHOWN ON THE

**ARIZONA DEPARTMENT OF WATER RESOURCES**

500 North 3rd Street, Phoenix, Arizona 85004

Telephone (602) 417-2470

Fax (602) 417-2422



**JANE DEE HULL**  
Governor

**JOSEPH C. SMITH**  
Director

August 07, 2001

ERNEST ROGERS  
PO BOX 608  
NACO, AZ 85620

Registration No. 55-588270

File No. D(24-24) 17 BCB

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to Drill a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Completion Report is to be submitted when pump equipment is installed. The Drilling Card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the Drilling Card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized.

ARS §45-600 requires the registered well owner to submit a completion report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

If in the course of drilling a new well, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.

Per ARS §45-593 (C), the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed a Change of Well Information Form should it be needed in the future.

Sincerely,

Toni Bergeman  
Water Resource Technician  
Groundwater Management Support Section

Enclosures

T-944 P. 003/003 F-134

+520-452-8766

FROM-Fidelity National Title

JUL-27-2001 10:11

RECEIVED  
AUG 2 2001  
GROUNDWATER MGT

50'

500'  
50'

8

609.78

500'

A

11

272.25

272.25

272.25

of NW Cor

5'S of NW Cor

272.25

7

800'

272.25

6' S of NW Cor

292.41'

N89°56'E 780'

19

292.41'

NACO  
HIGHWAY

18' S of NW Cor

292.42'

20

780'

780'

WELL  
SITE

292.42'

50°58'W



SUR  
BK.5

30'

292.42'

18

21

292.42'

1950.14' S of NW Cor

2029' S of NW Cor

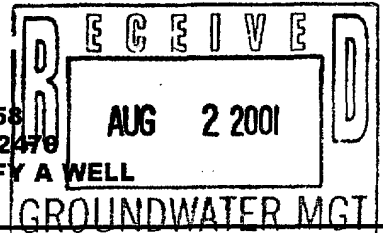
80% COUNTY  
0.935.310

780'



Pd ch "2120"

ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
MAIL TO: P. O. BOX 458, PHOENIX, ARIZONA 85001-0458  
FOR MORE INFORMATION CALL: MONICA ORTIZ 602-417-2479  
NOTICE OF INTENTION TO DRILL, DEEPEN, REPLACE OR MODIFY A WELL



PLEASE COMPLETE ALL ITEMS IN THE BOX BELOW DOWN TO COUNTY OR LOCAL AUTHORITY ENDORSEMENT. IF WATER FROM THE PROPOSED WELL (LISTED BELOW) WILL BE USED FOR DOMESTIC PURPOSES ON A PARCEL OF LAND 20 OR FEWER ACRES, THE APPLICABLE COUNTY OR LOCAL HEALTH AUTHORITY MUST ENDORSE ALL ITEMS IN THE BOX BEFORE SUBMISSION TO THE DEPARTMENT OF WATER RESOURCES. ITEMS C, D, E, AND F MAY BE AVAILABLE FROM YOUR COUNTY ASSESSOR'S OFFICE.

A. ERNEST M ROGERS P.O. Box 608 NACO AZ 85620  
LANDOWNER'S NAME CURRENT MAILING ADDRESS CITY STATE ZIP

B. TELEPHONE NO. 432 3861 COUNTY ASSESSOR'S PARCEL ID INFORMATION:

C. WELL LOCATED IN COCHISE COUNTY D. 102-53-019-020-021 E. 18 OFFICIAL SEAL OR STAMP

WELL/LAND LOCATION (MUST BE COMPLETED AS REQUESTED):

F. NW 1/4 SW 1/4 NW 1/4 OF SECTION 17 TOWNSHIP 24 N5 RANGE 24 E/W  
10AC 40AC 160AC COUNTY OR LOCAL AUTHORITY ENDORSEMENT

CHECK ONE:  
G. RECOMMEND APPROVAL X; INSUFFICIENT INFORMATION TO MAKE A DETERMINATION \_\_\_\_\_; VARIANCE REQUIRED \_\_\_\_\_ (EXPLANATION ATTACHED)

H. DATE 7/30/01 AUTHORIZED SIGNATURE [Signature] TITLE Env. Health Spec.

OWNER OF WELL:

NAME ERNEST M ROGERS  
CURRENT MAILING ADDRESS P.O. Box 608 NACO AZ 85620  
CITY STATE ZIP  
TELEPHONE NUMBER 432 3861

6. LESSEE OF LAND OF WELLSITE:

NAME \_\_\_\_\_  
CURRENT MAILING ADDRESS \_\_\_\_\_  
CITY STATE ZIP  
TELEPHONE: \_\_\_\_\_

9. PLACE OF USE (LEGAL DESCRIPTION OF LAND):

NW 1/4 SW 1/4 NW 1/4 SECTION \_\_\_\_\_  
10AC 40AC 160AC  
TWNSHP \_\_\_\_\_ N/S R/G \_\_\_\_\_ E/W

10. TYPE OF WELL (CHECK ONE):

EXEMPT X NON-EXEMPT \_\_\_\_\_

I STATE THAT THIS NOTICE IS FILED IN COMPLIANCE WITH A.R.S. § 45-596, IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT I UNDERSTAND THE LIMITATIONS AND CONDITIONS SET FORTH ON THE REVERSE SIDE OF THIS FORM.

ERNEST M ROGERS [Signature] 7/27/01  
TYPE OR PRINT NAME AND TITLE 15. SIGNATURE OF LANDOWNER/LESSEE OF WELLSITE 16. DATE

**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION**

500 North Third Street  
Phoenix, Arizona 85004

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO: 55-588270

AUTHORIZED DRILLER: JS & K DRILLING, INC.

LICENSE NO: 565

NOTICE OF INTENTION TO DRILL A EXEMPT WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: ERNEST ROGERS PO BOX 608 NACO, AZ 85620

The well(s) is/are to be located in the:

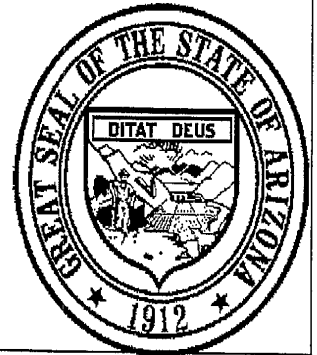
NW ¼ of the SW ¼ of the NW ¼ Section 17 Township 24 SOUTH Range 24 EAST

No. of wells in this project: 1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 1ST DAY OF AUGUST, 2002

  
\_\_\_\_\_  
GROUNDWATER MANAGEMENT SUPPORT

**THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING**



STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
15 South 15th Avenue  
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Phelps Dodge Corporation  
Name  
Copper Queen Branch, Bisbee, AZ 85603  
Mailing Address
2. Driller B-J Drilling Company, Inc.  
Name  
P.O. Box 815, Benson, AZ 85602  
Mailing Address
3. Location of well: Trwp 24S, Rge 24E, Section 1: SW $\frac{1}{4}$ , SW $\frac{1}{4}$ , SW $\frac{1}{4}$
4. Permit No. 55-522817  
(if issued)

DESCRIPTION OF WELL

5. Total depth of hole 817' ft.
6. Type of casing Steel & plastic
7. Diameter and length of casing 6" in. from +1' to 20', 4" steel from 0 to 411' & 4" Plastic from 411' to 817'.
8. Method of sealing at reduction points Cemented
9. Perforated from 757' to 817', from \_\_\_\_\_ to \_\_\_\_\_, from \_\_\_\_\_ to \_\_\_\_\_.
10. Size of cuts .125 x 1 $\frac{1}{2}$ " Number of cuts per foot 160
11. If screen was installed: Length \_\_\_\_\_ ft. Diam \_\_\_\_\_ in. Type \_\_\_\_\_
12. Method of construction Drilled  
drilled, dug, driven, bored, jetted, etc.
13. Date started 1/17/89  
Month Day Year
14. Date completed 1/20/89  
Month Day Year
15. Depth to water 625' static ft. (If flowing well, so state.)
16. Describe point from which depth measurements were made, and give sea-level elevation if available top of casing
17. If flowing well, state method of flow regulation: \_\_\_\_\_
18. Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DO NOT WRITE IN THIS SPACE OFFICE RECORD	
REG. NO.	<u>55-522817</u>
File No.	<u>D(24-24) lccc</u>
Entered	<b>ENTERED MAR 07 1989</b>



55-52281.7

Registration No. \_\_\_\_\_

File No. D(24-24)lccc

COMPLETION REPORT

TM-8

1. Per A.R.S. §45-600, the Completion Report is to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
2. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.
3. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.
4. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

LOCATION OF THE WELL:

<u>24S</u>	<u>24E</u>	<u>1</u>	<u>SW SW SW</u>
Township	Range	Section	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$

EQUIPMENT INSTALLED:

Kind of pump Submersible  
Turbine, centrifugal, etc.

Kind of power Electric H.P. Rating of Motor 3 HP  
Electric, natural gas, gasoline, etc.

Pumping Capacity 7 Gallons per minute Date pump installed: 1/20/89

WELL TEST:

Test pumping capacity 7\* Gallons per minute Date Well Tested: 2/18/89

\* Broke suction after 20 minutes.

Method of Discharge Measurement Timed volume  
Weir, orifice, current meter, etc.

Static Groundwater Level 591 ft. Drawdown 207 ft.

Total Pumping Lift 798 ft. Drawdown \_\_\_\_\_ lbs.  
(Flowing Well)

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

Phelps Dodge Corporation

Print Well Owner's Name

Robert A. Jackson

Signature of Well Owner or Agent

B-J Drilling Company, Inc.

P.O. Box 819  
Address

Benson, AZ

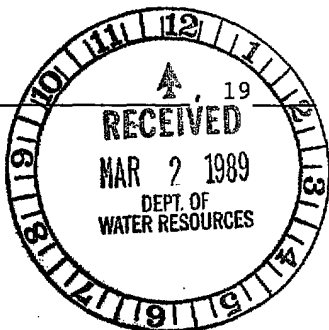
85602

City

ENTERED MAR 16 1989

3/01/89

Date

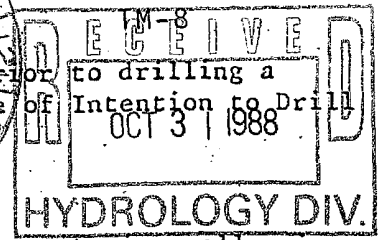
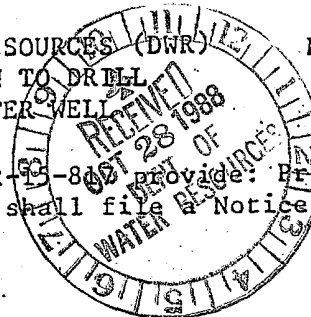


MONITOR/PIEZOMETER WELL  
FILING FEE \$10.00

DEPARTMENT OF WATER RESOURCES (DWR)  
NOTICE OF INTENTION TO DRILL  
MONITOR/PIEZOMETER WELL

MONITOR/PIEZOMETER WELL

Section 45-596, Arizona Revised Statutes and Rule R12-15-809 provide: Prior to drilling a monitor or piezometer well, the well owner or lessee shall file a Notice of Intention to Drill on a form provided by the Department.



WELL/LAND LOCATION

1. Township 24 X/S  
Range 24 E/X  
Section 1

List 10-acre subdivision  
SW 1/4, SW 1/4, SW 1/4

2. County Cochise

3. Applicant:  
Phelps Dodge Corp.  
Name

Copper Queen Branch  
Address  
Bisbee, AZ 85603  
City State Zip

4. Lance Pape  
NAME OF CONTACT PERSON

Phone: 602 432 5342

Agency: Phelps Dodge Corp.

5. Owner of well:  
Phelps Dodge Corp.  
Name

Copper Queen Branch  
Address  
Bisbee, AZ 85603  
City State Zip

6. Purpose of well drilled pursuant to this Notice:  
Monitor X  
Piezometer \_\_\_\_\_

7. Owner of land:  
Horacio OreGiron  
Name

245 N. Stewart  
Address

Tucson, AZ 85716  
City State Zip

Telephone number \_\_\_\_\_

8. Construction will start:  
October 1988  
Month Day Year

9. Period well will remain in use: indef. months/years

DO NOT WRITE IN THIS SPACE  
OFFICE RECORD  
File No. D(24-24)1ccc  
Filed 10-28-88 By sk  
Input **ENTERED NOV 07 1988**  
Duplicate Mailed 11-7-88 By sk  
Registration No. 55-522817  
AMA/INA \_\_\_\_\_  
W/S 14 S/B \_\_\_\_\_

GENERAL INSTRUCTIONS

Fill out this form in duplicate and mail to Department of Water Resources, Suite 100, 99 East Virginia, Phoenix, Arizona 85004. Filing fee must accompany Notice.

I state that this Notice is filed in compliance with Rule R12-15-809 and is correct to the best of my knowledge and belief and that I understand the conditions on the reverse side of this form.

DATE 10/24/88

Donald A. Stowell  
Signature of Applicant

10. For monitoring wells, is pump equipment to be installed? Yes

(a) If so, what will be the design pump capacity?  
10 gallons per minute

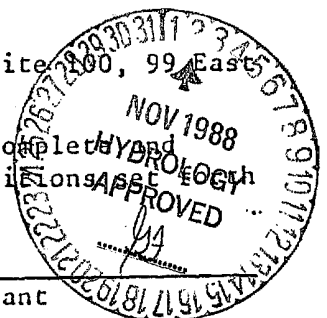
(b) Type of pump (submersible, turbine, etc.)  
Submersible

(c) What use will be made of the water?  
Sampling only

11. Proposed method of abandonment of well after project is completed:  
Fill to total depth  
with cement grout  
after PVC removal

12. Drilling firm:  
BJ Drilling Co., Inc.  
Name  
P.O. Box 815  
Address  
Benson, AZ 85602  
City State Zip  
DWR #25 A-H  
DWR License Number

(continued on reverse)



13. Is this well to monitor existing contamination? Yes Potential contamination? \_\_\_\_\_  
Please explain SO<sub>4</sub> and TDS in Bisbee-Naco area

14. If construction plans have been coordinated with Az. Dept. Health Services, Environmental Health Division, who is the agency contact? None  
If construction plans have been coordinated with Az. Dept. Water Resources, Hydrology/ Remedial Action Division, who is the division contact? None

15. WELL CONSTRUCTION PLAN

a) Drilling method (mud rotary, hollow-stem auger, etc.) Air rotary

b) Borehole diameters: 10 inches from 0 feet to 20 feet  
6 inches from 20 feet to 100 feet  
         inches from          feet to          feet

c) Casing materials (PVC, steel, stainless steel, etc.):

material Steel diameter 6 inches from 0 feet to 20 feet  
material PVC diameter 4 inches from 0 feet to 100 feet  
material          diameter          inches from          feet to          feet

d) Method of sealing at reductions None

e) Annular seal materials (cement, grout, etc.) and method of placement (tremied, circulated):

material Grout method Poured from 0 feet to 20 feet  
material          method          from          feet to          feet  
material          method          from          feet to          feet

f) Gravel packs (state material, and whether natural or artificial):

material None from          feet to          feet  
material          from          feet to          feet

g) Perforations (if pre-manufactured, please give specs of perforations or screens):

type Factory slotted PVC from 50 feet to 100 feet  
type          from          feet to          feet

h) Method of well development (bail, air lift, surge) Air lift

i) Will surface or conductor casing extending above grade be used to protect the aquifer from additional surface contaminants during drilling and construction? Yes

16. Include detailed construction diagram, if available

7. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility or storage area of hazardous materials? Yes No X  
If yes, a request for a variance must accompany this application pursuant to R12-15-820.

CONDITIONS

I. Construction and abandonment standards for all wells shall be in accordance with DWR rules R12-15-811 and R12-15-816.

II. Drilling of the well shall be completed within one (1) year after the date of Notice.

III. A Well Driller Report, DWR-55-6-5/83, is required within 30 days of completion of drilling. A Completion Report, DWR-55-7-3/83, is required to be filed with the Department within 10 days after installation of pump equipment for monitor wells.

IV. Pump equipment may not be installed on a well drilled for piezometer purposes. If a monitor well is pumped, pumping is limited to the minimum amount required for monitor purposes, but in no case may exceed 35 gallons per minute and an annual amount of 10 acre feet total.

V. Special construction standards required pursuant to R12-15-821:

PHILIPS DODGE CORP  
 P O BOX 50427  
 TUCSON AZ 85703

STATE OF ARIZONA  
 DEPARTMENT OF WATER RESOURCES  
 WATER RIGHTS ADMINISTRATION  
 99 EAST VIRGINIA  
 PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	522815
	THRU
55	522817

FUND SOURCE	ACCOUNT NO. AGENCY CHAPTER DIV	INT. ASGT.	ITEM DESCRIPTION	RATE	\$ AMOUNT
			STAMPING FEES FOR NOTICES OF INTENTION TO	10.00	30.00
			DRILL WELLS		
			FILE# REGISTRATION#		
			D(24-24) 16achb 55-522815		
			D(24-24) 7bbc 55-522816		
			D(24-24) 1ccc 55-522817		

**PAID**  
 NOV 7 1988  
**PAID**

11/7/88/ek  
 CK#1333

TOTAL \$ 30.00



STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
15 South 15th Avenue  
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Phelps Dodge Corporation  
Name  
Copper Queen Branch, Bisbee, AZ 85603  
Mailing Address
2. Driller B-J Drilling Company, Inc.  
Name  
P.O. Box 815, Benson, AZ 85602  
Mailing Address
3. Location of well: Twp 24S, Rge 24E, Section 6: SW¼, SW¼, NW¼
4. Permit No. 55-522699  
(if issued)

DESCRIPTION OF WELL

5. Total depth of hole 325' ft.
6. Type of casing Steel & Plastic
7. Diameter and length of casing 6" in. from +1' to 19', 4 in from +1' to 325'.
8. Method of sealing at reduction points Cemented
9. Perforated from 260' to 320', from \_\_\_\_\_ to \_\_\_\_\_, from \_\_\_\_\_ to \_\_\_\_\_.
10. Size of cuts .125 x 1¼" Number of cuts per foot 160
11. If screen was installed: Length \_\_\_\_\_ ft. Diam \_\_\_\_\_ in. Type \_\_\_\_\_
12. Method of construction Drilled  
drilled, dug, driven, bored, jetted, etc.
13. Date started 1/10/89  
Month Day Year
14. Date completed 1/11/89  
Month Day Year
15. Depth to water 265' static ft. (If flowing well, so state.)
16. Describe point from which depth measurements were made, and give sea-level elevation if available Top of casing
17. If flowing well, state method of flow regulation: \_\_\_\_\_
18. Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DO NOT WRITE IN THIS SPACE OFFICE RECORD	
REG. NO	<u>55-522699</u>
File No.	<u>D(24-24)6bcc</u>
Entered	By <u>ENTERED MAR 07 1989</u>



Registration No. 55-522699

File No. D(24-24)6bcc

COMPLETION REPORT

TM-15

1. Per A.R.S. §45-600, the Completion Report to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
2. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.
3. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.
4. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

LOCATION OF THE WELL:

<u>24S</u>	<u>24E</u>	<u>6</u>	<u>SW</u>	<u>SW</u>	<u>NW</u>
Township	Range	Section	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

EQUIPMENT INSTALLED:

Kind of pump Submersible  
Turbine, centrifugal, etc.

Kind of power Electric H.P. Rating of Motor 1½ HP  
Electric, natural gas, gasoline, etc.

Pumping Capacity \_\_\_\_\_ Date installed 2/03/89  
Gallons per minute

WELL TEST:

Test pumping capacity 13 Date Well Tested 2/03/89  
Gallons per minute

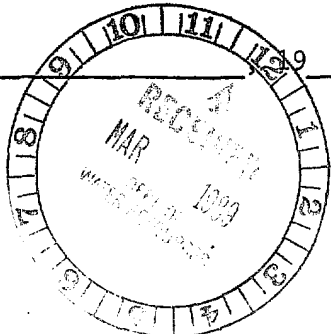
Method of Discharge Measurement Timed volume  
Weir, orifice, current meter, etc.

Static Groundwater Level 265 ft. Drawdown 1 ft.

Total Pumping Lift 270 ft. Drawdown \_\_\_\_\_ lbs  
(Flowing Well)

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

2/26/89  
DATE



Robert B. Jackson  
Signature B-J Drilling Company, Inc.

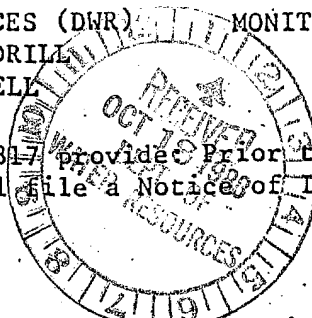
P.O. Box 815  
Address

Benson, AZ 85602  
City State Zip

MONITOR/PIEZOMETER WELL  
FILING FEE \$10.00

DEPARTMENT OF WATER RESOURCES (DWR)  
NOTICE OF INTENTION TO DRILL  
MONITOR/PIEZOMETER WELL

MONITOR/PIEZOMETER WELL  
TM-15



Section 45-596, Arizona Revised Statutes and Rule R12-15-809 provide prior to drilling a monitor or piezometer well, the well owner or lessee shall file a Notice of Intention to Drill on a form provided by the Department.

WELL/LAND LOCATION

1. Township 24 X/S  
Range 24 E/W  
Section 6 X

List 10-acre subdivision  
SW 1/4, SW 1/4, NW 1/4

2. County Cochise

3. Applicant:  
Phelps Dodge Corp.  
Name  
Copper Queen Branch  
Address  
Bisbee, AZ 85603  
City State Zip

4. Lance Pape  
NAME OF CONTACT PERSON  
Phone: 602-432-5342  
Agency: Phelps Dodge Corp.

5. Owner of well:  
Phelps Dodge Corp.  
Name  
Copper Queen Branch  
Address  
Bisbee, AZ 85603  
City State Zip

6. Purpose of well drilled pursuant to this Notice:  
Monitor X  
Piezometer \_\_\_\_\_

7. Owner of land:  
Charles R. Miller-Trustee  
Name  
P.O. Box 613  
Address  
Naco, AZ 85620  
City State Zip  
Telephone number \_\_\_\_\_

8. Construction will start:  
October 1988  
Month Day Year

9. Period well will remain in use: indef. months/years

10. For monitoring wells, is pump equipment to be installed? Yes  
(a) If so, what will be the design pump capacity?  
10 gallons per minute  
(b) Type of pump (submersible, turbine, etc.)  
Submersible  
(c) What use will be made of the water?  
Sampling only

11. Proposed method of abandonment of well after project is completed:  
Fill to total depth  
with cement grout  
after PVC removal

12. Drilling firm:  
BJ Drilling Co., Inc.  
Name  
P.O. Box 815  
Address  
Benson, AZ 85602  
City State Zip  
DWR #25 A-4  
DWR License Number 1910202

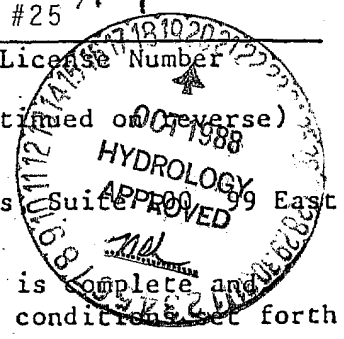
DO NOT WRITE IN THIS SPACE  
OFFICE RECORD  
File No. D(24-24)6 bec  
Filed 10-18-88 By ak  
Input ENTERED OCT 25 1988  
Duplicate  
Mailed 10-21-88 By ak  
Registration No. 55-522699  
AMA/INA -  
W/S 14 S/B \_\_\_\_\_

GENERAL INSTRUCTIONS

Fill out this form in duplicate and mail to Department of Water Resources, Suite 112, East Virginia, Phoenix, Arizona 85004. Filing fee must accompany Notice.

I state that this Notice is filed in compliance with Rule R12-15-809 and is complete and correct to the best of my knowledge and belief and that I understand the conditions set forth on the reverse side of this form.

DATE 10/14/88 Signature of Applicant Donald A. Stowell



13. Is this well to monitor existing contamination? Yes Potential contamination? \_\_\_\_\_  
 Please explain SO<sub>4</sub> and TDS in Bisbee-Naco area
14. If construction plans have been coordinated with Az. Dept. Health Services, Environmental Health Division, who is the agency contact? None  
 If construction plans have been coordinated with Az. Dept. Water Resources, Hydrology/ Remedial Action Division, who is the division contact? None
15. WELL CONSTRUCTION PLAN
- a) Drilling method (mud rotary, hollow-stem auger, etc.) Air rotary
- b) Borehole diameters: 10 inches from 0 feet to 20 feet  
6 inches from 20 feet to 370 feet  
 \_\_\_\_\_ inches from \_\_\_\_\_ feet to \_\_\_\_\_ feet
- c) Casing materials (PVC, steel, stainless steel, etc.):  
 material Steel diameter 6 inches from 0 feet to 20 feet  
 material PVC diameter 4 inches from 0 feet to 370 feet  
 material \_\_\_\_\_ diameter \_\_\_\_\_ inches from \_\_\_\_\_ feet to \_\_\_\_\_ feet
- d) Method of sealing at reductions \_\_\_\_\_
- e) Annular seal materials (cement, grout, etc.) and method of placement (tremied, circulated):  
 material Grout method poured from 0 feet to 20 feet  
 material \_\_\_\_\_ method \_\_\_\_\_ from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 material \_\_\_\_\_ method \_\_\_\_\_ from \_\_\_\_\_ feet to \_\_\_\_\_ feet
- f) Gravel packs (state material, and whether natural or artificial):  
 material None from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 material \_\_\_\_\_ from \_\_\_\_\_ feet to \_\_\_\_\_ feet
- g) Perforations (if pre-manufactured, please give specs of perforations or screens):  
 type Factory slotted from 320 feet to 370 feet  
 type \_\_\_\_\_ from \_\_\_\_\_ feet to \_\_\_\_\_ feet
- h) Method of well development (bail, air lift, surge) Air lift
- i) Will surface or conductor casing extending above grade be used to protect the aquifer from additional surface contaminants during drilling and construction? Yes
16. Include detailed construction diagram, if available.
17. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility or storage area of hazardous materials? Yes No X  
 If yes, a request for a variance must accompany this application pursuant to R12-15-820.

CONDITIONS

- I. Construction and abandonment standards for all wells shall be in accordance with DWR rules R12-15-811 and R12-15-816.
- II. Drilling of the well shall be completed within one (1) year after the date of Notice.
- III. A Well Driller Report, DWR-55-6-5/83, is required within 30 days of completion of drilling. A Completion Report, DWR-55-7-3/83, is required to be filed with the Department within 10 days after installation of pump equipment for monitor wells.
- IV. Pump equipment may not be installed on a well drilled for piezometer purposes. If a monitor well is pumped, pumping is limited to the minimum amount required for monitor purposes, but in no case may exceed 35 gallons per minute and an annual amount of 10 acre feet total.
- V. Special construction standards required pursuant to R12-15-821: \_\_\_\_\_

PHELPS DODGE CORP  
 P O BOX 50427  
 TUCSON AZ 85703

STATE OF ARIZONA  
 DEPARTMENT OF WATER RESOURCES  
 WATER RIGHTS ADMINISTRATION  
 99 EAST VIRGINIA  
 PHOENIX, ARIZONA 85004

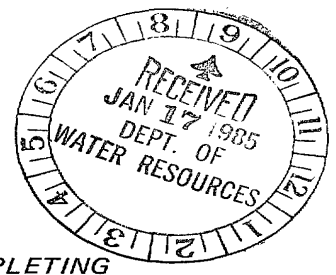
RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	522693
	THRU
55	8888 5227000

ACCOUNT NO.				INT.	ITEM DESCRIPTION	RATE	\$ AMOUNT
FUND SOURCE	AGENCY	CHARTER	DIV.	ACCT			
<div style="border: 2px solid black; padding: 5px; display: inline-block; transform: rotate(-15deg);">           PAID            OCT 21 1988         </div>					FILING FEES FOR NOTICES OF INTENTION TO	10.00	80.00
					DRILL WELLS		
					FILE#	REGISTRATION#	
					D(24-24) 2bcc	55-522693	
					D(24-24) 21aab	55-522694	
					D(24-24) 14bca	55-522695	
					D(24-24) 5bdc	55-522696	
					D(24-24) 20bab	55-522697	
					D(24-24) 8bcc	55-522698	
					D(24-24) 6bcc	55-522699	
					D(24-24) 16aca	55-522700	

TOTAL \$ 80.00

10/21/88/ek  
 CK#1330



**REGISTRATION OF EXISTING WELLS**

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
PRINT OR TYPE - FILE IN DUPLICATE

REGISTRATION FEE (CHECK ONE)

EXEMPT WELL (NO CHARGE)

NON-EXEMPT WELL - \$10.00

FOR OFFICE USE ONLY

REGISTRATION NO. 55- 802236-L

FILE NO. D(24-24)-18 db

FILED 4-26-85 AT am

(DATE) (TIME)

INA \_\_\_\_\_

AMA \_\_\_\_\_

**LATE FEE \$10.00**

1. Name of Registrant: City of Bisbee ATTN: Nellie Hodges, City Clerk/Treasurer

118 Arizona Street Bisbee AZ 85603

(Address) (City) (State) (Zip)

2. File and/or Control Number under previous groundwater law: Information unavailable  
None on file

\_\_\_\_\_ 35- \_\_\_\_\_

(File Number) (Control Number)

3. a. The well is located within the NW  $\frac{1}{4}$  SE  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$ , Section 18,  
of Township 24S N/S, Range 24E E/W, G & SRB & M, in the  
County of Cochise.

b. If in a subdivision: Name of subdivision N/A  
Lot No. \_\_\_\_\_, Address \_\_\_\_\_

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
Golf Course Irrigation

5. If for irrigation use, number of acres irrigated from well 80

6. Owner of land on which well is located. If same as Item 1, check this box

\_\_\_\_\_

(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)

a. Depth of Well 222' feet

b. Diameter of casing 10 3/4" O.D. inches

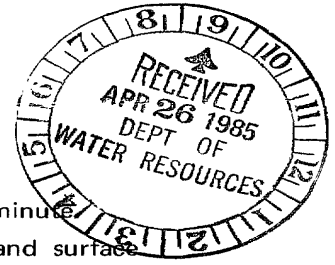
c. Depth of casing 222' feet

d. Type of casing Steel

e. Maximum pump capacity 600 gallons, approximately gallons per minute

f. Depth to water 90' to 100' feet below land surface

g. Date well completed Feb. 14 1934  
(Month) (Day) (Year)



8. The place(s) of use of water. If same as Item 3, check this box

\_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$ , Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

\_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$  \_\_\_\_\_  $\frac{1}{4}$ , Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE 1/9/85 SIGNATURE OF REGISTRANT Nellie Hodges

MICROFILMED

# INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

## General Instructions

1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form in duplicate with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.
2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.
3. No registration fee is required for Exempt Wells. A \$10.00 registration fee must accompany registration forms for all Non-Exempt Wells.
4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.
5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

## INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.
2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.
3. a. Fill in the Section, Township and Range in all cases if it is available.  
b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.
4. Show all purposes for which the water is used.
5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.
6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.
7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.
8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.
9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.



CITY OF BISBEE  
 118 ARIZONA ST  
 BISBEE AZ 85603

STATE OF ARIZONA  
 DEPARTMENT OF WATER RESOURCES  
 WATER RIGHTS ADMINISTRATION  
 99 EAST VIRGINIA  
 PHOENIX, ARIZONA 85004

ATTN: NELLIE HODGES

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
XX	
	THRU
55	802237-L

FUND SOURCE	ACCOUNT NO.			INT. ACCT.	ITEM DESCRIPTION	RATE	\$ AMOUNT
	AGENCY	CHAPTER	DIV.				
					LATE FEE	10.00	20.00
					EXISTING WELL REGISTRATION FEE	10.00	20.00
					2 NON-EXEMPT WELLS		
					FILE NO. D(23-24)8 bba		
					D(24-24)18 db		
						WRITER PRYMENT	
						GUESTS	1
						CHK NO	9446
						55-I	40.00
						TAX	0.00
						TOTL	40.00
						GEN.CHEK	40.00
					CHECK NO. 009446 4/29/85 kg		

TOTAL

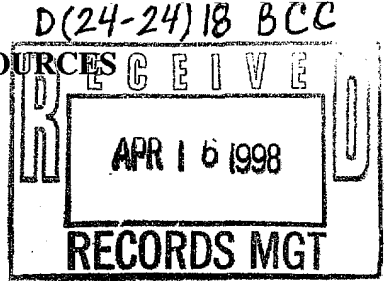
\$ 40.00

MICROFILMED

ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street  
Phoenix, Arizona 85004

WELL DRILLER REPORT



This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. ARIZONA DRILLING LLP  
501 PATTON STREET  
HUACHUCA CITY, AZ 85616
2. Owner Name: TURQUOISE VALLEY INC.  
Address: NACO AZ 85620  
City State Zip
3. Location: 24 N(S) 24 (E/W) 18 1/4 SW 1/4 SW 1/4 NW  
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55- 567713 (Required)
5. Permit No. \_\_\_\_\_ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 200 ft.
7. Type of casing STEEL
8. Diameter and length of casing 10 in. from 0 to 22, 8 in from 0 to 144
9. Method of sealing at reduction points \_\_\_\_\_
10. Perforated from 80 to 144, from \_\_\_\_\_ to \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_
11. Size of cuts 1/4 Number of cuts per foot 3
12. If screen was installed: Length \_\_\_\_\_ ft. Diam \_\_\_\_\_ in. Type \_\_\_\_\_
13. Method of construction DRILLED  
(drilled, dug, driven, bored, jetted, etc)
14. Date started April 9 98  
Month Day Year
15. Date completed April 14 98  
Month Day Year
16. Depth to water 100 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available  
STATIC
18. If flowing well, state method of flow regulation: \_\_\_\_\_
19. Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DO NOT WRITE IN THIS SPACE  
OFFICE RECORD**

Registration No. 55-567713  
File No. D(24-24) 18 BCC  
Received \_\_\_\_\_ By \_\_\_\_\_  
Entered \_\_\_\_\_ By \_\_\_\_\_

ENTERED APR 24 1998

### LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	12	TOP SOIL (SANDY)
12	20	GRAVEL & CLAY
20	35	CLAY
35	40	GRAVEL & CLAY
40	130	SANDY CLAY
130	142	GRVEL
142	160	CEMENTED CONGLOMERATE
160	200	GRAVEL & CONGLOMERATE

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: ARIZONA DRILLING LLP

501 PATTON STREET  
Street

HUACHUCA CITY, AZ 85616      456-2355  
City                                  State                                  Zip                                  Phone No.

Van Michael      7-15-98  
Signature of Driller                                  Date

# ARIZONA DEPARTMENT OF WATER RESOURCES

NO FEE REQUIRED

GROUNDWATER MANAGEMENT SUPPORT SECTION

P O BOX 458, PHOENIX, ARIZONA 85001-0458

(602) 417-2470

NO FEE REQUIRED

JUN 17 1998

## NOTICE OF INTENT TO ABANDON A WELL

A.R.S. §45-594, R12-15-816: Well abandonment shall be performed only by a licensed well drilling contractor or single well licensee. The owner of a well shall file a Notice of Intent to Abandon the well prior to abandonment.

### 1. Well Location:

<u>24</u> Township <u>S.W.</u> ¼ 10 Acre	<u>24</u> Range <u>S.W.</u> ¼ 40 Acre	<u>18</u> Section <u>N.W.</u> ¼ 160 Acre
---	--	---

### 2. Position Location of the Well on the Land:

Latitude 31 ° 20 ' 50 " N  
Longitude 109 ° 56 ' 15 " W

### 3. County: Cochise

County Assessor's ID: 102 36 002A  
Book Map Parcel

### 4. Well Registration Number:

55- 567713

### 5. Well Owner:

Name Turquoise Valley Inc.  
Current Mailing Address Box 727  
NACO AZ. 85620  
City 520 State 432 Zip 3025  
Telephone \_\_\_\_\_

FOR DEPARTMENT USE ONLY

File No. \_\_\_\_\_

Registration No: 55- \_\_\_\_\_

Filed \_\_\_\_\_ By \_\_\_\_\_ Mailed \_\_\_\_\_ By \_\_\_\_\_

AMA/INA \_\_\_\_\_ W/S \_\_\_\_\_ S/B \_\_\_\_\_

### 6. Owner of the Land:

Name Turquoise Valley Inc.  
Current Mailing Address Box 727  
City NACO State AZ. Zip 85620  
Telephone 520 432 3025

### 7. Type of Well being Abandoned:

(Examples: Domestic, Stock, Irrigation, Municipal, Monitor, Geotechnical, Mineral Exploration, etc.)  
Please state: Irrigation

8. Well Diameter 10, 8, 6" DESCRIPTION OF WELL TO BE ABANDONED: \_\_\_\_\_ inches  
9. Well Depth 200 feet

10. Type of Casing STEEL

11. Abandonment will begin: Month 06 Year 98 12. Reason for abandonment: POORLY DRILLED INSUFFICIENT H<sub>2</sub>O & DIAMETER.

13. Materials and methods to be used to abandon the well: Cement, pursuant to R-12-15-816.

14. To your knowledge, is there any information that exists which indicates that the water in this well may be or is contaminated?  
Yes \_\_\_\_\_ No  If yes, explain on an attached sheet.

15. Licensed Driller performing abandonment: Firm Name: WEBER DRILLING CO. License No. 272  
Address RTE 1 BOX 276 B City ST. DAVID State AZ. Zip 85630-9721

## GENERAL INSTRUCTIONS

- This form is to be used to obtain authority to abandon a well.
- If this well has just been discovered pursuant to A.R.S. §45-593.D., and has not been registered, this form will serve to register the well when properly abandoned and reported.
- Fill out this form in DUPLICATE and send to P O Box 458, Phoenix, Arizona, 85001-0458
- Construction standards for abandonment shall be in accordance with Department Rules and Regulations.

I state that this Notice is filed in compliance with A.R.S. §45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and belief.

16. Signature of Well Owner: [Signature] Date 6-9-98

# ARIZONA DEPARTMENT OF WATER RESOURCES

500 North 3rd Street, Phoenix, Arizona 85004

Telephone (602) 417-2470

Fax (602) 417-2422



JANE DEE HULL  
Governor

RITA P. PEARSON  
Director

June 19, 1998

TURQUOISE VALLEY INC  
PO BOX 727  
NACO, AZ 85620

Registration No. 55-567713  
File No.D(24-24) 18 BCC

Dear Applicant:

Enclosed is a copy of the Notice of Intent (NOI) to Abandon a Well. This NOI, which was recently filed with this Department is being returned to you as evidence of your compliance with ARS §45-594; R12-15-816. The enclosed Well Owners Notification of Abandonment is to be submitted when the well has been properly abandoned. The Well Abandonment Card and Abandonment Completion Report forms have been sent to your driller. He may not begin abandonment until he has received the Well Abandonment Card. If you change drillers, you must supply this Department with the new driller's identity. Well abandonments shall be performed only by a licensed well drilling contractor or single well licensee.

ARS §45-594; R12-15-816(K) requires the registered well owner to submit a Well Owners Notification of Abandonment form within thirty (30) days after the abandonment of the well. It also requires the driller to furnish this Department a complete and accurate Well Abandonment Report within thirty (30) days after completion of abandonment. You should insist, and ensure, that both of these are done.

Sincerely,

A handwritten signature in cursive script that reads "Kay McNeely".

Kay McNeely

Water Resource Technician

Groundwater Management Support Section

Enclosures

**GROUNDWATER MANAGEMENT SUPPORT SECTION**  
**MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001-0458**  
**500 North Third Street - Phoenix, Arizona 85004-3903**  
**Phone (602) 417-2470**

**RECEIVED**  
**MAR 11 1998**

**NOTICE OF INTENTION TO DRILL, DEEPEN, REPLACE OR MODIFY A WELL**

PLEASE READ SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS ON REVERSE SIDE OF THIS FORM BEFORE COMPLETING.

PLEASE COMPLETE ALL ITEMS IN THE BOX BELOW DOWN TO COUNTY OR LOCAL AUTHORITY ENDORSEMENT. IF ANY WATER FROM THE PROPOSED WELL (LISTED BELOW) WILL BE USED FOR DOMESTIC PURPOSES ON A PARCEL OF LAND 20 OR FEWER ACRES, THE APPLICABLE COUNTY OR LOCAL HEALTH AUTHORITY MUST ENDORSE ALL ITEMS IN THE BOX BEFORE SUBMITTING TO THE DEPARTMENT OF WATER RESOURCES.

TURQUOISE VALLEY INC. Box 727 NACO AZ 85620  
 Land Owner's Name Current Mailing Address City State Zip

Telephone No. 432-3025

**COUNTY ASSESSOR'S PARCEL ID INFORMATION:**

Well Located in COCHISE County 102 36 002A 80  
 BOOK MAP PARCEL # of Acres

Well/Land Location (must be completed as requested):

SW % SW % NW % of Section 18 Township 24 N Range 24 EW  
 10AC 40AC 160AC COUNTY OR LOCAL AUTHORITY ENDORSEMENT

OFFICIAL  
SEAL OR  
STAMP

Check one:

Recommend Approval ; Insufficient Information to Make Determination ; Variance Required  (Explanation attached)

DATE \_\_\_\_\_ AUTHORIZED SIGNATURE \_\_\_\_\_ TITLE \_\_\_\_\_

**GENERAL INSTRUCTIONS FOR FILING NOTICE WITH ADWR**

- Section 45-596(D) provides that the Director shall determine that all information required on this form has been submitted. If not, the person filing will be notified, and the drilling, deepening or modification of the well may not proceed.
- Section 45-596(d) provides that the Department has 15 days after the receipt of a complete and correct notice of intention to record the notice and mail duplicate to owner. Drill card will be mailed directly to drilling firm as stated in item #14.
- Please mail two original notices with original signatures, a site plan in DUPLICATE, and a check or money order (no cash) in the amount of \$10.00 to P.O. Box 458, Phoenix, Arizona 85001-0458 or hand deliver to 500 North Third Street, Phoenix, Arizona 85004-3903. USE BLACK OR BLUE INK.
- If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in item 2.
- Construction standards for wells, including abandonment, shall be in accordance with Department Rules.

**1. Owner of well:**

TURQUOISE VALLEY INC.  
 Name  
Box 727  
 Current Mailing Address  
NACO AZ 85620  
 City State Zip  
 Telephone No. 432-3025

**6. Lessee of land of wellsite:**

N/A  
 Name  
 Current Mailing Address  
 City State Zip  
 Telephone No. \_\_\_\_\_

**10. Place of Use (Legal Description of Land):**

SW 1/4 SW 1/4 NW 1/4 Section 18  
 10 AC 40AC 160AC  
 Township 24 N Range 24 EW

**2. Action requested: Drill New Well ;**

Deepen  Modify  Replace   
 For a replacement well provide:  
 Maximum capacity of the original well \_\_\_\_\_ gallons per minute; distance from the original well \_\_\_\_\_ feet.  
 Well Registration No. 55- \_\_\_\_\_

**7. Principal Use of Water; (be specific):**

GOLF COURSE

**11. Type of Well (Check One):**

Exempt  Non-Exempt

**12. Check One:**

Residential  Commercial

**3. Construction will start about:**

Month MAY Year 98

**4. Description of proposed well:**

Diameter 8 inches  
 Depth 200 feet  
 Type of Casing STEEL

**8. Other uses of Water; (be specific):**

N/A

**13. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous materials or petroleum storage areas and tanks? Yes  No**

**5. Design pump capacity:**

100 gallons per minute

**9. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated;**

\_\_\_\_\_

**14. Drilling Firm:**

Arizona Drilling I.P.P.  
 Name  
501 Patton St.  
 Mailing Address  
Huachuca City, Az. 85616  
 City State Zip  
(520) - 456-2355  
 Telephone No.  
613  
 DWR License Number  
C-53  
 ROC License Category

**FOR DEPARTMENT USE ONLY**

File No. D(24-24)18BCC  
 Filed 03/11/98 By [Signature]  
 Input \_\_\_\_\_  
 Date 03/26/98  
 Registration 55- 567713  
 AMA/INA \_\_\_\_\_  
 W/S 11 S/B \_\_\_\_\_

I State that this Notice is filed in compliance with A.R.S. §§45-596 and 45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations and conditions set forth on the reverse side of this form.

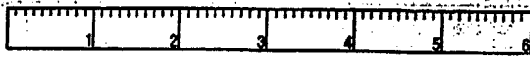
PETER LAWSON / PRESIDENT  
 Typed or Printed Name and Title

[Signature]  
 Signature [ ] Land Owner [ ] Lessee of Wellsite, Title

MAR. 6 / 98.  
 Date

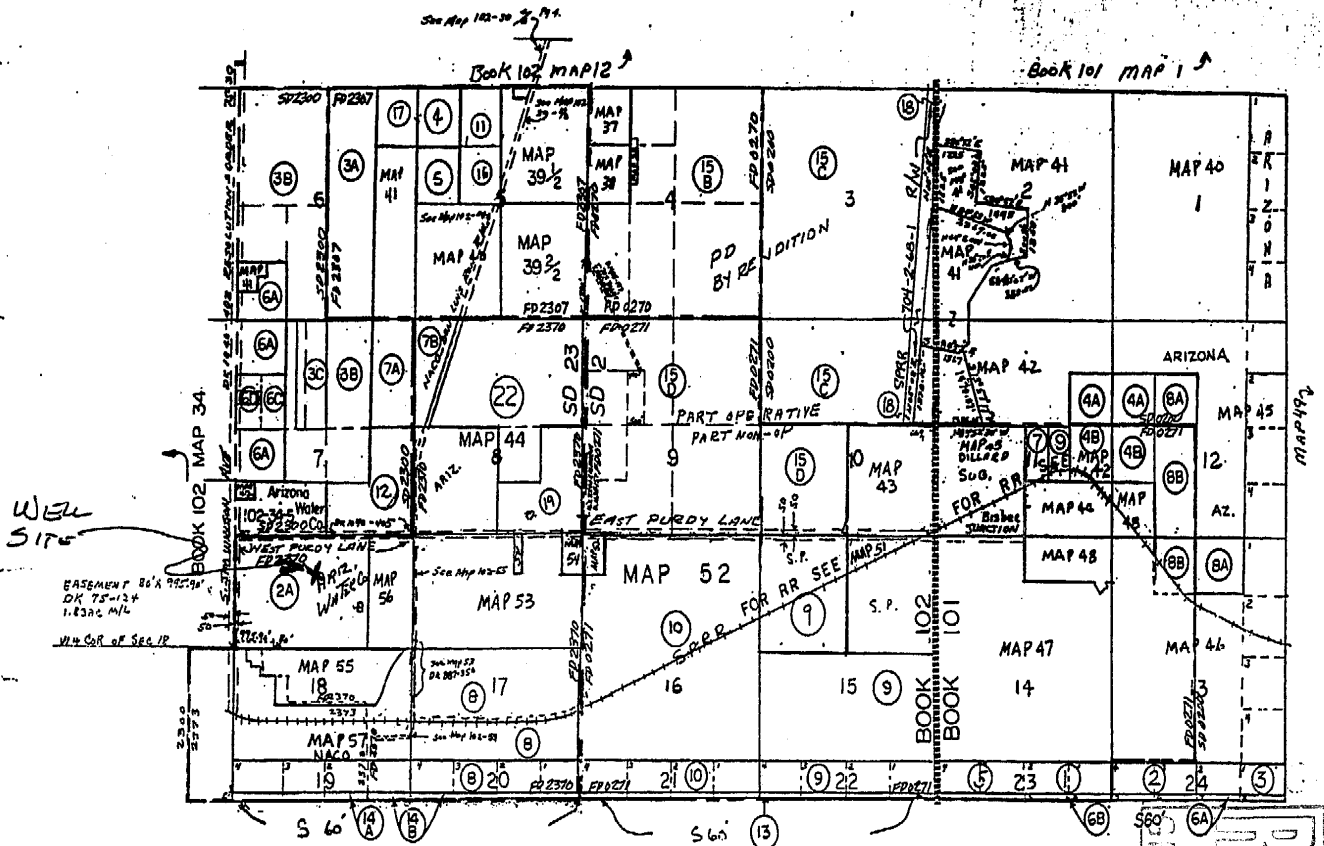
## **SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS**

1. Pursuant to Section §45-596, Arizona Revised Statutes, provides: a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.
2. If any water from a proposed well on a parcel of land of twenty or fewer acres will be used for domestic purposes, as defined in §45-454, the applicant shall submit a site plan to scale of the property with the county assessor's parcel identification number. The site plan:
  - a. Will be on a 8½"x11" piece of plain paper with representation of the locations of all structures, septic tank or sewer systems and proximity of adjacent lot lines to scale.
  - b. Must show the proposed well location and the location of any septic or sewer system that is either located on the property or within one hundred feet of the proposed well site.
  - c. Shall demonstrate to the Director's satisfaction that the well will not be drilled within one hundred feet of any septic or sewer system.
  - d. Must be approved by the county health authority, or by a local health authority in areas where the county health authority has delegated authority to approve septic or sewer systems. Before approval, the health authority shall review the plan and determine whether the proposed well location complies with applicable state and local laws regarding the placement of wells. If so, the health authority shall endorse the site plan and the proposed well placement.
3. Endorsement by the county/local authority is based on the best available judgement that this well, as shown on the site plan submitted, is 100 feet or more from all known and visually identifiable sewage treatment systems. It is not a representation that a well placed at this site will be guaranteed as to quantity or quality. Information brought to light at a future date may render this determination invalid.
4. If a well which was originally drilled as an exploration well, a monitor well, a piezometer well or for any use other than domestic use and is later proposed to be converted to use for domestic purposes, as defined in section §45-454, the well owner shall file a notice of intention to drill and comply with the requirements prescribed pursuant to this section before the well is converted and any water from that well used for domestic purposes.
5. Only a well driller licensed in the State of Arizona is authorized to drill, deepen or modify a well. A well driller may commence drilling a well only if the well drilling contractor or licensee has possession of a drilling card at the well site, issued by the Director in the name of the well drilling contractor or licensee, authorizing the drilling of the specific well in the specific location.
6. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land in an Irrigation Non-Expansion Area or Active Management Area to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.
7. The drilling, deepening, or modification of this well shall be completed within one (1) year of the date of the notice (§45-596.E.).
8. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this notice.
9. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of an annotated copy of this Notice.
10. If an individual other than the land owner or lessee signs this Notice, an original letter of authorization from the land owner/lessee, stating that the individual has permission to sign this specific Notice on their behalf, shall accompany the Notice.



TWP 24 RGE 24

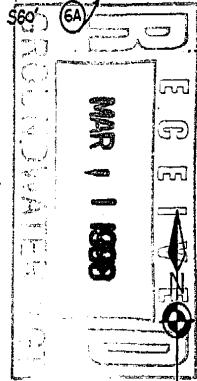
BOOK 102-BOOK 101  
MAP 36 MAP 39



WELL  
SITE

BASEMENT B.O.N. SECTION  
OK 75-124  
1.83AC A/L  
W.H. COR. OF SEC. 12

REPUBLIC OF MEXICO



THIS DESCRIPTION IS FROM  
C.L.A. RECORDING RECORDS AND  
DOES NOT CONSTITUTE A SURVEY

SCALE 1"=2640'



# ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street, Phoenix, Arizona 85004  
Telephone (602) 417-2470  
Fax (602) 417-2422



JANE DEE HULL  
Governor

RITA P. PEARSON  
Director

March 26, 1998

TURQUOISE VALLEY INC  
PO BOX 727  
NACO, AZ 85620

Registration No. 55-567713  
File No. D(24-24) 18 BCC

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to drill a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Completion Report is to be submitted when pump equipment is installed. The Drilling Card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the Drilling Card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized.

ARS §45-600 requires the registered well owner to submit a completion report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

If in the course of drilling a new well, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.

Per ARS §45-593 (C), the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed a Change of Well Information Form should it be needed in the future.

Sincerely,

Sylvia Valdez  
Water Resource Technician  
Groundwater Management Support Section

**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
500 North Third Street  
Phoenix, Arizona 85004-3903**

**THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS**

**WELL REGISTRATION NO: 55-567713**

**AUTHORIZED DRILLER: ARIZONA DRILLING LLP**

**LICENSE NO: 613**

**NOTICE OF INTENTION TO DRILL A NON-EXEMPT WELL HAS BEEN FILED WITH THE DEPARTMENT BY:**

**WELL OWNER: TURQUOISE VALLEY INC PO BOX 727 NACO, AZ 85620**

**The well(s) is/are to be located in the:**

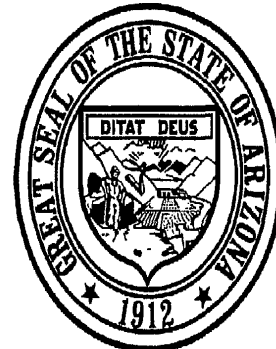
**SW 1/4 of the SW 1/4 of the NW 1/4 Section 18 Township 24 SOUTH Range 24 EAST**

**No. of wells in this project: 1**

**THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 10TH DAY OF MARCH, 1999.**

  
\_\_\_\_\_  
**CHIEF, GROUNDWATER MANAGEMENT SUPPORT**

**THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING**



**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION**

500 North Third Street  
Phoenix, Arizona 85004-3903

**ABANDON**

**THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL ABANDON OPERATIONS**

**WELL REGISTRATION NO: 55-567713**

**AUTHORIZED DRILLER: WEBER DRILLING**

**LICENSE NO: 272**

**NOTICE OF INTENTION TO ABANDON A NON-EXEMPT WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:**

**WELL OWNER: TURQUOISE VALLEY INC PO BOX 727 NACO, AZ 85620**

**The well(s) is/are to be located in the:**

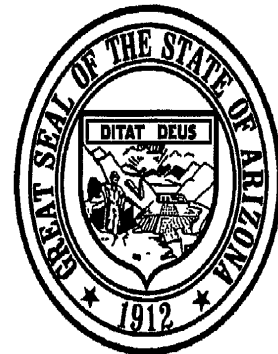
**SW 1/4 of the SW 1/4 of the NW 1/4 Section 18 Township 24 SOUTH Range 24 EAST**

**No. of wells in this project: 1**

**THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 16TH DAY OF JUNE, 1999.**

  
\_\_\_\_\_  
**CHIEF, GROUNDWATER MANAGEMENT SUPPORT**

**THE DRILLER MUST FILE A WELL ABANDONMENT COMPLETION  
REPORT WITHIN 30 DAYS OF COMPLETION OF ABANDONMENT**

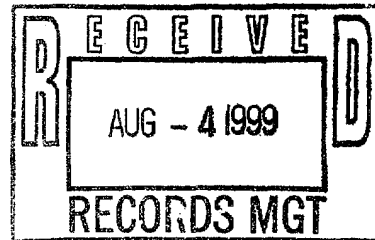


ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street  
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.



1. WEBER DRILLING  
ROUTE 1 BOX 276B  
SAINT DAVID, AZ 85630-9721

2. Owner Name: PETER J LAWSON  
Address: NACO AZ 85620  
City State Zip

3. Location: 24 N(S) 24 (E)W 18 1/4 NE 1/4 SW 1/4 NE  
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 568875 (Required)  
5. Permit No. \_\_\_\_\_ (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 330 ft.
- 7. Type of casing STEEL
- 8. Diameter and length of casing 8 in. from 0 to 330, 6 in from 0 to 330
- 9. Method of sealing at reduction points WELDED
- 10. Perforated from 166 to 320, from \_\_\_\_\_ to \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_
- 11. Size of cuts 1/8 x 8 Number of cuts per foot 4
- 12. If screen was installed: Length \_\_\_\_\_ ft. Diam \_\_\_\_\_ in. Type \_\_\_\_\_
- 13. Method of construction DRILLED  
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started JUNE ~~1997~~ 13 1998  
Month Day Year
- 15. Date completed JUNE ~~1998~~ 14 1998  
Month Day Year
- 16. Depth to water 140' ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available  
GROUND LEVEL
- 18. If flowing well, state method of flow regulation: \_\_\_\_\_

19. Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DO NOT WRITE IN THIS SPACE  
OFFICE RECORD**

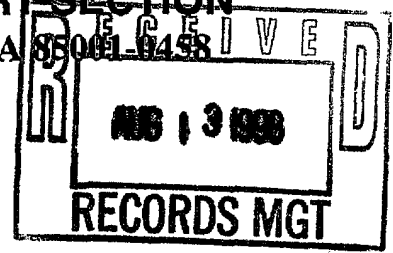
Registration No. 55-568875  
File No. D(24-24) 18 ACA  
Received \_\_\_\_\_ By \_\_\_\_\_  
Entered \_\_\_\_\_ By \_\_\_\_\_



# ARIZONA DEPARTMENT OF WATER RESOURCES GROUNDWATER MANAGEMENT SUPPORT SECTION

MAIL TO: P. O. BOX 458 - PHOENIX ARIZONA 85001-0458

Phone (602) 417-2470



## COMPLETION REPORT

(Pump Installation Report)

1. Per A.R.S. § 45-6000, the Completion Report is to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
2. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operations. For a flowing well the shut-in pressure should be measured in feet above the land surface or in pounds per square inch at the land surface.
3. The static groundwater level should be measured in feet from the land surface immediately prior to the capacity test.
4. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well be measuring the natural flow at the land surface.

REGISTRATION NO: 55- 568875

FILE NO: D(24-24)18 ACA

### LOCATION OF THE WELL:

24 NS      24 D/W      18      1/4 NE      1/4 SW      1/4 NE  
 Township      Range      Section      10-acre      40-acre      160-acre

### EQUIPMENT INSTALLED:

Kind of pump SUB.      Kind of power Elect  
 Turbine, Submersible, Centrifugal, etc.      Electric, natural gas, gasoline, etc.

H.P. Rating of Motor 75      Pumping Capacity 500 gpm      Date Pump Installed 6-24-98

### WELL TEST:

Test pumping capacity 500      Date Well Tested 6.21.98  
 Gallons per minute

Method of Discharge Measurement \_\_\_\_\_  
 Weir, orifice, current meter, etc.

Static Groundwater Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.

Total Pumping Lift \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ lbs  
 (Flowing Well)

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

Peter J. Lawson      1791 West Newell Rd      Naco      Az      85630  
 Print Well Owner's Name      Address      City      State      Zip

[Signature]      520-432-3025      \_\_\_\_\_  
 Signature of Well Owner      Phone Number      Date

ANSWERED SEP 04 1998

**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001-0458  
500 North Third Street - Phoenix, Arizona 85004-3903  
Phone (602) 417-2470**

JUN - 2 1998

**NOTICE OF INTENTION TO DRILL, DEEPEN, REPLACE OR MODIFY A WELL**

PLEASE READ SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS ON REVERSE SIDE OF THIS FORM BEFORE COMPLETING.

PLEASE COMPLETE ALL ITEMS IN THE BOX BELOW DOWN TO COUNTY OR LOCAL AUTHORITY ENDORSEMENT. IF ANY WATER FROM THE PROPOSED WELL (LISTED BELOW) WILL BE USED FOR DOMESTIC PURPOSES ON A PARCEL OF LAND 20 OR FEWER ACRES, THE APPLICABLE COUNTY OR LOCAL HEALTH AUTHORITY MUST ENDORSE ALL ITEMS IN THE BOX BEFORE SUBMITTING TO THE DEPARTMENT OF WATER RESOURCES.

Peter J. Lawson	P.O. Box 727	Naco	Az.	85620-0727
Land Owner's Name	Current Mailing Address	City	State	Zip
1791 Newell Road				
Telephone No. 529-432-3025	COUNTY ASSESSOR'S PARCEL ID INFORMATION: <i>county could not verify (8 numbers)</i> 9805 80 page 151-43			
Well Located In Cochise County	BOOK MAP PARCEL # of Acres	OFFICIAL SEAL OR STAMP		
Well/Land Location (must be completed as requested):	Recording date 5/20/98			
NE 1/4 SW 1/4 NE 1/4 of Section 18 10AC 40AC 160AC	Township 24S N/S Range 24E EW			
<b>COUNTY OR LOCAL AUTHORITY ENDORSEMENT</b>				
Check one: Recommend Approval _____; Insufficient information to Make Determination _____; Variance Required _____ (Explanation attached)				
DATE _____	AUTHORIZED SIGNATURE _____	TITLE _____		

**GENERAL INSTRUCTIONS FOR FILING NOTICE WITH ADWR**

- Section §45-596(D) provides that the Director shall determine that all information required on this form has been submitted. If not, the person filing will be notified, and the drilling, deepening or modification of the well may not proceed.
- Section §45-596(d) provides that the Department has 15 days after the receipt of a complete and correct notice of intention to record the notice and mail duplicate to owner. Drill card will be mailed directly to drilling firm as stated in Item #14.
- Please mail two original notices with original signatures, a site plan in DUPLICATE, and a check or money order (no cash) in the amount of \$10.00 to P.O. Box 458, Phoenix, Arizona 85001-0458 or hand deliver to 500 North Third Street, Phoenix, Arizona 85004-3903. USE BLACK OR BLUE INK.
- If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in Item 2.
- Construction standards for wells, including abandonment, shall be in accordance with Department Rules.

<p>1. Owner of well: <i>Turquoise Valley Inc</i>                  Peter J. Lawson                  Name                  P.O. Box 727                  Current Mailing Address                  Naco, AZ 85620-0727                  City State Zip                  Telephone No. 520-432-3025</p>	<p>6. Lessee of land of wellsite:                  Peter J. Lawson                  Name                  P.O. Box 727                  Current Mailing Address                  Naco AZ 85620-0727                  City State Zip                  Telephone No. 520-432-3025</p>	<p>10. Place of Use (Legal Description of Land):                  SW 1/4 NE 1/4 NW 1/4 Section 18                  10 AC 40AC 160AC                  Township 24S N/S Range 24E EW</p>
<p>2. Action requested: Drill New Well _____                  Deepen _____ Modify _____ Replace <input checked="" type="checkbox"/>                  For a replacement well provide:                  Maximum capacity of the original well                  100 gallons per minute; distance                  from the original well 10 feet.                  Well Registration No. 55- 567713</p>	<p>7. Principal Use of Water; (be specific):                  Golf Course</p> <p>8. Other uses of Water; (be specific):                  Irrigation</p>	<p>11. Type of Well (Check One):                  Exempt <input checked="" type="checkbox"/> Non-Exempt <input checked="" type="checkbox"/></p> <p>12. Check One:                  Residential _____ Commercial <input checked="" type="checkbox"/></p>
<p>3. Construction will start about:                  Month June Year 1998</p>	<p>9. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated; 80</p>	<p>13. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous materials or petroleum storage areas and tanks? Yes _____ No <input checked="" type="checkbox"/></p>
<p>4. Description of proposed well:                  Diameter 12" inches                  Depth 300 feet                  Type of Casing Steel</p>	<p>14. Drilling Firm:                  Weber Drilling                  Name                  Rt 1 Box 276B                  Mailing Address                  St. David, AZ 85630                  City State Zip                  520-720-4800                  Telephone No.                  272                  DWR License Number                  A4                  ROC License Category</p>	

**FOR DEPARTMENT USE ONLY**

File No. D(24-24)18ACF  
 Filed 6-2-98 By KM  
 Input \_\_\_\_\_ By \_\_\_\_\_  
 Date 6-19-98 KM  
 Registration 55- 568875  
 AMA/INA \_\_\_\_\_  
 W/S 11 S/B -

DUPLICATE MAILED

I State that this Notice is filed in compliance with A.R.S. §§45-595 and 45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations and conditions set forth on the reverse side of this form.

*Peter Lawson* / PRESIDENT      *[Signature]*      6-1-98

Typed or Printed Name and Title      Signature [ ] Land Owner [ ] Lessee of Wellsite, Title      Date

## **SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS**

1. Pursuant to Section §45-596, Arizona Revised Statutes, provides: a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.
2. If any water from a proposed well on a parcel of land of twenty or fewer acres will be used for domestic purposes, as defined in §45-454, the applicant shall submit a site plan to scale of the property with the county assessor's parcel identification number. The site plan:
  - a. Will be on a 8½"x11" piece of plain paper with representation of the locations of all structures, septic tank or sewer systems and proximity of adjacent lot lines to scale.
  - b. Must show the proposed well location and the location of any septic or sewer system that is either located on the property or within one hundred feet of the proposed well site.
  - c. Shall demonstrate to the Director's satisfaction that the well will not be drilled within one hundred feet of any septic or sewer system.
  - d. Must be approved by the county health authority, or by a local health authority in areas where the county health authority has delegated authority to approve septic or sewer systems. Before approval, the health authority shall review the plan and determine whether the proposed well location complies with applicable state and local laws regarding the placement of wells. If so, the health authority shall endorse the site plan and the proposed well placement.
3. Endorsement by the county/local authority is based on the best available judgement that this well, as shown on the site plan submitted, is 100 feet or more from all known and visually identifiable sewage treatment systems. It is not a representation that a well placed at this site will be guaranteed as to quantity or quality. Information brought to light at a future date may render this determination invalid.
4. If a well which was originally drilled as an exploration well, a monitor well, a piezometer well or for any use other than domestic use and is later proposed to be converted to use for domestic purposes, as defined in section §45-454, the well owner shall file a notice of intention to drill and comply with the requirements prescribed pursuant to this section before the well is converted and any water from that well used for domestic purposes.
5. Only a well driller licensed in the State of Arizona is authorized to drill, deepen or modify a well. A well driller may commence drilling a well only if the well drilling contractor or licensee has possession of a drilling card at the well site, issued by the Director in the name of the well drilling contractor or licensee, authorizing the drilling of the specific well in the specific location.
6. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land in an Irrigation Non-Expansion Area or Active Management Area to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.
7. The drilling, deepening, or modification of this well shall be completed within one (1) year of the date of the notice (§45-596.E.).
8. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this notice.
9. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of an annotated copy of this Notice.
10. If an individual other than the land owner or lessee signs this Notice, an original letter of authorization from the land owner/lessee, stating that the individual has permission to sign this specific Notice on their behalf, shall accompany the Notice.



Well  
TAC  
Well

SE 1/4 NW 1/4

SW 1/4 NE 1/4

S 89° 59' 20" W

2636.82'

C 1/4 COR., SECT. 18

2632.99'

N 0° 00' 10" W

S 1/4 COR., SECT. 18

568875

GROUNDWATER MANAGEMENT SUPPORT SECTION

VERBAL AUTHORIZATION TO DRILL  
IN ACCORDANCE WITH A.A.C. R12-15-810.C.

DRILLING FIRM: Weber Drilling # 272

WELL OWNER: Peter J. Lawson

TYPE OF WELL: Non Exempt - Commercial (Golf Course)

LEGAL DESCRIPTION: NE, SW, NE, Sect 18, T 24S, R 24E

IF FOR DEEPENING OR REPLACEMENT OF AN EXISTING WELL,  
LIST THE ADWR REGISTRATION NUMBER 55- 56 7713

IN AN ACTIVE MANAGEMENT AREA (AMA) OR IRRIGATION NON-  
EXPANSION AREA (INA), SAME OWNER, SAME LEGAL  
DESCRIPTION, MORE THAN ONE WELL, REQUIRES A DIFFERENT  
PURPOSE FOR THE PROPOSED REPLACEMENT WELL. LIST THE  
DIFFERENT WELL USE: \_\_\_\_\_

NOTICE OF INTENT FILED IN ACCORDANCE WITH A.R.S. §45-596.F.  
& G.? N/A YES \_\_\_\_\_ NO \_\_\_\_\_

WELL DRILLED WITHIN 100 FEET OF SEPTIC SYSTEM OR  
HAZARDOUS WASTE SITE? \_\_\_\_\_ YES X NO \_\_\_\_\_

DATE OF VERBAL AUTHORIZATION: June 3, 1998 TIME: 3:00 p.m.

BY: AJ Ramsey TO: Don Weber

REASON FOR VERBAL AUTHORIZATION: Original well  
was not drilled deep enough and cased  
deep enough. Had to be replaced.  
May Abandon the old hole.

# Turquoise Valley, Inc.

1791 Newell Road  
P.O.Box 727  
Naco, Az. 85620-0727  
520-432-3025 office  
520-432-7233 fax

DATE: 6-3-98 # OF PAGES 2

COMPANY: Az Dept of WATER Resources

ATTEN: TIM CASEY

FAX: 602-417-2422 PHONE: \_\_\_\_\_

FROM: \_\_\_\_\_

SUBJECT: New Well

We made a mistake on the legal

Description of LAND

NE 1/4 of SW 1/4 of NE 1/4 - Sec 18

TWN 24S - R24E

INSTEAD of SW 1/4 SW 1/4 NW 1/4 Sec 18 Twn 24S R24E

THANK you for bring this to our Attention



Recording Requested by:  
FIRST AMERICAN TITLE



FEE # 980515143  
OFFICIAL RECORDS  
COCHISE COUNTY  
DATE 5/20/98 HOUR 11

When recorded mail to:

TURQUOISE VALLEY, INC.  
PETER LAWSON, PRESIDENT  
1791 Newell Rd., P.O. Box 727  
Naco, AZ 85620

REQUEST OF  
PIONEER TITLE AGENCY  
CHRISTINE RHODES-RECORDER  
FEE : 12.00 PAGES 2

171431

**CORPORATION  
WARRANTY DEED**

Escrow No. 281-196-302288  
Title No. 00717451

KNOW ALL MEN BY THESE PRESENTS: THAT

ROSEMEAD PROPERTIES, INC., a Nevada corporation

for the consideration of TEN AND NO/100 DOLLARS, and other valuable considerations, the GRANTOR herein does hereby convey to

TURQUOISE VALLEY, INC., an Arizona Corporation

the GRANTEE.

the following described real property situate in Cochise County, Arizona:

**PARCEL I:**

The Southeast quarter of the Northwest quarter; and the Southwest quarter of the Northeast quarter of Section 18, Township 24 South, Range 24 East of the Gila and Salt River Base and Meridian, Cochise County, Arizona.

**PARCEL II:**

An easement for ingress and egress to the real property described in Parcel I above, described as follows: The East 20.00 feet of the Northwest quarter of the Northeast quarter of Section 18, Township 24 South, Range 24 East of the Gila and Salt River Base and Meridian, Cochise County, Arizona. Grantee covenants and agrees, upon request by Grantor, to quitclaim this easement to Grantor, Rosemead Properties, Inc., provided Grantor grants to Grantee an alternative easement without additional cost to Grantee.

The real property described herein shall be used exclusively as a golf course and no improvements of any kind shall be constructed or maintained thereon except such improvements as may be directly and solely used for golf course purposes. Grantee further agrees that should the real property be used other than exclusively for golf course purposes or if improvements of any kind other than directly and solely for golf course purposes are constructed or maintained thereon, title to the real property shall, at Grantor's option, revert to Grantor or its successors, assigns, or transferees.

Grantor and Grantee agree that the foregoing covenants, restrictions, and reversion shall be covenants running with the land and shall be binding on Grantee and its successors, assigns, or transferees with respect to the real property or any part thereof, and such covenants shall inure to the benefit of and shall be enforceable by Grantor and its successors, assigns, or transferees.

SUBJECT TO: Existing taxes, assessments, liens, encumbrances, covenants, conditions, restrictions, rights of way and easements of record.

And the GRANTOR does warrant the title against all persons whomsoever, subject to the matters above set forth.

IN WITNESS WHEREOF, the GRANTOR has caused its corporate name to be signed by the undersigned officers.

DATED: 5-5-98

ROSEMEAD PROPERTIES, INC., a Nevada corporation

*M. L. Whitehead*

By: M. L. Whitehead  
As Its: Vice President

*T. J. Ryan*

By: T. J. Ryan  
As Its: Secretary

WELL REGISTRY REPORT - WELLS55

Location D 24 0 24 0 18 B C C

WR 567713

AMA NOT WITHIN ANY AMA OR INA

Name TURQUOISE VALLEY INC  
PO BOX 727

File Type NEW WELLS (INTENTS OR APPLICATIONS)  
Application/Issue Date 03/11/1998

NACO AZ 85620

Owner OWNER  
Driller Nbr 613  
Driller Name ARIZONA DRILLING LLP  
Driller Phone 520-456-2355  
County COCHISE  
GPM

Well Type NON-EXEMPT  
SubBasin NO SUBBASIN  
Watershed SAN PEDRO RIVER  
Water Uses DOMESTIC  
Well Uses WATER PRODUCTION  
Discharge Method NO DISCHARGE METHOD LISTED  
Power NO POWER CODE LISTED

Well Depth 200.00 Case Diam 10.00 Tested Cap 0.00  
Pump Cap. 0.00 Case Depth 144.00 CRT I  
Draw Down 0.00 Water Level 100.00 Log X  
Completed Acres Irrig 0.00 Finish NO CASING CODE LISTED

Comments

Current Action

04/24/1998 750 WELL LOG RECEIVED

Action History

04/14/1998 755 WELL CONSTRUCTION COMPLETED  
03/27/1998 550 DRILLING AUTHORITY ISSUED  
03/11/1998 150 NOI RECEIVED FOR A NEW PRODUCTION WELL

# ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street, Phoenix, Arizona 85004  
Telephone (602) 417-2470  
Fax (602) 417-2422



JANE DEE HULL  
Governor

RITA P. PEARSON  
Director

June 19, 1998

PETER J LAWSON  
P O BOX 727  
NACO, AZ 85620

Registration No. 55-568875  
File No.D(24-24) 18 ACA

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to replace a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Completion Report is to be submitted when pump equipment is installed. The Drilling Card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the Drilling Card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized.

ARS §45-600 requires the registered well owner to submit a completion report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

**If in the course of drilling a new well, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.**

Per ARS §45-593 (C), the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed a Change of Well Information Form should it be needed in the future.

Sincerely,

Kay McNeely  
Water Resource Technician  
Groundwater Management Support Section

**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
500 North Third Street  
Phoenix, Arizona 85004-3903**

**THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS**

**WELL REGISTRATION NO: 55-568875**

**AUTHORIZED DRILLER: WEBER DRILLING**

**LICENSE NO: 272**

**NOTICE OF INTENTION TO REPLACE A NON-EXEMPT WELL HAS BEEN FILED WITH THE DEPARTMENT BY:**

**WELL OWNER: PETER J LAWSON P O BOX 727 NACO, AZ 85620**

**The well(s) is/are to be located in the:**

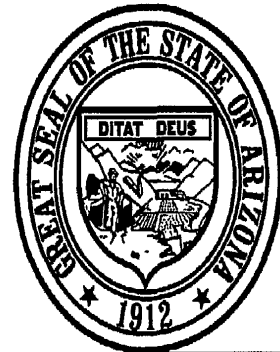
**NE 1/4 of the SW 1/4 of the NE 1/4 Section 18 Township 24 SOUTH Range 24 EAST**

**No. of wells in this project: 1**

**THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 1ST DAY OF JUNE, 1999.**

  
\_\_\_\_\_  
**CHIEF, GROUNDWATER MANAGEMENT SUPPORT**

**THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING**



JUN - 2 1998

*Well  
File  
well*

1320.34'

N 6° 00' 45" W

SW 1/4 NW 1/4

SW 1/4 NE 1/4

W 1/4 COR., SECT. 18

E 1/4 COR., SECT. 18

S 89° 59' 20" W 1318.30'

S 89° 59' 20" W

2656.82'

S 89° 59' 20" W 1318.51'

BRASS CAP MON. IN P.H.

C 1/4 COR., SECT. 18

2632.99'

N 6° 00' 45" W

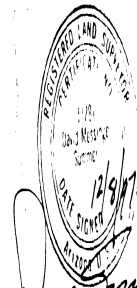
RECORDATION

THIS PLAT WAS RECORDED AT THE  
REQUEST OF BISBEE ENGINEERING  
ON THIS \_\_\_ DAY OF \_\_\_ 199\_\_\_ IN  
BOOK \_\_\_ OF SURVEYS AT PAGE \_\_\_  
THEREIN.

S 1/4 COR., SECT. 18

CHRISTINE RHODES, COCHISE COUNTY RECORDER

FEE# \_\_\_\_\_



*David J. Messinger*

BOUNDARY SURVEY OF SW 1/4, NE  
AND SE 1/4, NW 1/4, SECTION 18,  
T 24 S, R 24 E, G. B. SRB & M, CO  
CO., AZ.

**Bisbee Engineer**

P.O. Box 1555, Bisbee, AZ  
(520) 432-4800



RLS 11281 YELLOW CAP MON. SET ( TYP. )

N 0° 00' 45" W 1320.34'

SE 1/4 NW 1/4

SW 1/4 NE 1/4

*W. 1/4*

S 0° 00' 00" W 1318.51'

W 1/4 COR., SECT. 18

E 1/4 COR., SECT. 18

S 89° 59' 20" W 1318.30'

S 89° 59' 20" W 2636.82'

S 89° 59' 20" W 1318.51'

BRASS CAP MON. IN H.H.

C 1/4 COR., SECT. 18

N 0° 00' 10" W 2632.99'


RECORDATION

THIS PLAT WAS RECORDED AT THE REQUEST OF BISBEE ENGINEERING ON THIS \_\_\_\_ DAY OF \_\_\_\_ 199\_\_ IN BOOK \_\_\_\_ OF SURVEYS AT PAGE \_\_\_\_ THEREIN.

S 1/4 COR., SECT. 18

CHRISTINE RHODES, COCHISE COUNTY RECORDER

FEE# \_\_\_\_\_

  
*Paul J. ...*

BOUNDARY SURVEY OF SW 1/4, NE AND SE 1/4, NW 1/4, SECTION 18, T 24 S, R 24 E, G 8 SRB 8 M, COCHISE CO., AZ.

**Bisbee Engineer**  
P.O. Box 1555, Bisbee, AZ  
(520) 432-4800

58875



**REGISTRATION OF EXISTING WELLS**

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
PRINT OR TYPE - FILE IN DUPLICATE

**REGISTRATION FEE (CHECK ONE)**  
EXEMPT WELL (NO CHARGE)   
NON-EXEMPT WELL - \$10.00

FOR OFFICE USE ONLY  
REGISTRATION NO. 55- 645050  
FILE NO. D(24-24)18  
FILED 6-10-82 AT 11A  
(DATE) (TIME)  
INA \_\_\_\_\_  
AMA \_\_\_\_\_

1. Name of Registrant: GUSTAVO E. VALENZUELA  
P.O. Box 14 Naco, AZ 85620  
(Address) (City) (State) (Zip)

2. File and/or Control Number under previous groundwater law:  
\_\_\_\_\_  
(File Number) 35- \_\_\_\_\_  
(Control Number)

3. a. The well is located within the \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4, Section 18,  
of Township NACO 24 N/S, Range 24 EW, G & SRB & M, in the  
County of COCHISE

b. If in a subdivision: Name of subdivision NACO, ARIZONA  
Lot No. 507, Address BLOCK 7 -

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
DOMESTIC

5. If for irrigation use, number of acres irrigated from well \_\_\_\_\_.

6. Owner of land on which well is located. If same as Item 1, check this box   
\_\_\_\_\_  
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)  
a. Depth of Well 167 feet  
b. Diameter of casing 6 inches  
c. Depth of casing 150 feet  
d. Type of casing STEEL  
e. Maximum pump capacity \_\_\_\_\_ gallons per minute.  
f. Depth to water 115 feet below land surface.  
g. Date well completed \_\_\_\_\_  
(Month) (Day) (Year) 1947

8. The place(s) of use of water. If same as Item 3, check this box   
\_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
\_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE 6/8/82 SIGNATURE OF REGISTRANT Gustavo E Valenzuela

# INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

## General Instructions

1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form in duplicate with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.
2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.
3. No registration fee is required for Exempt Wells. A \$10.00 registration fee must accompany registration forms for all Non-Exempt Wells.
4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.
5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

## INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.
2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.
3.
  - a. Fill in the Section, Township and Range in all cases if it is available.
  - b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.
4. Show all purposes for which the water is used.
5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.
6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.
7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.
8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.
9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue  
Phoenix, Arizona 85007

DEPARTMENT OF WR

AUG 8 - 1994

WELL DRILLER REPORT

OPERATIONS DIV.

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: M. Rozzano and P. MEED  
Address: 1443 W. Hull Ranch Rd. Bisbee ) Az. 85603  
Street City State Zip
2. Driller Name: L. B. Drilling  
Address: Box 4166 Huachuca City ) Az. 85616  
Street City State Zip
3. Location: 24 N(S) 24 (E)W 5 SW 1/4 SW 1/4 SW 1/4  
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55- 544535 (Required)
5. Permit No. \_\_\_\_\_ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 320 ft.
7. Type of casing PVC
8. Diameter and length of casing 6 in. from 0 to 320, \_\_\_\_\_ in from \_\_\_\_\_ to \_\_\_\_\_.
9. Method of sealing at reduction points \_\_\_\_\_
10. Perforated from 320 to 280, from \_\_\_\_\_ to \_\_\_\_\_, from \_\_\_\_\_ to \_\_\_\_\_.
11. Size of cuts 1/8 Number of cuts per foot three
12. If screen was installed: Length \_\_\_\_\_ ft. Diam \_\_\_\_\_ in. Type \_\_\_\_\_
13. Method of construction drilled air  
(drilled, dug, driven, bored, jetted, etc)
14. Date started July 8 1994  
Month Day Year
15. Date completed July 9 1994  
Month Day Year
16. Depth to water 226 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available  
ground level
18. If flowing well, state method of flow regulation: N/A
19. Remarks: blem 30 gpm.

**DO NOT WRITE IN THIS SPACE  
OFFICE RECORD**

Registration No. 55-544535  
File No. D(24-24)5ccc  
Received By \_\_\_\_\_  
Entered **ENTERED** AUG 8 1994



**ARIZONA DEPARTMENT OF WATER RESOURCES**

DEPARTMENT OF WR

15 South 15th Avenue  
Phoenix, Arizona 85007

Registration No. 55-544535

AUG 1 - 1994

File No. \_\_\_\_\_

OPERATIONS DIV.

**COMPLETION REPORT**

1. Per A.R.S. § 45-600, the Completion Report is to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
2. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.
3. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.
4. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

**LOCATION OF THE WELL:**

24 N/S Township      24 E/W Range      5 Section      SW 1/4 10-acre      SW 1/4 40-acre      SW 1/4 160-acre

**EQUIPMENT INSTALLED:**

Kind of pump Submersible  
Turbine, centrifugal, etc.

Kind of power Electric      H.P. Rating of Motor 3 HP.  
Electric, natural gas, gasoline, etc.

Pumping Capacity 20 Gallons per minute      Date pump installed: 7-8-94

**WELL TEST:**

Test pumping capacity 24 Gallons per minute      Date Well Tested: 7-8-94

Method of Discharge Measurement Orifice  
Weir, orifice, current meter, etc.

Static Groundwater Level 225' ft. Drawdown 15' ft.

Total Pumping Lift \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ lbs.  
(Flowing Well)

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

Mary E. Rozzano  
Date

ENTERED AUG 9 1994

Larry A. WEED  
MARY E. ROZZANO  
Print Well Owner's Name

Mary E. Rozzano  
Signature of Well Owner or Agent

1443 W. HALL RANCH RD.  
Address

Bisbee AZ 85603  
City State Zip

Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

JUN 28 1994 MR

OPERATIONS DIV

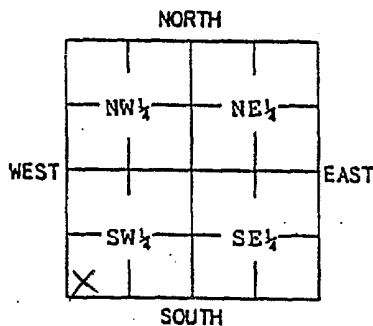
NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 24 NB 2. Range 24 EW 3. Section 5
4. SW 1/4 SW 1/4 SW 1/4
5. County Assessor's I.D. 102 | 40 | 0028

6. County Cochise



INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt

8. Action Requested: Drill New Well X; or Deepen, Replace, Modify, Well No. 55-

9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes No X

10. Will this proposed well pump Colorado River Water? Yes No X (See item 10 on reverse side)

11. Applicant: Owner X Lessee
Mary Rozzano & Peggy Weed
1743 W Hull Ranch Rd
Dishoe Az 85603
City State Zip
Telephone 602-432-4889

12. Owner or Lessee of Land at wellsite: Same
Name
Mailing Address
City State Zip
Telephone:

13. Owner of well: Same
Name
Mailing Address
City State Zip
Telephone:

DO NOT WRITE IN THIS SPACE
Office Record
File No. D(24-24)5CCC
Filed 6-28-94 By mk
Input ENTERED JUL - 7 1994
Mailed 7-6-94 By mk
Registration No. 55-544535
INA
W/S 13 S/B

PLACE OF USE:
14. Township 24 NB
Range 24 EW
15. Section 5
16. Legal description of land: SW 1/4 SW 1/4 SW 1/4

DESCRIPTION OF PROPOSED WELL:
17. Diameter 6 inches
Depth 300 feet
Type of Casing PVC
Design Pump Capacity: 25 gallons per minute
18. Estimate of total annual pumping: 1.8 acre feet
19. Principal use of water: (be specific) domestic
20. Other uses intended: (be specific) livestock

21. Number of Multiple Drinking Water connections, if any: None
(See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth the number of acres to be irrigated: N/A
23. Construction will start about:

Month Year
DRILLING FIRM:
24. Firm L. B. DRILLING
Mailing Address BOX 4166 TUCUACUC CITY, AZ 85616
City D. W. R. LIC. #344 B.O.C. LIC #076141-005(AA) #058233-006(C-53) Zip
DWR License Number
ROC License classification

GENERAL INSTRUCTIONS

- 1. Fill out this form in DUPLICATE and send WITH \$10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

Mary E Rozzano & Peggy Weed
Typed or printed name

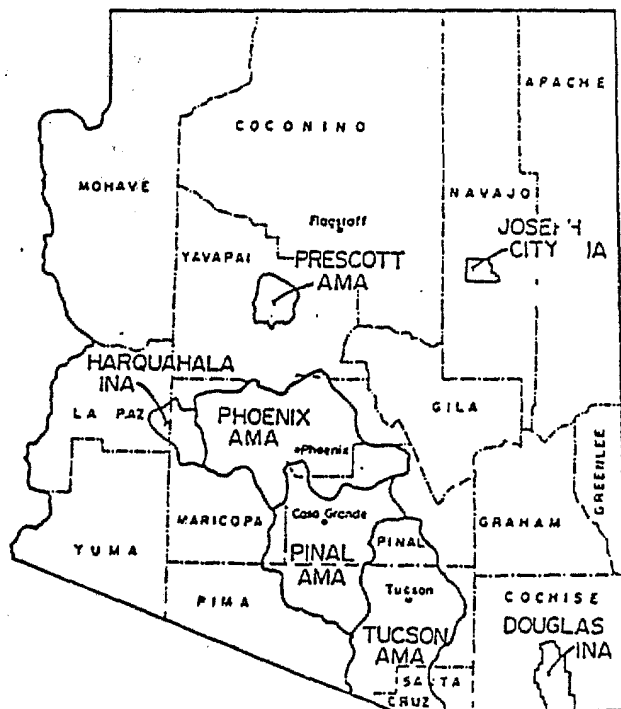
Mary E Rozzano
Signature [ ] Land Owner [ ] Lessee of wellsite
Peggy A. Weed

June 26, 1994
Date

**SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS**

1. Receipt of this annotated Notice constitutes authorization to proceed in drilling, deepening, or modifying the well as set forth on this Notice.
2. Only a well driller licensed in the State of Arizona is authorized to drill, deepen or modify a well. A well driller may commence drilling a well only if the well drilling contractor or licensee has possession of a drilling card at the well site, issued by the Director in the name of the well drilling contractor or licensee, authorizing the drilling of the specific well in the specific location.
3. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land in an INA or AMA to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.
4. A non-exempt well is any well which exceeds the limitations, as indicated in paragraph 3 above. However, water from a non-exempt well located in an Irrigation Non-Expansion Area, may not be withdrawn to irrigate any acres which are not eligible to be irrigated pursuant to A.R.S. §45-434 or §45-437. Also, owners of non-exempt wells located in Irrigation Non-Expansion Areas, are subject to the measuring device and annual report requirements of A.R.S. §45-437.
5. Multiple Drinking Water Connections mean other parcels of land being served by your well that are not owned by you. Each separate parcel is considered one connection.
6. The drilling, deepening, or modification of this well shall be completed within one (1) year of the issuance of the drilling authority.
7. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this Notice.
8. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of an annotated copy of this Notice.
9. A sketch map showing the general boundaries of the Active Management Areas and Irrigation Non-Expansion Areas is shown at the right. Maps of greater detail are available on request.

10. If the proposed well is a non-exempt well and is located near the Colorado River and if the proposed well may pump Colorado River Water, proof must be submitted with this notice that the applicant has the legal right to use Colorado River Water. Alternately, evidence needs to be submitted that supports the contention that Colorado River water will not be withdrawn by the well. Persons near the Colorado River may wish to contact the Colorado River Management Division, Department of Water Resources at (602) 542-1960 to determine those Townships and Ranges which will be affected by these requirements or with questions regarding the proof of right.





# ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue, Phoenix, Arizona 85007  
Telephone (602) 542-1581  
Fax (602) 542-3383



FIFE SYMINGTON  
Governor

RITA P. PEARSON  
Director

July 5, 1994

M. ROZZANO & P. WOOD  
1443 W. HULL RANCH RD.  
BISBEE, AZ. 85603

Registration No. 55-544535  
File No. D(24-24)5CCC

Dear Applicant:

Enclosed is a copy of the Notice of Intention (NOI) to drill/deepen or replace a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Completion Report is to be submitted when pump equipment is installed. The Drilling Card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the Drilling Card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized. **In no case may the replacement well be more than 660 feet from the well it is replacing.**

ARS §45-600 requires the registered well owner to submit a completion report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

**If in the course of drilling a new well, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.**

Per ARS §45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed

a Change of Well Information Form should it be needed in the future.

If, in the future, it is determined that water from your well is supplied from the Colorado River and you do not have a perfected water right to Colorado River water established prior to 1929, the U.S. Bureau of Reclamation may require you to cease pumping or enter into a contract for use of Colorado River water.

Sincerely,

A handwritten signature in cursive script that reads "Ellen Kane".

Ellen Kane

Water Resource Tech I

ek

Enclosures



**ARIZONA DEPARTMENT OF WATER RESOURCES  
OPERATIONS DIVISION**

15 South 15th Avenue  
Phoenix, Arizona 85007-3223  
Phone (602) 542-1581

**DUPLICATE**

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO. 55-544535

AUTHORIZED DRILLER: L B DRILLING

LICENSE NO. 344

NOTICE OF INTENTION TO DRILL AN EXEMPT WELL HAS BEEN FILED WITH THE DEPARTMENT BY:

Owner of Well(s)

M. ROZZANO & P. WEED

1443 W. HULL RANCH RD.

BISBEE

AZ 85603

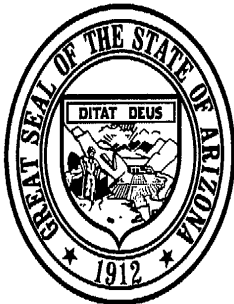
The well(s) is/are to be located in:

SW 1/4    SW1/4    SW 1/4    Section    5    Township    24.0 SOUTH    Range    24.0 EAST  
10 acre    40 acre    160 acre

NUMBER OF WELLS IN PROJECT:    1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON JUL 6TH, 1995

THE DRILLER SHALL FILE A LOG OF THE WELL WITHIN 30 DAYS OF  
COMPLETION OF DRILLING.



\_\_\_\_\_  
CHIEF, OPERATIONS DIVISION

#3 WELL

DEPARTMENT OF WATER RESOURCES  
99 EAST VIRGINIA AVENUE  
PHOENIX, ARIZONA 85004



REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
PRINT OR TYPE - FILE IN DUPLICATE

REGISTRATION FEE (CHECK ONE)  
EXEMPT WELL (NO CHARGE)   
NON-EXEMPT WELL - \$10.00

FOR OFFICE USE ONLY  
REGISTRATION NO. 55-641802  
FILE NO. D(24-24)18aad  
FILED 4-28-82 AT 11A  
(DATE) (TIME)  
INA \_\_\_\_\_  
AMA \_\_\_\_\_

- Name of Registrant: MILTON K. LUNA  
P.O. BOX 265 NACO, AZ. 85620  
(Address) (City) (State) (Zip)
- File and/or Control Number under previous groundwater law:  
N/A (File Number) 35- N/A (Control Number)
- a. The well is located within the SE 1/4 NE 1/4 NE 1/4 Section 18 NE  
of Township 24S N 24E Range 24E E/W, G & SRB & M, in the  
County of Cochise.
- b. If in a subdivision: Name of subdivision \_\_\_\_\_  
Lot No. \_\_\_\_\_, Address \_\_\_\_\_
- The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
Domestic
- If for irrigation use, number of acres irrigated from well \_\_\_\_\_
- Owner of land on which well is located. If same as Item 1, check this box

(Address) (City) (State) (Zip)

- Well data (If data not available, write N/A)
  - Depth of Well 200' feet
  - Diameter of casing 6" inches
  - Depth of casing 200' feet
  - Type of casing 3/8" wall - STEEL
  - Maximum pump capacity 25 gallons per minute.
  - Depth to water NA feet below land surface.
  - Date well completed Prior to 1960  
(Month) (Day) (Year)

Well #3  
See Accomp. map.

- The place(s) of use of water. If same as Item 3, check this box 

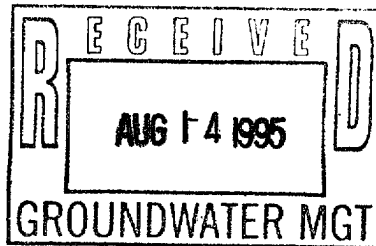
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE 4-26-82 SIGNATURE OF REGISTRANT Milton K. Luna

MICROFILMED

ARIZONA DEPARTMENT OF WATER RESOURCES  
OPERATIONS DIVISION  
15 SOUTH 15TH AVENUE  
PHOENIX, ARIZONA 85007



CHANGE OF WELL INFORMATION

Well Registration No. 55- 641802 File No. D(24-24)18AAD  
(location)

I ~~am~~ request the following well information be changed: \_\_\_\_\_

THE WELL IS LOCATED WITHIN THE SE 1/4, NE 1/4, NE 4  
SECTION 18 NE OF TOWNSHIP 24 S, RANGE 24 E, G+  
SRB.M, IN COCHISE COUNTY.  
- NEW OWNERSHIP -

Date: 9 AUG. 95 Signature of Current Well Owner Peter T. Grout

(DO NOT CUT THIS FORM IN HALF)

STATEMENT OF CHANGE OF WELL OWNERSHIP

I, PETER T. GROUT, state that I am (~~no longer~~) the (new)  
(please print)  
owner of the well described below:

SE 1/4 NE 1/4 NE 1/4; Section 18NE Township 24S Range 24E  
10 acre 40 acre 160 acre

Well Registration No. 55- 641802

File No. D(24-24)18AAD  
(location)

James H. and Ann Babbe  
PRINT Previous Owner's Name  
JAMES H AND ANN BABBE  
P.O. Box 212 Bisbee, AZ 85603  
Address

PETER T. GROUT  
PRINT New Owner's Name  
PETER GROUT  
3316 Naco Hwy, Bisbee, AZ 85603  
Address

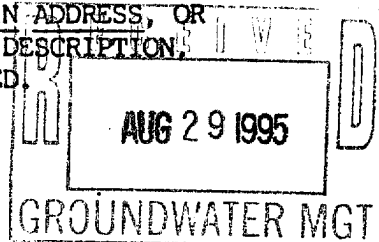
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Dated: 9 AUG. 95 Signature of New Owner Peter T. Grout

ENTERED SEP 13 1995

**NOTE:** A.R.S. §45-593.C. requires that the Department be notified of change of well ownership and that the well owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty (30) days after changes take place.

SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.



# RECEIPT

## No 22619

Peter Grout  
3316 Naco Highway  
Bisbee, AZ 85603

Seller/Buyer: Babbe/Grout

STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
500 NORTH THIRD STREET  
PHOENIX, ARIZONA 85004  
(602) 417-2405

ENTRY CODE 55

FILE NO.

THRU

ITEM DESCRIPTION	RATE	AMOUNT
Filing fee for Change of Well Ownership		10.00
Reg. No. 55-641802      D(24-24)18 AAD		

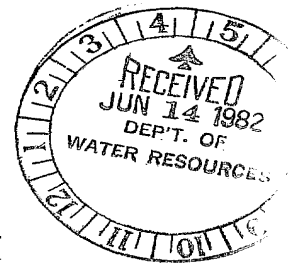
**PAID**

CHECK NO. 156      FEE ACCOUNT NO. \_\_\_\_\_      TOTAL \$ 10.00

CHIT NO. \_\_\_\_\_      RECEIVED BY Liz      DATE 8-31-95

DEPARTMENT OF WATER RESOURCES

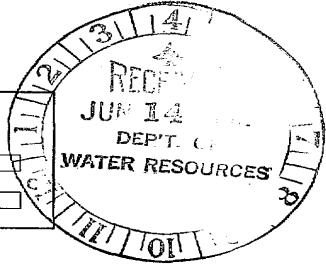
99 EAST VIRGINIA AVENUE  
PHOENIX, ARIZONA 85004



REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
PRINT OR TYPE - FILE IN DUPLICATE

REGISTRATION FEE (CHECK ONE)  
EXEMPT WELL (NO CHARGE)   
NON-EXEMPT WELL - \$10.00



FOR OFFICE USE ONLY  
REGISTRATION NO. 55- 648361  
FILE NO. D(24-24)17  
FILED 6-14-82 AT 4p  
(DATE) (TIME)  
INA \_\_\_\_\_  
AMA \_\_\_\_\_

1. Name of Registrant: Thomas James Willson  
Box 425 Naco Ariz 85620  
(Address) (City) (State) (Zip)

2. File and/or Control Number under previous groundwater law:  
\_\_\_\_\_  
(File Number) 35- \_\_\_\_\_  
(Control Number)

3. a. The well is located within the 1/4 1/4 1/4, Section 17,  
of Township N42024 N(S) Range 24 EW, G & SRB & M, in the  
County of Cochise.

b. If in a subdivision: Name of subdivision \_\_\_\_\_  
Lot No. \_\_\_\_\_, Address \_\_\_\_\_

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
Domestic

5. If for irrigation use, number of acres irrigated from well \_\_\_\_\_

6. Owner of land on which well is located. If same as Item 1, check this box   
\_\_\_\_\_  
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)  
a. Depth of Well 1607.5 feet  
b. Diameter of casing 6 1/2 inches  
c. Depth of casing 1607.5 feet  
d. Type of casing \_\_\_\_\_  
e. Maximum pump capacity \_\_\_\_\_ gallons per minute.  
f. Depth to water \_\_\_\_\_ feet below land surface.  
g. Date well completed \_\_\_\_\_  
(Month) (Day) (Year)

8. The place(s) of use of water. If same as Item 3, check this box   
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE June 12-82 SIGNATURE OF REGISTRANT Thomas James Willson  
MICROFILMED



# INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

## General Instructions

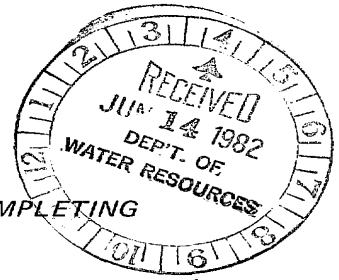
1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form in duplicate with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.
2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.
3. No registration fee is required for Exempt Wells. A \$10.00 registration fee must accompany registration forms for all Non-Exempt Wells.
4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.
5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

## INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.
2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.
3.
  - a. Fill in the Section, Township and Range in all cases if it is available.
  - b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.
4. Show all purposes for which the water is used.
5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.
6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.
7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.
8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.
9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.

DEPARTMENT OF WATER RESOURCES

99 EAST VIRGINIA AVENUE  
PHOENIX, ARIZONA 85004



REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING  
PRINT OR TYPE - FILE IN DUPLICATE

REGISTRATION FEE (CHECK ONE)

EXEMPT WELL (NO CHARGE)

NON-EXEMPT WELL - \$10.00

FOR OFFICE USE ONLY

REGISTRATION NO. 55- 648362

FILE NO. D(24-24)17 bbb

FILED 6-14-82 AT 4P  
(DATE) (TIME)

INA \_\_\_\_\_

AMA \_\_\_\_\_

1. Name of Registrant:

Thomas James Willson  
 \_\_\_\_\_  
 (Address) Box 426 (City) Mesa (State) Ariz (Zip) 85620

2. File and/or Control Number under previous groundwater law:

\_\_\_\_\_  
 (File Number) 35- (Control Number)

3. a. The well is located within the NW 1/4 NW 1/4 NW 1/4, Section 17,  
 of Township 44 N 5 E, Range 24 E, G & SRB & M, in the  
 County of Cochise.

b. If in a subdivision: Name of subdivision Chascel Purdy  
 Lot No. 10, Address Purdy Lane 102-53

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)  
Stockwater

5. If for irrigation use, number of acres irrigated from well \_\_\_\_\_

6. Owner of land on which well is located. If same as Item 1, check this box

\_\_\_\_\_  
 (Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)

a. Depth of Well 180 FT feet

b. Diameter of casing 6 in inches

c. Depth of casing 180 FT feet

d. Type of casing \_\_\_\_\_

e. Maximum pump capacity \_\_\_\_\_ gallons per minute.

f. Depth to water \_\_\_\_\_ feet below land surface.

g. Date well completed \_\_\_\_\_  
 (Month) (Day) (Year)

8. The place(s) of use of water. If same as Item 3, check this box .

1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
1/4 1/4 1/4, Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE June 12-82 SIGNATURE OF REGISTRANT Thomas James Willson

MICROFILMED

# INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

## General Instructions

1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form in duplicate with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.
2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.
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4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.
5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

## INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.
2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.
3.
  - a. Fill in the Section, Township and Range in all cases if it is available.
  - b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.
4. Show all purposes for which the water is used.
5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.
6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.
7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.
8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.
9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.

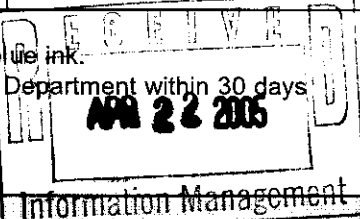


**Arizona Department of Water Resources**  
 Records Management Section  
 500 N. 3rd Street • Phoenix, Arizona 85004  
 (602) 417-2405 • (800) 352-8488  
 www.water.az.gov

**Pump Installation Completion Report**

0(24-24)18 CBB

- ❖ Review instructions prior to completing form in black or blue ink.
- ❖ The registered well owner should file this report with the Department within 30 days following installation of pump equipment.



FILE NUMBER
WELL REGISTRATION NUMBER 55-205126

**\*\* PLEASE PRINT CLEARLY \*\***

<b>SECTION 1. REGISTRY INFORMATION</b>		<b>Information Management</b>		
<b>Well Owner</b>		<b>Location of Well</b>		
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL PAUL CHARLES & ARDIS H LAUNDER		WELL LOCATION ADDRESS (IF ANY) 3535 METZLER		
MAILING ADDRESS P.O. Box 222		TOWNSHIP (N/S)	RANGE (E/W)	SECTION
CITY / STATE / ZIP CODE NACO, AZ 85620-0222		24S	24E	18
CONTACT PERSON NAME AND TITLE		180 ACRE	40 ACRE	10 ACRE
TELEPHONE NUMBER 520-432-6149		SW 1/4	NW 1/4	NE 1/4
FAX		COUNTY ASSESSOR'S PARCEL ID NUMBER (MOST RECENT)		
		BOOK 102	MAP 57	PARCEL 309-0
		COUNTY WHERE WELL IS LOCATED COCHISE		

<b>SECTION 2. EQUIPMENT INSTALLED</b>		<b>ANSWERED APR 28 2005</b>	
DATE PUMP INSTALLED 2-25-05			
<b>Pump Type</b> CHECK ONE		<b>Power Type</b> CHECK ONE	
<input type="checkbox"/> Air Lift <input type="checkbox"/> Bucket <input type="checkbox"/> Centrifugal <input type="checkbox"/> Jet <input type="checkbox"/> Piston <input type="checkbox"/> Rotary <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Turbine <input type="checkbox"/> Other (please specify):		<input type="checkbox"/> Diesel Engine <input checked="" type="checkbox"/> Electric Motor <input type="checkbox"/> Gasoline Engine <input type="checkbox"/> Hand <input type="checkbox"/> Natural Gas <input type="checkbox"/> Windmill <input type="checkbox"/> Other (please specify):	
RATED PUMP CAPACITY 106 GPM Gallons Per Minute		HORSE POWER RATING OF MOTOR 1 HP	

<b>SECTION 3. PUMP TEST</b>		
<b>Pump Test Data</b>		
DATE WELL TESTED 2-14-05		
STATIC WATER LEVEL (A) 95 Feet Below Land Surface		
PUMPING WATER LEVEL (B) 240 Feet Below Land Surface		
DRAWDOWN [(B) - (A)] 145 Feet Below Land Surface		
TEST PUMPING RATE 106 GPM Gallons Per Minute		
DURATION OF PUMP TEST (Minimum 4 Hours) 4 hrs Hours		
TOTAL PUMPING LIFT 240 Feet		
FOR FLOWING WELL, MEASURED SHUT IN HEAD <input type="checkbox"/> FT <input type="checkbox"/> PSI		
<b>Method of Discharge Measurement</b> CHECK ONE		
<input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Bucket - Barrel - Stopwatch <input type="checkbox"/> Current <input type="checkbox"/> Estimated - Air Lift <input type="checkbox"/> Gauge <input type="checkbox"/> Meter <input type="checkbox"/> Orifice <input type="checkbox"/> Volume <input type="checkbox"/> Weir - Flume <input type="checkbox"/> Other (please specify):		
<b>Method of Measuring Water Level</b> CHECK ONE		
<input type="checkbox"/> Air Line <input checked="" type="checkbox"/> Electric Measuring Line (Sonder) <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other (please specify):		

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief according to A.R.S. § 45-600(B).

SIGNATURE OF WELL OWNER <i>Paul C. Launder</i>	DATE 4-1-05
---	----------------



**ARIZONA DEPARTMENT OF WATER RESOURCES**  
 Records Management Section  
 500 N. 3rd Street \* Phoenix, Arizona 85004  
 (602) 417-2405 \* (800) 352-8488  
 www.water.az.gov

**Well Driller Report  
 and  
 Well Log**

This report should be prepared by the driller in detail and filed with the Department within 30 days following completion of the well.

**\*\* PLEASE PRINT CLEARLY \*\***

FILE NUMBER  
**D(24-24) 18 CBB**  
 WELL REGISTRATION NUMBER  
**55- 205126**  
 PERMIT NUMBER ( IF ISSUED )

SECTION 1. DRILLING AUTHORIZATION	
<b>Drilling Firm</b>	Information Management
NAME BRADLY DRILLING	DWR LICENSE NUMBER 736
ADDRESS 403 N. HUACHUCA BLVD	TELEPHONE NUMBER 520-456-2355
CITY/STATE/ZIP HUACHUCA CITY, AZ 85616	FAX 520 456 2355

SECTION 2. REGISTRY INFORMATION	
<b>Well Owner</b>	<b>Location of Well</b>
FULL NAME OF COMPANY, ORGANIZATION OR INDIVIDUAL M/M ZANDER	WELL LOCATION ADDRESS (IF KNOWN)
MAILING ADDRESS PO BOX 222	TOWNSHIP (N/S)   RANGE (E/W)   SECTION   160 ACRE   40 ACRE   10 ACRE 1/4   1/4   1/4
CITY / STATE / ZIP NACO, AZ 85620	LATITUDE   LONGITUDE 31° 20' 54" N   109° 57' 13" W
CONTACT PERSON NAME AND TITLE	LAND SURFACE ELEVATION AT WELL Feet Above Sea Level
TELEPHONE NUMBER 520-432-6149	FAX
WELL NAME	METHOD OF LATITUDE / LONGITUDE (CHECK ONE) <input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input type="checkbox"/> GPS : <input type="checkbox"/> Hand-Held <input type="checkbox"/> Survey-Grade
	COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK 102 MAP 57 PARCEL 309
	COUNTY WHERE WELL IS LOCATED Cochise

SECTION 3. WELL CONSTRUCTION DETAILS		
<b>Drill Method</b>	<b>Method of Well Development</b>	<b>Method of Sealing at Reduction Points</b>
CHECK ONE <input type="checkbox"/> Air Rotary <input type="checkbox"/> Bored or Augered <input type="checkbox"/> Cable Tool <input type="checkbox"/> Dual Rotary <input checked="" type="checkbox"/> Mud Rotary <input type="checkbox"/> Reverse Circulation <input type="checkbox"/> Driven <input type="checkbox"/> Jetted <input type="checkbox"/> Air Percussion / Odex Tubing <input type="checkbox"/> Other (please specify)	CHECK ONE <input checked="" type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Back <input type="checkbox"/> Surge Pump <input type="checkbox"/> Other (please specify)	CHECK ONE <input checked="" type="checkbox"/> None <input type="checkbox"/> Packed <input type="checkbox"/> Swedged <input type="checkbox"/> Welded <input type="checkbox"/> Other (please specify) NATIVE
	<b>Condition of Well</b>	<b>Condition of Well</b>
	CHECK ONE <input type="checkbox"/> Capped <input checked="" type="checkbox"/> Pump Installed	DATE WELL CONSTRUCTION STARTED 2-7-05 DATE WELL CONSTRUCTION COMPLETED 2-10-05

I state that this notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief.

DRILLING FIRM <i>Bradly Drilling</i>	SIGNATURE OF QUALIFYING PARTY <i>[Signature]</i>	DATE 2/25/05
---	---	-----------------

**SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILT)** (attach additional page if needed)

DEPTH OF BORING <b>280'</b> Feet Below Land Surface	DEPTH OF COMPLETED WELL <b>280'</b> Feet Below Land Surface
--	--

Water Level Information			
STATIC WATER LEVEL <b>165'</b> Feet Below Land Surface	DATE MEASURED <b>2-15-05</b>	TIME MEASURED <b>NOON</b>	IF FLOWING WELL, METHOD OF FLOW REGULATION <input type="checkbox"/> Valve <input type="checkbox"/> Other:

Borehole			Installed Casing													
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (X)			PERFORATION TYPE (X)					SLOT SIZE IF ANY (inches)		
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE		SLOTTED	IF OTHER TYPE, DESCRIBE
<b>0</b>	<b>20</b>	<b>8 1/8"</b>	<b>0</b>	<b>20</b>	<b>8 1/8"</b>	<b>X</b>				<b>X</b>						
<b>20</b>	<b>280</b>	<b>8"</b>	<b>10</b>	<b>220</b>	<b>6"</b>		<b>X</b>			<b>X</b>						
			<b>220</b>	<b>260</b>	<b>6"</b>		<b>X</b>						<b>X</b>			<b>1/8"</b>

Installed Annular Material												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (X)						FILTER PACK				
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE			IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
						GROUT	CHIPS	PELLETS				
<b>0</b>	<b>20</b>		<b>X</b>									
<b>20</b>	<b>280</b>	<b>X</b>							<b>NATIVE</b>			

Well Driller Report and Well Log

WELL REGISTRATION NUMBER  
**55-205126**

**SECTION 5. GEOLOGIC LOG OF WELL**

DEPTH FROM SURFACE		DESCRIPTION Describe material, grain size, color, etc.	Check (X) every interval where water was encountered
FROM (feet)	TO (feet)		
0	6	Top Soil	
6	55	Sand & Gravel	
55	145	Sand & Gravel & Clay	
145	280	Layer Sand & Gravels & Clays	X

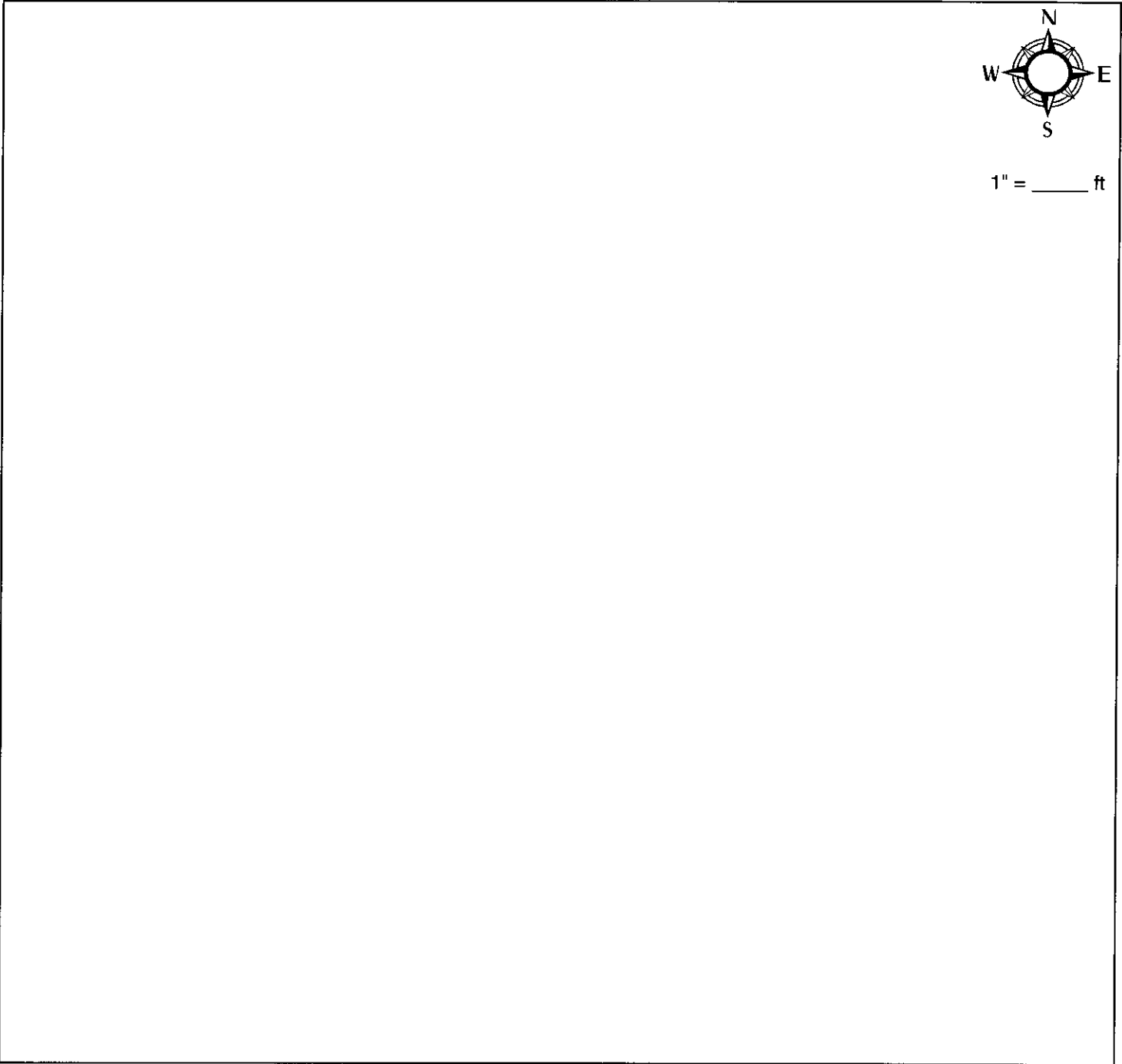
**Weil Driller Report and Well Log**

WELL REGISTRATION NUMBER  
**55- 205126**

**SECTION 6. WELL SITE PLAN**

NAME OF WELL OWNER <b>M/M ZANDER</b>	COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK <b>102</b>	MAP <b>57</b>	PARCEL <b>309</b>
---	---	---------------	-------------------

- ✦ Please draw the following: (1) the boundaries of property on which the well was located; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well.
- ✦ Please indicate the distance between the well location and any septic tank system or sewer system.



1" = \_\_\_\_\_ ft



Notice of Intent to Drill, Deepen, Replace or Modify a Well

WELL REGISTRATION NUMBER  
55 - 205126

SEP - 9 2004

CHECK ONE  FILING MANUALLY  
 FILING ELECTRONICALLY\*

\*DRILLER'S E-MAIL ADDRESS

\*COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL CODE

COUNTY APPROVAL CODE

If applicant is filing this NOI electronically via the ADWR website and County approval is required, please indicate approval by providing a County Approval Code

WELL SITE PLAN

NAME OF WELL OWNER

M/M Zander

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK

102

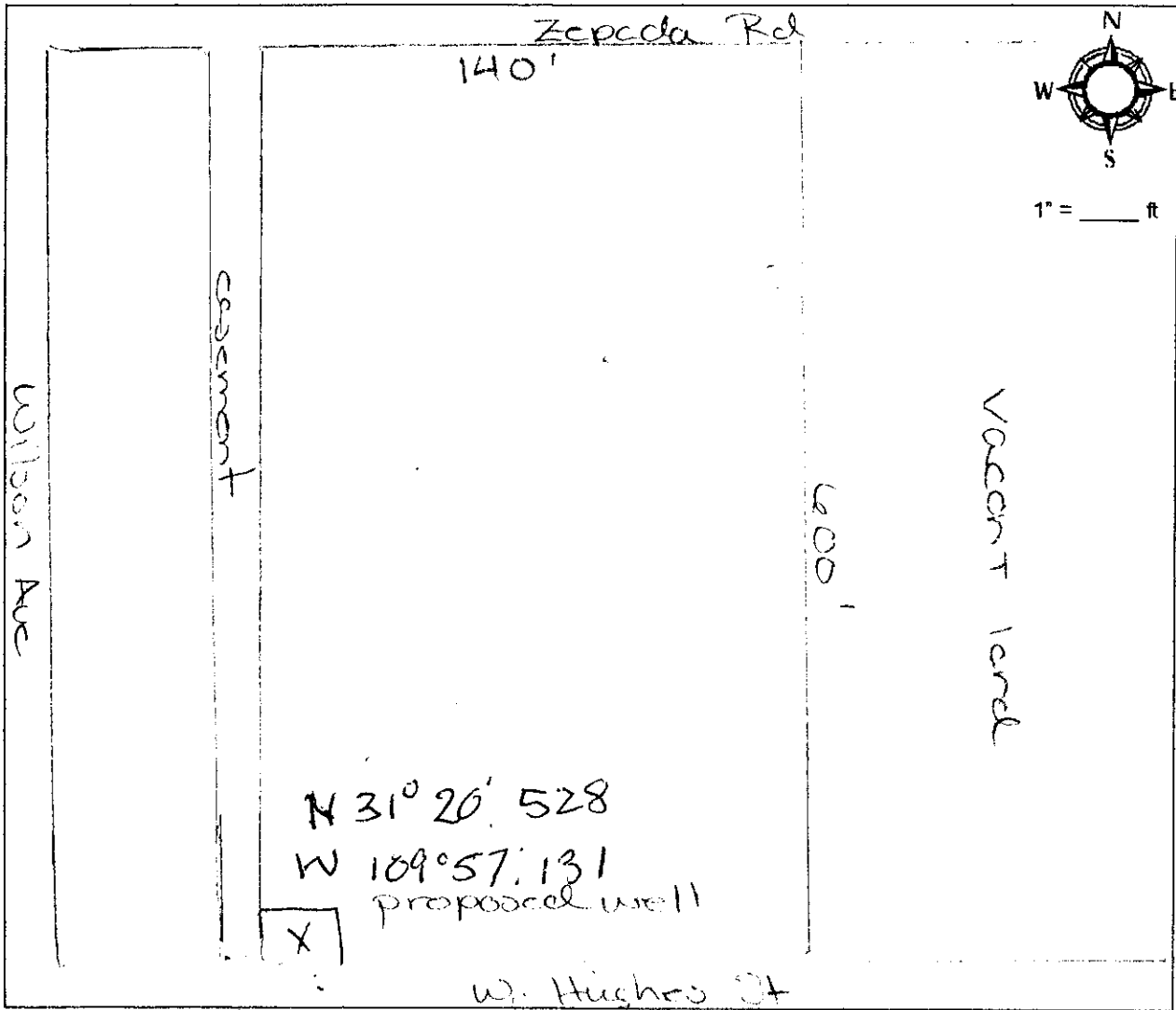
MAP

57

PARCEL

309-0

- ❖ If this well will be a domestic well on 5 acres or less, please draw the following: (1) the boundaries of your property; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well. If the parcel is vacant land or lacks a septic tank or sewer system, please indicate this.
- ❖ Indicate the distance between the proposed well location and any septic tank system or sewer system.



COUNTY OR LOCAL AUTHORITY NAME AND TITLE Carla Diaz R.S.		APPROVED BY THE COUNTY Official County or Local Seal or Stamp ENVIRONMENTAL HEALTH	
COUNTY OR LOCAL AUTHORITY SIGNATURE Carla Diaz		DATE Sept 8, 2004	
TELEPHONE NUMBER 520-432-9447	DATE Sept 8, 2004		

**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION  
500 North Third Street  
Phoenix, Arizona 85004**

**THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS**

**WELL REGISTRATION NO: 55-205126**

**AUTHORIZED DRILLER: BRADLY DRILLING**

**LICENSE NO: 736**

**NOTICE OF INTENTION TO DRILL AN EXEMPT WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:**

**WELL OWNER: M/M ZANDER PO BOX 222 NACO, AZ 85620**

**The well(s) is/are to be located in the:**

**NW ¼ of the NW ¼ of the SW ¼ Section 18 Township 24 SOUTH Range 24 EAST**

**No. of wells in this project: 1**

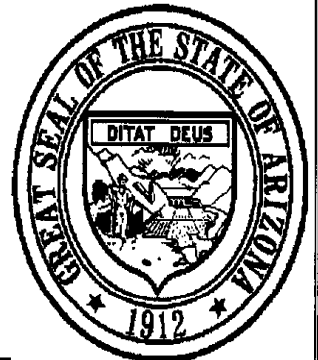
**Assessor Parcel No: 102-57-309**

**THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 8TH DAY OF SEPTEMBER, 2005**

*Shannon L. Key*

**GROUNDWATER MANAGEMENT SUPPORT**

**THE DRILLER MUST FILE A LOG OF THE WELL  
WITHIN 30 DAYS OF COMPLETION OF DRILLING**





**Arizona Department of Water Resources**  
 Water Management Support Section  
 P.O. Box 458 • Phoenix, Arizona 85001-0458  
 (602) 417-2470 • (800) 352-8488  
 (602) 417-2422 fax • www.water.az.gov

**\$150 or  
\$75 FEE**

**Notice of Intent to  
Drill, Deepen, Replace or Modify a Well**

(except a Non-Exempt Well in an Active Management Area)

- ❖ Review instructions prior to completing form in black or blue ink.
- ❖ You must include with your Notice:
- Check or money order in the amount of the appropriate filing fee. For a well located within an AMA or INA, the fee is \$150.00. For a well not located within an AMA or INA, the fee is \$75.00 if the well will be used solely for domestic purposes (see page 2 and instructions) and will have a pump with a maximum capacity of not more than 35 gallons per minute. Otherwise, the fee is \$150.00.
- ❖ Authority for fee: A.R.S. § 45-596.

**\*\* PLEASE PRINT CLEARLY \*\***

AMA/INA	B	SB
9-9-04	76	
RECEIVED DATE	WS	
9-13-04	11	
ISSUED DATE	WQARF	CERCLA

FILE NUMBER  
**D24-2418 C8B**

WELL REGISTRATION NUMBER  
**55-205126**

**SECTION 1. COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL (if applicable)**

If water from the proposed well will be used for domestic purposes on a parcel of land of 5 or fewer acres, the applicable county or local health authority must endorse all items in Section 1 within one year before submission to the Department of Water Resources. You must also attach a site plan (pg. 3).

CHECK ONE

County or Local Health Authority Recommends Approval (pursuant to A.R.S. § 45-596 (G) and (F))

Field Inspection Performed

Site Plan Review Only


Insufficient Information to Make a Determination

**Official County or Local Seal or Stamp**

APPROVED BY THE COCHISE COUNTY ENVIRONMENTAL HEALTH DIVISION

DATE Sept 8 2004

BY John Diaz R.S.



COUNTY OR LOCAL AUTHORITY NAME AND TITLE  
Cochise County R.S.

TELEPHONE NUMBER 520 432-9442 DATE Sept 8, 2004

COUNTY OR LOCAL AUTHORITY SIGNATURE  
Cochise County R.S.

**SECTION 2. REGISTRY INFORMATION**

<b>Well Type</b> CHECK ONE <input checked="" type="checkbox"/> Exempt (Pump has a maximum capacity of not more than 35 gpm and water is not used for irrigation purposes inside an AMA.) (See instructions.) <input type="checkbox"/> Non-Exempt (Pump has a maximum capacity of more than 35 gpm or water is used for irrigation purposes inside an AMA.) (See instructions.)	<b>Proposed Action</b> CHECK ONE <input checked="" type="checkbox"/> Drill New Well <input type="checkbox"/> Deepen <input type="checkbox"/> Replace <input type="checkbox"/> Modify If Deepening, Replacing or Modifying: ORIGINAL WELL REGISTRATION NUMBER 55 - MAXIMUM CAPACITY OF ORIGINAL WELL Gallons Per Minute	<b>Location of Well</b> WELL LOCATION ADDRESS (IF ANY) TOWNSHIP (N/S) RANGE (E/W) SECTION 160 ACRE 40 ACRE 10 ACRE <u>24 24 18 SW 1/4 NW 1/4 NW 1/4</u> COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK MAP PARCEL # OF ACRES <u>102 57 309-0 4.29</u> PLACE OF WATER USE (ONLY IF DIFFERENT FROM LOCATION OF WELL) TOWNSHIP (N/S) RANGE (E/W) SECTION 160 ACRE 40 ACRE 10 ACRE <u>24 24 18 SW 1/4 NW 1/4 NW 1/4</u> DESIGN PUMP CAPACITY <u>20</u> Gallons Per Minute DISTANCE & DIRECTION FROM ORIGINAL WELL Feet <u>Cochise</u> COUNTY WHERE WELL IS LOCATED
---	--	--

**SECTION 3. OWNER INFORMATION**

<b>Well Owner</b> FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL <u>m/m Zander</u> MAILING ADDRESS <u>P.O. Box 222</u> CITY / STATE / ZIP CODE <u>Naco, AZ 85620-0222</u> CONTACT PERSON NAME AND TITLE <u>Paul Zander</u> TELEPHONE NUMBER <u>(520) 432-6149</u>	<b>Landowner (if different from Well Owner)</b> FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL MAILING ADDRESS CITY / STATE / ZIP CODE CONTACT PERSON NAME AND TITLE TELEPHONE NUMBER FAX
--	---

**SECTION 4.**

Questions	Yes	No	If Yes:
1. Is the proposed well site within 100 feet of a septic tank system, sewer disposal area, landfill, hazardous materials or petroleum storage area or tank?		X	You must also request a variance (A.A.C. R12-15-818).
2. Is there another well name or identification number associated with this well?		X	PLEASE STATE
3. Is the proposed well the second exempt well on this parcel for the same use?		X	If the proposed well is in an Active Management Area, you must also file a supplemental form 55-40A.

Notice of Intent to Drill, Deepen, Replace or Modify a Well

WELL REGISTRATION NUMBER  
55 - 205126

**SECTION 5. DRILLING AUTHORIZATION** | **SECTION 6. WATER / SITE INFORMATION**

<b>Drilling Firm</b>		<b>Principal Use of Water</b>		<b>Other Uses of Water</b>	
NAME <i>Bradley Drilling, Inc.</i>		CHECK ONE		CHECK ALL THAT APPLY	
DWR LICENSE NUMBER <i># 736</i>	ROC LICENSE CATEGORY <i>C53 184176</i>	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Irrigation	
TELEPHONE NUMBER <i>(520) 456-2355</i>	FAX <i>#4 184175</i>	<input type="checkbox"/> Utility	<input type="checkbox"/> Utility	<input type="checkbox"/> Utility	
MAILING ADDRESS <i>403 N. Hurchuec Blvd</i>		<input type="checkbox"/> Commercial	<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Commercial	<input type="checkbox"/> Domestic
CITY / STATE / ZIP CODE <i>Hurchuec City AZ 85616</i>		<input type="checkbox"/> Municipal	<input type="checkbox"/> Municipal	<input type="checkbox"/> Municipal	<input type="checkbox"/> Municipal
		<input type="checkbox"/> Industrial	<input type="checkbox"/> Industrial	<input type="checkbox"/> Industrial	<input type="checkbox"/> Industrial
		<input type="checkbox"/> Mining	<input type="checkbox"/> Mining	<input type="checkbox"/> Mining	<input type="checkbox"/> Mining
		<input type="checkbox"/> Stock	<input type="checkbox"/> Stock	<input type="checkbox"/> Stock	<input type="checkbox"/> Stock
		<input type="checkbox"/> Recharge	<input type="checkbox"/> Recharge	<input type="checkbox"/> Recharge	<input type="checkbox"/> Recharge
		<input type="checkbox"/> Dewatering	<input type="checkbox"/> Dewatering	<input type="checkbox"/> Dewatering	<input type="checkbox"/> Dewatering
		<input type="checkbox"/> Other (please specify):	<input type="checkbox"/> Other (please specify):	<input type="checkbox"/> Other (please specify):	<input type="checkbox"/> Other (please specify):

SEP - 9 2004

**SECTION 7. PROPOSED WELL CONSTRUCTION DESIGN** (attach separate sheet if needed) | DATE CONSTRUCTION IS TO BEGIN  
*9/15/04*

Borehole			Casing														
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE ( T )				PERFORATION TYPE ( T )					GROUTING MATERIAL		
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED		IF OTHER TYPE, DESCRIBE	
φ	20	10"	0	20'	6 5/8"	X*											Cement
20	200	8"	20	160	6 5/8"	X											
			160	200	6 5/8"	X											

\* ADWR well construction standards require a surface seal consisting of a minimum of 20 feet of steel casing. Cement grout must be used to fill the annular space between the surface casing and the borehole. (A.A.C. R12-15-811(B))

The Department's issuance of an authorization to drill a well is not a determination of whether water withdrawn from the well is legally surface water or groundwater. The legal nature of the water withdrawn from the well may be the subject of court action in the future as part of a determination of surface water rights in your area. If there are court proceedings that could affect your well, you will be notified and be given the opportunity to participate. If you have questions regarding the legal nature of the water to be withdrawn from your proposed well, please consult with an experienced civil engineer, hydrologist or water rights attorney.

For the purposes of determining appropriate fees outside AMAs or INAs, "domestic purposes" is defined as "uses related to the supply, service and activities of households and private residences and includes the application of water to less than 2 acres of land to produce plants or parts of plants for sale or human consumption, or for use as feed for livestock, range livestock or poultry, as such terms are defined in A.R.S. § 3-1201."

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE <i>PAUL C ZANDER</i>	
SIGNATURE OF WELL OWNER <i>Paul Zander</i>	DATE <i>8-19-04</i>
SIGNATURE OF LANDOWNER, IF APPLICABLE (SEE INSTRUCTIONS)	DATE

Notice of Intent to Drill, Deepen, Replace or Modify a Well

WELL REGISTRATION NUMBER  
55 - 205126

SEP - 9 2004

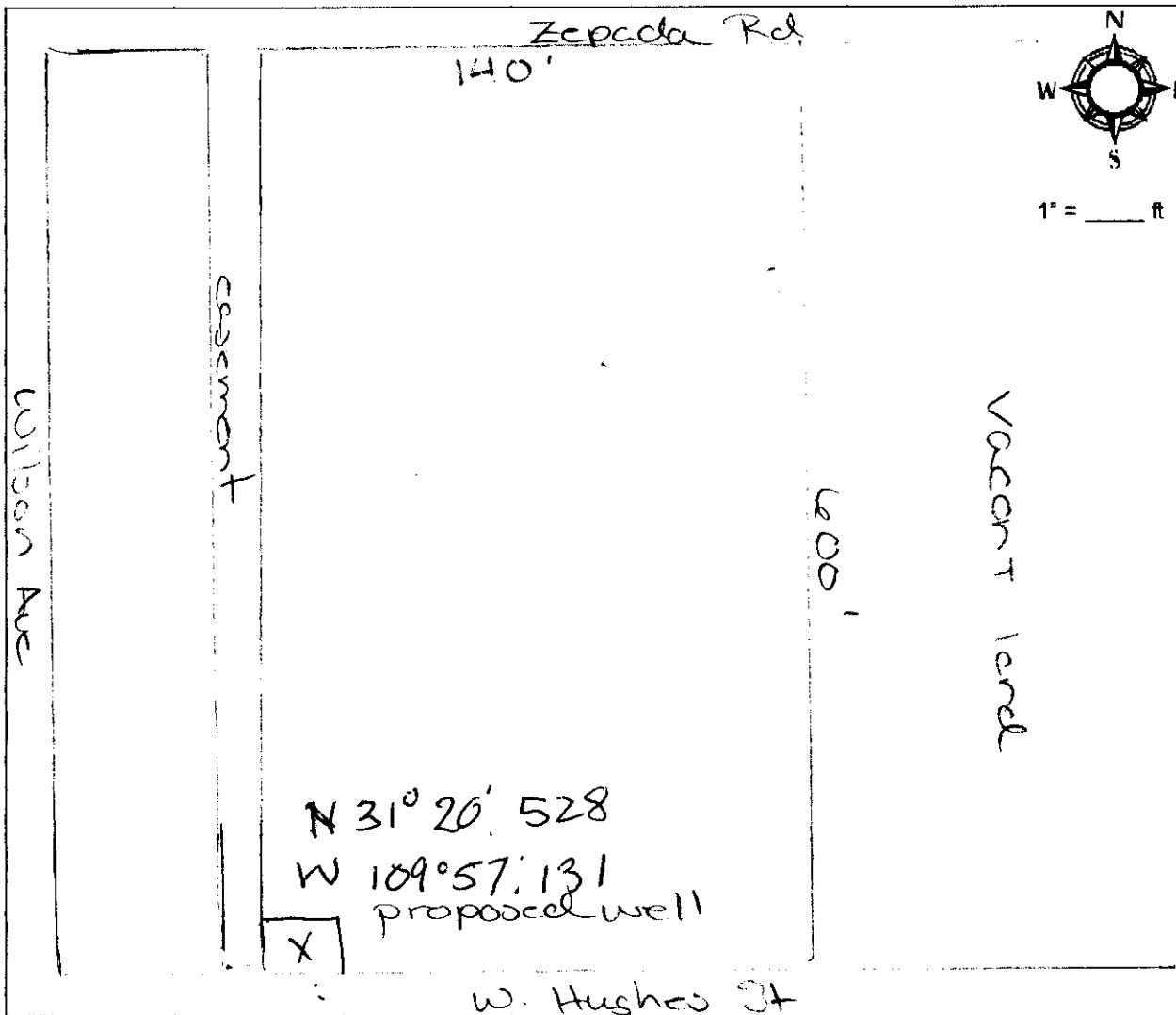
CHECK ONE:  FILING MANUALLY  
 FILING ELECTRONICALLY\*

\*DRILLER'S E-MAIL ADDRESS:

*COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL CODE	COUNTY APPROVAL CODE
If applicant is filing this NOI electronically via the ADWR website and County approval is required, please indicate approval by providing a County Approval Code.	

WELL SITE PLAN		
NAME OF WELL OWNER	COUNTY ASSESSOR'S PARCEL ID NUMBER	
m/m Zander	BOOK	MAP
	102	57
		PARCEL
		309-0

- ❖ If this well will be a domestic well on 5 acres or less, please draw the following: (1) the boundaries of your property; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well. If the parcel is vacant land or lacks a septic tank or sewer system, please indicate this.
- ❖ Indicate the distance between the proposed well location and any septic tank system or sewer system.



COUNTY OR LOCAL AUTHORITY NAME AND TITLE Cala D'Ag R.S.	APPROVED BY THE COUNTY OF CALIFORNIA Official County or Local Seal or Stamp
COUNTY OR LOCAL AUTHORITY SIGNATURE Cala D'Ag	ENVIRONMENTAL HEALTH DIVISION
TELEPHONE NUMBER 520-432-9442	DATE Sept 8, 2004
DATE Sept 8, 2004	BY Cala D'Ag R.S.

**ARIZONA DEPARTMENT OF WATER RESOURCES  
WATER MANAGEMENT SUPPORT SECTION - NOI UNIT**

500 North Third Street, Phoenix, Arizona 85004  
Telephone 602 417-2470  
Fax 602 417-2422



**JANET NAPOLITANO**  
Governor

**HERB GUENTHER**  
Director

October 12, 2004

PAUL & ARDIS ZANDER  
PO BOX 222  
NACO AZ 85620-0222

Re: NOI to Drill 55-205126

Dear Applicant:

Enclosed please find a refund check in the amount of seventy-five dollars (\$75.00). The Department is refunding a portion of the NOI filing fees because of overpayment on your part. The appropriate filing fee for a well not located within an AMA or INA, is \$75 if the well will be used solely for domestic purposes and will have a pump with a maximum capacity of not more than 35 gallons per minute.

If you have any questions about the refund, please contact Jeannie Aguilar of the Water Management Support Section at 602-417-2470.

Sincerely,

A handwritten signature in black ink that reads "Jeannie Aguilar".

Jeannie Aguilar  
NOI Unit

Enclosures

**ARIZONA DEPARTMENT OF WATER RESOURCES  
WATER MANAGEMENT SUPPORT SECTION –  
NOI UNIT**

**MEMORANDUM**

**DATE:** October 12, 2004  
**TO:** LIHUA LI, FINANCIAL SERVICES  
**FROM:** JEANNIE AGUILAR, WATER MANAGEMENT SUPPORT SECTION  
**RE:** REFUND  
**APPLICATION:** WELL REGISTRATION NUMBER 55-205126

**DUE TO OVERPAYMENT OF \$75.00, PLEASE PREPARE A REFUND CHECK MADE PAYABLE TO:**

**PAUL & ARDIS ZANDER  
PO BOX 222  
NACO AZ 85620-0222**

**ENCLOSED ARE COPIES OF THE NOI AND CHECK #1001 IN THE AMOUNT OF \$150.00. PLEASE PROVIDE ME WITH A COPY OF THE REFUND CHECK FOR FUTURE REFERENCE.**

**CC: FILE**

**ARIZONA DEPARTMENT OF WATER RESOURCES**

500 North 3rd Street, Phoenix, Arizona 85004

Telephone (602) 417-2470

Fax (602) 417-2422

September 13, 2004



**Janet Napolitano**  
Governor

**Herb Guenther**  
Director

M/M ZANDER  
PO BOX 222  
NACO, AZ 85620 - 0222

Registration No. 55-205126

File No. D(24-24) 18 CBB

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to Drill a well that you recently filed with this Department pursuant to A.R.S. § 45-596. This is to inform you that the Department has approved the NOI and has mailed or otherwise provided a drilling card authorizing the drilling of the well to the well driller identified in the NOI. The driller may not begin drilling until he has received the drilling card, which must be displayed on the drill rig during drilling.

Well drilling activities must be completed within one year after the date the NOI was filed with the Department. If drilling is not completed within one year, you must file a new NOI before proceeding with further drilling. If in the course of drilling the well, it is determined that the well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the well must be properly abandoned and a Well Abandonment Completion Report must be filed as required by A.A.C. R12-15-816(F).

If you change drillers, you must notify the Department of the new driller's identity. Please ensure that the new driller is licensed by the Department to drill the type of well you require. A new driller may not begin drilling until he receives a new drilling card from the Department. If you are drilling a new or replacement well and it is necessary to change the location of the proposed well, you may not proceed with drilling until you file an amended NOI with the Department and the Department issues an amended drilling card to the driller. If county approval was required for the original well site plan (this applies to domestic wells on parcels that are five acres or less), you must submit a new well site plan with the new well location to your local county health authority for approval prior to filing the amended NOI with the Department.

A.R.S. § 45-600 requires the registered well owner to complete and file a Pump Installation Completion Report form (DWR form 55-56) within 30 days after the installation of pumping equipment. A form is enclosed for your use. Also enclosed is a well owner's guide that provides useful information and advice concerning your upcoming well construction project. A.R.S. § 45-600 also requires the driller to file a complete and accurate Well Drillers Report and Well Log (DWR form 55-55) within 30 days after completion of drilling. That form was mailed to your driller with the drilling card. You should insist and ensure that all of the required forms are accurately completed and timely filed with the Department.

Please be advised that A.R.S. § 45-593(C) requires the person to whom a well is registered to notify the Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. Any change in well information or a request to change well driller must be filed on a Request to Change Well Information form (DWR form 55-71A) that may be downloaded from the ADWR Internet website at <<http://www.water.az.gov/adwr/content/forms/default.htm#NOI>>.

Sincerely,

A handwritten signature in cursive script that reads "Jeannie Aguilar".

Jeannie Aguilar  
NOI Unit  
Water Management Support Section

Enclosures





**Arizona Department of Water Resources**  
 Water Management Support Section  
 P.O. Box 458 • Phoenix, Arizona 85001-0458  
 (602) 417-2470 • (800) 352-8488  
 (602) 417-2422 fax www.water.az.gov

\$150 or  
\$75 FEE

**Notice of Intent to  
 Drill, Deepen, Replace or Modify a Well**  
 (except a Non-Exempt Well in an Active Management Area)

- Review instructions prior to completing form in black or blue ink.
- You must include with your Notice:
- Check or money order in the amount of the appropriate filing fee. For a well located within an AMA or INA, the fee is \$150.00. For a well not located within an AMA or INA, the fee is \$75.00 if the well will be used solely for domestic purposes (see page 2 and instructions) and will have a pump with a maximum capacity of not more than 35 gallons per minute. Otherwise, the fee is \$150.00.
- Authority for fee: A.R.S. § 45-596.

AMA / INA	B	SB
RECEIVED	DATE	WS
ISSUED	DATE	WQARF CERCLA

FILE NUMBER

WELL REGISTRATION NUMBER

**55 - 205126**

\*\* PLEASE PRINT CLEARLY \*\*

**SECTION 1. COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL (if applicable)**

If water from the proposed well will be used for domestic purposes on a parcel of land of 5 or fewer acres, the applicable county or local health authority must endorse all items in Section 1 within one year before submission to the Department of Water Resources. You must also attach a site plan (pg. 3).

CHECK ONE

- County or Local Health Authority Recommends Approval (pursuant to A.R.S. § 45-596 (G) and (F))
  - Field Inspection Performed
  - Site Plan Review Only
- Insufficient Information to Make a Determination

COUNTY OR LOCAL AUTHORITY NAME AND TITLE

Yavapai County R.S.

**Official County or Local Seal or Stamp**

APPROVED BY THE COCHISE COUNTY  
 ENVIRONMENTAL HEALTH DIVISION  
 DATE Sept 8 2004  
 BY John Darg R.S.



PAUL ZANDER  
 ARDIS ZANDER  
 P.O. BOX 222  
 NACO, AZ 85620-0222

[Redacted]  
 Date 8/8/04

1001

Pay to the Order of ADWR

One hundred fifty and 00/100 Dollars

\$ 150.00

WELLS FARGO  
 Wells Fargo Bank, N.A.  
 2187 El Mercado Loop  
 Sierra Vista, AZ 85635  
 wells Fargo.com

Memo

[Redacted memo text]

SIGNATURE

Paul Zander R.S.

50 ACRE	40 ACRE	10 ACRE
<u>1/4</u>	<u>1/4</u>	<u>1/4</u>

PARCEL # OF ACRES

BO9-0

POINT FROM LOCATION OF WELL)

50 ACRE	40 ACRE	10 ACRE
<u>SW 1/4</u>	<u>NW 1/4</u>	<u>NW 1/4</u>

**SECTION 3. OWNER INFORMATION**

**Well Owner**

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL  
M/M Zander

MAILING ADDRESS  
P.O. Box 222

CITY / STATE / ZIP CODE  
NACO, AZ 85620-0222

CONTACT PERSON NAME AND TITLE

TELEPHONE NUMBER  
(520) 432-6149

**Landowner (if different from Well Owner)**

FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL

MAILING ADDRESS

CITY / STATE / ZIP CODE

CONTACT PERSON NAME AND TITLE

TELEPHONE NUMBER FAX

**SECTION 4.**

**Questions**

Questions	Yes	No	If Yes:
1. Is the proposed well site within 100 feet of a septic tank system, sewer disposal area, landfill, hazardous materials or petroleum storage area or tank?		<u>X</u>	You must also request a variance (A.A.C. R12-15-818).
2. Is there another well name or identification number associated with this well?		<u>X</u>	PLEASE STATE
3. Is the proposed well the second exempt well on this parcel for the same use?		<u>X</u>	If the proposed well is in an Active Management Area, you must also file a supplemental form 55-40A.

**APPENDIX C**

**ANALYTICAL LABORATORY REPORTS FROM ACZ LABORATORIES, INC.**

February 19, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67529

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 05, 2008. This project has been assigned to ACZ's project number, L67529. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67529. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 19, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: ROGERSEACZ Sample ID: **L67529-01**  
Date Sampled: 02/04/08 09:40  
Date Received: 02/05/08  
Sample Matrix: Ground Water

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	4.6		*	mg/L	0.5	3	02/09/08 19:38	aml

Arizona license number: **AZ0102**

**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: RAMIREZACZ Sample ID: **L67529-02**  
Date Sampled: 02/04/08 11:00  
Date Received: 02/05/08  
Sample Matrix: Ground Water

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	7.6		*	mg/L	0.5	3	02/09/08 20:32	aml

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**

Project ID: 872001.0

Sample ID: ZANDER

ACZ Sample ID: **L67529-03**

Date Sampled: 02/04/08 15:00

Date Received: 02/05/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	5.7		*	mg/L	0.5	3	02/09/08 20:50	aml

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L67529**

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240236</b>													
WG240236ICV	ICV	02/09/08 14:30	WI080128-8	50.1		51.88	mg/L	103.6	90	110			
WG240236ICB	ICB	02/09/08 14:48				U	mg/L		-1.5	1.5			
L67529-01AS	AS	02/09/08 19:56	WI080128-9	30	4.6	33.74	mg/L	97.1	90	110			
L67529-01DUP	DUP	02/09/08 20:14			4.6	4.59	mg/L				0.2	20	RA
WG240236ICV1	ICV	02/11/08 18:09	WI080128-8	50.1		51.63	mg/L	103.1	90	110			
WG240236ICB1	ICB	02/11/08 18:27				U	mg/L		-1.5	1.5			
WG240236LFB	LFB	02/11/08 18:45	WI080128-9					106.2	90	110			



Hydro Geo Chem, Inc.

ACZ Project ID: **L67529**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67529-01	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67529-02	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67529-03	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67529**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67529  
 Date Received: 2/5/2008  
 Received By:  
 Date Printed: 2/5/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5428	3.6	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67529  
 Date Received: 2/5/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67529-01	ROGERSE									X		<input type="checkbox"/>
L67529-02	RAMIREZ									X		<input type="checkbox"/>
L67529-03	ZANDER									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

L67529

# ACZ Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

### Report to:

Name: DAN SIMPSON  
 Company: HYDRO GEO CHEM INC  
 E-mail: DANS@HGCINC.COM

Address: 51 W. WETMORE RD  
 TUCSON AZ 85705  
 Telephone: (520) 293-1500 X133

### Copy of Report to:

Name: JIM NORRIS  
 Company: HGC

E-mail: JIMN@HGCINC.COM  
 Telephone: (520) 293-1500 x112

### Invoice to:

Name: JIM NORRIS  
 Company: HYDRO GEO CHEM  
 E-mail: JIMN@HGCINC.COM

Address: 51 W. WETMORE RD  
 TUCSON AZ 85705  
 Telephone: (520) 293 1500 X112

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES  NO   
 If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

### PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: 504-IC  
 Project/PO #: 872001.0  
 Reporting state for compliance testing: AZ  
 Sampler's Name: MARK ARNESEN  
 Are any samples NRC licensable material? NO

Quote #	Project/PO #	Reporting state	Sampler's Name	Are any samples NRC licensable material?	Matrix	# of Containers											
504-IC	872001.0	AZ	MARK ARNESEN	NO		504											
ROGERSE	02/04/2008 0940	W				1	✓										
RAMIREZ	02/04/2008 1100	GW				1	✓										
ZANDER	02/04/2008 1500	GW				1	✓										

SAMPLE IDENTIFICATION	DATE:TIME	Matrix
ROGERSE	02/04/2008 0940	W
RAMIREZ	02/04/2008 1100	GW
ZANDER	02/04/2008 1500	GW

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

### REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<i>[Signature]</i>	1604: 2/4/08	<i>[Signature]</i>	2-5-08 10:33

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road, Suite 101  
Tucson, AZ 85705

March 4, 2008

cc: Jim Norris

Project ID: 872001.0  
ACZ Project ID: L67530

Dan Simpson:

Enclosed are revised analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 05, 2008 and reported on February 19, 2008. Refer to the case narrative for an explanation of the changes. This project was assigned to ACZ's project number, L67530. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67530. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 19, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years. Please notify your Project Manager if you have other needs.

If you have any questions, please contact your Project Manager or Customer Service Representative.



Scott Habermehl has reviewed  
and approved this report.



Hydro Geo Chem, Inc.

March 04, 2008

Project ID: 872001.0

ACZ Project ID: L67530

#### Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 1 ground water sample from Hydro Geo Chem, Inc. on February 5, 2008. The sample was received in good condition. Upon receipt, the sample custodian removed the sample from the cooler, inspected the contents, and logged the sample into ACZ's computerized Laboratory Information Management System (LIMS). The sample was assigned ACZ LIMS project number L67530. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

#### Holding Times

All analyses were performed within EPA recommended holding times.

#### Sample Analysis

This sample was analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

1. This project has been revised to include an analysis for Fluoride which was originally missed.

**Hydro Geo Chem, Inc.**

Project ID: 872001.0  
Sample ID: GARNER635

ACZ Sample ID: **L67530-01**  
Date Sampled: 02/04/08 12:10  
Date Received: 02/05/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	39.2			mg/L	0.2	1	02/11/08 22:14	wfg
Magnesium, dissolved	M200.7 ICP	8.2			mg/L	0.2	1	02/11/08 22:14	wfg
Potassium, dissolved	M200.7 ICP	2.8		*	mg/L	0.3	2	02/11/08 22:14	wfg
Sodium, dissolved	M200.7 ICP	65.0		*	mg/L	0.3	2	02/11/08 22:14	wfg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		182			mg/L	2	20	02/06/08 0:00	lcp
Carbonate as CaCO3			U		mg/L	2	20	02/06/08 0:00	lcp
Hydroxide as CaCO3			U		mg/L	2	20	02/06/08 0:00	lcp
Total Alkalinity		182			mg/L	2	20	02/06/08 0:00	lcp
Cation-Anion Balance	Calculation								
Cation-Anion Balance		5.8			%			03/03/08 0:00	calc
Sum of Anions		4.9			meq/L	0.1	0.5	03/03/08 0:00	calc
Sum of Cations		5.5			meq/L	0.1	0.5	03/03/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	13.7			mg/L	0.5	3	02/09/08 21:08	aml
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	02/28/08 11:26	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	1.68			mg/L	0.02	0.1	03/03/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1.69		*	mg/L	0.02	0.1	02/05/08 18:29	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	0.01	B	*	mg/L	0.01	0.05	02/05/08 18:29	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	290			mg/L	10	20	02/06/08 15:02	lcp
Sulfate	300.0 - Ion Chromatography	37.8		*	mg/L	0.5	3	02/09/08 21:08	aml
TDS (calculated)	Calculation	284			mg/L	10	50	03/03/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.02						03/03/08 0:00	calc

Arizona license number: AZ0102



**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L67530**

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240091</b>													
WG240091PBW1	PBW	02/06/08 14:09				U	mg/L		-20	20			
WG240091LCSW2	LCSW	02/06/08 14:20	WC080131-1	820		811.3	mg/L	98.9	90	110			
L67534-01DUP	DUP	02/06/08 17:01			490	497	mg/L				1.4	20	
WG240091PBW2	PBW	02/06/08 17:07				U	mg/L		-20	20			
WG240091LCSW5	LCSW	02/06/08 17:20	WC080131-1	820		815.1	mg/L	99.4	90	110			
WG240091LCSW8	LCSW	02/06/08 18:29	WC080131-1	820		810.5	mg/L	98.8	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240225</b>													
WG240225ICV	ICV	02/11/08 19:57	II080115-3	100		98.37	mg/L	98.4	95	105			
WG240225ICB	ICB	02/11/08 20:01				U	mg/L		-0.6	0.6			
WG240225LFB	LFB	02/11/08 20:17	II080125-1	67.97008		71.81	mg/L	105.6	85	115			
L67521-02AS	AS	02/11/08 21:24	II080125-1	67.97008	10	83.24	mg/L	107.8	85	115			
L67521-02ASD	ASD	02/11/08 21:28	II080125-1	67.97008	10	83.83	mg/L	108.6	85	115	0.71	20	

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240236</b>													
WG240236ICV	ICV	02/09/08 14:30	WI080128-8	19.98		20.48	mg/L	102.5	90	110			
WG240236ICB	ICB	02/09/08 14:48				U	mg/L		-1.5	1.5			
WG240236LFB	LFB	02/09/08 15:06	WI080128-9	30		31.21	mg/L	104	90	110			
L67529-01AS	AS	02/09/08 19:56	WI080128-9	30	23.2	52.44	mg/L	97.5	90	110			
L67529-01DUP	DUP	02/09/08 20:14			23.2	23.51	mg/L				1.3	20	
WG240236ICV1	ICV	02/11/08 18:09	WI080128-8	19.98		20.65	mg/L	103.4	90	110			
WG240236ICB1	ICB	02/11/08 18:27				U	mg/L		-1.5	1.5			

**Fluoride** SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240886</b>													
WG240886ICV	ICV	02/28/08 11:14	WC080227-1	2		1.97	mg/L	98.5	90	110			
WG240886ICB	ICB	02/28/08 11:19				U	mg/L		-0.3	0.3			
WG240886LFB1	LFB	02/28/08 11:24	WC080226-1	5		5.24	mg/L	104.8	90	110			
L67530-01AS	AS	02/28/08 11:29	WC080226-1	5	.2	6.26	mg/L	121.2	90	110			M1
L67530-01DUP	DUP	02/28/08 11:31			.2	.21	mg/L				4.9	20	RA
WG240886LFB2	LFB	02/28/08 12:51	WC080226-1	5		4.93	mg/L	98.6	90	110			

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240225</b>													
WG240225ICV	ICV	02/11/08 19:57	II080115-3	100		100.71	mg/L	100.7	95	105			
WG240225ICB	ICB	02/11/08 20:01				U	mg/L		-0.6	0.6			
WG240225LFB	LFB	02/11/08 20:17	II080125-1	54.96908		59.26	mg/L	107.8	85	115			
L67521-02AS	AS	02/11/08 21:24	II080125-1	54.96908	1.9	62.77	mg/L	110.7	85	115			
L67521-02ASD	ASD	02/11/08 21:28	II080125-1	54.96908	1.9	63.98	mg/L	112.9	85	115	1.91	20	

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L67530**

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240054</b>													
WG240054ICV	ICV	02/05/08 18:18	WI071212-1	2.416		2.401	mg/L	99.4	90	110			
WG240054ICB	ICB	02/05/08 18:19				U	mg/L		-0.06	0.06			
WG240054LFB	LFB	02/05/08 18:23	WI070911-4	2		1.961	mg/L	98.1	90	110			
L67496-01AS	AS	02/05/08 18:26	WI070911-4	2	.12	2.118	mg/L	99.9	90	110			
L67526-01DUP	DUP	02/05/08 18:28			.07	.069	mg/L				1.4	20	RA

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240054</b>													
WG240054ICV	ICV	02/05/08 18:18	WI071212-1	.609		.633	mg/L	103.9	90	110			
WG240054ICB	ICB	02/05/08 18:19				U	mg/L		-0.03	0.03			
WG240054LFB	LFB	02/05/08 18:23	WI070911-4	1		1.028	mg/L	102.8	90	110			
L67496-01AS	AS	02/05/08 18:26	WI070911-4	1	.02	1.024	mg/L	100.4	90	110			
L67526-01DUP	DUP	02/05/08 18:28			U	U	mg/L				0	20	RA

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240225</b>													
WG240225ICV	ICV	02/11/08 19:57	II080115-3	20		21.05	mg/L	105.3	95	105			
WG240225ICB	ICB	02/11/08 20:01				U	mg/L		-0.9	0.9			
WG240225LFB	LFB	02/11/08 20:17	II080125-1	99.76186		112.8	mg/L	113.1	85	115			
L67521-02AS	AS	02/11/08 21:24	II080125-1	99.76186	.9	118	mg/L	117.4	85	115			M1
L67521-02ASD	ASD	02/11/08 21:28	II080125-1	99.76186	.9	120.95	mg/L	120.3	85	115	2.47	20	M1

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240101</b>													
WG240101PBW	PBW	02/06/08 15:00				U	mg/L		-20	20			
WG240101LCSW	LCSW	02/06/08 15:01	PCN28840	260		272	mg/L	104.6	80	120			
L67537-02DUP	DUP	02/06/08 15:15			620	614	mg/L				1	20	

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240225</b>													
WG240225ICV	ICV	02/11/08 19:57	II080115-3	100		104.05	mg/L	104.1	95	105			
WG240225ICV	ICV	02/11/08 19:57	II080115-3	100		101.7	mg/L	101.7	95	105			
WG240225ICB	ICB	02/11/08 20:01				U	mg/L		-6	6			
WG240225ICB	ICB	02/11/08 20:01				U	mg/L		-0.9	0.9			
WG240225LFB	LFB	02/11/08 20:17	II080125-1	98.21624		108.7	mg/L	110.7	85	115			
WG240225LFB	LFB	02/11/08 20:17	II080125-1	98.21624		110.3	mg/L	112.3	85	115			
L67521-02AS	AS	02/11/08 21:24	II080125-1	98.21624	3.4	115.1	mg/L	113.7	85	115			
L67521-02ASD	ASD	02/11/08 21:28	II080125-1	98.21624	3.4	118.17	mg/L	116.9	85	115	2.63	20	MA

Hydro Geo Chem, Inc.

ACZ Project ID: **L67530**

Project ID: 872001.0

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240236</b>													
WG240236ICV	ICV	02/09/08 14:30	WI080128-8	50.1		51.88	mg/L	103.6	90	110			
WG240236ICB	ICB	02/09/08 14:48				U	mg/L		-1.5	1.5			
L67529-01AS	AS	02/09/08 19:56	WI080128-9	30	4.6	33.74	mg/L	97.1	90	110			
L67529-01DUP	DUP	02/09/08 20:14			4.6	4.59	mg/L				0.2	20	RA
WG240236ICV1	ICV	02/11/08 18:09	WI080128-8	50.1		51.63	mg/L	103.1	90	110			
WG240236ICB1	ICB	02/11/08 18:27				U	mg/L		-1.5	1.5			
WG240236LFB	LFB	02/11/08 18:45	WI080128-9					106.2	90	110			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67530**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67530-01	WG240225	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG240886	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240054	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67530**

No certification qualifiers associated with this analysis

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67530  
 Date Received: 2/5/2008  
 Received By:  
 Date Printed: 2/5/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5428	3.6	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67530  
 Date Received: 2/5/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67530-01	GARNER635		Y									<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



# ACZ Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

### Report to:

Name: Jan Simpson  
 Company: Hydro Geo Chem Inc.  
 E-mail: jan.s@hgcinc.com

Address: 51 W. Wetmore Rd.  
Tucson, AZ 85705  
 Telephone: 520) 293-1500 x133

### Copy of Report to:

Name: Jim Norris  
 Company: HGC Inc.

E-mail: Jimn@hgcinc.com  
 Telephone: 520) 293-1500 x112

### Invoice to:

Name: Jim Norris  
 Company: HGC Inc.  
 E-mail: Jimn@hgcinc.com

Address: 51 W. Wetmore Rd  
Tucson, AZ 85737  
 Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES  NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

### PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: FMCQB-GW  
 Project/PO #: 872001.0  
 Reporting state for compliance testing: AZ  
 Sampler's Name: Mark Arneson  
 Are any samples NRC licensable material? No

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	ANALYSES REQUESTED											
				Ca	Na	Mg	K	TDS	SO <sub>4</sub>	NO <sub>3</sub> -NO <sub>2</sub> -Cl-F					
GARNER635	2/4/08: 1210	GW	3	X	X	X									

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

### REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>[Signature]</u>	<u>2/4/08.1604</u>	<u>[Signature]</u>	<u>2/05/08 10:33</u>

February 19, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67560

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 06, 2008. This project has been assigned to ACZ's project number, L67560. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67560. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 19, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872001.0

Sample ID: RUIZ

ACZ Sample ID: **L67560-01**

Date Sampled: 02/05/08 08:50

Date Received: 02/06/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	263		*	mg/L	3	10	02/11/08 19:03	aml

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: BLOMMERACZ Sample ID: **L67560-02**  
Date Sampled: 02/05/08 10:20  
Date Received: 02/06/08  
Sample Matrix: Ground Water

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	206		*	mg/L	3	10	02/11/08 19:21	aml

Arizona license number: **AZ0102**

**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: NOTEMANACZ Sample ID: **L67560-03**  
Date Sampled: 02/05/08 12:15  
Date Received: 02/06/08  
Sample Matrix: Ground Water

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	310		*	mg/L	10	50	02/11/08 19:39	aml

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L67560**

Project ID: 872001.0

**Sulfate**

300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240236</b>													
WG240236ICV	ICV	02/09/08 14:30	WI080128-8	50.1		51.88	mg/L	103.6	90	110			
WG240236ICB	ICB	02/09/08 14:48				U	mg/L		-1.5	1.5			
L67529-01AS	AS	02/09/08 19:56	WI080128-9	30	4.6	33.74	mg/L	97.1	90	110			
L67529-01DUP	DUP	02/09/08 20:14			4.6	4.59	mg/L				0.2	20	RA
WG240236ICV1	ICV	02/11/08 18:09	WI080128-8	50.1		51.63	mg/L	103.1	90	110			
WG240236ICB1	ICB	02/11/08 18:27				U	mg/L		-1.5	1.5			
WG240236LFB	LFB	02/11/08 18:45	WI080128-9					106.2	90	110			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67560**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67560-01	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67560-02	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67560-03	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67560-04	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67560-05	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).



**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67560**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67560  
 Date Received: 2/6/2008  
 Received By:  
 Date Printed: 2/6/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5435	0.3	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67560  
 Date Received: 2/6/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67560-01	RUIZ									X		<input type="checkbox"/>
L67560-02	BLOMMER									X		<input type="checkbox"/>
L67560-03	NOTEMAN									X		<input type="checkbox"/>
L67560-04	MARTIN									X		<input type="checkbox"/>
L67560-05	CAMPBELL									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

L67560

# ACZ Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

### Report to:

Name: DAN SIMPSON  
 Company: HGC  
 E-mail: DANS@HGCINC.COM

Address: 51 WEST WETMORE ROAD  
SUIT 101 TUCSON AZ 85705  
 Telephone: (520) 293 1500 X133

### Copy of Report to:

Name: JIM NORRIS  
 Company: HYDRO GEO CHEM

E-mail: JIMN@HGCINC.COM  
 Telephone: (520) 293 1500 X112

### Invoice to:

Name: JIM NORRIS  
 Company: HYDRO GEO CHEM  
 E-mail: JIMN@HGCINC.COM

Address: 51 W. WETMORE RD  
#101 293 1500 X112  
 Telephone: (520) 293 1500 X112

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES   
 NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO"

is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

### PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: <u>S04--TC</u>	# of Containers	S04--																				
Project/PO #: <u>872001.0</u>																						
Reporting state for compliance testing: <u>AZ</u>																						
Sampler's Name: <u>ALI PANDAMOLIZ</u>																						
Are any samples NRC licensable material?																						

SAMPLE IDENTIFICATION	DATE:TIME	Matrix																		
<u>RUIZ</u>	<u>02/05/2008-0850</u>	<u>GW</u>																		
<u>BLOMMER</u>	<u>02/05/2008-1020</u>	<u>GW</u>																		
<u>NOTEMAN</u>	<u>02/05/2008-1215</u>	<u>GW</u>																		
<u>MARTIN</u>	<u>02/05/2008-1350</u>	<u>GW</u>																		
<u>CAMPBELL</u>	<u>02/05/2008-1525</u>	<u>GW</u>																		

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

### REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>Ali Pandamoliz</u>	<u>02/05/2008-1640</u>	<u>[Signature]</u>	<u>2-6-08 11:20</u>

February 20, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67573

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 07, 2008. This project has been assigned to ACZ's project number, L67573. Please reference this number in all future inquiries.

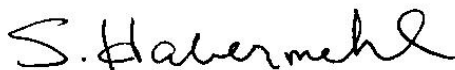
All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67573. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 20, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872001.0  
Sample ID: KEEFER

ACZ Sample ID: **L67573-01**  
Date Sampled: 02/06/08 09:00  
Date Received: 02/07/08  
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	6.8		*	mg/L	0.5	3	02/09/08 23:32	aml

Arizona license number: **AZ0102**

**Hydro Geo Chem, Inc.**

Project ID: 872001.0

Sample ID: FRANCO

ACZ Sample ID: **L67573-02**

Date Sampled: 02/06/08 11:36

Date Received: 02/07/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	670			mg/L	10	50	02/15/08 12:41	aml

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**

Project ID: 872001.0

Sample ID: PIONKE

ACZ Sample ID: **L67573-03**

Date Sampled: 02/06/08 10:17

Date Received: 02/07/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	394			mg/L	5	30	02/15/08 13:36	aml

**Arizona license number: AZ0102**



**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L67573**

Project ID: 872001.0

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240236</b>													
WG240236ICV	ICV	02/09/08 14:30	WI080128-8	50.1		51.88	mg/L	103.6	90	110			
WG240236ICB	ICB	02/09/08 14:48				U	mg/L		-1.5	1.5			
L67529-01AS	AS	02/09/08 19:56	WI080128-9	30	4.6	33.74	mg/L	97.1	90	110			
L67529-01DUP	DUP	02/09/08 20:14			4.6	4.59	mg/L				0.2	20	RA
WG240236ICV1	ICV	02/11/08 18:09	WI080128-8	50.1		51.63	mg/L	103.1	90	110			
WG240236ICB1	ICB	02/11/08 18:27				U	mg/L		-1.5	1.5			
WG240236LFB	LFB	02/11/08 18:45	WI080128-9					106.2	90	110			
<b>WG240303</b>													
WG240303ICV	ICV	02/13/08 13:23	WI080128-8	50.1		51.45	mg/L	102.7	90	110			
WG240303ICB	ICB	02/13/08 13:41				U	mg/L		-1.5	1.5			
WG240303LFB	LFB	02/13/08 13:59	WI080128-9	30		29.94	mg/L	99.8	90	110			
WG240303ICV1	ICV	02/15/08 12:05	WI080128-8	50.1		46.41	mg/L	92.6	90	110			
WG240303ICB1	ICB	02/15/08 12:23				.63	mg/L		-1.5	1.5			
L67573-02AS	AS	02/15/08 12:59	WI080128-9	600	670	1293	mg/L	103.8	90	110			
L67573-02DUP	DUP	02/15/08 13:18			670	627	mg/L				6.6	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67573**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67573-01	WG240236	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67573**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67573  
 Date Received: 2/7/2008  
 Received By:  
 Date Printed: 2/7/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5451	0.2	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67573  
 Date Received: 2/7/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67573-01	KEEFER									X		<input type="checkbox"/>
L67573-02	FRANCO									X		<input type="checkbox"/>
L67573-03	PIONKE									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

L 1075975

# ACZ Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Report to:**

Name: <u>Dan Simpson</u>	Address: <u>51 W. Wetmore Rd</u>
Company: <u>Hydro Geo Chem Inc.</u>	<u>Tucson AZ 85705</u>
E-mail: <u>dans@hgcinc.com</u>	Telephone: <u>520) 293-1500 x133</u>

**Copy of Report to:**

Name: <u>Jim Norris</u>	E-mail: <u>jimn@hgcinc.com</u>
Company: <u>Hydro Geo Chem Inc</u>	Telephone: <u>520) 293-1500 x112</u>

**Invoice to:**

Name: <u>Jim Norris</u>	Address: <u>51 W. Wetmore Rd</u>
Company: <u>Hydro Geo Chem Inc.</u>	<u>Tucson AZ 85707</u>
E-mail: <u>jimn@hgcinc.com</u>	Telephone: <u>(520) 293-1500 x112</u>

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES  NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

**PROJECT INFORMATION** ANALYSES REQUESTED (attach list or use quote number)

Quote #: <u>504-TC</u>	# of Containers <u>504</u>																			
Project/PO #: <u>8720010</u>																				
Reporting state for compliance testing: <u>AZ</u>																				
Sampler's Name: <u>Mark Arneson</u>																				
Are any samples NRC licensable material? <u>No</u>																				

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers																	
<u>KEEFE</u>	<u>2-6-08:0900</u>	<u>GW</u>	<u>1</u>	<u>X</u>																
<u>FRANKO</u>	<u>2-6-08:1136</u>	<u>GW</u>	<u>1</u>	<u>X</u>																
<u>PIONKE</u>	<u>2-6-08:1017</u>	<u>GW</u>	<u>1</u>	<u>X</u>																

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

REI INQUIRED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>[Signature]</u>	<u>1634: 2-6-08</u>	<u>[Signature]</u>	<u>2-7-08 10:43</u>

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road, Suite 101  
Tucson, AZ 85705

March 4, 2008

cc: Jim Norris

Project ID: 872001.0  
ACZ Project ID: L67574

Dan Simpson:

Enclosed are revised analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 07, 2008 and reported on February 20, 2008. Refer to the case narrative for an explanation of the changes. This project was assigned to ACZ's project number, L67574. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67574. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 20, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years. Please notify your Project Manager if you have other needs.

If you have any questions, please contact your Project Manager or Customer Service Representative.



Scott Habermehl has reviewed  
and approved this report.





Hydro Geo Chem, Inc.

March 04, 2008

Project ID: 872001.0

ACZ Project ID: L67574

#### Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 2 ground water samples from Hydro Geo Chem, Inc. on February 7, 2008. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L67574. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

#### Holding Times

All analyses were performed within EPA recommended holding times.

#### Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

1. This project has been revised to include an analysis for Fluoride which was originally missed.

**Hydro Geo Chem, Inc.**

Project ID: 872001.0  
Sample ID: BIMA

ACZ Sample ID: **L67574-01**  
Date Sampled: 02/06/08 15:50  
Date Received: 02/07/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	224			mg/L	0.2	1	02/12/08 2:40	wfg
Magnesium, dissolved	M200.7 ICP	48.4			mg/L	0.2	1	02/12/08 2:40	wfg
Potassium, dissolved	M200.7 ICP	12.4			mg/L	0.3	2	02/12/08 2:40	wfg
Sodium, dissolved	M200.7 ICP	65.9			mg/L	0.3	2	02/12/08 2:40	wfg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		510			mg/L	2	20	02/14/08 0:00	jlf
Carbonate as CaCO3			U		mg/L	2	20	02/14/08 0:00	jlf
Hydroxide as CaCO3			U		mg/L	2	20	02/14/08 0:00	jlf
Total Alkalinity		510		*	mg/L	2	20	02/14/08 0:00	jlf
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.1			%			03/03/08 0:00	calc
Sum of Anions		18.0			meq/L	0.1	0.5	03/03/08 0:00	calc
Sum of Cations		18.4			meq/L	0.1	0.5	03/03/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	105			mg/L	3	10	02/15/08 13:54	aml
Fluoride	SM4500F-C	0.1	B	*	mg/L	0.1	0.5	02/28/08 11:34	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	6.8			mg/L	0.1	0.5	03/03/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	6.8			mg/L	0.1	0.5	02/07/08 18:31	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/07/08 18:16	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	980			mg/L	10	20	02/13/08 15:47	cas
Sulfate	300.0 - Ion Chromatography	210			mg/L	3	10	02/15/08 13:54	aml
TDS (calculated)	Calculation	1000			mg/L	10	50	03/03/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	0.98						03/03/08 0:00	calc

Arizona license number: AZ0102

**Hydro Geo Chem, Inc.**

Project ID: 872001.0  
Sample ID: SUNBELT

ACZ Sample ID: **L67574-02**  
Date Sampled: 02/06/08 14:25  
Date Received: 02/07/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	56.6			mg/L	0.2	1	02/12/08 2:44	wfg
Magnesium, dissolved	M200.7 ICP	7.9			mg/L	0.2	1	02/12/08 2:44	wfg
Potassium, dissolved	M200.7 ICP	2.4			mg/L	0.3	2	02/12/08 2:44	wfg
Sodium, dissolved	M200.7 ICP	40.7			mg/L	0.3	2	02/12/08 2:44	wfg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		183			mg/L	2	20	02/14/08 0:00	jlf
Carbonate as CaCO3			U		mg/L	2	20	02/14/08 0:00	jlf
Hydroxide as CaCO3			U		mg/L	2	20	02/14/08 0:00	jlf
Total Alkalinity		183		*	mg/L	2	20	02/14/08 0:00	jlf
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.0			%			03/03/08 0:00	calc
Sum of Anions		5.2			meq/L	0.1	0.5	03/03/08 0:00	calc
Sum of Cations		5.3			meq/L	0.1	0.5	03/03/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	34.2			mg/L	0.5	3	02/13/08 15:48	aml
Fluoride	SM4500F-C	0.8		*	mg/L	0.1	0.5	02/28/08 11:37	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	2.02			mg/L	0.02	0.1	03/03/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	2.02			mg/L	0.02	0.1	02/07/08 18:19	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/07/08 18:19	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	270			mg/L	10	20	02/13/08 15:48	cas
Sulfate	300.0 - Ion Chromatography	18.7			mg/L	0.5	3	02/13/08 15:48	aml
TDS (calculated)	Calculation	280			mg/L	10	50	03/03/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	0.96						03/03/08 0:00	calc

Arizona license number: AZ0102

#### Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

#### QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

#### QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

#### ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

#### Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

#### Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L67574**

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240436</b>													
WG240436PBW1	PBW	02/14/08 16:49				25.4	mg/L		-20	20			B4 B7
WG240436LCSW2	LCSW	02/14/08 17:01	WC080131-1	820		850.9	mg/L	103.8	90	110			
L67612-01DUP	DUP	02/14/08 18:19			39	36.3	mg/L				7.2	20	
WG240436PBW2	PBW	02/14/08 20:47				U	mg/L		-20	20			
WG240436LCSW5	LCSW	02/14/08 20:58	WC080131-1	820		854.8	mg/L	104.2	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240286</b>													
WG240286ICV	ICV	02/12/08 1:38	II080115-3	100		98.94	mg/L	98.9	95	105			
WG240286ICB	ICB	02/12/08 1:42				U	mg/L		-0.6	0.6			
WG240286LFB	LFB	02/12/08 1:58	II080209-4	67.97008		68.63	mg/L	101	85	115			
L67490-01AS	AS	02/12/08 2:11	II080209-4	67.97008	63.3	131.1	mg/L	99.7	85	115			
L67490-01ASD	ASD	02/12/08 2:15	II080209-4	67.97008	63.3	130.44	mg/L	98.8	85	115	0.5	20	

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240303</b>													
WG240303ICV	ICV	02/13/08 13:23	WI080128-8	19.98		20.4	mg/L	102.1	90	110			
WG240303ICB	ICB	02/13/08 13:41				U	mg/L		-1.5	1.5			
WG240303LFB	LFB	02/13/08 13:59	WI080128-9	30		30	mg/L	100	90	110			
L67573-02AS	AS	02/13/08 14:35	WI080128-9	30	22.3	51.85	mg/L	98.5	90	110			
L67573-02DUP	DUP	02/13/08 14:53			22.3	22.38	mg/L				0.4	20	
WG240303ICV1	ICV	02/15/08 12:05	WI080128-8	19.98		18.41	mg/L	92.1	90	110			
WG240303ICB1	ICB	02/15/08 12:23				U	mg/L		-1.5	1.5			

**Fluoride** SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240886</b>													
WG240886ICV	ICV	02/28/08 11:14	WC080227-1	2		1.97	mg/L	98.5	90	110			
WG240886ICB	ICB	02/28/08 11:19				U	mg/L		-0.3	0.3			
WG240886LFB1	LFB	02/28/08 11:24	WC080226-1	5		5.24	mg/L	104.8	90	110			
L67530-01AS	AS	02/28/08 11:29	WC080226-1	5	.2	6.26	mg/L	121.2	90	110			M1
L67530-01DUP	DUP	02/28/08 11:31			.2	.21	mg/L				4.9	20	RA
WG240886LFB2	LFB	02/28/08 12:51	WC080226-1	5		4.93	mg/L	98.6	90	110			

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240286</b>													
WG240286ICV	ICV	02/12/08 1:38	II080115-3	100		101.87	mg/L	101.9	95	105			
WG240286ICB	ICB	02/12/08 1:42				U	mg/L		-0.6	0.6			
WG240286LFB	LFB	02/12/08 1:58	II080209-4	54.96908		55.97	mg/L	101.8	85	115			
L67490-01AS	AS	02/12/08 2:11	II080209-4	54.96908	30.9	87.98	mg/L	103.8	85	115			
L67490-01ASD	ASD	02/12/08 2:15	II080209-4	54.96908	30.9	87.52	mg/L	103	85	115	0.52	20	

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L67574**

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240178</b>													
WG240178ICV	ICV	02/07/08 18:09	WI071212-1	2.416		2.477	mg/L	102.5	90	110			
WG240178ICB	ICB	02/07/08 18:10				U	mg/L		-0.06	0.06			
WG240178LFB	LFB	02/07/08 18:15	WI070911-4	2		2.03	mg/L	101.5	90	110			
L67574-02DUP	DUP	02/07/08 18:20			2.02	2.049	mg/L				1.4	20	
L67574-01AS	AS	02/07/08 18:33	WI070911-4	10	6.8	17.7	mg/L	109	90	110			

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240178</b>													
WG240178ICV	ICV	02/07/08 18:09	WI071212-1	.609		.615	mg/L	101	90	110			
WG240178ICB	ICB	02/07/08 18:10				U	mg/L		-0.03	0.03			
WG240178LFB	LFB	02/07/08 18:15	WI070911-4	1		1.01	mg/L	101	90	110			
L67574-01AS	AS	02/07/08 18:18	WI070911-4	1	U	.994	mg/L	99.4	90	110			
L67574-02DUP	DUP	02/07/08 18:20			U	U	mg/L				0	20	RA

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240286</b>													
WG240286ICV	ICV	02/12/08 1:38	II080115-3	20		20.81	mg/L	104.1	95	105			
WG240286ICB	ICB	02/12/08 1:42				U	mg/L		-0.9	0.9			
WG240286LFB	LFB	02/12/08 1:58	II080209-4	99.76186		103.27	mg/L	103.5	85	115			
L67490-01AS	AS	02/12/08 2:11	II080209-4	99.76186	4.8	114.3	mg/L	109.8	85	115			
L67490-01ASD	ASD	02/12/08 2:15	II080209-4	99.76186	4.8	113.45	mg/L	108.9	85	115	0.75	20	

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240388</b>													
WG240388PBW	PBW	02/13/08 15:45				U	mg/L		-20	20			
WG240388LCSW	LCSW	02/13/08 15:46	PCN28840	260		288	mg/L	110.8	80	120			
L67637-01DUP	DUP	02/13/08 16:00			3440	3536	mg/L				2.8	20	

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240286</b>													
WG240286ICV	ICV	02/12/08 1:38	II080115-3	100		103.13	mg/L	103.1	95	105			
WG240286ICB	ICB	02/12/08 1:42				U	mg/L		-0.9	0.9			
WG240286LFB	LFB	02/12/08 1:58	II080209-4	98.21624		101.41	mg/L	103.3	85	115			
L67490-01AS	AS	02/12/08 2:11	II080209-4	98.21624	97.8	200.73	mg/L	104.8	85	115			
L67490-01ASD	ASD	02/12/08 2:15	II080209-4	98.21624	97.8	199.08	mg/L	103.1	85	115	0.83	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67574**

Project ID: 872001.0

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240303</b>													
WG240303ICV	ICV	02/13/08 13:23	WI080128-8	50.1		51.45	mg/L	102.7	90	110			
WG240303ICB	ICB	02/13/08 13:41				U	mg/L		-1.5	1.5			
WG240303LFB	LFB	02/13/08 13:59	WI080128-9	30		29.94	mg/L	99.8	90	110			
WG240303ICV1	ICV	02/15/08 12:05	WI080128-8	50.1		46.41	mg/L	92.6	90	110			
WG240303ICB1	ICB	02/15/08 12:23				.63	mg/L		-1.5	1.5			
L67573-02AS	AS	02/15/08 12:59	WI080128-9	600	670	1293	mg/L	103.8	90	110			
L67573-02DUP	DUP	02/15/08 13:18			670	627	mg/L				6.6	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67574**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
<b>L67574-01</b>	WG240886	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240178	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240436	Total Alkalinity	SM2320B - Titration	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.
<b>L67574-02</b>	WG240886	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240178	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240436	Total Alkalinity	SM2320B - Titration	B4	Target analyte detected in blank at or above the acceptance criteria.



**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67574**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67574  
 Date Received: 2/7/2008  
 Received By:  
 Date Printed: 2/8/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5451	0.2	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Labels were switched at login. Samples IDs were changed in seedback to match the labels on the bottles, because analyses were in progress. Client IDs are backwards from COC

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67574  
 Date Received: 2/7/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67574-01	BIMA		Y									<input type="checkbox"/>
L67574-02	SUNBELT		Y									<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

107574

# ACZ Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Report to:**

Name: DAN SIMPSON  
 Company: HYDRO GEO CHEM  
 E-mail: DANJ@HGC INC.COM

Address: 51 WESTWETMORE RD  
#101 TUCSON AZ 85705  
 Telephone: (520) 293 1500 X133

**Copy of Report to:**

Name: JIM NORRIS  
 Company: HYDRO GEO CHEM

E-mail: JIMN@HGC INC.COM  
 Telephone: (520) 293 1500 X112

**Invoice to:**

Name: JIM NORRIS  
 Company: HYDRO GEO CHEM  
 E-mail: JIMNORRIS@HGC INC.COM

Address: 51 WESTWETMORE RD  
TUCSON AZ 85705  
 Telephone: (520) 293 1500 X133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES  NO   
 If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

**PROJECT INFORMATION**

**ANALYSES REQUESTED** (attach list or use quote number)

Quote #: FMCCQB-GW  
 Project/PO #: 872001.0  
 Reporting state for compliance testing: AZ  
 Sampler's Name: ALI PANDAMONIZ  
 Are any samples NRC licensable material? NO

# of Containers	Ca-Mg-Na-K	TDS 504	NO2-NO3-CL-F	ALK
3	✓	✓	✓	✓
3	✓	✓	✓	✓

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Ca-Mg-Na-K	TDS 504	NO2-NO3-CL-F	ALK
SUNBELT ↗	02/06/2008 1425	GW	3	✓	✓	✓	✓
BIMA ↘	02/06/2008 1550	GW	3	✓	✓	✓	✓

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

**REMARKS**

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>Ali Pandamoniz</u>	<u>02/06/2008 1635</u>	<u>HPL</u>	<u>2-7-08 10:40</u>

February 20, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67599

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 08, 2008. This project has been assigned to ACZ's project number, L67599. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67599. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 20, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: ROGERSACZ Sample ID: **L67599-01**  
Date Sampled: 02/07/08 14:20  
Date Received: 02/08/08  
Sample Matrix: Ground Water

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	138			mg/L	1	5	02/15/08 14:12	aml

Arizona license number: **AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L67599**

Project ID: 872001.0

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240303</b>													
WG240303ICV	ICV	02/13/08 13:23	WI080128-8	50.1		51.45	mg/L	102.7	90	110			
WG240303ICB	ICB	02/13/08 13:41				U	mg/L		-1.5	1.5			
WG240303LFB	LFB	02/13/08 13:59	WI080128-9	30		29.94	mg/L	99.8	90	110			
WG240303ICV1	ICV	02/15/08 12:05	WI080128-8	50.1		46.41	mg/L	92.6	90	110			
WG240303ICB1	ICB	02/15/08 12:23				.63	mg/L		-1.5	1.5			
L67573-02AS	AS	02/15/08 12:59	WI080128-9	600	670	1293	mg/L	103.8	90	110			
L67573-02DUP	DUP	02/15/08 13:18			670	627	mg/L				6.6	20	



Hydro Geo Chem, Inc.

ACZ Project ID: **L67599**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
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No extended qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67599**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67599  
 Date Received: 2/8/2008  
 Received By:  
 Date Printed: 2/8/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5455	0.3	16

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67599  
 Date Received: 2/8/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67599-01	ROGERS									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



March 03, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67605

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 09, 2008. This project has been assigned to ACZ's project number, L67605. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67605. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 03, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872001.0  
Sample ID: EAST

ACZ Sample ID: **L67605-01**  
Date Sampled: 02/08/08 09:00  
Date Received: 02/09/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	59.9			mg/L	0.2	1	02/12/08 3:29	wfg
Magnesium, dissolved	M200.7 ICP	24.3			mg/L	0.2	1	02/12/08 3:29	wfg
Potassium, dissolved	M200.7 ICP	2.5			mg/L	0.3	2	02/12/08 3:29	wfg
Sodium, dissolved	M200.7 ICP	31.6			mg/L	0.3	2	02/12/08 3:29	wfg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		227			mg/L	2	20	02/14/08 0:00	jlf
Carbonate as CaCO3			U		mg/L	2	20	02/14/08 0:00	jlf
Hydroxide as CaCO3			U		mg/L	2	20	02/14/08 0:00	jlf
Total Alkalinity		227		*	mg/L	2	20	02/14/08 0:00	jlf
Cation-Anion Balance	Calculation								
Cation-Anion Balance		2.4			%			03/03/08 0:00	calc
Sum of Anions		6.1			meq/L	0.1	0.5	03/03/08 0:00	calc
Sum of Cations		6.4			meq/L	0.1	0.5	03/03/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	31.2			mg/L	0.5	3	02/13/08 17:54	aml
Fluoride	SM4500F-C	0.4	B	*	mg/L	0.1	0.5	02/28/08 11:42	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	6.3			mg/L	0.1	0.5	03/03/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	6.3			mg/L	0.1	0.5	02/09/08 16:21	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/09/08 16:14	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	320			mg/L	10	20	02/15/08 16:03	cas
Sulfate	300.0 - Ion Chromatography	10.6			mg/L	0.5	3	02/13/08 17:54	aml
TDS (calculated)	Calculation	325			mg/L	10	50	03/03/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	0.98						03/03/08 0:00	calc

Arizona license number: AZ0102

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.



Hydro Geo Chem, Inc.

ACZ Project ID: **L67605**

Project ID: 872001.0

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240436</b>													
WG240436PBW1	PBW	02/14/08 16:49				25.4	mg/L		-20	20			B4 BF
WG240436LCSW2	LCSW	02/14/08 17:01	WC080131-1	820		850.9	mg/L	103.8	90	110			
L67612-01DUP	DUP	02/14/08 18:19			39	36.3	mg/L				7.2	20	
WG240436PBW2	PBW	02/14/08 20:47				U	mg/L		-20	20			
WG240436LCSW5	LCSW	02/14/08 20:58	WC080131-1	820		854.8	mg/L	104.2	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240286</b>													
WG240286ICV	ICV	02/12/08 1:38	II080115-3	100		98.94	mg/L	98.9	95	105			
WG240286ICB	ICB	02/12/08 1:42				U	mg/L		-0.6	0.6			
WG240286LFB	LFB	02/12/08 1:58	II080209-4	67.97008		68.63	mg/L	101	85	115			
L67601-02AS	AS	02/12/08 3:00	II080209-4	67.97008	17.9	87.36	mg/L	102.2	85	115			
L67601-02ASD	ASD	02/12/08 3:04	II080209-4	67.97008	17.9	88.42	mg/L	103.8	85	115	1.21	20	

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240303</b>													
WG240303ICV	ICV	02/13/08 13:23	WI080128-8	19.98		20.4	mg/L	102.1	90	110			
WG240303ICB	ICB	02/13/08 13:41				U	mg/L		-1.5	1.5			
WG240303LFB	LFB	02/13/08 13:59	WI080128-9	30		30	mg/L	100	90	110			
L67573-02AS	AS	02/13/08 14:35	WI080128-9	30	22.3	51.85	mg/L	98.5	90	110			
L67573-02DUP	DUP	02/13/08 14:53			22.3	22.38	mg/L				0.4	20	
L67605-03AS	AS	02/13/08 18:49	WI080128-9	30	12.6	41.8	mg/L	97.3	90	110			
L67605-03DUP	DUP	02/13/08 19:09			12.6	12.55	mg/L				0.4	20	
WG240303ICV1	ICV	02/15/08 12:05	WI080128-8	19.98		18.41	mg/L	92.1	90	110			
WG240303ICB1	ICB	02/15/08 12:23				U	mg/L		-1.5	1.5			

**Fluoride** SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240886</b>													
WG240886ICV	ICV	02/28/08 11:14	WC080227-1	2		1.97	mg/L	98.5	90	110			
WG240886ICB	ICB	02/28/08 11:19				U	mg/L		-0.3	0.3			
WG240886LFB1	LFB	02/28/08 11:24	WC080226-1	5		5.24	mg/L	104.8	90	110			
L67530-01AS	AS	02/28/08 11:29	WC080226-1	5	.2	6.26	mg/L	121.2	90	110			M1
L67530-01DUP	DUP	02/28/08 11:31			.2	.21	mg/L				4.9	20	RA
WG240886LFB2	LFB	02/28/08 12:51	WC080226-1	5		4.93	mg/L	98.6	90	110			

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240286</b>													
WG240286ICV	ICV	02/12/08 1:38	II080115-3	100		101.87	mg/L	101.9	95	105			
WG240286ICB	ICB	02/12/08 1:42				U	mg/L		-0.6	0.6			
WG240286LFB	LFB	02/12/08 1:58	II080209-4	54.96908		55.97	mg/L	101.8	85	115			
L67601-02AS	AS	02/12/08 3:00	II080209-4	54.96908	3.5	61.27	mg/L	105.1	85	115			
L67601-02ASD	ASD	02/12/08 3:04	II080209-4	54.96908	3.5	61.99	mg/L	106.4	85	115	1.17	20	

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L67605**

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240244</b>													
WG240244ICV	ICV	02/09/08 16:07	WI071212-1	2.416		2.448	mg/L	101.3	90	110			
WG240244ICB	ICB	02/09/08 16:08				U	mg/L		-0.06	0.06			
WG240244LFB	LFB	02/09/08 16:12	WI070911-4	2		2.027	mg/L	101.4	90	110			
L67605-02DUP	DUP	02/09/08 16:17			1.82	1.823	mg/L				0.2	20	
L67605-01AS	AS	02/09/08 16:26	WI070911-4	10	6.3	16.38	mg/L	100.8	90	110			

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240244</b>													
WG240244ICV	ICV	02/09/08 16:07	WI071212-1	.609		.62	mg/L	101.8	90	110			
WG240244ICB	ICB	02/09/08 16:08				U	mg/L		-0.03	0.03			
WG240244LFB	LFB	02/09/08 16:12	WI070911-4	1		1.023	mg/L	102.3	90	110			
L67605-01AS	AS	02/09/08 16:15	WI070911-4	1	U	.999	mg/L	99.9	90	110			
L67605-02DUP	DUP	02/09/08 16:17			U	U	mg/L				0	20	RA

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240286</b>													
WG240286ICV	ICV	02/12/08 1:38	II080115-3	20		20.81	mg/L	104.1	95	105			
WG240286ICB	ICB	02/12/08 1:42				U	mg/L		-0.9	0.9			
WG240286LFB	LFB	02/12/08 1:58	II080209-4	99.76186		103.27	mg/L	103.5	85	115			
L67601-02AS	AS	02/12/08 3:00	II080209-4	99.76186	1.2	108.54	mg/L	107.6	85	115			
L67601-02ASD	ASD	02/12/08 3:04	II080209-4	99.76186	1.2	110.31	mg/L	109.4	85	115	1.62	20	

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240485</b>													
WG240485PBW	PBW	02/15/08 16:00				U	mg/L		-20	20			
WG240485LCSW	LCSW	02/15/08 16:01	PCN28840	260		274	mg/L	105.4	80	120			
L67633-04DUP	DUP	02/15/08 16:15			9070	9164	mg/L				1	20	

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240286</b>													
WG240286ICV	ICV	02/12/08 1:38	II080115-3	100		103.13	mg/L	103.1	95	105			
WG240286ICB	ICB	02/12/08 1:42				U	mg/L		-0.9	0.9			
WG240286LFB	LFB	02/12/08 1:58	II080209-4	98.21624		101.41	mg/L	103.3	85	115			
L67601-02AS	AS	02/12/08 3:00	II080209-4	98.21624	4.6	109.57	mg/L	106.9	85	115			
L67601-02ASD	ASD	02/12/08 3:04	II080209-4	98.21624	4.6	110.8	mg/L	108.1	85	115	1.12	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67605**

Project ID: 872001.0

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240303</b>													
WG240303ICV	ICV	02/13/08 13:23	WI080128-8	50.1		51.45	mg/L	102.7	90	110			
WG240303ICB	ICB	02/13/08 13:41				U	mg/L		-1.5	1.5			
WG240303LFB	LFB	02/13/08 13:59	WI080128-9	30		29.94	mg/L	99.8	90	110			
L67605-03AS	AS	02/13/08 18:49	WI080128-9	30	32.9	61.17	mg/L	94.2	90	110			
L67605-03DUP	DUP	02/13/08 19:09			32.9	32.87	mg/L				0.1	20	
WG240303ICV1	ICV	02/15/08 12:05	WI080128-8	50.1		46.41	mg/L	92.6	90	110			
WG240303ICB1	ICB	02/15/08 12:23				.63	mg/L		-1.5	1.5			
L67573-02AS	AS	02/15/08 12:59	WI080128-9	600	670	1293	mg/L	103.8	90	110			
L67573-02DUP	DUP	02/15/08 13:18			670	627	mg/L				6.6	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67605**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67605-01	WG240886	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240244	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240436	Total Alkalinity	SM2320B - Titration	B4	Target analyte detected in blank at or above the acceptance criteria.
L67605-02	WG240886	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240244	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240436	Total Alkalinity	SM2320B - Titration	B4	Target analyte detected in blank at or above the acceptance criteria.
L67605-03	WG240886	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240244	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240436	Total Alkalinity	SM2320B - Titration	B4	Target analyte detected in blank at or above the acceptance criteria.
L67605-04	WG240886	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240244	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240436	Total Alkalinity	SM2320B - Titration	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [ $<$ MDL].

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67605**

Wet Chemistry

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Lab Filtration	SM 3030 B
Lab Filtration & Acidification	SM 3030 B

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67605  
 Date Received: 2/9/2008  
 Received By:  
 Date Printed: 2/9/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
2004	1.4	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

For sample#4 had to pour off a green and a white from the raw.

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67605  
 Date Received: 2/9/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67605-01	EAST		Y									<input type="checkbox"/>
L67605-02	TM-14		Y									<input type="checkbox"/>
L67605-03	DUP020808		Y									<input type="checkbox"/>
L67605-04	FB020808									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

L67605

# ACZ Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Report to:**

Name: <u>Dan Simpson</u>	Address: <u>51 W. Wetmore Rd</u>
Company: <u>Hydro Geo Chem Inc</u>	<u>Tucson AZ 85705</u>
E-mail: <u>dans@hgcinc.com</u>	Telephone: <u>520) 293-1500 x133</u>

**Copy of Report to:**

Name: <u>Jim Norris</u>	E-mail: <u>jimn@hgcinc</u>
Company: <u>HGC Inc.</u>	Telephone: <u>520) 293-1500 x112</u>

**Invoice to:**

Name: <u>Jim Norris</u>	Address: <u>51 W. Wetmore Rd</u>
Company: <u>HGC Inc.</u>	<u>Tucson AZ 85705</u>
E-mail: <u>jimn@hgcinc.com</u>	Telephone: <u>520) 293-1500 x112</u>

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES  NO   
 If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

**PROJECT INFORMATION**

**ANALYSES REQUESTED (attach list or use quote number)**

Quote #: <u>FMCQB-GW</u>	# of Containers	Ca Na Mg K TDS 504 NO <sub>3</sub> -NO <sub>2</sub> -Cl-F AIK																				
Project/PO #: <u>872001.0</u>																						
Reporting state for compliance testing: <u>AZ</u>																						
Sampler's Name: <u>Mark Arneson</u>																						
Are any samples NRC licensable material? <u>NO</u>																						

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Ca	Na	Mg	K	TDS	504	NO <sub>3</sub> -NO <sub>2</sub> -Cl-F	AIK									
<u>EAST</u>	<u>02/08/2008 0800</u>	<u>GW</u>	<u>3</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>									
<u>TM-14</u>	<u>02/08/2008 1125</u>	<u>GW</u>	<u>3</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>									
<u>DUP020808</u>	<u>02/08/2008</u>	<u>GW</u>	<u>3</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>									
<u>FB020808</u>	<u>02/08/2008</u>	<u>GW</u>	<u>1</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>									

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

**REMARKS**

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>Mark Arneson</u>	<u>02/08/08 1430</u>	<u>MAS</u>	<u>02.09.08 11:50</u>



February 27, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67606

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 09, 2008. This project has been assigned to ACZ's project number, L67606. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67606. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 27, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: SCHWARTZACZ Sample ID: **L67606-01**  
Date Sampled: 02/08/08 10:30  
Date Received: 02/09/08  
Sample Matrix: Ground Water

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	158			mg/L	1	5	02/15/08 14:30	aml

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L67606**

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240303</b>													
WG240303ICV	ICV	02/13/08 13:23	WI080128-8	50.1		51.45	mg/L	102.7	90	110			
WG240303ICB	ICB	02/13/08 13:41				U	mg/L		-1.5	1.5			
WG240303LFB	LFB	02/13/08 13:59	WI080128-9	30		29.94	mg/L	99.8	90	110			
L67605-03AS	AS	02/13/08 18:49	WI080128-9	30	32.9	61.17	mg/L	94.2	90	110			
L67605-03DUP	DUP	02/13/08 19:09			32.9	32.87	mg/L				0.1	20	
WG240303ICV1	ICV	02/15/08 12:05	WI080128-8	50.1		46.41	mg/L	92.6	90	110			
WG240303ICB1	ICB	02/15/08 12:23				.63	mg/L		-1.5	1.5			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67606**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
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No extended qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67606**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67606  
 Date Received: 2/9/2008  
 Received By:  
 Date Printed: 2/9/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
2004	1.4	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67606  
 Date Received: 2/9/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67606-01	SCHWARTZ									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_





February 29, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67649

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 13, 2008. This project has been assigned to ACZ's project number, L67649. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67649. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 29, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872001.0  
Sample ID: PARRA

ACZ Sample ID: **L67649-01**  
Date Sampled: 02/11/08 13:30  
Date Received: 02/13/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	178			mg/L	0.2	1	02/13/08 21:46	erf
Magnesium, dissolved	M200.7 ICP	50.4			mg/L	0.2	1	02/13/08 21:46	erf
Potassium, dissolved	M200.7 ICP	4.4			mg/L	0.3	2	02/13/08 21:46	erf
Sodium, dissolved	M200.7 ICP	31.6		*	mg/L	0.3	2	02/13/08 21:46	erf

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		177			mg/L	2	20	02/15/08 0:00	jlf
Carbonate as CaCO3			U		mg/L	2	20	02/15/08 0:00	jlf
Hydroxide as CaCO3			U		mg/L	2	20	02/15/08 0:00	jlf
Total Alkalinity		177			mg/L	2	20	02/15/08 0:00	jlf
Cation-Anion Balance	Calculation								
Cation-Anion Balance		8.2			%			02/29/08 0:00	calc
Sum of Anions		12.3			meq/L	0.1	0.5	02/29/08 0:00	calc
Sum of Cations		14.5			meq/L	0.1	0.5	02/29/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	33.4			mg/L	0.5	3	02/20/08 19:09	aml/ccp
Fluoride	SM4500F-C	0.1	B	*	mg/L	0.1	0.5	02/28/08 12:02	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	4.17			mg/L	0.04	0.2	02/29/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	4.17	H	*	mg/L	0.04	0.2	02/13/08 17:43	aml/pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		HU	*	mg/L	0.01	0.05	02/13/08 18:27	aml/pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	880			mg/L	10	20	02/13/08 16:05	cas
Sulfate	300.0 - Ion Chromatography	360			mg/L	10	50	02/21/08 13:26	aml/ccp
TDS (calculated)	Calculation	783			mg/L	10	50	02/29/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.12						02/29/08 0:00	calc

Arizona license number: AZ0102

#### Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

#### QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

#### QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

#### ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

#### Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

#### Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L67649**

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240436</b>													
WG240436PBW2	PBW	02/14/08 20:47				U	mg/L		-20	20			
WG240436LCSW5	LCSW	02/14/08 20:58	WC080131-1	820		854.8	mg/L	104.2	90	110			
L67649-01DUP	DUP	02/15/08 9:01			177	197.6	mg/L				11	20	
<b>WG240540</b>													
WG240540PBW1	PBW	02/18/08 16:27				U	mg/L		-20	20			
WG240540LCSW2	LCSW	02/18/08 16:38	WC080131-1	820		831.6	mg/L	101.4	90	110			
L67660-03DUP	DUP	02/18/08 18:08			164	155.4	mg/L				5.4	20	
WG240540PBW2	PBW	02/18/08 19:16				U	mg/L		-20	20			
WG240540LCSW5	LCSW	02/18/08 19:28	WC080131-1	820		857.9	mg/L	104.6	90	110			
WG240540PBW3	PBW	02/18/08 23:03				U	mg/L		-20	20			
WG240540LCSW8	LCSW	02/18/08 23:15	WC080131-1	820		867.2	mg/L	105.8	90	110			
WG240540PBW5	PBW	02/19/08 11:41				U	mg/L		-20	20			
WG240540LCSW14	LCSW	02/19/08 11:53	WC080131-1	820		832	mg/L	101.5	90	110			
WG240540LCSW17	LCSW	02/19/08 15:01	WC080131-1	820		882.6	mg/L	107.6	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240401</b>													
WG240401ICV	ICV	02/13/08 20:17	II080115-3	100		101.22	mg/L	101.2	95	105			
WG240401ICB	ICB	02/13/08 20:21				U	mg/L		-0.6	0.6			
WG240401LFB	LFB	02/13/08 20:35	II080209-4	67.97008		70.32	mg/L	103.5	85	115			
L67643-01AS	AS	02/13/08 21:35	II080209-4	67.97008	.3	69.52	mg/L	101.8	85	115			
L67643-01ASD	ASD	02/13/08 21:39	II080209-4	67.97008	.3	70.37	mg/L	103.1	85	115	1.22	20	

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	19.98		20.1	mg/L	100.6	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		29.95	mg/L	99.8	90	110			
L67648-01AS	AS	02/20/08 18:33	WI080128-9	30	27.9	56.16	mg/L	94.2	90	110			
L67648-01DUP	DUP	02/20/08 18:51			27.9	27.89	mg/L				0	20	

**Fluoride** SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240886</b>													
WG240886ICV	ICV	02/28/08 11:14	WC080227-1	2		1.97	mg/L	98.5	90	110			
WG240886ICB	ICB	02/28/08 11:19				U	mg/L		-0.3	0.3			
WG240886LFB1	LFB	02/28/08 11:24	WC080226-1	5		5.24	mg/L	104.8	90	110			
L67530-01AS	AS	02/28/08 11:29	WC080226-1	5	.2	6.26	mg/L	121.2	90	110			M1
L67530-01DUP	DUP	02/28/08 11:31			.2	.21	mg/L				4.9	20	RA
L67649-03AS	AS	02/28/08 12:10	WC080226-1	5	.1	5.29	mg/L	103.8	90	110			
L67649-03DUP	DUP	02/28/08 12:13			.1	.13	mg/L				26.1	20	RA
WG240886LFB2	LFB	02/28/08 12:51	WC080226-1	5		4.93	mg/L	98.6	90	110			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67649**

Project ID: 872001.0

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240401</b>													
WG240401ICV	ICV	02/13/08 20:17	II080115-3	100		102.17	mg/L	102.2	95	105			
WG240401ICB	ICB	02/13/08 20:21				U	mg/L		-0.6	0.6			
WG240401LFB	LFB	02/13/08 20:35	II080209-4	54.96908		57.27	mg/L	104.2	85	115			
L67643-01AS	AS	02/13/08 21:35	II080209-4	54.96908	U	56.48	mg/L	102.7	85	115			
L67643-01ASD	ASD	02/13/08 21:39	II080209-4	54.96908	U	57.29	mg/L	104.2	85	115	1.42	20	

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240387</b>													
WG240387ICV	ICV	02/13/08 16:53	WI071212-1	2.416		2.435	mg/L	100.8	90	110			
WG240387ICB	ICB	02/13/08 16:55				U	mg/L		-0.06	0.06			
WG240387LFB	LFB	02/13/08 17:00	WI070911-4	2		2.057	mg/L	102.9	90	110			
L67611-01AS	AS	02/13/08 17:02	WI070911-4	2	.52	2.387	mg/L	93.4	90	110			
L67611-02DUP	DUP	02/13/08 17:05			U	U	mg/L				0	20	RA
L67652-02AS	AS	02/13/08 17:49	WI070911-4	2	.24	2.159	mg/L	96	90	110			
L67652-03DUP	DUP	02/13/08 17:52			.07	.075	mg/L				6.9	20	RA

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240387</b>													
WG240387ICV	ICV	02/13/08 16:53	WI071212-1	.609		.606	mg/L	99.5	90	110			
WG240387ICB	ICB	02/13/08 16:55				U	mg/L		-0.03	0.03			
WG240387LFB	LFB	02/13/08 17:00	WI070911-4	1		1.017	mg/L	101.7	90	110			
L67611-01AS	AS	02/13/08 17:02	WI070911-4	1	U	.931	mg/L	93.1	90	110			
L67611-02DUP	DUP	02/13/08 17:05			U	U	mg/L				0	20	RA
L67652-02AS	AS	02/13/08 17:49	WI070911-4	1		.942	mg/L	94.2	90	110			
L67652-03DUP	DUP	02/13/08 17:52				U	mg/L				0	20	RA

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240401</b>													
WG240401ICV	ICV	02/13/08 20:17	II080115-3	20		20.31	mg/L	101.6	95	105			
WG240401ICB	ICB	02/13/08 20:21				U	mg/L		-0.9	0.9			
WG240401LFB	LFB	02/13/08 20:35	II080209-4	99.76186		102.86	mg/L	103.1	85	115			
L67643-01AS	AS	02/13/08 21:35	II080209-4	99.76186	.7	102.86	mg/L	102.4	85	115			
L67643-01ASD	ASD	02/13/08 21:39	II080209-4	99.76186	.7	104.98	mg/L	104.5	85	115	2.04	20	

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240388</b>													
WG240388PBW	PBW	02/13/08 15:45				U	mg/L		-20	20			
WG240388LCSW	LCSW	02/13/08 15:46	PCN28840	260		288	mg/L	110.8	80	120			
L67654-01DUP	DUP	02/13/08 16:14			4390	4312	mg/L				1.8	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67649**

Project ID: 872001.0

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240401</b>													
WG240401ICV	ICV	02/13/08 20:17	II080115-3	100		98.7	mg/L	98.7	95	105			
WG240401ICV	ICV	02/13/08 20:17	II080115-3	100		101.24	mg/L	101.2	95	105			
WG240401ICB	ICB	02/13/08 20:21				U	mg/L		-6	6			
WG240401ICB	ICB	02/13/08 20:21				U	mg/L		-0.9	0.9			
WG240401LFB	LFB	02/13/08 20:35	II080209-4	98.21624		100.71	mg/L	102.5	85	115			
WG240401LFB	LFB	02/13/08 20:35	II080209-4	98.21624		98.6	mg/L	100.4	85	115			
L67643-01AS	AS	02/13/08 21:35	II080209-4	98.21624	U	101.14	mg/L	101	85	115			
L67643-01ASD	ASD	02/13/08 21:39	II080209-4	98.21624	U	102.39	mg/L	102.3	85	115	2.35	20	
<b>WG240420</b>													
WG240420ICV	ICV	02/14/08 14:47	II080115-3	100		98.5	mg/L	98.5	95	105			
WG240420ICV	ICV	02/14/08 14:47	II080115-3	100		99.1	mg/L	99.1	95	105			
WG240420ICB	ICB	02/14/08 14:50				U	mg/L		-0.9	0.9			
WG240420LFB	LFB	02/14/08 15:04	II080209-4	98.21624		101.4	mg/L	103.2	85	115			
WG240420LFB	LFB	02/14/08 15:04	II080209-4	98.21624		101.69	mg/L	103.5	85	115			
L67643-01AS	AS	02/14/08 16:13	II080209-4	98.21624	.4	105.66	mg/L	107.2	85	115			
L67643-01ASD	ASD	02/14/08 16:16	II080209-4	98.21624	.4	105.83	mg/L	107.3	85	115	0.16	20	

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	50.1		50.64	mg/L	101.1	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		30.49	mg/L	101.6	90	110			
WG240628ICV1	ICV	02/21/08 11:56	WI080220-1	50.1		50.19	mg/L	100.2	90	110			
WG240628ICB1	ICB	02/21/08 12:14				U	mg/L		-1.5	1.5			
L67648-01AS	AS	02/21/08 12:50	WI080128-9	600	520	1146	mg/L	104.3	90	110			
L67648-01DUP	DUP	02/21/08 13:08			520	486	mg/L				6.8	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67649**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
<b>L67649-01</b>	WG240401	Sodium, dissolved	M200.7 ICP	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG240886	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240387	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
M353.2 - Automated Cadmium Reduction			RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).	
<b>L67649-02</b>	WG240401	Sodium, dissolved	M200.7 ICP	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG240886	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240387	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
M353.2 - Automated Cadmium Reduction			RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).	
<b>L67649-03</b>	WG240886	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240387	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).



**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67649**

No certification qualifiers associated with this analysis

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67649  
 Date Received: 2/13/2008  
 Received By:  
 Date Printed: 2/13/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5477	1.5	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67649  
 Date Received: 2/13/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67649-01	PARRA		Y									<input type="checkbox"/>
L67649-02	GALLANT		Y									<input type="checkbox"/>
L67649-03	POWER		Y									<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

# ACZ Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

L67649

**Report to:**

Name: DAN SIMPSON	Address: 51 W. Wetmore Rd.
Company: HYDRO GEO CHEM Inc	Tucson AZ 85705
E-mail: dans@hgcinc.com	Telephone: (520) 293-1500 x 133

**Copy of Report to:**

Name: Jim Norris	E-mail: jimn@hgcinc.com
Company: Hydro Geo Chem Inc	Telephone: (520) 293-1500 x 112

**Invoice to:**

Name: Jim Norris	Address: 51 W. Wetmore Rd
Company: Hydro Geo Chem Inc	Tucson AZ 85705
E-mail: jimn@hgcinc.com	Telephone: (520) 293-1500 x 112

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES  NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO"

is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

**PROJECT INFORMATION**

**ANALYSES REQUESTED (attach list or use quote number)**

Quote #: FMCQB-GW	# of Containers	Ca/Mg/Mg/K	TDS SCH	NO <sub>2</sub> -NO <sub>3</sub> -Cl-F-	ALK												
Project/PO #: 872001.0																	
Reporting state for compliance testing: AZ																	
Sampler's Name: Kim Wilson																	
Are any samples NRC licensable material? NO																	

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Ca/Mg/Mg/K	TDS SCH	NO <sub>2</sub> -NO <sub>3</sub> -Cl-F-	ALK						
PARRA	2/11/08 13:30	GW	3	✓	✓	✓							
GALLANT	2/11/08 15:40	GW	3	✓	✓	✓							
POWER	2/12/08 9:20	GW	3	✓	✓	✓							

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

**REMARKS**

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Kim Wilson	2/12/08 16:35	L/R	2-13-08 11:12

February 29, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67668

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 14, 2008. This project has been assigned to ACZ's project number, L67668. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67668. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 29, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



Hydro Geo Chem, Inc.

February 29, 2008

Project ID: 872001.0

ACZ Project ID: L67668

**Sample Receipt**

ACZ Laboratories, Inc. (ACZ) received 3 ground water samples from Hydro Geo Chem, Inc. on February 14, 2008. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L67668. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Samples were received outside the EPA recommended temperature of 0-6 degrees C.

**Holding Times**

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

**Sample Analysis**

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures.

**Hydro Geo Chem, Inc.**

Project ID: 872001.0  
Sample ID: SWAN-OLD

ACZ Sample ID: **L67668-02**  
Date Sampled: 02/13/08 13:15  
Date Received: 02/14/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	77.5		*	mg/L	0.2	1	02/14/08 20:07	aeH/erf
Magnesium, dissolved	M200.7 ICP	11.1		*	mg/L	0.2	1	02/14/08 20:07	aeH/erf
Potassium, dissolved	M200.7 ICP	3.3			mg/L	0.3	2	02/14/08 20:07	aeH/erf
Sodium, dissolved	M200.7 ICP	14.1			mg/L	0.3	2	02/14/08 20:07	aeH/erf

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		213			mg/L	2	20	02/18/08 0:00	jlf
Carbonate as CaCO3			U		mg/L	2	20	02/18/08 0:00	jlf
Hydroxide as CaCO3			U		mg/L	2	20	02/18/08 0:00	jlf
Total Alkalinity		213			mg/L	2	20	02/18/08 0:00	jlf
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.0			%			02/29/08 0:00	calc
Sum of Anions		5.4			meq/L	0.1	0.5	02/29/08 0:00	calc
Sum of Cations		5.4			meq/L	0.1	0.5	02/29/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	10.3			mg/L	0.5	3	02/20/08 20:58	aml/ccp
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/28/08 12:18	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	5.51			mg/L	0.06	0.3	02/29/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5.51		*	mg/L	0.06	0.3	02/14/08 21:01	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/14/08 20:52	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	320			mg/L	10	20	02/16/08 13:43	cas
Sulfate	300.0 - Ion Chromatography	24.1			mg/L	0.5	3	02/20/08 20:58	aml/ccp
TDS (calculated)	Calculation	293			mg/L	10	50	02/29/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.09						02/29/08 0:00	calc

Arizona license number: AZ0102

**Hydro Geo Chem, Inc.**

Project ID: 872001.0  
Sample ID: SWAN-NEW-TM-8

ACZ Sample ID: **L67668-03**  
Date Sampled: 02/13/08 14:05  
Date Received: 02/14/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	43.4		*	mg/L	0.2	1	02/14/08 20:11	aeH/erf
Magnesium, dissolved	M200.7 ICP	21.4		*	mg/L	0.2	1	02/14/08 20:11	aeH/erf
Potassium, dissolved	M200.7 ICP	4.9			mg/L	0.3	2	02/14/08 20:11	aeH/erf
Sodium, dissolved	M200.7 ICP	35.5			mg/L	0.3	2	02/14/08 20:11	aeH/erf

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		204			mg/L	2	20	02/18/08 0:00	jlf
Carbonate as CaCO3			U		mg/L	2	20	02/18/08 0:00	jlf
Hydroxide as CaCO3			U		mg/L	2	20	02/18/08 0:00	jlf
Total Alkalinity		204			mg/L	2	20	02/18/08 0:00	jlf
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.0			%			02/29/08 0:00	calc
Sum of Anions		5.6			meq/L	0.1	0.5	02/29/08 0:00	calc
Sum of Cations		5.6			meq/L	0.1	0.5	02/29/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	32.1		*	mg/L	0.5	3	02/20/08 21:16	aml/ccp
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/28/08 12:21	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	5.30			mg/L	0.06	0.3	02/29/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5.30		*	mg/L	0.06	0.3	02/14/08 21:02	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/14/08 20:54	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	310			mg/L	10	20	02/16/08 13:44	cas
Sulfate	300.0 - Ion Chromatography	12.6		*	mg/L	0.5	3	02/20/08 21:16	aml/ccp
TDS (calculated)	Calculation	296			mg/L	10	50	02/29/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.05						02/29/08 0:00	calc

Arizona license number: AZ0102



**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L67668**

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240540</b>													
WG240540PBW1	PBW	02/18/08 16:27				U	mg/L		-20	20			
WG240540LCSW2	LCSW	02/18/08 16:38	WC080131-1	820		831.6	mg/L	101.4	90	110			
WG240540PBW2	PBW	02/18/08 19:16				U	mg/L		-20	20			
WG240540LCSW5	LCSW	02/18/08 19:28	WC080131-1	820		857.9	mg/L	104.6	90	110			
L67670-03DUP	DUP	02/18/08 20:45			194	197.7	mg/L				1.9	20	
WG240540PBW3	PBW	02/18/08 23:03				U	mg/L		-20	20			
WG240540LCSW8	LCSW	02/18/08 23:15	WC080131-1	820		867.2	mg/L	105.8	90	110			
WG240540PBW5	PBW	02/19/08 11:41				U	mg/L		-20	20			
WG240540LCSW14	LCSW	02/19/08 11:53	WC080131-1	820		832	mg/L	101.5	90	110			
WG240540LCSW17	LCSW	02/19/08 15:01	WC080131-1	820		882.6	mg/L	107.6	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240430</b>													
WG240430ICV	ICV	02/14/08 18:03	II080115-3	100		96.65	mg/L	96.7	95	105			
WG240430ICB	ICB	02/14/08 18:07				U	mg/L		-0.6	0.6			
WG240430LFB	LFB	02/14/08 18:24	II080209-4	67.97008		69.26	mg/L	101.9	85	115			
L67666-01AS	AS	02/14/08 19:34	II080209-4	67.97008	469	511.15	mg/L	62	85	115			M3
L67666-01ASD	ASD	02/14/08 19:38	II080209-4	67.97008	469	517.32	mg/L	71.1	85	115	1.2	20	M3

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	19.98		20.1	mg/L	100.6	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		29.95	mg/L	99.8	90	110			
L67648-01AS	AS	02/20/08 18:33	WI080128-9	30	27.9	56.16	mg/L	94.2	90	110			
L67648-01DUP	DUP	02/20/08 18:51			27.9	27.89	mg/L				0	20	
L67668-03AS	AS	02/20/08 21:34	WI080213-1	50	32.1	58.57	mg/L	52.9	90	110			M2
L67668-03DUP	DUP	02/20/08 21:52			32.1	32.13	mg/L				0.1	20	

**Fluoride** SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240886</b>													
WG240886ICV	ICV	02/28/08 11:14	WC080227-1	2		1.97	mg/L	98.5	90	110			
WG240886ICB	ICB	02/28/08 11:19				U	mg/L		-0.3	0.3			
WG240886LFB1	LFB	02/28/08 11:24	WC080226-1	5		5.24	mg/L	104.8	90	110			
L67649-03AS	AS	02/28/08 12:10	WC080226-1	5	.1	5.29	mg/L	103.8	90	110			
L67649-03DUP	DUP	02/28/08 12:13			.1	.13	mg/L				26.1	20	RA
WG240886LFB2	LFB	02/28/08 12:51	WC080226-1	5		4.93	mg/L	98.6	90	110			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67668**

Project ID: 872001.0

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240430</b>													
WG240430ICV	ICV	02/14/08 18:03	II080115-3	100		100.17	mg/L	100.2	95	105			
WG240430ICB	ICB	02/14/08 18:07				U	mg/L		-0.6	0.6			
WG240430LFB	LFB	02/14/08 18:24	II080209-4	54.96908		58.01	mg/L	105.5	85	115			
L67666-01AS	AS	02/14/08 19:34	II080209-4	54.96908	354	401.3	mg/L	86	85	115			
L67666-01ASD	ASD	02/14/08 19:38	II080209-4	54.96908	354	398.29	mg/L	80.6	85	115	0.75	20	M3

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240451</b>													
WG240451ICV	ICV	02/14/08 20:40	WI071212-1	2.416		2.395	mg/L	99.1	90	110			
WG240451ICB	ICB	02/14/08 20:41				U	mg/L		-0.06	0.06			
WG240451LFB	LFB	02/14/08 20:45	WI070911-4	2		2.035	mg/L	101.8	90	110			
L67667-01AS	AS	02/14/08 20:47	WI070911-4	2	U	2.135	mg/L	106.8	90	110			
L67667-02DUP	DUP	02/14/08 20:50			U	U	mg/L				0	20	RA

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240451</b>													
WG240451ICV	ICV	02/14/08 20:40	WI071212-1	.609		.618	mg/L	101.5	90	110			
WG240451ICB	ICB	02/14/08 20:41				U	mg/L		-0.03	0.03			
WG240451LFB	LFB	02/14/08 20:45	WI070911-4	1		1.065	mg/L	106.5	90	110			
L67667-01AS	AS	02/14/08 20:47	WI070911-4	1	U	1.118	mg/L	111.8	90	110			M1
L67667-02DUP	DUP	02/14/08 20:50			U	U	mg/L				0	20	RA

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240430</b>													
WG240430ICV	ICV	02/14/08 18:03	II080115-3	20		19.81	mg/L	99.1	95	105			
WG240430ICB	ICB	02/14/08 18:07				U	mg/L		-0.9	0.9			
WG240430LFB	LFB	02/14/08 18:24	II080209-4	99.76186		103.99	mg/L	104.2	85	115			
L67666-01AS	AS	02/14/08 19:34	II080209-4	99.76186	18.5	126.71	mg/L	108.5	85	115			
L67666-01ASD	ASD	02/14/08 19:38	II080209-4	99.76186	18.5	122.91	mg/L	104.7	85	115	3.04	20	

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240504</b>													
WG240504PBW	PBW	02/16/08 13:30				U	mg/L		-20	20			
WG240504LCSW	LCSW	02/16/08 13:31	PCN28840	260		306	mg/L	117.7	80	120			
L67668-03DUP	DUP	02/16/08 13:45			310	308	mg/L				0.6	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67668**

Project ID: 872001.0

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240430</b>													
WG240430ICV	ICV	02/14/08 18:03	II080115-3	100		98.07	mg/L	98.1	95	105			
WG240430ICB	ICB	02/14/08 18:07				U	mg/L		-0.9	0.9			
WG240430LFB	LFB	02/14/08 18:24	II080209-4	98.21624		101.78	mg/L	103.6	85	115			
L67666-01AS	AS	02/14/08 19:34	II080209-4	98.21624	144	244.55	mg/L	102.4	85	115			
L67666-01ASD	ASD	02/14/08 19:38	II080209-4	98.21624	144	236.82	mg/L	94.5	85	115	3.21	20	

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	50.1		50.64	mg/L	101.1	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		30.49	mg/L	101.6	90	110			
L67668-03AS	AS	02/20/08 21:34	WI080213-1	50	12.6	39.09	mg/L	53	90	110			M2
L67668-03DUP	DUP	02/20/08 21:52			12.6	12.58	mg/L				0.2	20	
WG240628ICV1	ICV	02/21/08 11:56	WI080220-1	50.1		50.19	mg/L	100.2	90	110			
WG240628ICB1	ICB	02/21/08 12:14				U	mg/L		-1.5	1.5			
L67648-01AS	AS	02/21/08 12:50	WI080128-9	600	520	1146	mg/L	104.3	90	110			
L67648-01DUP	DUP	02/21/08 13:08			520	486	mg/L				6.8	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67668**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67668-01	WG240430	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240886	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240451	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction M353.2 - Automated Cadmium Reduction	M1 RA	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67668-02	WG240430	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240886	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240451	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction M353.2 - Automated Cadmium Reduction	M1 RA	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67668-03	WG240430	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240628	Chloride	M300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240886	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240451	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction M353.2 - Automated Cadmium Reduction	M1 RA	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240628	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67668**

No certification qualifiers associated with this analysis

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67668  
 Date Received: 2/14/2008  
 Received By:  
 Date Printed: 2/14/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
2115	6.8	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67668  
 Date Received: 2/14/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67668-01	WALKER		Y									<input type="checkbox"/>
L67668-02	SWAN-OLD		Y									<input type="checkbox"/>
L67668-03	SWAN-NEW-TM-8		Y									<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_





March 11, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67684

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 15, 2008. This project has been assigned to ACZ's project number, L67684. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67684. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 11, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Sue Webber has reviewed and approved this report.



Hydro Geo Chem, Inc.

March 11, 2008

Project ID: 872001.0

ACZ Project ID: L67684

**Sample Receipt**

ACZ Laboratories, Inc. (ACZ) received 1 ground water sample from Hydro Geo Chem, Inc. on February 15, 2008. The sample was received in good condition. Upon receipt, the sample custodian removed the sample from the cooler, inspected the contents, and logged the sample into ACZ's computerized Laboratory Information Management System (LIMS). The sample was assigned ACZ LIMS project number L67684. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

**Holding Times**

All analyses were not performed within EPA recommended holding times.

1. The TDS analysis was completed past the hold time of 7 days due to a login error. There will be no charge for the analysis.

**Sample Analysis**

This sample was analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports.

**Hydro Geo Chem, Inc.**

Project ID: 872001.0  
Sample ID: WEED

ACZ Sample ID: **L67684-01**  
Date Sampled: 02/14/08 15:10  
Date Received: 02/15/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	35.6		*	mg/L	0.2	1	02/27/08 12:47	aeh/erf
Magnesium, dissolved	M200.7 ICP	14.5		*	mg/L	0.2	1	02/27/08 12:47	aeh/erf
Potassium, dissolved	M200.7 ICP	2.2		*	mg/L	0.3	2	02/27/08 12:47	aeh/erf
Sodium, dissolved	M200.7 ICP	30.0		*	mg/L	0.3	2	02/27/08 12:47	aeh/erf

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		162			mg/L	2	20	02/28/08 0:00	cas
Carbonate as CaCO3		5	B		mg/L	2	20	02/28/08 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/28/08 0:00	cas
Total Alkalinity		168		*	mg/L	2	20	02/28/08 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		4.9			%			03/10/08 0:00	calc
Sum of Anions		3.9			meq/L	0.1	0.5	03/10/08 0:00	calc
Sum of Cations		4.3			meq/L	0.1	0.5	03/10/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	9	B	*	mg/L	5	30	03/06/08 19:27	aml/ccp
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	1.72			mg/L	0.04	0.2	03/10/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1.72	H	*	mg/L	0.04	0.2	02/29/08 18:09	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		UH	*	mg/L	0.02	0.1	02/29/08 18:09	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	230	H	*	mg/L	10	20	02/26/08 8:45	cas
Sulfate	300.0 - Ion Chromatography	11.1		*	mg/L	0.5	3	02/20/08 22:10	aml/ccp
TDS (calculated)	Calculation	212			mg/L	10	50	03/10/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08						03/10/08 0:00	calc

Arizona license number: AZ0102

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L67684**

Project ID: 872001.0

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240956</b>													
WG240956PBW1	PBW	02/28/08 16:33				25.6	mg/L		-20	20			B4
WG240956LCSW2	LCSW	02/28/08 16:45	WC080131-1	820		822	mg/L	100.2	90	110			
L67721-05DUP	DUP	02/28/08 18:40			1260	1253.1	mg/L				0.5	20	
WG240956PBW2	PBW	02/28/08 20:11				U	mg/L		-20	20			
WG240956LCSW5	LCSW	02/28/08 20:24	WC080131-1	820		824.2	mg/L	100.5	90	110			
WG240956PBW3	PBW	02/28/08 23:13				U	mg/L		-20	20			
WG240956LCSW8	LCSW	02/28/08 23:25	WC080131-1	820		826.4	mg/L	100.8	90	110			
WG240956LCSW11	LCSW	02/29/08 1:11	WC080131-1	820		832	mg/L	101.5	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240847</b>													
WG240847ICV	ICV	02/27/08 12:17	II080115-3	100		95.88	mg/L	95.9	95	105			
WG240847ICB	ICB	02/27/08 12:21				U	mg/L		-0.6	0.6			
WG240847LFB	LFB	02/27/08 12:34	II080214-5	67.97008		68.5	mg/L	100.8	85	115			
L67741-01AS	AS	02/27/08 12:54	II080214-5	339.8504	507	810.5	mg/L	89.3	85	115			
L67741-01ASD	ASD	02/27/08 13:03	II080214-5	339.8504	507	824	mg/L	93.3	85	115	1.65	20	

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	19.98		20.32	mg/L	101.7	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
WG240853LFB	LFB	03/06/08 15:32	WI080128-9	30		29.36	mg/L	97.9	90	110			
L67673-03AS	AS	03/06/08 16:44	WI080306-2	30	16.4	44.77	mg/L	94.6	90	110			
L67673-03DUP	DUP	03/06/08 17:02			16.4	16.45	mg/L				0.3	20	

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240847</b>													
WG240847ICV	ICV	02/27/08 12:17	II080115-3	100		97.91	mg/L	97.9	95	105			
WG240847ICB	ICB	02/27/08 12:21				U	mg/L		-0.6	0.6			
WG240847LFB	LFB	02/27/08 12:34	II080214-5	54.96908		56.29	mg/L	102.4	85	115			
L67741-01AS	AS	02/27/08 12:54	II080214-5	274.8454	429	687.3	mg/L	94	85	115			
L67741-01ASD	ASD	02/27/08 13:03	II080214-5	274.8454	429	689.1	mg/L	94.6	85	115	0.26	20	

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241004</b>													
WG241004ICV	ICV	02/29/08 18:02	WI071212-1	2.416		2.262	mg/L	93.6	90	110			
WG241004ICB	ICB	02/29/08 18:04				U	mg/L		-0.06	0.06			
WG241004LFB	LFB	02/29/08 18:07	WI070911-4	2		1.903	mg/L	95.2	90	110			
L67684-01AS	AS	02/29/08 18:10	WI070911-4	4	1.72	5.535	mg/L	95.4	90	110			
L67904-01DUP	DUP	02/29/08 18:12			2.95	2.946	mg/L				0.1	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67684**

Project ID: 872001.0

**Nitrite as N, dissolved**

M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241004</b>													
WG241004ICV	ICV	02/29/08 18:02	WI071212-1	.609		.593	mg/L	97.4	90	110			
WG241004ICB	ICB	02/29/08 18:04				U	mg/L		-0.03	0.03			
WG241004LFB	LFB	02/29/08 18:07	WI070911-4	1		.987	mg/L	98.7	90	110			
L67684-01AS	AS	02/29/08 18:10	WI070911-4	2	U	1.913	mg/L	95.7	90	110			
L67904-01DUP	DUP	02/29/08 18:12			.04	.043	mg/L				7.2	20	RA

**Potassium, dissolved**

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240847</b>													
WG240847ICV	ICV	02/27/08 12:17	II080115-3	20		19.97	mg/L	99.9	95	105			
WG240847ICB	ICB	02/27/08 12:21				U	mg/L		-0.9	0.9			
WG240847LFB	LFB	02/27/08 12:34	II080214-5	99.76186		104.14	mg/L	104.4	85	115			
L67741-01AS	AS	02/27/08 12:54	II080214-5	498.8093	28	549.5	mg/L	104.5	85	115			
L67741-01ASD	ASD	02/27/08 13:03	II080214-5	498.8093	28	547.2	mg/L	104.1	85	115	0.42	20	

**Residue, Filterable (TDS) @180C**

160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240825</b>													
L67784-01DUP	DUP	02/26/08 9:11			720	726	mg/L				0.8	20	
WG240825LCSW	LCSW	02/26/08 9:42	PCN28838	260		294	mg/L	113.1	80	120			
WG240825PBW	PBW	02/26/08 9:45				U	mg/L		-20	20			

**Sodium, dissolved**

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240847</b>													
WG240847ICV	ICV	02/27/08 12:17	II080115-3	100		99.05	mg/L	99.1	95	105			
WG240847ICB	ICB	02/27/08 12:21				U	mg/L		-0.9	0.9			
WG240847LFB	LFB	02/27/08 12:34	II080214-5	98.21624		102.19	mg/L	104	85	115			
L67741-01AS	AS	02/27/08 12:54	II080214-5	491.0812	133	639.5	mg/L	103.1	85	115			
L67741-01ASD	ASD	02/27/08 13:03	II080214-5	491.0812	133	635.6	mg/L	102.3	85	115	0.61	20	

**Sulfate**

300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	50.1		50.64	mg/L	101.1	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		30.49	mg/L	101.6	90	110			
L67668-03AS	AS	02/20/08 21:34	WI080213-1	50	12.6	39.09	mg/L	53	90	110			
L67668-03DUP	DUP	02/20/08 21:52			12.6	12.58	mg/L				0.2	20	
WG240628ICV1	ICV	02/21/08 11:56	WI080220-1	50.1		50.19	mg/L	100.2	90	110			
WG240628ICB1	ICB	02/21/08 12:14				U	mg/L		-1.5	1.5			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67684**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67684-01	WG240847	Calcium, dissolved	M200.7 ICP	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		Magnesium, dissolved	M200.7 ICP	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		Potassium, dissolved	M200.7 ICP	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		Sodium, dissolved	M200.7 ICP	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG241202	Chloride	M300.0 - Ion Chromatography	DJ	Sample dilution required due to insufficient sample.
	WG241004	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	C4	Confirmatory analysis was past holding time.
			M353.2 - Automated Cadmium Reduction	DJ	Sample dilution required due to insufficient sample.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	C4	Confirmatory analysis was past holding time.
			M353.2 - Automated Cadmium Reduction	DJ	Sample dilution required due to insufficient sample.
	WG240825	Residue, Filterable (TDS) @180C	160.1 / SM2540C	H1	Sample analysis performed past holding time.
WG240628	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.	
WG240956	Total Alkalinity	SM2320B - Titration	B4	Target analyte detected in blank at or above the acceptance criteria.	
		SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.	



**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67684**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67684  
 Date Received: 2/15/2008  
 Received By:  
 Date Printed: 2/15/2008

**Receipt Verification**

	YES	NO	NA	
1) Does this project require special handling procedures such as CLP protocol?			X	
2) Are the custody seals on the cooler intact?			X	
3) Are the custody seals on the sample containers intact?			X	
4) Is there a Chain of Custody or other directive shipping papers present?	X			
5) Is the Chain of Custody complete?	X			
6) Is the Chain of Custody in agreement with the samples received?	X			
7) Is there enough sample for all requested analyses?	X			
8) Are all samples within holding times for requested analyses?	X			
9) Were all sample containers received intact?	X			
10) Are the temperature blanks present?				X
11) Are the trip blanks (VOA and/or Cyanide) present?				X
12) Are samples requiring no headspace, headspace free?				X
13) Do the samples that require a Foreign Soils Permit have one?			X	

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
1996	1.8	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67684  
 Date Received: 2/15/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67684-01	HULL									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

L67684



# Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

### Report to:

Name: Dan Simpson  
 Company: Hydro Geo Chem (HGC)  
 E-mail: dans@hgcinc.com

Address: 51 W. Wetmore Rd  
Tucson AZ 85705  
 Telephone: (520) 293-1500 x133

### Copy of Report to:

Name: Jim Norris  
 Company: HGC

E-mail: jimn@hgcinc.com  
 Telephone: (520) 293-1500 x 112

### Invoice to:

Name: Jim Norris  
 Company: HGC  
 E-mail: jimn@hgcinc.com

Address: above  
 Telephone: above

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES   
 NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

### PROJECT INFORMATION

### ANALYSES REQUESTED (attach list or use quote number)

Quote #: FMCRB-GW  
 Project/PO #: 872001.0  
 Reporting state for compliance testing: AZ  
 Sampler's Name: KW + AP  
 Are any samples NRC licensable material?

Matrix	# of Containers	ANALYSES REQUESTED																	
		1	2	3	4	5	6	7	8	9	10								
<u>GW</u>	<u>1</u>	<u>✓</u>																	

SAMPLE IDENTIFICATION	DATE:TIME	Matrix
<u>HULL</u>	<u>2/14/08</u>	<u>GW</u>
<u>WEED</u>		
<u>SW 3-11-08</u>		

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

### REMARKS/ SAMPLE DISCLOSURES

PAGE  
1  
of  
1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>Kim Wilson</u>	<u>2/14/08 16:30</u>	<u>WCL</u>	<u>2-15-08 11:34</u>

February 29, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872002.2

ACZ Project ID: L67685

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 15, 2008. This project has been assigned to ACZ's project number, L67685. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67685. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 29, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872002.2  
Sample ID: COOPER

ACZ Sample ID: **L67685-01**  
Date Sampled: 02/14/08 10:00  
Date Received: 02/15/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	47.9			mg/L	0.2	1	02/18/08 19:45	aeH/erf
Magnesium, dissolved	M200.7 ICP	13.8			mg/L	0.2	1	02/18/08 19:45	aeH/erf
Potassium, dissolved	M200.7 ICP	2.2			mg/L	0.3	2	02/18/08 19:45	aeH/erf
Sodium, dissolved	M200.7 ICP	25.3			mg/L	0.3	2	02/18/08 19:45	aeH/erf

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		154			mg/L	2	20	02/19/08 0:00	jlf
Carbonate as CaCO3		9	B		mg/L	2	20	02/19/08 0:00	jlf
Hydroxide as CaCO3			U		mg/L	2	20	02/19/08 0:00	jlf
Total Alkalinity		163		*	mg/L	2	20	02/19/08 0:00	jlf
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.1			%			02/29/08 0:00	calc
Sum of Anions		4.6			meq/L	0.1	0.5	02/29/08 0:00	calc
Sum of Cations		4.7			meq/L	0.1	0.5	02/29/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	17.5		*	mg/L	0.5	3	02/20/08 22:29	aml/ccp
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/28/08 12:23	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	2.82			mg/L	0.02	0.1	02/29/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	2.82		*	mg/L	0.02	0.1	02/15/08 18:59	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/15/08 18:59	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	270			mg/L	10	20	02/20/08 9:58	ear
Sulfate	300.0 - Ion Chromatography	33.0		*	mg/L	0.5	3	02/20/08 22:29	aml/ccp
TDS (calculated)	Calculation	254			mg/L	10	50	02/29/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/29/08 0:00	calc

Arizona license number: AZ0102

**Hydro Geo Chem, Inc.**

Project ID: 872002.2  
Sample ID: PALMER 819

ACZ Sample ID: **L67685-02**  
Date Sampled: 02/14/08 13:50  
Date Received: 02/15/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	31.9			mg/L	0.2	1	02/19/08 22:22	aeH/erf
Magnesium, dissolved	M200.7 ICP	27.1			mg/L	0.2	1	02/19/08 22:22	aeH/erf
Potassium, dissolved	M200.7 ICP	5.4			mg/L	0.3	2	02/19/08 22:22	aeH/erf
Sodium, dissolved	M200.7 ICP	50.1			mg/L	0.3	2	02/19/08 22:22	aeH/erf

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		235			mg/L	2	20	02/19/08 0:00	jlf
Carbonate as CaCO3		15	B		mg/L	2	20	02/19/08 0:00	jlf
Hydroxide as CaCO3			U		mg/L	2	20	02/19/08 0:00	jlf
Total Alkalinity		251		*	mg/L	2	20	02/19/08 0:00	jlf
Cation-Anion Balance	Calculation								
Cation-Anion Balance		2.5			%			02/29/08 0:00	calc
Sum of Anions		5.8			meq/L	0.1	0.5	02/29/08 0:00	calc
Sum of Cations		6.1			meq/L	0.1	0.5	02/29/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	11.3		*	mg/L	0.5	3	02/20/08 22:47	aml/ccp
Fluoride	SM4500F-C	0.4	B	*	mg/L	0.1	0.5	02/28/08 12:35	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	2.13			mg/L	0.02	0.1	02/29/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	2.13		*	mg/L	0.02	0.1	02/15/08 19:04	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/15/08 19:04	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	300			mg/L	10	20	02/20/08 10:00	ear
Sulfate	300.0 - Ion Chromatography	15.9		*	mg/L	0.5	3	02/20/08 22:47	aml/ccp
TDS (calculated)	Calculation	308			mg/L	10	50	02/29/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	0.97						02/29/08 0:00	calc

Arizona license number: AZ0102

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.



Hydro Geo Chem, Inc.  
 Project ID: 872002.2

ACZ Project ID: **L67685**

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240540</b>													
WG240540PBW1	PBW	02/18/08 16:27				U	mg/L		-20	20			
WG240540LCSW2	LCSW	02/18/08 16:38	WC080131-1	820		831.6	mg/L	101.4	90	110			
WG240540PBW2	PBW	02/18/08 19:16				U	mg/L		-20	20			
WG240540LCSW5	LCSW	02/18/08 19:28	WC080131-1	820		857.9	mg/L	104.6	90	110			
WG240540PBW3	PBW	02/18/08 23:03				U	mg/L		-20	20			
WG240540LCSW8	LCSW	02/18/08 23:15	WC080131-1	820		867.2	mg/L	105.8	90	110			
WG240540PBW4	PBW	02/19/08 8:33				29.5	mg/L		-20	20			B4
WG240540LCSW11	LCSW	02/19/08 8:45	WC080131-1	820		856	mg/L	104.4	90	110			
L67689-01DUP	DUP	02/19/08 10:19			508	507.8	mg/L				0	20	
WG240540PBW5	PBW	02/19/08 11:41				U	mg/L		-20	20			
WG240540LCSW14	LCSW	02/19/08 11:53	WC080131-1	820		832	mg/L	101.5	90	110			
WG240540LCSW17	LCSW	02/19/08 15:01	WC080131-1	820		882.6	mg/L	107.6	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240487</b>													
WG240487ICV	ICV	02/18/08 18:30	II080115-3	100		94.57	mg/L	94.6	95	105			
WG240487ICB	ICB	02/18/08 18:34				U	mg/L		-0.6	0.6			
WG240487LFB	LFB	02/18/08 18:50	II080214-5	67.97008		66.94	mg/L	98.5	85	115			
L67670-03AS	AS	02/18/08 19:26	II080214-5	67.97008	68.1	132.12	mg/L	94.2	85	115			
L67670-03ASD	ASD	02/18/08 19:29	II080214-5	67.97008	68.1	132.19	mg/L	94.3	85	115	0.05	20	
<b>WG240577</b>													
WG240577ICV	ICV	02/19/08 21:25	II080115-3	100		96.13	mg/L	96.1	95	105			
WG240577ICB	ICB	02/19/08 21:29				U	mg/L		-0.6	0.6			
WG240577LFB	LFB	02/19/08 21:44	II080214-5	67.97008		69.65	mg/L	102.5	85	115			
L67670-03AS	AS	02/19/08 21:55	II080214-5	67.97008	71.8	138.32	mg/L	97.9	85	115			
L67670-03ASD	ASD	02/19/08 21:59	II080214-5	67.97008	71.8	137.81	mg/L	97.1	85	115	0.37	20	
L67685-02AS	AS	02/19/08 22:26	II080214-5	67.97008	31.9	99.1	mg/L	98.9	85	115			
L67685-02ASD	ASD	02/19/08 22:29	II080214-5	67.97008	31.9	98.06	mg/L	97.3	85	115	1.05	20	

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	19.98		20.1	mg/L	100.6	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		29.95	mg/L	99.8	90	110			
L67668-03AS	AS	02/20/08 21:34	WI080213-1	50	32.1	58.57	mg/L	52.9	90	110			M2
L67668-03DUP	DUP	02/20/08 21:52			32.1	32.13	mg/L				0.1	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67685**

Project ID: 872002.2

**Fluoride** SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240886</b>													
WG240886ICV	ICV	02/28/08 11:14	WC080227-1	2		1.97	mg/L	98.5	90	110			
WG240886ICB	ICB	02/28/08 11:19				U	mg/L		-0.3	0.3			
WG240886LFB1	LFB	02/28/08 11:24	WC080226-1	5		5.24	mg/L	104.8	90	110			
L67649-03AS	AS	02/28/08 12:10	WC080226-1	5	.1	5.29	mg/L	103.8	90	110			
L67649-03DUP	DUP	02/28/08 12:13			.1	.13	mg/L				26.1	20	RA
WG240886LFB2	LFB	02/28/08 12:51	WC080226-1	5		4.93	mg/L	98.6	90	110			

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240487</b>													
WG240487ICV	ICV	02/18/08 18:30	II080115-3	100		96.43	mg/L	96.4	95	105			
WG240487ICB	ICB	02/18/08 18:34				U	mg/L		-0.6	0.6			
WG240487LFB	LFB	02/18/08 18:50	II080214-5	54.96908		54.86	mg/L	99.8	85	115			
L67670-03AS	AS	02/18/08 19:26	II080214-5	54.96908	7.2	63.33	mg/L	102.1	85	115			
L67670-03ASD	ASD	02/18/08 19:29	II080214-5	54.96908	7.2	64.09	mg/L	103.5	85	115	1.19	20	
<b>WG240577</b>													
WG240577ICV	ICV	02/19/08 21:25	II080115-3	100		98.02	mg/L	98	95	105			
WG240577ICB	ICB	02/19/08 21:29				U	mg/L		-0.6	0.6			
WG240577LFB	LFB	02/19/08 21:44	II080214-5	54.96908		56.43	mg/L	102.7	85	115			
L67670-03AS	AS	02/19/08 21:55	II080214-5	54.96908	7.6	66.62	mg/L	107.4	85	115			
L67670-03ASD	ASD	02/19/08 21:59	II080214-5	54.96908	7.6	66.86	mg/L	107.8	85	115	0.36	20	
L67685-02AS	AS	02/19/08 22:26	II080214-5	54.96908	27.1	83.15	mg/L	102	85	115			
L67685-02ASD	ASD	02/19/08 22:29	II080214-5	54.96908	27.1	82.29	mg/L	100.4	85	115	1.04	20	

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240496</b>													
WG240496ICV	ICV	02/15/08 18:46	WI071212-1	2.416		2.435	mg/L	100.8	90	110			
WG240496ICB	ICB	02/15/08 18:47				U	mg/L		-0.06	0.06			
WG240496LFB	LFB	02/15/08 18:51	WI070911-4	2		1.942	mg/L	97.1	90	110			
L67680-01AS	AS	02/15/08 18:53	WI070911-4	2	.21	2.256	mg/L	102.3	90	110			
L67681-01DUP	DUP	02/15/08 18:56			.09	.088	mg/L				2.2	20	RA

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240496</b>													
WG240496ICV	ICV	02/15/08 18:46	WI071212-1	.609		.621	mg/L	102	90	110			
WG240496ICB	ICB	02/15/08 18:47				U	mg/L		-0.03	0.03			
WG240496LFB	LFB	02/15/08 18:51	WI070911-4	1		.98	mg/L	98	90	110			
L67680-01AS	AS	02/15/08 18:53	WI070911-4	1		1.001	mg/L	100.1	90	110			
L67681-01DUP	DUP	02/15/08 18:56			U	U	mg/L				0	20	RA

Hydro Geo Chem, Inc.

ACZ Project ID: **L67685**

Project ID: 872002.2

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240487</b>													
WG240487ICV	ICV	02/18/08 18:30	II080115-3	20		20.46	mg/L	102.3	95	105			
WG240487ICB	ICB	02/18/08 18:34				U	mg/L		-0.9	0.9			
WG240487LFB	LFB	02/18/08 18:50	II080214-5	99.76186		104.25	mg/L	104.5	85	115			
L67670-03AS	AS	02/18/08 19:26	II080214-5	99.76186	1.6	109.56	mg/L	108.2	85	115			
L67670-03ASD	ASD	02/18/08 19:29	II080214-5	99.76186	1.6	111.26	mg/L	109.9	85	115	1.54	20	
<b>WG240577</b>													
WG240577ICV	ICV	02/19/08 21:25	II080115-3	20		19.86	mg/L	99.3	95	105			
WG240577ICB	ICB	02/19/08 21:29				U	mg/L		-0.9	0.9			
WG240577LFB	LFB	02/19/08 21:44	II080214-5	99.76186		103.96	mg/L	104.2	85	115			
L67670-03AS	AS	02/19/08 21:55	II080214-5	99.76186	1.6	112.98	mg/L	111.6	85	115			
L67670-03ASD	ASD	02/19/08 21:59	II080214-5	99.76186	1.6	113.47	mg/L	112.1	85	115	0.43	20	
L67685-02AS	AS	02/19/08 22:26	II080214-5	99.76186	5.4	114.93	mg/L	109.8	85	115			
L67685-02ASD	ASD	02/19/08 22:29	II080214-5	99.76186	5.4	113.98	mg/L	108.8	85	115	0.83	20	

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240612</b>													
WG240612PBW	PBW	02/20/08 9:50				U	mg/L		-20	20			
WG240612LCSW	LCSW	02/20/08 9:51	PCN28840	260		284	mg/L	109.2	80	120			
L67708-01DUP	DUP	02/20/08 10:10			380	390	mg/L				2.6	20	

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240487</b>													
WG240487ICV	ICV	02/18/08 18:30	II080115-3	100		100.82	mg/L	100.8	95	105			
WG240487ICV	ICV	02/18/08 18:30	II080115-3	100		96.7	mg/L	96.7	95	105			
WG240487ICB	ICB	02/18/08 18:34				U	mg/L		-0.9	0.9			
WG240487LFB	LFB	02/18/08 18:50	II080214-5	98.21624		101.59	mg/L	103.4	85	115			
WG240487LFB	LFB	02/18/08 18:50	II080214-5	98.21624		98.3	mg/L	100.1	85	115			
L67670-03AS	AS	02/18/08 19:26	II080214-5	98.21624	13.4	116.19	mg/L	104.7	85	115			
L67670-03ASD	ASD	02/18/08 19:29	II080214-5	98.21624	13.4	117.31	mg/L	105.8	85	115	0.96	20	
<b>WG240577</b>													
WG240577ICV	ICV	02/19/08 21:25	II080115-3	100		99.03	mg/L	99	95	105			
WG240577ICV	ICV	02/19/08 21:25	II080115-3	100		97.1	mg/L	97.1	95	105			
WG240577ICB	ICB	02/19/08 21:29				U	mg/L		-0.9	0.9			
WG240577ICB	ICB	02/19/08 21:29				U	mg/L		-6	6			
WG240577LFB	LFB	02/19/08 21:44	II080214-5	98.21624		100.7	mg/L	102.5	85	115			
WG240577LFB	LFB	02/19/08 21:44	II080214-5	98.21624		100.92	mg/L	102.8	85	115			
L67670-03AS	AS	02/19/08 21:55	II080214-5	98.21624	13.7	120.52	mg/L	108.8	85	115			
L67670-03ASD	ASD	02/19/08 21:59	II080214-5	98.21624	13.7	120.81	mg/L	109.1	85	115	0.24	20	
L67685-02AS	AS	02/19/08 22:26	II080214-5	98.21624	50.1	151.43	mg/L	103.2	85	115			
L67685-02ASD	ASD	02/19/08 22:29	II080214-5	98.21624	50.1	150.1	mg/L	101.8	85	115	0.88	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67685**

Project ID: 872002.2

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	50.1		50.64	mg/L	101.1	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		30.49	mg/L	101.6	90	110			
L67668-03AS	AS	02/20/08 21:34	WI080213-1	50	12.6	39.09	mg/L	53	90	110			M2
L67668-03DUP	DUP	02/20/08 21:52			12.6	12.58	mg/L				0.2	20	
WG240628ICV1	ICV	02/21/08 11:56	WI080220-1	50.1		50.19	mg/L	100.2	90	110			
WG240628ICB1	ICB	02/21/08 12:14				U	mg/L		-1.5	1.5			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67685**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
<b>L67685-01</b>	WG240628	Chloride	M300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240886	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240496	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240628	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240540	Total Alkalinity	SM2320B - Titration	B4	Target analyte detected in blank at or above the acceptance criteria.
<b>L67685-02</b>	WG240628	Chloride	M300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240886	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240496	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240628	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240540	Total Alkalinity	SM2320B - Titration	B4	Target analyte detected in blank at or above the acceptance criteria.

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67685**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872002.2

ACZ Project ID: L67685  
 Date Received: 2/15/2008  
 Received By:  
 Date Printed: 2/15/2008

**Receipt Verification**

	YES	NO	NA	
1) Does this project require special handling procedures such as CLP protocol?			X	
2) Are the custody seals on the cooler intact?			X	
3) Are the custody seals on the sample containers intact?			X	
4) Is there a Chain of Custody or other directive shipping papers present?	X			
5) Is the Chain of Custody complete?	X			
6) Is the Chain of Custody in agreement with the samples received?	X			
7) Is there enough sample for all requested analyses?	X			
8) Are all samples within holding times for requested analyses?	X			
9) Were all sample containers received intact?	X			
10) Are the temperature blanks present?				X
11) Are the trip blanks (VOA and/or Cyanide) present?				X
12) Are samples requiring no headspace, headspace free?				X
13) Do the samples that require a Foreign Soils Permit have one?			X	

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
1996	1.8	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872002.2

ACZ Project ID: L67685  
 Date Received: 2/15/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67685-01	COOPER		Y									<input type="checkbox"/>
L67685-02	PALMER 819		Y									<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_





February 27, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67713

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 16, 2008. This project has been assigned to ACZ's project number, L67713. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67713. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 27, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872001.0

Sample ID: RAY

ACZ Sample ID: **L67713-01**

Date Sampled: 02/15/08 10:30

Date Received: 02/16/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	159		*	mg/L	3	10	02/21/08 14:02	aml/ccp

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L67713**

Project ID: 872001.0

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	50.1		50.64	mg/L	101.1	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		30.49	mg/L	101.6	90	110			
L67668-03AS	AS	02/20/08 21:34	WI080213-1	50	12.6	39.09	mg/L	53	90	110			M2
L67668-03DUP	DUP	02/20/08 21:52			12.6	12.58	mg/L				0.2	20	
WG240628ICV1	ICV	02/21/08 11:56	WI080220-1	50.1		50.19	mg/L	100.2	90	110			
WG240628ICB1	ICB	02/21/08 12:14				U	mg/L		-1.5	1.5			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67713**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67713-01	WG240628	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67713**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67713  
 Date Received: 2/16/2008  
 Received By:  
 Date Printed: 2/16/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5500	4.3	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**



Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67713  
 Date Received: 2/16/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67713-01	RAY									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



February 29, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872002.2

ACZ Project ID: L67714

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 16, 2008. This project has been assigned to ACZ's project number, L67714. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67714. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 29, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872002.2  
Sample ID: WEISKOPF

ACZ Sample ID: **L67714-01**  
Date Sampled: 02/15/08 08:40  
Date Received: 02/16/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	218		*	mg/L	0.2	1	02/20/08 1:48	aeH/wfg
Magnesium, dissolved	M200.7 ICP	31.4		*	mg/L	0.2	1	02/20/08 1:48	aeH/wfg
Potassium, dissolved	M200.7 ICP	4.3			mg/L	0.3	2	02/20/08 1:48	aeH/wfg
Sodium, dissolved	M200.7 ICP	35.7		*	mg/L	0.3	2	02/20/08 1:48	aeH/wfg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		177			mg/L	2	20	02/28/08 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/28/08 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/28/08 0:00	cas
Total Alkalinity		177		*	mg/L	2	20	02/28/08 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-0.3			%			02/29/08 13:34	calc
Sum of Anions		15.3			meq/L	0.1	0.5	02/29/08 13:34	calc
Sum of Cations		15.2			meq/L	0.1	0.5	02/29/08 13:34	calc
Chloride	M300.0 - Ion Chromatography	33.1		*	mg/L	0.5	3	02/21/08 1:12	aml/ccp
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	02/28/08 12:49	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	4.74			mg/L	0.06	0.3	02/29/08 13:34	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	4.74			mg/L	0.06	0.3	02/16/08 17:30	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/16/08 17:13	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	1010		*	mg/L	10	20	02/21/08 10:40	ear
Sulfate	300.0 - Ion Chromatography	500		*	mg/L	5	30	02/21/08 14:20	aml/ccp
TDS (calculated)	Calculation	950			mg/L	10	50	02/29/08 13:34	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/29/08 13:34	calc

Arizona license number: AZ0102

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
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(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872002.2

ACZ Project ID: **L67714**

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240956</b>													
WG240956PBW1	PBW	02/28/08 16:33				25.6	mg/L		-20	20			B4
WG240956LCSW2	LCSW	02/28/08 16:45	WC080131-1	820		822	mg/L	100.2	90	110			
L67721-05DUP	DUP	02/28/08 18:40			1260	1253.1	mg/L				0.5	20	
WG240956PBW2	PBW	02/28/08 20:11				U	mg/L		-20	20			
WG240956LCSW5	LCSW	02/28/08 20:24	WC080131-1	820		824.2	mg/L	100.5	90	110			
WG240956PBW3	PBW	02/28/08 23:13				U	mg/L		-20	20			
WG240956LCSW8	LCSW	02/28/08 23:25	WC080131-1	820		826.4	mg/L	100.8	90	110			
WG240956LCSW11	LCSW	02/29/08 1:11	WC080131-1	820		832	mg/L	101.5	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240529</b>													
WG240529ICV	ICV	02/19/08 23:43	II080115-3	100		96.83	mg/L	96.8	95	105			
WG240529ICB	ICB	02/19/08 23:46				U	mg/L		-0.6	0.6			
WG240529LFB	LFB	02/20/08 0:02	II080214-5	67.97008		68.62	mg/L	101	85	115			
L67710-08AS	AS	02/20/08 1:02	II080214-5	67.97008	519	520.24	mg/L	1.8	85	115			M3
L67710-08ASD	ASD	02/20/08 1:06	II080214-5	67.97008	519	537.39	mg/L	27.1	85	115	3.24	20	M3

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	19.98		20.1	mg/L	100.6	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		29.95	mg/L	99.8	90	110			
L67668-03AS	AS	02/20/08 21:34	WI080213-1	50	32.1	58.57	mg/L	52.9	90	110			M2
L67668-03DUP	DUP	02/20/08 21:52			32.1	32.13	mg/L				0.1	20	

**Fluoride** SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240886</b>													
WG240886ICV	ICV	02/28/08 11:14	WC080227-1	2		1.97	mg/L	98.5	90	110			
WG240886ICB	ICB	02/28/08 11:19				U	mg/L		-0.3	0.3			
WG240886LFB1	LFB	02/28/08 11:24	WC080226-1	5		5.24	mg/L	104.8	90	110			
L67649-03AS	AS	02/28/08 12:10	WC080226-1	5	.1	5.29	mg/L	103.8	90	110			
L67649-03DUP	DUP	02/28/08 12:13			.1	.13	mg/L				26.1	20	RA
WG240886LFB2	LFB	02/28/08 12:51	WC080226-1	5		4.93	mg/L	98.6	90	110			

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240529</b>													
WG240529ICV	ICV	02/19/08 23:43	II080115-3	100		99.29	mg/L	99.3	95	105			
WG240529ICB	ICB	02/19/08 23:46				U	mg/L		-0.6	0.6			
WG240529LFB	LFB	02/20/08 0:02	II080214-5	54.96908		56.2	mg/L	102.2	85	115			
L67710-08AS	AS	02/20/08 1:02	II080214-5	54.96908	328	346.22	mg/L	33.1	85	115			M3
L67710-08ASD	ASD	02/20/08 1:06	II080214-5	54.96908	328	361.7	mg/L	61.3	85	115	4.37	20	M3

Hydro Geo Chem, Inc.  
 Project ID: 872002.2

ACZ Project ID: **L67714**

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240509</b>													
WG240509ICV	ICV	02/16/08 16:54	WI071212-1	2.416		2.404	mg/L	99.5	90	110			
WG240509ICB	ICB	02/16/08 16:55				U	mg/L		-0.06	0.06			
WG240509LFB	LFB	02/16/08 16:59	WI070911-4	2		1.938	mg/L	96.9	90	110			
L67710-07AS	AS	02/16/08 17:01	WI070911-4	2	.77	2.761	mg/L	99.6	90	110			
L67710-08DUP	DUP	02/16/08 17:04			2.32	2.336	mg/L				0.7	20	

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240509</b>													
WG240509ICV	ICV	02/16/08 16:54	WI071212-1	.609		.622	mg/L	102.1	90	110			
WG240509ICB	ICB	02/16/08 16:55				U	mg/L		-0.03	0.03			
WG240509LFB	LFB	02/16/08 16:59	WI070911-4	1		.997	mg/L	99.7	90	110			
L67710-07AS	AS	02/16/08 17:01	WI070911-4	1	U	1.002	mg/L	100.2	90	110			
L67710-08DUP	DUP	02/16/08 17:04			U	U	mg/L				0	20	RA

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240529</b>													
WG240529ICV	ICV	02/19/08 23:43	II080115-3	20		20.61	mg/L	103.1	95	105			
WG240529ICB	ICB	02/19/08 23:46				U	mg/L		-0.9	0.9			
WG240529LFB	LFB	02/20/08 0:02	II080214-5	99.76186		105.63	mg/L	105.9	85	115			
L67710-08AS	AS	02/20/08 1:02	II080214-5	99.76186	7.4	115.1	mg/L	108	85	115			
L67710-08ASD	ASD	02/20/08 1:06	II080214-5	99.76186	7.4	121.2	mg/L	114.1	85	115	5.16	20	

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240653</b>													
WG240653PBW	PBW	02/21/08 10:25				U	mg/L		-20	20			
WG240653LCSW	LCSW	02/21/08 10:26	PCN28840	260		286	mg/L	110	80	120			
L67723-03DUP	DUP	02/21/08 10:48			40	48	mg/L				18.2	20	RA

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240529</b>													
WG240529ICV	ICV	02/19/08 23:43	II080115-3	100		99.8	mg/L	99.8	95	105			
WG240529ICV	ICV	02/19/08 23:43	II080115-3	100		102.57	mg/L	102.6	95	105			
WG240529ICB	ICB	02/19/08 23:46				U	mg/L		-0.9	0.9			
WG240529LFB	LFB	02/20/08 0:02	II080214-5	98.21624		103.79	mg/L	105.7	85	115			
WG240529LFB	LFB	02/20/08 0:02	II080214-5	98.21624		102.3	mg/L	104.2	85	115			
L67710-08AS	AS	02/20/08 1:02	II080214-5	98.21624	251	325.39	mg/L	75.7	85	115			MA
L67710-08ASD	ASD	02/20/08 1:06	II080214-5	98.21624	251	343.21	mg/L	93.9	85	115	5.33	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67714**

Project ID: 872002.2

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240628</b>													
WG240628ICV	ICV	02/20/08 16:08	WI080220-1	50.1		50.64	mg/L	101.1	90	110			
WG240628ICB	ICB	02/20/08 16:26				U	mg/L		-1.5	1.5			
WG240628LFB	LFB	02/20/08 16:44	WI080128-9	30		30.49	mg/L	101.6	90	110			
L67668-03AS	AS	02/20/08 21:34	WI080213-1	50	12.6	39.09	mg/L	53	90	110			M2
L67668-03DUP	DUP	02/20/08 21:52			12.6	12.58	mg/L				0.2	20	
WG240628ICV1	ICV	02/21/08 11:56	WI080220-1	50.1		50.19	mg/L	100.2	90	110			
WG240628ICB1	ICB	02/21/08 12:14				U	mg/L		-1.5	1.5			



Hydro Geo Chem, Inc.

ACZ Project ID: **L67714**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67714-01	WG240529	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG240628	Chloride	M300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240886	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240509	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240653	Residue, Filterable (TDS) @180C	160.1 / SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240628	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG240956	Total Alkalinity	SM2320B - Titration	B4	Target analyte detected in blank at or above the acceptance criteria.

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67714**

No certification qualifiers associated with this analysis

Hydro Geo Chem, Inc.  
 872002.2

ACZ Project ID: L67714  
 Date Received: 2/16/2008  
 Received By:  
 Date Printed: 2/16/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5500	4.3	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
872002.2

ACZ Project ID: L67714  
 Date Received: 2/16/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67714-01	WEISKOPF		Y									<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

L67714

# ACZ Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Report to:**

Name: Dan Simpson	Address: 51 W. Wetmore Rd
Company: Hydro Geo Chem Inc (HGC)	Tucson AZ 85705
E-mail: dans@hgcinc.com	Telephone: (520) 293-1500 x 133

**Copy of Report to:**

Name: Jim Norris	E-mail: jimn@hgcinc.com
Company: HGC	Telephone: (520) 293-1500 x 112

**Invoice to:**

Name: Jim Norris	Address: above
Company: HGC	
E-mail: jimn@hgcinc.com	Telephone: above

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES  NO   
 If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

**PROJECT INFORMATION** ANALYSES REQUESTED (attach list or use quote number)

Quote #: FM CQB - GW	# of Containers	Na, Ca, Mg, K	TDS SO4 <sup>-</sup>	NO2 <sup>-</sup> NO3 <sup>-</sup> F <sup>-</sup> Cl <sup>-</sup>	ALIK																		
Project/PO #: 872002.2																							
Reporting state for compliance testing: AZ																							
Sampler's Name: AP + KW																							
Are any samples NRC licensable material?																							
SAMPLE IDENTIFICATION	DATE: TIME	Matrix																					
WEISKOPF	2/15/08 8:40	GW	3	✓	✓	✓																	

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

**REMARKS**

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE: TIME	RECEIVED BY:	DATE: TIME
Kim Wilson	2/15/08 13:45	MKS	2-16-08 11:30

March 10, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872002.2

ACZ Project ID: L67789

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 21, 2008. This project has been assigned to ACZ's project number, L67789. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67789. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 10, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Sue Webber has reviewed and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872002.2  
Sample ID: DODSON

ACZ Sample ID: **L67789-01**  
Date Sampled: 02/20/08 11:50  
Date Received: 02/21/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	111			mg/L	0.2	1	02/22/08 18:19	aeH/erf
Magnesium, dissolved	M200.7 ICP	37.5			mg/L	0.2	1	02/22/08 18:19	aeH/erf
Potassium, dissolved	M200.7 ICP	12.3			mg/L	0.3	2	02/25/08 15:14	aeH/erf
Sodium, dissolved	M200.7 ICP	41.2			mg/L	0.3	2	02/25/08 15:14	aeH/erf

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		252			mg/L	2	20	02/26/08 0:00	jlf
Carbonate as CaCO3		14	B		mg/L	2	20	02/26/08 0:00	jlf
Hydroxide as CaCO3			U		mg/L	2	20	02/26/08 0:00	jlf
Total Alkalinity		266			mg/L	2	20	02/26/08 0:00	jlf
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.0			%			03/07/08 0:00	calc
Sum of Anions		10.8			meq/L	0.1	0.5	03/07/08 0:00	calc
Sum of Cations		10.8			meq/L	0.1	0.5	03/07/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	129		*	mg/L	1	5	03/06/08 21:52	aml/ccp
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/28/08 15:06	cas
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	10.7			mg/L	0.1	0.5	03/07/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	10.7			mg/L	0.1	0.5	02/21/08 21:22	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/21/08 20:57	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	590			mg/L	10	20	02/27/08 11:48	cas
Sulfate	300.0 - Ion Chromatography	54		*	mg/L	1	5	03/06/08 21:52	aml/ccp
TDS (calculated)	Calculation	598			mg/L	10	50	03/07/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	0.99						03/07/08 0:00	calc

Arizona license number: AZ0102

#### Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

#### QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

#### QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

#### ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

#### Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

#### Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.



Hydro Geo Chem, Inc.

ACZ Project ID: **L67789**

Project ID: 872002.2

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240781</b>													
WG240781PBW2	PBW	02/25/08 15:18				U	mg/L		-20	20			
WG240781LCSW5	LCSW	02/25/08 15:30	WC080131-1	820		860.2	mg/L	104.9	90	110			
WG240781PBW3	PBW	02/25/08 18:42				U	mg/L		-20	20			
WG240781LCSW8	LCSW	02/25/08 18:54	WC080131-1	820		870.7	mg/L	106.2	90	110			
WG240781PBW4	PBW	02/25/08 22:14				U	mg/L		-20	20			
WG240781LCSW11	LCSW	02/25/08 22:28	WC080131-1	820		884.8	mg/L	107.9	90	110			
L67820-03DUP	DUP	02/26/08 8:57			639	694.9	mg/L				8.4	20	
WG240781LCSW14	LCSW	02/26/08 9:10	WC080131-1	820		882.2	mg/L	107.6	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240749</b>													
WG240749ICV	ICV	02/22/08 17:26	II080115-3	100		96.63	mg/L	96.6	95	105			
WG240749ICB	ICB	02/22/08 17:30				U	mg/L		-0.6	0.6			
WG240749LFB	LFB	02/22/08 17:45	II080214-5	67.97008		67.7	mg/L	99.6	85	115			
L67784-01AS	AS	02/22/08 17:53	II080214-5	67.97008	141	201.17	mg/L	88.5	85	115			
L67784-01ASD	ASD	02/22/08 17:56	II080214-5	67.97008	141	201.28	mg/L	88.7	85	115	0.05	20	

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	19.98		20.32	mg/L	101.7	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
WG240853LFB	LFB	03/06/08 15:32	WI080128-9	30		29.36	mg/L	97.9	90	110			
L67781-05AS	AS	03/06/08 21:16	WI080306-2	30	U	30.39	mg/L	101.3	90	110			
L67781-05DUP	DUP	03/06/08 21:34			U	U	mg/L				0	20	RA

**Fluoride** SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240886</b>													
WG240886ICV	ICV	02/28/08 11:14	WC080227-1	2		1.97	mg/L	98.5	90	110			
WG240886ICB	ICB	02/28/08 11:19				U	mg/L		-0.3	0.3			
WG240886LFB1	LFB	02/28/08 11:24	WC080226-1	5		5.24	mg/L	104.8	90	110			
WG240886LFB2	LFB	02/28/08 12:51	WC080226-1	5		4.93	mg/L	98.6	90	110			
L67779-08AS	AS	02/28/08 14:09	WC080226-1	5	U	4.81	mg/L	96.2	90	110			
L67779-08DUP	DUP	02/28/08 14:16			U	U	mg/L				0	20	RA

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240749</b>													
WG240749ICV	ICV	02/22/08 17:26	II080115-3	100		99.42	mg/L	99.4	95	105			
WG240749ICB	ICB	02/22/08 17:30				U	mg/L		-0.6	0.6			
WG240749LFB	LFB	02/22/08 17:45	II080214-5	54.96908		55.35	mg/L	100.7	85	115			
L67784-01AS	AS	02/22/08 17:53	II080214-5	54.96908	28.4	83.37	mg/L	100	85	115			
L67784-01ASD	ASD	02/22/08 17:56	II080214-5	54.96908	28.4	83.86	mg/L	100.9	85	115	0.59	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67789**

Project ID: 872002.2

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240705</b>													
WG240705ICV	ICV	02/21/08 19:55	WI071212-1	2.416		2.435	mg/L	100.8	90	110			
WG240705ICB	ICB	02/21/08 19:57				U	mg/L		-0.06	0.06			
WG240705LFB1	LFB	02/21/08 20:01	WI070911-4	2		1.968	mg/L	98.4	90	110			
WG240705LFB2	LFB	02/21/08 20:40	WI070911-4	2		1.902	mg/L	95.1	90	110			
L67779-11DUP	DUP	02/21/08 20:49			1.06	1.046	mg/L				1.3	20	
L67779-10AS	AS	02/21/08 21:21	WI070911-4	2	.16	2.119	mg/L	98	90	110			

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240705</b>													
WG240705ICV	ICV	02/21/08 19:55	WI071212-1	.609		.626	mg/L	102.8	90	110			
WG240705ICB	ICB	02/21/08 19:57				U	mg/L		-0.03	0.03			
WG240705LFB1	LFB	02/21/08 20:01	WI070911-4	1		1.023	mg/L	102.3	90	110			
WG240705LFB2	LFB	02/21/08 20:40	WI070911-4	1		1.035	mg/L	103.5	90	110			
L67779-11DUP	DUP	02/21/08 20:49			.05	.051	mg/L				2	20	RA
L67779-10AS	AS	02/21/08 21:21	WI070911-4	1	U	1.041	mg/L	104.1	90	110			

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240797</b>													
WG240797ICV	ICV	02/25/08 14:33	II080115-3	20		19.95	mg/L	99.8	95	105			
WG240797ICB	ICB	02/25/08 14:37				U	mg/L		-0.9	0.9			
WG240797LFB	LFB	02/25/08 14:49	II080214-5	99.76186		101.04	mg/L	101.3	85	115			
L67741-01AS	AS	02/25/08 14:55	II080214-5	99.76186	27.5	131.58	mg/L	104.3	85	115			
L67741-01ASD	ASD	02/25/08 14:59	II080214-5	99.76186	27.5	131.58	mg/L	104.3	85	115	0	20	

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240892</b>													
WG240892PBW	PBW	02/27/08 11:45				U	mg/L		-20	20			
WG240892LCSW	LCSW	02/27/08 11:46	PCN28838	260		276	mg/L	106.2	80	120			
L67798-03DUP	DUP	02/27/08 12:00			1570	1584	mg/L				0.9	20	

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240797</b>													
WG240797ICV	ICV	02/25/08 14:33	II080115-3	100		97.3	mg/L	97.3	95	105			
WG240797ICV	ICV	02/25/08 14:33	II080115-3	100		99.41	mg/L	99.4	95	105			
WG240797ICB	ICB	02/25/08 14:37				U	mg/L		-6	6			
WG240797ICB	ICB	02/25/08 14:37				U	mg/L		-0.9	0.9			
WG240797LFB	LFB	02/25/08 14:49	II080214-5	98.21624		101.64	mg/L	103.5	85	115			
WG240797LFB	LFB	02/25/08 14:49	II080214-5	98.21624		99.1	mg/L	100.9	85	115			
L67741-01AS	AS	02/25/08 14:55	II080214-5	98.21624	134	229.68	mg/L	104.5	85	115			
L67741-01AS	AS	02/25/08 14:55	II080214-5	98.21624	134	223.8	mg/L	98.6	85	115			
L67741-01ASD	ASD	02/25/08 14:59	II080214-5	98.21624	134	224.7	mg/L	99.5	85	115	0.4	20	
L67741-01ASD	ASD	02/25/08 14:59	II080214-5	98.21624	134	231.17	mg/L	106.1	85	115	0.4	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67789**

Project ID: 872002.2

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	50.1		50.51	mg/L	100.8	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
WG240853LFB	LFB	03/06/08 15:32	WI080128-9	30		30.26	mg/L	100.9	90	110			
L67781-05AS	AS	03/06/08 21:16	WI080306-2	30	U	29.59	mg/L	98.6	90	110			
L67781-05DUP	DUP	03/06/08 21:34			U	U	mg/L				0	20	RA

Hydro Geo Chem, Inc.

ACZ Project ID: **L67789**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67789-01	WG241202	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240886	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240705	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG241202	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67789**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872002.2

ACZ Project ID: L67789  
 Date Received: 2/21/2008  
 Received By:  
 Date Printed: 2/21/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5539	3.8	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872002.2

ACZ Project ID: L67789  
 Date Received: 2/21/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67789-01	DODSON		Y									<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



Laboratories, Inc.

L67789

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem Inc.
E-mail: dans@hgcinc.com

Address: 51 W. Wetmore Rd.
Tucson, AZ 85705
Telephone: 520) 293-1500 x132

Copy of Report to:

Name: Jim Norris
Company: HGC Inc.

E-mail: jimn@hgcinc.com
Telephone: 520) 293-1500 x112

Invoice to:

Name: Jim Norris
Company: HGC Inc.
E-mail: jimn@hgcinc.com

Address: 51 W. Wetmore Rd.
Tucson, AZ 85705
Telephone: 520) 293-1500 x112

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: FMCCQB-GW
Project/PO #: 872002.2
Reporting state for compliance testing: AZ
Sampler's Name: Mark Anneson
Are any samples NRC licensable material? No

Table with columns for # of Containers, Ca, Na, Mg, K, TDS, SO4, NO3, Neg. Cl, F, and AIK. Row 1: 3, X, X, X.

Table with columns: SAMPLE IDENTIFICATION, DATE:TIME, Matrix, # of Containers, Ca, Na, Mg, K, TDS, SO4, NO3, Neg. Cl, F, AIK. Row 1: DODSON, 2/20/08: 1150, GW, 3, X, X, X.

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

Blank area for remarks and disclosures.

PAGE of

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

Table with columns: REL'NQUISHED BY, DATE:TIME, RECEIVED BY, DATE:TIME. Row 1: [Signature], 2/20/08: 1615, [Signature], 2-21-08/1:31



March 10, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67790

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 21, 2008. This project has been assigned to ACZ's project number, L67790. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67790. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 10, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Tony Antalek has reviewed and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872001.0

Sample ID: MOORE

ACZ Sample ID: **L67790-01**

Date Sampled: 02/20/08 10:45

Date Received: 02/21/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	7.1		*	mg/L	0.5	3	03/06/08 22:46	aml/ccp

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**

Project ID: 872001.0

Sample ID: MCCONNELL265

ACZ Sample ID: **L67790-02**

Date Sampled: 02/20/08 13:50

Date Received: 02/21/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	720		*	mg/L	30	100	03/06/08 23:04	aml/ccp

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**

Project ID: 872001.0

Sample ID: POOL

ACZ Sample ID: **L67790-03**

Date Sampled: 02/20/08 14:50

Date Received: 02/21/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	134		*	mg/L	1	5	03/06/08 23:23	aml/ccp

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L67790**

Project ID: 872001.0

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	50.1		50.51	mg/L	100.8	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
WG240853LFB	LFB	03/06/08 15:32	WI080128-9	30		30.26	mg/L	100.9	90	110			
L67781-05AS	AS	03/06/08 21:16	WI080306-2	30	U	29.59	mg/L	98.6	90	110			
L67781-05DUP	DUP	03/06/08 21:34			U	U	mg/L				0	20	RA

Hydro Geo Chem, Inc.

ACZ Project ID: **L67790**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67790-01	WG241202	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67790-02	WG241202	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67790-03	WG241202	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67790**

No certification qualifiers associated with this analysis



**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67790  
 Date Received: 2/21/2008  
 Received By:  
 Date Printed: 2/21/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5539	3.8	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67790  
 Date Received: 2/21/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67790-01	MOORE									X		<input type="checkbox"/>
L67790-02	MCCONNELL265									X		<input type="checkbox"/>
L67790-03	POOL									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



March 07, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872002.2

ACZ Project ID: L67843

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 26, 2008. This project has been assigned to ACZ's project number, L67843. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67843. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 07, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Tony Antalek has reviewed and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872002.2  
Sample ID: OSBORN

ACZ Sample ID: **L67843-01**  
Date Sampled: 02/25/08 14:30  
Date Received: 02/26/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	84.4			mg/L	0.2	1	02/28/08 17:57	aeh/erf
Magnesium, dissolved	M200.7 ICP	15.4			mg/L	0.2	1	02/28/08 17:57	aeh/erf
Potassium, dissolved	M200.7 ICP	4.3			mg/L	0.3	2	02/28/08 17:57	aeh/erf
Sodium, dissolved	M200.7 ICP	25.2			mg/L	0.3	2	02/28/08 17:57	aeh/erf

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		246			mg/L	2	20	02/28/08 0:00	ear/cas
Carbonate as CaCO3		29			mg/L	2	20	02/28/08 0:00	ear/cas
Hydroxide as CaCO3			U		mg/L	2	20	02/28/08 0:00	ear/cas
Total Alkalinity		275		*	mg/L	2	20	02/28/08 0:00	ear/cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.8			%			03/07/08 0:00	calc
Sum of Anions		6.6			meq/L	0.1	0.5	03/07/08 0:00	calc
Sum of Cations		6.7			meq/L	0.1	0.5	03/07/08 0:00	calc
Chloride	M300.0 - Ion Chromatography	18.2		*	mg/L	0.5	3	03/01/08 0:52	aml
Fluoride	M300.0 - Ion Chromatography	0.3	B		mg/L	0.1	0.5	03/01/08 0:52	aml
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	3.76			mg/L	0.02	0.1	03/07/08 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	3.76			mg/L	0.02	0.1	02/26/08 17:47	ccp
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/26/08 17:47	ccp
Residue, Filterable (TDS) @180C	160.1 / SM2540C	370			mg/L	10	20	02/28/08 11:01	cas
Sulfate	300.0 - Ion Chromatography	16.4			mg/L	0.5	3	03/01/08 0:52	aml
TDS (calculated)	Calculation	357			mg/L	10	50	03/07/08 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.04						03/07/08 0:00	calc

Arizona license number: AZ0102

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L67843**

Project ID: 872002.2

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240850</b>													
WG240850PBW2	PBW	02/27/08 20:27				U	mg/L		-20	20			
WG240850LCSW5	LCSW	02/27/08 20:40	WC080131-1	820		816.8	mg/L	99.6	90	110			
WG240850PBW3	PBW	02/27/08 23:55				U	mg/L		-20	20			
WG240850LCSW8	LCSW	02/28/08 0:08	WC080131-1	820		851.3	mg/L	103.8	90	110			
L67847-05DUP	DUP	02/28/08 3:10			U	U	mg/L				0	20	RA
WG240850LCSW11	LCSW	02/28/08 3:23	WC080131-1	820		869.4	mg/L	106	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240946</b>													
WG240946ICV	ICV	02/28/08 16:42	II080115-3	100		96.11	mg/L	96.1	95	105			
WG240946ICB	ICB	02/28/08 16:46				U	mg/L		-0.6	0.6			
WG240946LFB	LFB	02/28/08 17:02	II080214-5	67.97008		69.29	mg/L	101.9	85	115			
L67772-01AS	AS	02/28/08 17:10	II080214-5	67.97008	7.1	74.3	mg/L	98.9	85	115			
L67772-01ASD	ASD	02/28/08 17:14	II080214-5	67.97008	7.1	76.93	mg/L	102.7	85	115	3.48	20	
L67851-01AS	AS	02/28/08 18:05	II080214-5	67.97008	.6	72.66	mg/L	106	85	115			
L67851-01ASD	ASD	02/28/08 18:09	II080214-5	67.97008	.6	71.49	mg/L	104.3	85	115	1.62	20	

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240998</b>													
WG240998ICV	ICV	02/29/08 21:50	WI080220-1	19.98		20.4	mg/L	102.1	90	110			
WG240998ICB	ICB	02/29/08 22:09				U	mg/L		-1.5	1.5			
WG240998LFB	LFB	02/29/08 22:27	WI080128-9	30		29.83	mg/L	99.4	90	110			
L67721-03DUP	DUP	02/29/08 23:03			22	21.7	mg/L				1.4	20	RA
L67837-02AS	AS	03/03/08 12:26	WI080128-9	150	106	256.1	mg/L	100.1	90	110			

**Fluoride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240998</b>													
WG240998ICV	ICV	02/29/08 21:50	WI080220-1	4		3.94	mg/L	98.5	90	110			
WG240998ICB	ICB	02/29/08 22:09				U	mg/L		-0.3	0.3			
WG240998LFB	LFB	02/29/08 22:27	WI080128-9	1.5		1.44	mg/L	96	90	110			
L67721-03DUP	DUP	02/29/08 23:03			9.2	9.09	mg/L				1.2	20	
L67837-02AS	AS	02/29/08 23:39	WI080128-9	1.5	.1	1.58	mg/L	98.7	90	110			

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240946</b>													
WG240946ICV	ICV	02/28/08 16:42	II080115-3	100		96.42	mg/L	96.4	95	105			
WG240946ICB	ICB	02/28/08 16:46				U	mg/L		-0.6	0.6			
WG240946LFB	LFB	02/28/08 17:02	II080214-5	54.96908		56.19	mg/L	102.2	85	115			
L67772-01AS	AS	02/28/08 17:10	II080214-5	54.96908	10.7	63.74	mg/L	96.5	85	115			
L67772-01ASD	ASD	02/28/08 17:14	II080214-5	54.96908	10.7	66.92	mg/L	102.3	85	115	4.87	20	
L67851-01AS	AS	02/28/08 18:05	II080214-5	54.96908	U	57.9	mg/L	105.3	85	115			
L67851-01ASD	ASD	02/28/08 18:09	II080214-5	54.96908	U	57.28	mg/L	104.2	85	115	1.08	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67843**

Project ID: 872002.2

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240851</b>													
WG240851ICV	ICV	02/26/08 17:23	WI071212-1	2.416		2.444	mg/L	101.2	90	110			
WG240851ICB	ICB	02/26/08 17:25				U	mg/L		-0.06	0.06			
WG240851LFB	LFB	02/26/08 17:28	WI070911-4	2		1.911	mg/L	95.6	90	110			
L67843-01DUP	DUP	02/26/08 17:49			3.76	3.741	mg/L				0.5	20	
L67843-01AS	AS	02/26/08 18:08	WI070911-4	10	3.5	13.58	mg/L	100.8	90	110			

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240851</b>													
WG240851ICV	ICV	02/26/08 17:23	WI071212-1	.609		.623	mg/L	102.3	90	110			
WG240851ICB	ICB	02/26/08 17:25				U	mg/L		-0.03	0.03			
WG240851LFB	LFB	02/26/08 17:28	WI070911-4	1		.967	mg/L	96.7	90	110			
L67843-01DUP	DUP	02/26/08 17:49			U	U	mg/L				0	20	RA
L67843-01AS	AS	02/26/08 17:50	WI070911-4	1	U	1.026	mg/L	102.6	90	110			

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240946</b>													
WG240946ICV	ICV	02/28/08 16:42	II080115-3	20		19.78	mg/L	98.9	95	105			
WG240946ICB	ICB	02/28/08 16:46				U	mg/L		-0.9	0.9			
WG240946LFB	LFB	02/28/08 17:02	II080214-5	99.76186		104.94	mg/L	105.2	85	115			
L67772-01AS	AS	02/28/08 17:10	II080214-5	99.76186	.9	107.94	mg/L	107.3	85	115			
L67772-01ASD	ASD	02/28/08 17:14	II080214-5	99.76186	.9	115.4	mg/L	114.8	85	115	6.68	20	
L67851-01AS	AS	02/28/08 18:05	II080214-5	99.76186	.6	108.52	mg/L	108.2	85	115			
L67851-01ASD	ASD	02/28/08 18:09	II080214-5	99.76186	.6	107.24	mg/L	106.9	85	115	1.19	20	

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240937</b>													
WG240937PBW	PBW	02/28/08 10:45				U	mg/L		-20	20			
WG240937LCSW	LCSW	02/28/08 10:46	PCN28838	260		292	mg/L	112.3	80	120			
L67871-01DUP	DUP	02/28/08 11:14			1150	1150	mg/L				0	20	

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240946</b>													
WG240946ICV	ICV	02/28/08 16:42	II080115-3	100		97.2	mg/L	97.2	95	105			
WG240946ICV	ICV	02/28/08 16:42	II080115-3	100		98.84	mg/L	98.8	95	105			
WG240946ICB	ICB	02/28/08 16:46				U	mg/L		-6	6			
WG240946ICB	ICB	02/28/08 16:46				U	mg/L		-0.9	0.9			
WG240946LFB	LFB	02/28/08 17:02	II080214-5	98.21624		103.59	mg/L	105.5	85	115			
WG240946LFB	LFB	02/28/08 17:02	II080214-5	98.21624		102.7	mg/L	104.6	85	115			
L67851-01AS	AS	02/28/08 18:05	II080214-5	98.21624	.4	104.97	mg/L	106.5	85	115			
L67851-01ASD	ASD	02/28/08 18:09	II080214-5	98.21624	.4	103.5	mg/L	105	85	115	1.41	20	



Hydro Geo Chem, Inc.  
 Project ID: 872002.2

ACZ Project ID: **L67843**

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240083</b>													
WG240083ICV	ICV	02/07/08 16:57	WI080128-8	50.1		50.44	mg/L	100.7	90	110			
WG240083ICB	ICB	02/07/08 17:15				U	mg/L		-1.5	1.5			
WG240083ICV1	ICV	02/09/08 11:47	WI080128-8	50.1		51.13	mg/L	102.1	90	110			
WG240083ICB1	ICB	02/09/08 12:05				U	mg/L		-1.5	1.5			
<b>WG240998</b>													
WG240998ICV	ICV	02/29/08 21:50	WI080220-1	50.1		52.15	mg/L	104.1	90	110			
WG240998ICB	ICB	02/29/08 22:09				U	mg/L		-1.5	1.5			
WG240998LFB	LFB	02/29/08 22:27	WI080128-9	30		29.71	mg/L	99	90	110			
L67721-03DUP	DUP	02/29/08 23:03			39	37.6	mg/L				3.7	20	
L67837-02AS	AS	03/03/08 12:26	WI080128-9	150	90	238.9	mg/L	99.3	90	110			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67843**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67843-01	WG240998	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240851	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240850	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67843**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872002.2

ACZ Project ID: L67843  
 Date Received: 2/26/2008  
 Received By:  
 Date Printed: 2/26/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5556	5.5	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872002.2

ACZ Project ID: L67843  
 Date Received: 2/26/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67843-01	OSBORN		Y									<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

L67843



Laboratories, Inc.

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Dan Simpson  
 Company: Hydro Geo Chem (HGC)  
 E-mail: dans@hgc.inc.com

Address: 51 W. Wetmore Rd #101  
 Tucson AZ 85705  
 Telephone: (520) 293-1500 x133

Copy of Report to:

Name: Jim Norris  
 Company: HGC

E-mail: jimn@hgc.inc.com  
 Telephone: (520) 293-1500 x112

Invoice to:

Name: Jim Norris  
 Company: HGC  
 E-mail: jimn@hgc.inc.com

Address: above  
 Telephone: above

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

YES   
 NO

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: FMCQB-GW  
 Project/PO #: 872002.7  
 Reporting state for compliance testing: AZ  
 Sampler's Name: KW + MA  
 Are any samples NRC licensable material?

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Ca Na Mg K	TDS SO4 <sup>-</sup>	NO <sub>2</sub> NO <sub>3</sub> Cl <sup>-</sup> F <sup>-</sup>	AIK								
Osborn	2/25/08 14:30	GW	3	✓	✓	✓									

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE  
 1  
 of  
 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Kim Wilson	2/26/08 4:30	[Signature]	2:26:0810:12

March 13, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872002.0

ACZ Project ID: L67881

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 28, 2008. This project has been assigned to ACZ's project number, L67881. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67881. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 13, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Sue Webber has reviewed and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872002.0  
Sample ID: TM-15

ACZ Sample ID: **L67881-02**  
Date Sampled: 02/27/08 10:07  
Date Received: 02/28/08  
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	32.9			mg/L	0.2	1	03/03/08 14:12	aeH/erf
Magnesium, dissolved	M200.7 ICP	18.0			mg/L	0.2	1	02/29/08 18:38	aeH/erf
Potassium, dissolved	M200.7 ICP	2.0			mg/L	0.3	2	02/29/08 18:38	aeH/erf
Sodium, dissolved	M200.7 ICP	32.4			mg/L	0.3	2	02/29/08 18:38	aeH/erf

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		181			mg/L	2	20	03/04/08 0:00	jifr
Carbonate as CaCO3		2	B		mg/L	2	20	03/04/08 0:00	jifr
Hydroxide as CaCO3			U		mg/L	2	20	03/04/08 0:00	jifr
Total Alkalinity		183			mg/L	2	20	03/04/08 0:00	jifr
Cation-Anion Balance	Calculation								
Cation-Anion Balance		4.5			%			03/13/08 12:36	calc
Sum of Anions		4.2			meq/L	0.1	0.5	03/13/08 12:36	calc
Sum of Cations		4.6			meq/L	0.1	0.5	03/13/08 12:36	calc
Chloride	M300.0 - Ion Chromatography	7.1			mg/L	0.5	3	03/07/08 19:19	aml
Fluoride	M300.0 - Ion Chromatography	0.4	B		mg/L	0.1	0.5	03/07/08 19:19	aml
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	1.56			mg/L	0.02	0.1	03/13/08 12:36	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1.56			mg/L	0.02	0.1	02/28/08 18:25	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	02/28/08 18:25	pjb
Residue, Filterable (TDS) @180C	160.1 / SM2540C	220			mg/L	10	20	02/29/08 11:24	cas
Sulfate	300.0 - Ion Chromatography	14.0			mg/L	0.5	3	03/07/08 19:19	aml
TDS (calculated)	Calculation	224			mg/L	10	50	03/13/08 12:36	calc
TDS (ratio - measured/calculated)	Calculation	0.98						03/13/08 12:36	calc

Arizona license number: AZ0102



**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872002.0

ACZ Project ID: **L67881**

**Alkalinity as CaCO3** SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241115</b>													
WG241115PBW1	PBW	03/04/08 17:29				U	mg/L		-20	20			
WG241115LCSW2	LCSW	03/04/08 17:42	WC080131-1	820		866.9	mg/L	105.7	90	110			
L67884-06DUP	DUP	03/04/08 18:38			58	57.7	mg/L				0.5	20	
WG241115PBW2	PBW	03/04/08 20:01				U	mg/L		-20	20			
WG241115LCSW5	LCSW	03/04/08 20:13	WC080131-1	820		866.3	mg/L	105.6	90	110			
WG241115PBW3	PBW	03/04/08 23:02				U	mg/L		-20	20			
WG241115LCSW8	LCSW	03/04/08 23:14	WC080131-1	820		847.8	mg/L	103.4	90	110			
WG241115LCSW11	LCSW	03/05/08 1:55	WC080131-1	820		872.8	mg/L	106.4	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241029</b>													
WG241029ICV	ICV	03/03/08 12:54	II080115-3	100		99.25	mg/L	99.3	95	105			
WG241029ICB	ICB	03/03/08 12:57				U	mg/L		-0.6	0.6			
WG241029LFB	LFB	03/03/08 13:10	II080214-5	67.97008		71.99	mg/L	105.9	85	115			
L67879-01AS	AS	03/03/08 14:00	II080214-5	67.97008	39.7	110.37	mg/L	104	85	115			
L67879-01ASD	ASD	03/03/08 14:03	II080214-5	67.97008	39.7	110.88	mg/L	104.7	85	115	0.46	20	

**Chloride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	19.98		20.32	mg/L	101.7	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
<b>WG241250</b>													
WG241250ICV	ICV	03/07/08 13:17	WI080220-1	19.98		20.24	mg/L	101.3	90	110			
WG241250ICB	ICB	03/07/08 13:35				U	mg/L		-1.5	1.5			
WG241250LFB	LFB	03/07/08 13:53	WI080306-2	30		29.36	mg/L	97.9	90	110			
WG241250ICV1	ICV	03/10/08 15:05	WI080220-1	19.98		20.03	mg/L	100.3	90	110			
WG241250ICB1	ICB	03/10/08 15:23				U	mg/L		-1.5	1.5			
L67881-01AS	AS	03/10/08 17:12	WI080306-2	30	7.1	37.78	mg/L	102.3	90	110			
L67881-01DUP	DUP	03/10/08 17:30			7.1	7.04	mg/L				0.8	20	

**Fluoride** M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241250</b>													
WG241250ICV	ICV	03/07/08 13:17	WI080220-1	4		4.07	mg/L	101.8	90	110			
WG241250ICB	ICB	03/07/08 13:35				U	mg/L		-0.3	0.3			
WG241250LFB	LFB	03/07/08 13:53	WI080306-2	1.5		1.56	mg/L	104	90	110			
L67881-01AS	AS	03/07/08 18:43	WI080306-2	1.5	.3	2.31	mg/L	134	90	110			M1
L67881-01DUP	DUP	03/07/08 19:01			.3	.79	mg/L				89.9	20	RA
WG241250ICV1	ICV	03/10/08 15:05	WI080220-1	4		3.91	mg/L	97.8	90	110			
WG241250ICB1	ICB	03/10/08 15:23				U	mg/L		-0.3	0.3			

Hydro Geo Chem, Inc.

ACZ Project ID: **L67881**

Project ID: 872002.0

**Magnesium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240989</b>													
WG240989ICV	ICV	02/29/08 16:40	II080115-3	100		98.03	mg/L	98	95	105			
WG240989ICB	ICB	02/29/08 16:44				U	mg/L		-0.6	0.6			
WG240989LFB	LFB	02/29/08 16:59	II080214-5	54.96908		56.8	mg/L	103.3	85	115			
L67878-02AS	AS	02/29/08 18:00	II080214-5	54.96908	13.3	69.81	mg/L	102.8	85	115			
L67878-02ASD	ASD	02/29/08 18:04	II080214-5	54.96908	13.3	69.12	mg/L	101.5	85	115	0.99	20	

**Nitrate/Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240966</b>													
WG240966ICV	ICV	02/28/08 17:57	WI071212-1	2.416		2.406	mg/L	99.6	90	110			
WG240966ICB	ICB	02/28/08 17:58				U	mg/L		-0.06	0.06			
WG240966LFB	LFB	02/28/08 17:59	WI070911-4	2		2.005	mg/L	100.3	90	110			
L67881-01DUP	DUP	02/28/08 18:23			.96	1.003	mg/L				4.4	20	
L67874-08AS	AS	02/28/08 18:41	WI070911-4	40	25.9	68.2	mg/L	105.8	90	110			

**Nitrite as N, dissolved** M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240966</b>													
WG240966ICV	ICV	02/28/08 17:57	WI071212-1	.609		.614	mg/L	100.8	90	110			
WG240966ICB	ICB	02/28/08 17:58				U	mg/L		-0.03	0.03			
WG240966LFB	LFB	02/28/08 17:59	WI070911-4	1		1.018	mg/L	101.8	90	110			
L67874-08AS	AS	02/28/08 18:21	WI070911-4	1	.07	1.088	mg/L	101.8	90	110			
L67881-01DUP	DUP	02/28/08 18:23			U	U	mg/L				0	20	RA

**Potassium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240989</b>													
WG240989ICV	ICV	02/29/08 16:40	II080115-3	20		20.2	mg/L	101	95	105			
WG240989ICB	ICB	02/29/08 16:44				U	mg/L		-0.9	0.9			
WG240989LFB	LFB	02/29/08 16:59	II080214-5	99.76186		105.41	mg/L	105.7	85	115			
L67878-02AS	AS	02/29/08 18:00	II080214-5	99.76186	4.7	111.17	mg/L	106.7	85	115			
L67878-02ASD	ASD	02/29/08 18:04	II080214-5	99.76186	4.7	110.59	mg/L	106.1	85	115	0.52	20	

**Residue, Filterable (TDS) @180C** 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240990</b>													
WG240990PBW	PBW	02/29/08 11:00				U	mg/L		-20	20			
WG240990LCSW	LCSW	02/29/08 11:01	PCN28838	260		294	mg/L	113.1	80	120			
L67883-03DUP	DUP	02/29/08 11:29			130	138	mg/L				6	20	

Hydro Geo Chem, Inc.  
 Project ID: 872002.0

ACZ Project ID: **L67881**

**Sodium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG240989</b>													
WG240989ICV	ICV	02/29/08 16:40	II080115-3	100		99.1	mg/L	99.1	95	105			
WG240989ICV	ICV	02/29/08 16:40	II080115-3	100		100.39	mg/L	100.4	95	105			
WG240989ICB	ICB	02/29/08 16:44				U	mg/L		-6	6			
WG240989ICB	ICB	02/29/08 16:44				U	mg/L		-0.9	0.9			
WG240989LFB	LFB	02/29/08 16:59	II080214-5	98.21624		102.9	mg/L	104.8	85	115			
WG240989LFB	LFB	02/29/08 16:59	II080214-5	98.21624		103.03	mg/L	104.9	85	115			
L67878-02AS	AS	02/29/08 18:00	II080214-5	98.21624	8.9	111.04	mg/L	104	85	115			
L67878-02ASD	ASD	02/29/08 18:04	II080214-5	98.21624	8.9	110.72	mg/L	103.7	85	115	0.29	20	

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	50.1		50.51	mg/L	100.8	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
<b>WG241250</b>													
WG241250ICV	ICV	03/07/08 13:17	WI080220-1	50.1		51.6	mg/L	103	90	110			
WG241250ICB	ICB	03/07/08 13:35				U	mg/L		-1.5	1.5			
WG241250LFB	LFB	03/07/08 13:53	WI080306-2	30		30.95	mg/L	103.2	90	110			
WG241250ICV1	ICV	03/10/08 15:05	WI080220-1	50.1		50.62	mg/L	101	90	110			
WG241250ICB1	ICB	03/10/08 15:23				.77	mg/L		-1.5	1.5			
L67881-01AS	AS	03/10/08 17:12	WI080306-2	30	13.9	43.35	mg/L	98.2	90	110			
L67881-01DUP	DUP	03/10/08 17:30			13.9	13.79	mg/L				0.8	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67881**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67881-01	WG241250	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG240966	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67881-02	WG240966	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67881**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872002.0

ACZ Project ID: L67881  
 Date Received: 2/28/2008  
 Received By:  
 Date Printed: 2/28/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
2100	2.3	16

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872002.0

ACZ Project ID: L67881  
 Date Received: 2/28/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67881-01	TM-6		Y									<input type="checkbox"/>
L67881-02	TM-15		Y									<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_





March 13, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.1

ACZ Project ID: L67882

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 28, 2008. This project has been assigned to ACZ's project number, L67882. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67882. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 13, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Sue Webber has reviewed and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872001.1

Sample ID: FULTZ

ACZ Sample ID: **L67882-01**

Date Sampled: 02/27/08 15:45

Date Received: 02/28/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	152			mg/L	5	30	03/10/08 17:48	aml

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**

Project ID: 872001.1

Sample ID: BANKS 986

ACZ Sample ID: **L67882-02**

Date Sampled: 02/27/08 14:30

Date Received: 02/28/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	44			mg/L	3	10	03/10/08 18:06	aml

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**

Project ID: 872001.1

Sample ID: HOBAN

ACZ Sample ID: **L67882-03**

Date Sampled: 02/27/08 12:15

Date Received: 02/28/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	510			mg/L	10	50	03/10/08 18:24	aml

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L67882**

Project ID: 872001.1

**Sulfate**

300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	50.1		50.51	mg/L	100.8	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
<b>WG241250</b>													
WG241250ICV	ICV	03/07/08 13:17	WI080220-1	50.1		51.6	mg/L	103	90	110			
WG241250ICB	ICB	03/07/08 13:35				U	mg/L		-1.5	1.5			
WG241250LFB	LFB	03/07/08 13:53	WI080306-2	30		30.95	mg/L	103.2	90	110			
WG241250ICV1	ICV	03/10/08 15:05	WI080220-1	50.1		50.62	mg/L	101	90	110			
WG241250ICB1	ICB	03/10/08 15:23				.77	mg/L		-1.5	1.5			
L67881-01AS	AS	03/10/08 17:12	WI080306-2	30	13.9	43.35	mg/L	98.2	90	110			
L67881-01DUP	DUP	03/10/08 17:30			13.9	13.79	mg/L				0.8	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L67882**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
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No extended qualifiers associated with this analysis



**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67882**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.1

ACZ Project ID: L67882  
 Date Received: 2/28/2008  
 Received By:  
 Date Printed: 2/28/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
2100	2.3	16

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.1

ACZ Project ID: L67882  
 Date Received: 2/28/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67882-01	FULTZ									X		<input type="checkbox"/>
L67882-02	BANKS									X		<input type="checkbox"/>
L67882-03	HOBAN									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



Laboratories, Inc.

L67882

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem (HGC)
E-mail: dans@hginc.com

Address: 51 W. Wetmore Rd
Tucson AZ 85705
Telephone: (520) 293-1500 x 133

Copy of Report to:

Name: Jim Norris
Company: HGC

E-mail: jimn@hginc.com
Telephone: (520) 293-1500 x 112

Invoice to:

Name: Jim Norris
Company: HGC
E-mail: jimn@hginc.com

Address: above
Telephone: above

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES [X]
NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO"

is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: FMCQB-GW
Project/PO #: 872001.1
Reporting state for compliance testing: AZ
Sampler's Name: K Wilson / M Amerson
Are any samples NRC licensable material? NO

Table with columns for # of Containers, SO4, and other analysis parameters.

Table with columns for SAMPLE IDENTIFICATION, DATE:TIME, Matrix, and analysis results.

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE of

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

Table for RELINQUISHED BY, DATE:TIME, RECEIVED BY, DATE:TIME with handwritten signatures and dates.

March 13, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L67989

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 05, 2008. This project has been assigned to ACZ's project number, L67989. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67989. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 13, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Sue Webber has reviewed and approved this report.



**Hydro Geo Chem, Inc.**

Project ID: 872001.0

Sample ID: COOPER C

ACZ Sample ID: **L67989-01**

Date Sampled: 03/04/08 09:00

Date Received: 03/05/08

Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	880			mg/L	10	50	03/10/08 20:31	aml

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L67989**

Project ID: 872001.0

**Sulfate**

300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	50.1		50.51	mg/L	100.8	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
<b>WG241250</b>													
WG241250ICV	ICV	03/07/08 13:17	WI080220-1	50.1		51.6	mg/L	103	90	110			
WG241250ICB	ICB	03/07/08 13:35				U	mg/L		-1.5	1.5			
WG241250LFB	LFB	03/07/08 13:53	WI080306-2	30		30.95	mg/L	103.2	90	110			
WG241250ICV1	ICV	03/10/08 15:05	WI080220-1	50.1		50.62	mg/L	101	90	110			
WG241250ICB1	ICB	03/10/08 15:23				.77	mg/L		-1.5	1.5			
L67881-01AS	AS	03/10/08 17:12	WI080306-2	30	13.9	43.35	mg/L	98.2	90	110			
L67881-01DUP	DUP	03/10/08 17:30			13.9	13.79	mg/L				0.8	20	



Hydro Geo Chem, Inc.

ACZ Project ID: **L67989**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
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No extended qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L67989**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L67989  
 Date Received: 3/5/2008  
 Received By:  
 Date Printed: 3/5/2008

**Receipt Verification**

	YES	NO	NA	
1) Does this project require special handling procedures such as CLP protocol?			X	
2) Are the custody seals on the cooler intact?			X	
3) Are the custody seals on the sample containers intact?			X	
4) Is there a Chain of Custody or other directive shipping papers present?	X			
5) Is the Chain of Custody complete?	X			
6) Is the Chain of Custody in agreement with the samples received?	X			
7) Is there enough sample for all requested analyses?	X			
8) Are all samples within holding times for requested analyses?	X			
9) Were all sample containers received intact?	X			
10) Are the temperature blanks present?				X
11) Are the trip blanks (VOA and/or Cyanide) present?				X
12) Are samples requiring no headspace, headspace free?				X
13) Do the samples that require a Foreign Soils Permit have one?			X	

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5594	3.2	16

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L67989  
 Date Received: 3/5/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L67989-01	COOPER C									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



March 12, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L68020

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 06, 2008. This project has been assigned to ACZ's project number, L68020. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L68020. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 12, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Sue Webber has reviewed and approved this report.



**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: HOWARDACZ Sample ID: **L68020-01**  
Date Sampled: 03/04/08 18:10  
Date Received: 03/06/08  
Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	571			mg/L	5	30	03/11/08 20:35	aml/ccp

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: METZLERACZ Sample ID: **L68020-02**  
Date Sampled: 03/05/08 10:10  
Date Received: 03/06/08  
Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	317			mg/L	5	30	03/11/08 20:53	aml/ccp

**Arizona license number: AZ0102**



**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L68020**

Project ID: 872001.0

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	50.1		50.51	mg/L	100.8	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
<b>WG241326</b>													
WG241326ICV	ICV	03/10/08 21:26	WI080220-1	50.1		51.43	mg/L	102.7	90	110			
WG241326ICB	ICB	03/10/08 21:44				U	mg/L		-1.5	1.5			
WG241326LFB	LFB	03/10/08 22:02	WI080306-2	30		32.41	mg/L	108	90	110			
WG241326ICV1	ICV	03/11/08 16:21	WI080220-1	50.1		50.87	mg/L	101.5	90	110			
WG241326ICB1	ICB	03/11/08 16:39				.91	mg/L		-1.5	1.5			
L68017-03AS	AS	03/11/08 18:28	WI080306-2	150	76	219.8	mg/L	95.9	90	110			
L68017-03DUP	DUP	03/11/08 18:46			76	73.7	mg/L				3.1	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L68020**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
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No extended qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L68020**

No certification qualifiers associated with this analysis

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L68020  
 Date Received: 3/6/2008  
 Received By:  
 Date Printed: 3/6/2008

**Receipt Verification**

	YES	NO	NA	
1) Does this project require special handling procedures such as CLP protocol?			X	
2) Are the custody seals on the cooler intact?			X	
3) Are the custody seals on the sample containers intact?			X	
4) Is there a Chain of Custody or other directive shipping papers present?	X			
5) Is the Chain of Custody complete?	X			
6) Is the Chain of Custody in agreement with the samples received?	X			
7) Is there enough sample for all requested analyses?	X			
8) Are all samples within holding times for requested analyses?	X			
9) Were all sample containers received intact?	X			
10) Are the temperature blanks present?				X
11) Are the trip blanks (VOA and/or Cyanide) present?				X
12) Are samples requiring no headspace, headspace free?				X
13) Do the samples that require a Foreign Soils Permit have one?			X	

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
2111	1.6	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L68020  
 Date Received: 3/6/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L68020-01	HOWARD									X		<input type="checkbox"/>
L68020-02	METZLER									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

L68020

# ACZ Laboratories, Inc.

## CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Report to:**

Name: Dan Simpson  
 Company: Hydro Geo Chem Inc  
 E-mail: dan@hgcinc.com

Address: 51 W. Wetmore Rd  
Tucson, AZ 85705  
 Telephone: 520) 293-1500 x133

**Copy of Report to:**

Name: Jim Morris  
 Company: HGC Inc.

E-mail: Jim@hgcinc.com  
 Telephone: 520) 293-1500 x112

**Invoice to:**

Name: Jim Morris  
 Company: HGC Inc  
 E-mail: Jim@hgcinc.com

Address: 51 W. Wetmore Rd  
Tucson, AZ 85705  
 Telephone: 520) 293-1500 x112

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES   
 NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO"

is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

**PROJECT INFORMATION**

**ANALYSES REQUESTED (attach list or use quote number)**

Quote #: 504-IC  
 Project/PO #: 872001.0  
 Reporting state for compliance testing: AZ  
 Sampler's Name: THOMAS SIMPSON  
 Are any samples NRC licensable material? No

Quote #	Project/PO #	Reporting state	Sampler's Name	Are any samples NRC licensable material?	Matrix	# of Containers	ANALYSES REQUESTED											
504-IC	872001.0	AZ	THOMAS SIMPSON	No		504-IC												
					HOWARD	1	X											
					METZLER	1	X											

**SAMPLE IDENTIFICATION**

SAMPLE IDENTIFICATION	DATE:TIME	Matrix
HOWARD	3/4/08: 1810	SW 1
METZLER	3/5/08: 1010	GW 1

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

**REMARKS**

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>[Signature]</u>	<u>3/5/08: 1610</u>	<u>[Signature]</u>	<u>3-6-08 10:41</u>

March 12, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L68039

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 07, 2008. This project has been assigned to ACZ's project number, L68039. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L68039. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 12, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Sue Webber has reviewed and approved this report.





**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: CHAMBERSACZ Sample ID: **L68039-01**  
Date Sampled: 03/06/08 09:50  
Date Received: 03/07/08  
Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	7.7			mg/L	0.5	3	03/11/08 21:29	aml/ccp

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: DUP030608ACZ Sample ID: **L68039-02**  
Date Sampled: 03/06/08 00:00  
Date Received: 03/07/08  
Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	7.7			mg/L	0.5	3	03/11/08 21:47	aml/ccp

**Arizona license number: AZ0102**

**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: FB030608ACZ Sample ID: **L68039-03**  
Date Sampled: 03/06/08 00:00  
Date Received: 03/07/08  
Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	0.9	B		mg/L	0.5	3	03/11/08 22:05	aml/ccp

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L68039**

Project ID: 872001.0

**Sulfate**

300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	50.1		50.51	mg/L	100.8	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
<b>WG241326</b>													
WG241326ICV	ICV	03/10/08 21:26	WI080220-1	50.1		51.43	mg/L	102.7	90	110			
WG241326ICB	ICB	03/10/08 21:44				U	mg/L		-1.5	1.5			
WG241326LFB	LFB	03/10/08 22:02	WI080306-2	30		32.41	mg/L	108	90	110			
WG241326ICV1	ICV	03/11/08 16:21	WI080220-1	50.1		50.87	mg/L	101.5	90	110			
WG241326ICB1	ICB	03/11/08 16:39				.91	mg/L		-1.5	1.5			
L68017-03AS	AS	03/11/08 18:28	WI080306-2	150	76	219.8	mg/L	95.9	90	110			
L68017-03DUP	DUP	03/11/08 18:46			76	73.7	mg/L				3.1	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L68039**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
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No extended qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L68039**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L68039  
 Date Received: 3/7/2008  
 Received By:  
 Date Printed: 3/7/2008

**Receipt Verification**

	YES	NO	NA	
1) Does this project require special handling procedures such as CLP protocol?			X	
2) Are the custody seals on the cooler intact?			X	
3) Are the custody seals on the sample containers intact?			X	
4) Is there a Chain of Custody or other directive shipping papers present?	X			
5) Is the Chain of Custody complete?	X			
6) Is the Chain of Custody in agreement with the samples received?	X			
7) Is there enough sample for all requested analyses?	X			
8) Are all samples within holding times for requested analyses?	X			
9) Were all sample containers received intact?	X			
10) Are the temperature blanks present?				X
11) Are the trip blanks (VOA and/or Cyanide) present?				X
12) Are samples requiring no headspace, headspace free?				X
13) Do the samples that require a Foreign Soils Permit have one?			X	

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5609	2	17

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**



Hydro Geo Chem, Inc.  
872001.0

ACZ Project ID: L68039  
 Date Received: 3/7/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L68039-01	CHAMBERS									X		<input type="checkbox"/>
L68039-02	DUP030608									X		<input type="checkbox"/>
L68039-03	FB030608									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



Laboratories, Inc. L68039

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem Inc.
E-mail: dans@hgcinc.com

Address: 51 W. Wetmore Rd
Tucson, AZ 85705
Telephone: 520) 293-1500 x133

Copy of Report to:

Name: Jim Norris
Company: HGC Inc.

E-mail: jimn@hgcinc.com
Telephone: 520) 293-1500 x112

Invoice to:

Name: Jim Norris
Company: HGC Inc.
E-mail: jimn@hgcinc.com

Address: 51 W. Wetmore Rd.
Tucson, AZ 85705
Telephone: 520) 293-1500 x112

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES [X]
NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: 504-TC
Project/PO #: 872001.0
Reporting state for compliance testing: AZ
Sampler's Name: Mark Arneson
Are any samples NRC licensable material? No

Table with columns for Matrix, # of Containers, and analysis results. Includes handwritten '504' in the # of Containers column.

Table with columns for SAMPLE IDENTIFICATION, DATE:TIME, and Matrix. Includes handwritten entries for CHAMBERS, DUPO30608, and FBO30608.

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

Empty box for remarks and disclosures.

PAGE of

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

Table for RELINQUISHED BY, DATE:TIME, RECEIVED BY, and DATE:TIME with handwritten signatures and dates.

March 21, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L68145

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 13, 2008. This project has been assigned to ACZ's project number, L68145. Please reference this number in all future inquiries.

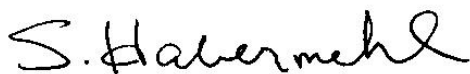
All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L68145. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 21, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: EPPELE 641ACZ Sample ID: **L68145-01**  
Date Sampled: 03/11/08 13:30  
Date Received: 03/13/08  
Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	21.7			mg/L	0.5	3	03/19/08 19:31	aml

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872001.0

ACZ Project ID: **L68145**

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG241202</b>													
WG241202ICV	ICV	03/06/08 14:56	WI080220-1	50.1		50.51	mg/L	100.8	90	110			
WG241202ICB	ICB	03/06/08 15:14				U	mg/L		-1.5	1.5			
<b>WG241583</b>													
WG241583ICV1	ICV	03/19/08 17:24	WI080220-1	50.1		50.2	mg/L	100.2	90	110			
WG241583ICB1	ICB	03/19/08 17:43				U	mg/L		-1.5	1.5			
WG241583LFB2	LFB	03/19/08 18:01	WI080306-2	30		29.95	mg/L	99.8	90	110			
L68019-02AS	AS	03/19/08 18:55	WI080306-2	300	482	771.9	mg/L	96.6	90	110			
L68019-02DUP	DUP	03/19/08 19:13			482	453.5	mg/L				6.1	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L68145**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
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No extended qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L68145**

No certification qualifiers associated with this analysis



**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L68145  
 Date Received: 3/13/2008  
 Received By:  
 Date Printed: 3/13/2008

**Receipt Verification**

	YES	NO	NA	
1) Does this project require special handling procedures such as CLP protocol?			X	
2) Are the custody seals on the cooler intact?			X	
3) Are the custody seals on the sample containers intact?			X	
4) Is there a Chain of Custody or other directive shipping papers present?	X			
5) Is the Chain of Custody complete?	X			
6) Is the Chain of Custody in agreement with the samples received?	X			
7) Is there enough sample for all requested analyses?	X			
8) Are all samples within holding times for requested analyses?	X			
9) Were all sample containers received intact?	X			
10) Are the temperature blanks present?				X
11) Are the trip blanks (VOA and/or Cyanide) present?				X
12) Are samples requiring no headspace, headspace free?				X
13) Do the samples that require a Foreign Soils Permit have one?			X	

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5651	1.2	19

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L68145  
 Date Received: 3/13/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L68145-01	EPPELE									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



April 08, 2008

## Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

## Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872001.0

ACZ Project ID: L68297

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 21, 2008. This project has been assigned to ACZ's project number, L68297. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L68297. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after May 08, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**Project ID: 872001.0  
Sample ID: ANDERSONACZ Sample ID: **L68297-01**  
Date Sampled: 03/20/08 11:35  
Date Received: 03/21/08  
Sample Matrix: *Ground Water*

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	431			mg/L	8	40	04/05/08 18:34	aml

**Arizona license number: AZ0102**

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.

ACZ Project ID: **L68297**

Project ID: 872001.0

**Sulfate** 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG242493</b>													
WG242493ICV	ICV	04/04/08 11:39	WI080318-6	50.1		50.15	mg/L	100.1	90	110			
WG242493ICB	ICB	04/04/08 11:57				U	mg/L		-1.5	1.5			
WG242493LFB	LFB	04/04/08 12:15	WI080306-2	30		29.44	mg/L	98.1	90	110			
L68295-01AS	AS	04/05/08 16:10	WI080306-2	150	123	275	mg/L	101.3	90	110			
L68295-01DUP	DUP	04/05/08 16:28			123	119.4	mg/L				3	20	

Hydro Geo Chem, Inc.

ACZ Project ID: **L68297**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
--------	---------	-----------	--------	------	-------------

No extended qualifiers associated with this analysis



**Hydro Geo Chem, Inc.**

ACZ Project ID: **L68297**

No certification qualifiers associated with this analysis

**Hydro Geo Chem, Inc.**  
 872001.0

ACZ Project ID: L68297  
 Date Received: 3/21/2008  
 Received By:  
 Date Printed: 3/21/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5711	0	21

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
 872001.0

ACZ Project ID: L68297  
 Date Received: 3/21/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L68297-01	ANDERSON									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



April 23, 2008

Report to:

Dan Simpson  
Hydro Geo Chem, Inc.  
51 West Wetmore Road Suite 101  
Tuscon, AZ 85705

Bill to:

Accounts Payable  
Hydro Geo Chem, Inc.  
P. O. Box 97220  
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 872002.2  
ACZ Project ID: L68800

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 22, 2008. This project has been assigned to ACZ's project number, L68800. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L68800. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after May 23, 2008. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed  
and approved this report.



**Hydro Geo Chem, Inc.**Project ID: 872002.2  
Sample ID: PANAGAKOSACZ Sample ID: **L68800-01**  
Date Sampled: 04/21/08 09:15  
Date Received: 04/22/08  
Sample Matrix: Ground Water

## Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	375.4 - Turbidimetric	410		*	mg/L	20	100	04/22/08 16:39	lbn

Arizona license number: AZ0102

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

**ACZ Qualifiers (Qual)**

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

**Method References**

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Hydro Geo Chem, Inc.  
 Project ID: 872002.2

ACZ Project ID: **L68800**

**Sulfate** 375.4 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
<b>WG243272</b>													
WG243272 ICB	ICB	04/22/08 15:46				U	mg/L		-3	3			
WG243272 ICV	ICV	04/22/08 15:46	WI080402-2	20.04		21.5	mg/L	107.3	90	110			
WG243272 ICB1	ICB	04/22/08 15:55				U	mg/L		-3	3			
WG243272 ICV1	ICV	04/22/08 15:55	WI080402-2	20.04		20.4	mg/L	101.8	90	110			
WG243272 LFB	LFB	04/22/08 16:23	WI080211-1	10		9	mg/L	90	90	110			
L68772-04AS	AS	04/22/08 16:36	SO4TURB5	10	142	155.1	mg/L	131	90	110			M3
L68772-03DUP	DUP	04/22/08 16:39			360	364	mg/L				1.1	20	
WG243272 ICB1	ICB	04/23/08 7:56				U	mg/L		-3	3			
WG243272 ICV1	ICV	04/23/08 7:56	WI080402-2	20.04		20.3	mg/L	101.3	90	110			



Hydro Geo Chem, Inc.

ACZ Project ID: **L68800**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L68800-01	WG243272	Sulfate	375.4 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

**Hydro Geo Chem, Inc.**

ACZ Project ID: **L68800**

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Sulfate

375.4 - Turbidimetric

**Hydro Geo Chem, Inc.**  
 872002.2

ACZ Project ID: L68800  
 Date Received: 4/22/2008  
 Received By:  
 Date Printed: 4/22/2008

**Receipt Verification**

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (µR/hr)
1947	3.5	21

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

Hydro Geo Chem, Inc.  
872002.2

ACZ Project ID: L68800  
 Date Received: 4/22/2008  
 Received By:

**Sample Container Preservation**

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L68800-01	PANAGAKOS									X		<input type="checkbox"/>

**Sample Container Preservation Legend**

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



Laboratories, Inc.

68800

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem Inc.
E-mail: dans@hgcinc.com

Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520) 293-1500 X133

Copy of Report to:

Name: Jim Norris
Company: HGC Inc.

E-mail: jimn@hgcinc.com
Telephone: 520) 293-1500 X112

Invoice to:

Name: Jim Norris
Company: HGC Inc.
E-mail: jimn@hgcinc.com

Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520) 293-1500 X112

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES [X]
NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO"

is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: 504-IC
Project/PO #: 8720022
Reporting state for compliance testing: AZ
Sampler's Name: Mark Arneson
Are any samples NRC licensable material? No

# of Containers

504

Table with columns: SAMPLE IDENTIFICATION, DATE:TIME, Matrix, # of Containers, and analysis results (X).

Matrix SW (Surface Water) - GW (Ground Water) - WW (Waste Water) - DW (Drinking Water) - SL (Sludge) - SO (Soil) - OL (Oil) - Other

REMARKS/ SAMPLE DISCLOSURES

\*PANAGAKOS - Rush Results 24 hr Turnaround 504-

PAGE of

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:

DATE:TIME

RECEIVED BY:

DATE:TIME

Handwritten signatures and dates for relinquished and received parties.

**APPENDIX D**

**HYDRO GEO CHEM, INC. GROUNDWATER SAMPLING FORMS**





HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>ANDERSON</u>	Date: <u>3-20-08</u>
ADWR No. <u>613396</u>	Weather: <u>clear</u>
Location: <u>3272 Naco Hwy S, Bisbee, AZ</u>	Collected By: <u>MM</u>

WELL DATA

Well Depth (ft bis): <u>236</u>	Static Water Level (ft bmp): <u>145.46</u>
Casing Diameter (in): <u>8"</u>	Date/Time: <u>3-20-08 10:05</u>
Well Use: <u>all domestic purposes</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>236x3 = 709</u>	GPS: <u>12R 601134 47M 3468816</u>
	Elevation: <u>4596</u>

FIELD SAMPLING DATA

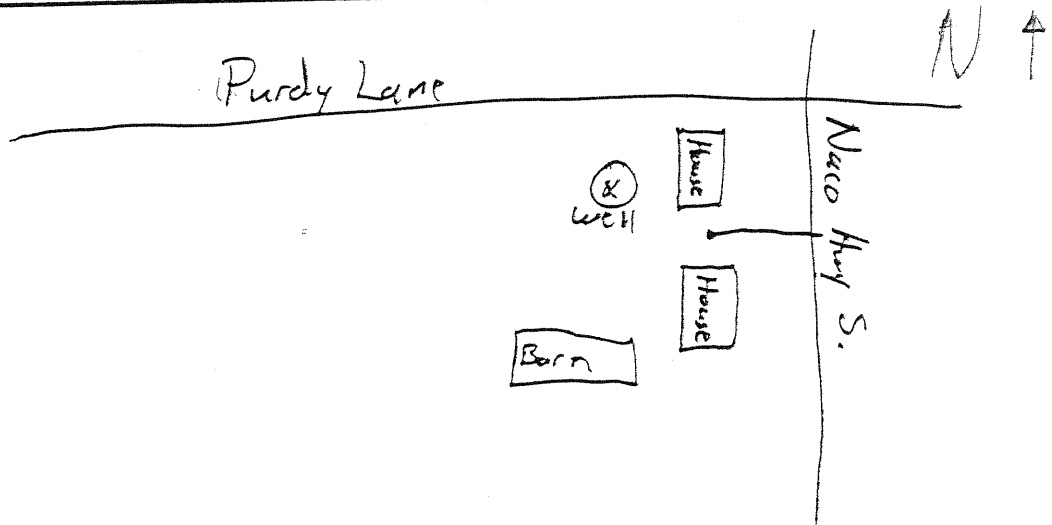
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1010	10	0	7.27	18.0	1154	clear	No	open bit at 1010
1015	"	50	7.25	20.5	1150	"	"	
1030	"	200	7.21	21.5	1176	"	"	
1045	"	350	7.24	21.6	1179	"	"	
1100	"	500	7.27	21.6	1180	"	"	
1115	"	650	7.24	21.2	1169	"	"	
1130	"	800	7.25	21.1	1176	"	"	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
ANDERSON	11:35	Plastic	250ml	1	300.0	None	Filtered

Additional Comments:

Water System Schematic:







# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>876001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>BANKS</u>	Date: <u>2/27/08</u>
ADWR No. <u>55-647986</u>	Weather: <u>Sunny</u>
Location: <u>620 E Mulberry Lane</u>	Collected By: <u>MA &amp; KW</u>

### WELL DATA

Well Depth (ft bis): <u>435.8 (owner)</u>	Static Water Level (ft bmp): <u>+22.97</u> ← unreliable <small>causes air reading</small>
Casing Diameter (in): <u>6'</u>	Date/Time: <u>2/27/08 13:21</u> <small>obstructed</small>
Well Use: <u>domestic</u>	Point of Measurement: <u>T.O.C</u>
3 Casing Volumes: <u>1 casing 334 x 3 = 1002</u>	GPS: <u>12R 0606982 UTM 3469205</u>
	Elevation: <u>4654</u>

### FIELD SAMPLING DATA

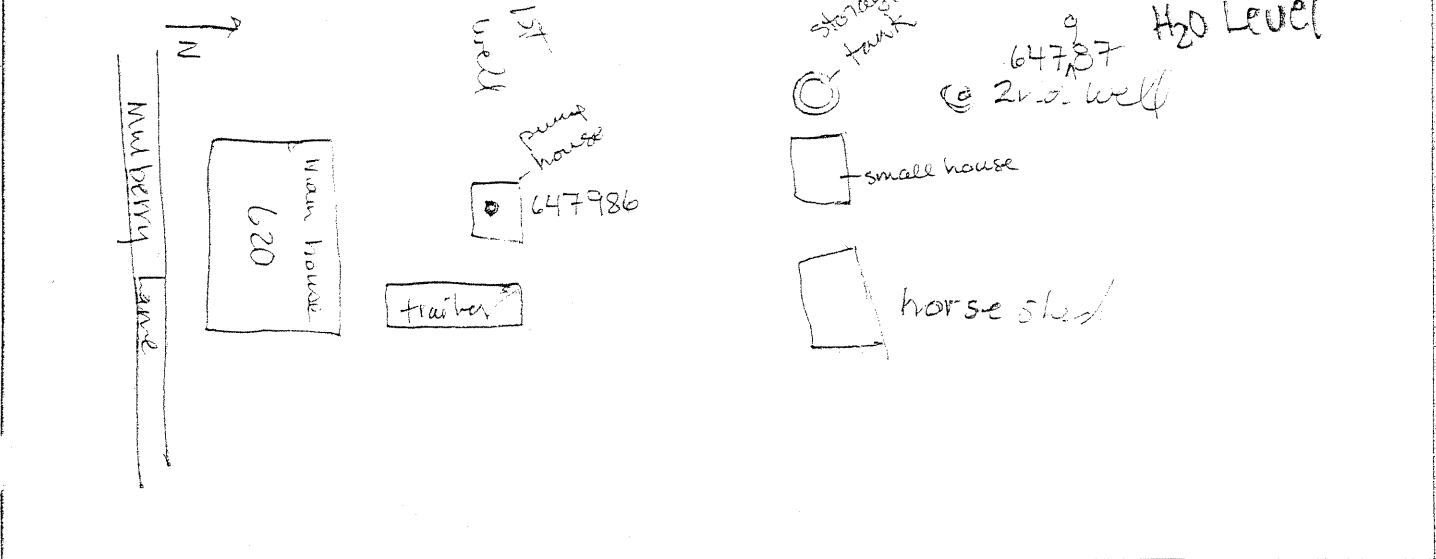
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
14:06	8	0	7.49	21.7	990	none	none	
14:10	8	87	7.51	21.7	991	"	"	
14:15	"	72	7.51	21.9	990	"	"	
14:20	"	122	7.53	21.8	986	"	"	
14:25	"	162	7.53	21.8	980	"	"	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	Nc. of Containers	Analysis Method	Preservative	Notes
BANKS	14:30	plastic	250	1	300.0	N	filtered

Additional Comments: \*DWC keep existing well's reports well depth @ 445 ft. 435.8' is written on pump house. Pass obstruction 143.9. Very dirty. We are using a 208' WL from other well for purge time calculation. 2 households using this well

### Water System Schematic:





# HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>ANDERSON</u>	Date: <u>3-20-08</u>
ADWR No. <u>613396</u>	Weather: <u>Clear</u>
Location: <u>3272 Naco Hwy S. Bisbee, AZ</u>	Collected By: <u>MA</u>

### WELL DATA

Well Depth (ft bbs): <u>236</u>	Static Water Level (ft bmp): <u>145.46</u>
Casing Diameter (in): <u>8"</u>	Date/Time: <u>3-20-08 10:05</u>
Well Use: <u>all domestic purposes</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>236x3 = 709</u>	GPS: <u>12R 601134 47M 3468816</u>
	Elevation: <u>4596</u>

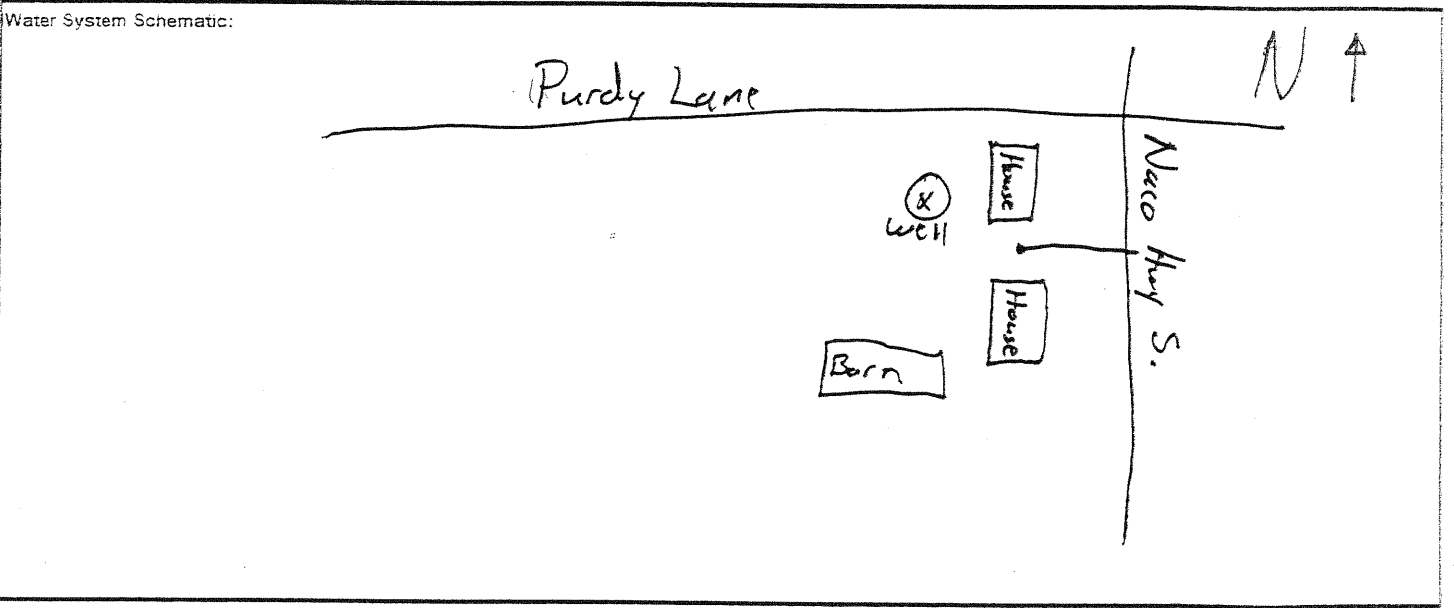
### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1010	10	0	7.27	16.0	1154	clear	No	open bib at 1010
1015	"	50	7.25	20.5	1150	"	"	
1030	"	200	7.21	21.5	1176	"	"	
1045	"	350	7.24	21.6	1179	"	"	
1100	"	500	7.27	21.6	1180	"	"	
1115	"	650	7.24	21.2	1169	"	"	
1130	"	800	7.25	21.1	1176	"	"	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>ANDERSON</u>	<u>11:35</u>	<u>Plastic</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>None</u>	<u>Filtered</u>

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>870001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>BANKS</u>	Date: <u>2/27/08</u>
ADWR No. <u>55-647986</u>	Weather: <u>Sunny</u>
Location: <u>620 E Mulberry Lane</u>	Collected By: <u>MA &amp; KW</u>

### WELL DATA

Well Depth (ft bls): <u>435.8 (owner)</u>	Static Water Level (ft bmp): <u>422.97</u> ← unreliable <small>can't get good reading</small>
Casing Diameter (in): <u>6'</u>	Date/Time: <u>2/27/08</u> <u>13:21</u> <small>obstructed</small>
Well Use: <u>domestic</u>	Point of Measurement: <u>T.O.C.</u>
3 Casing Volumes: <u>1 casing 334 x 3 = 1002</u>	GPS: <u>12R 0606982</u> <u>UTM 3469205</u>
	Elevation: <u>4654</u>

### FIELD SAMPLING DATA

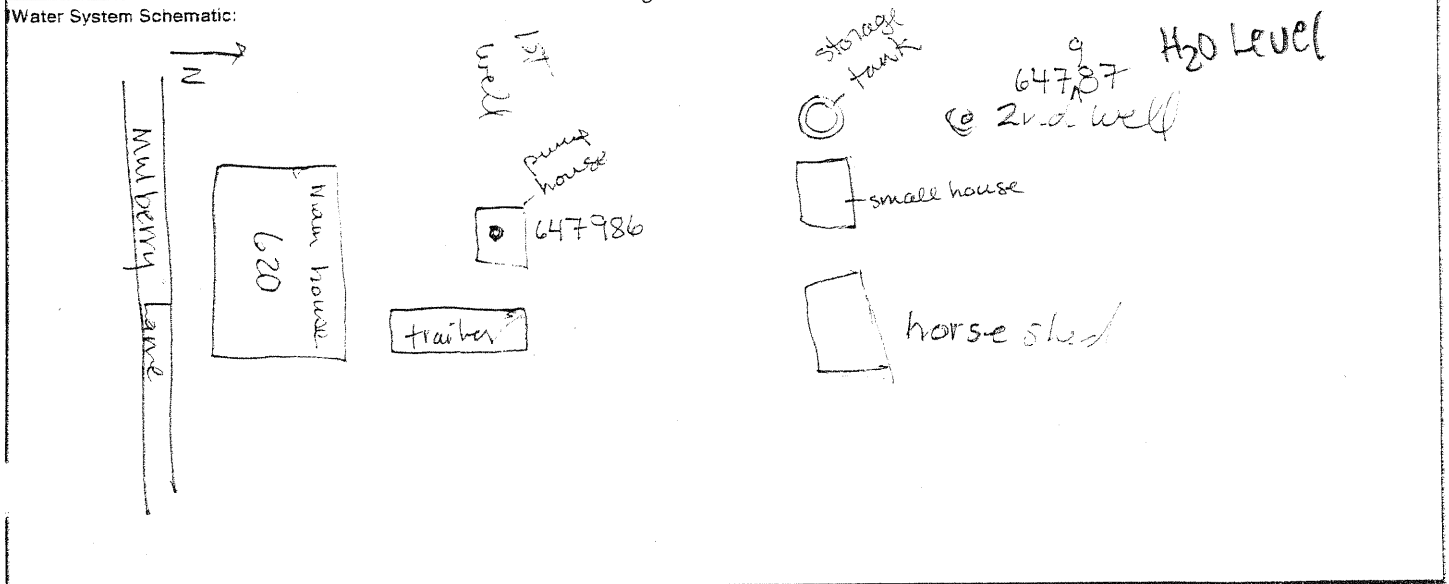
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
14:06	8	0	7.49	21.7	990	none	none	
14:10	8	32	7.51	21.7	991	"	"	
14:15	-	72	7.51	21.9	990	"	"	
14:20	"	122	7.53	21.8	986	"	"	
14:25	"	162	7.53	21.8	980	"	"	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
BANKS	14:30	plastic	250	1	300.0	N	filtered

Additional Comments: \*ADWR Reg. existing wells reports well depth @ 445 bls. 435.8' is written on pump house. Poss obstruction 143.9. Very dirty. We are using 208' WL from other well for purge time calculation. 2 households using this well

### Water System Schematic:





# HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No. <u>872001-0</u>	Client: <u>HELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>5-577927</u>	Date: <u>2-6-08</u>
ADWR No. <u>BIMA</u>	Weather: <u>CLEAR</u>
Location: <u>Arizona St, Bisbee Junction</u>	Collected By: <u>API MA</u>

### WELL DATA

Well Depth (ft bis): <u>460'</u>	Static Water Level (ft bmp): <u>OBSTRUCTION AT 250ft</u>
Casing Diameter (in): <u>4"</u>	Date/Time: <u>2-6-08 1500</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>AP<del>W</del> 78 x 3 = 234</u>	GPS: UTM: <u>3471859 12R 0606003</u>
<u>234 ÷ 10 = 24 Min</u>	Elevation: <u>4794</u>

### FIELD SAMPLING DATA

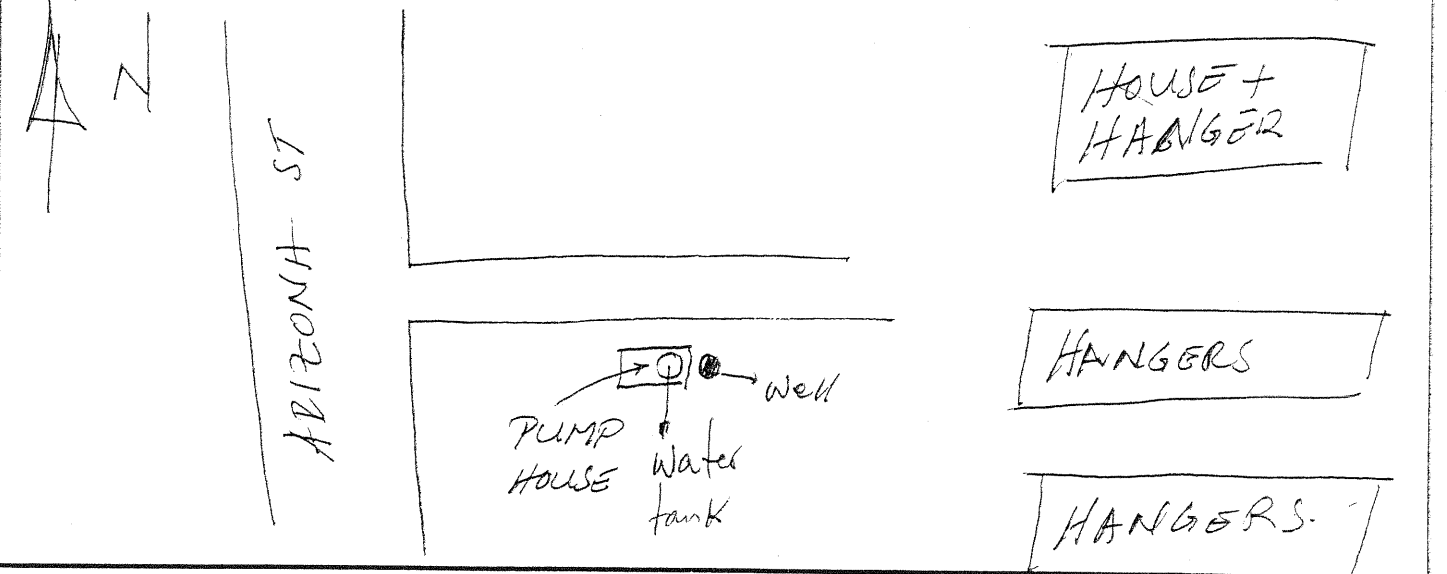
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1523	10		6.79	17.8	1330	CLEAR	N	-
1524	"		6.65	18.5	1335	"	"	-
1527	"		6.68	20.3	1342	"	"	-
1532	"		6.66	21.1	1324	"	"	-
1536	"		6.68	22.0	1342	"	"	-
1545	"		6.69	22.2	1335	"	"	-
<u>TOTAL DISCHARGE = 280 G</u>								

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>BIMA</u>	<u>1550</u>	<u>PLASTIC</u>	<u>125/250/500</u>	<u>3</u>	<u>300-0</u>	<u>V/N/N</u>	<u>-</u>

Additional Comments: Mr. Sievold indicated well depth is 460' and well casing is 4"

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001-0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>BLOMMER</u>	Date: <u>02/05/2008</u>
ADWR No. <u>645536 633472</u>	Weather: <u>CLEAR</u>
Location: <u>Barnett Rd San Jose</u>	Collected By: <u>AP/MA</u>

### WELL DATA

Well Depth (ft bis): <u>350</u>	Static Water Level (ft bmp): <u>Obstruction at 277'</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>2-5-08 10:00</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>70c</u>
3 Casing Volumes: <u>will purge for stability</u>	GPS: UTM <u>3471532 12 R 0602726</u>
	Elevation: <u>4764 (ft)</u>

### FIELD SAMPLING DATA

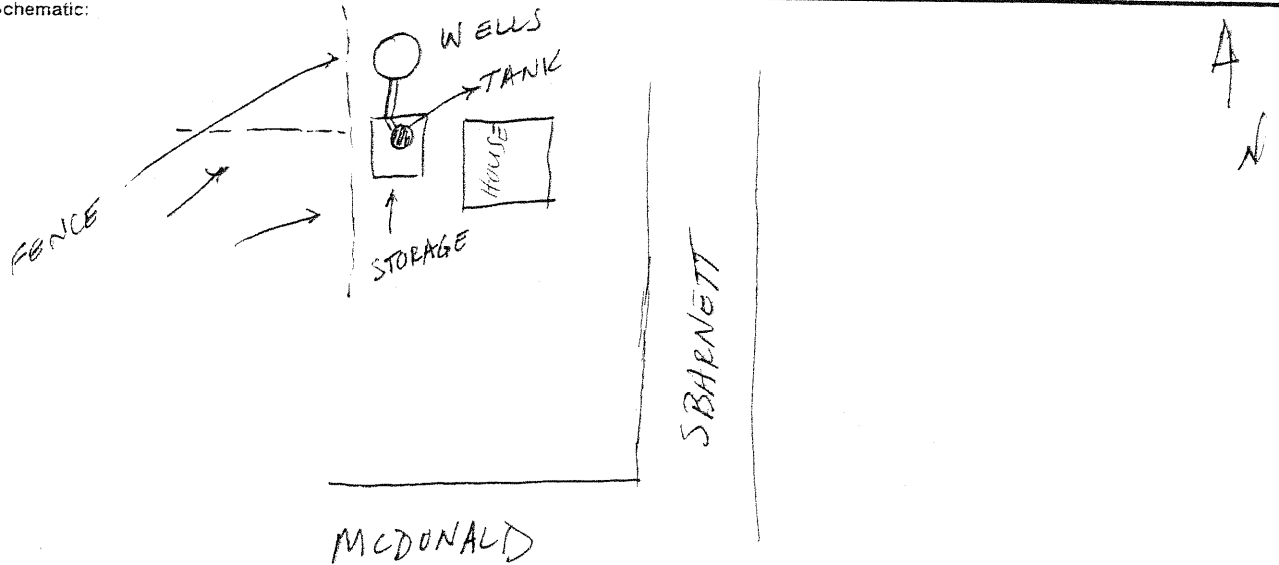
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µScm)	Color	Odor	Comments
1000	10		7.34	17.0	720	CLEAR	N	SOME SEDIMENT
1005	"		7.47	17.8	716	"	"	"
1010	"		7.45	20.2	717	"	"	"
1015	"		7.43	20.2	714	CLOUDY	N	BROWNISH and SEDIMENT
<u>TOTAL DISCHARGE = 200 G.</u>								

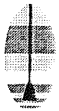
### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>BLOMMER</u>	<u>1000</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>N</u>	<u>—</u>

Additional Comments: ONLY ONE WELL WAS FOUND ON THE PROPERTY AND IT WAS IDED AS "BLOMMER"

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>CHAMBERS</u>	Date: <u>3-6-08</u>
ADWR No. <u>55-629807</u>	Weather: <u>sunny, cool</u>
Location: <u>3792 S. Towner</u>	Collected By: <u>KW + MA</u>

### WELL DATA

Well Depth (ft bis): <u>245</u>	Static Water Level (ft bmp): <u>— unable to measure</u>
Casing Diameter (in): <u>6</u>	Date/Time: <u>due to well design</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>—</u>
3 Casing Volumes: <u>unknown</u>	GPS: <u>UTM 3467385 x 0600024</u>
	Elevation: <u>4592</u>

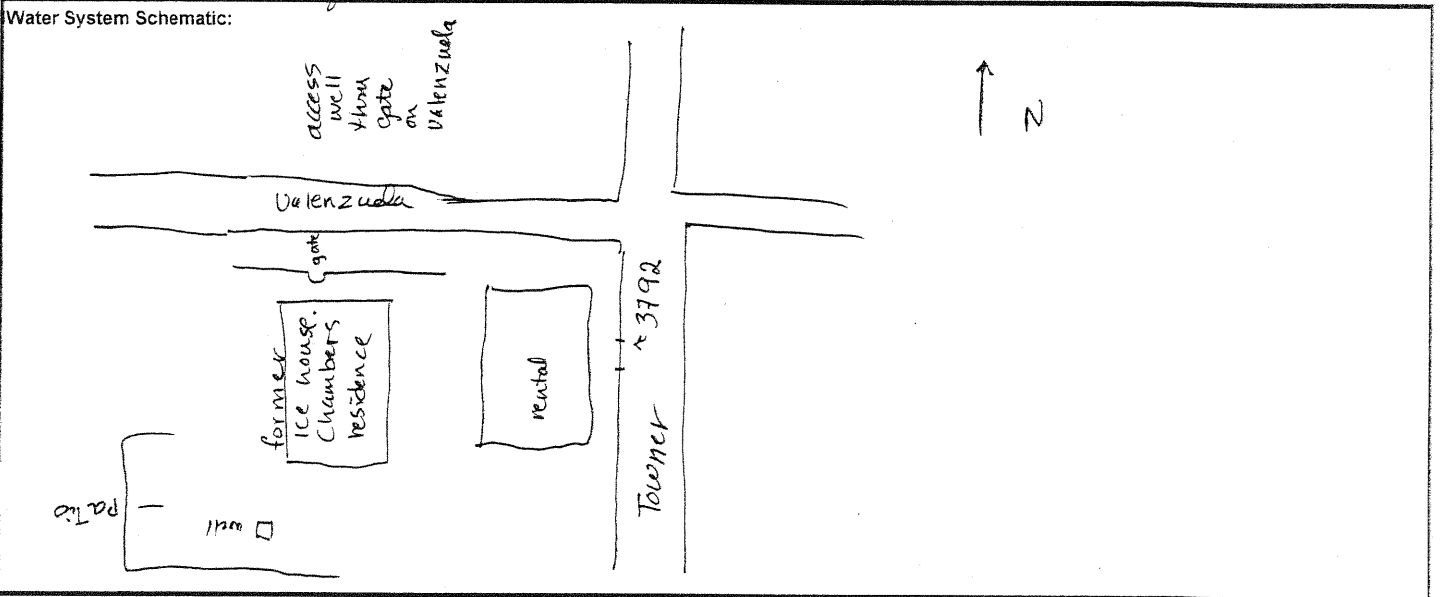
### FIELD SAMPLING DATA

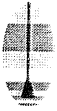
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
9:30	5	0	7.43	13.1	445	non clear	None	
9:32	5	10	7.60	16.4	411	"	"	
9:37	5	35	7.70	17.4	408	"	"	
9:42	5	60	7.72	17.5	408	"	"	
9:47	5	85	7.73	17.8	408	"	"	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>CHAMBERS</u>	<u>0950</u>	<u>plastic</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>N</u>	<u>filtered</u>
<u>DUPO30608</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>1</u>	<u>300.0</u>	<u>N</u>	<u>"</u>

Additional Comments: Former Sloan property. Old address before the big re-numbering was  
FBO 30608 221 D Street. D street now is Towner. Purge for stability. Well in  
regular use





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>COOPER, Charles</u>	Date: <u>03/04/08</u>
ADWR No. <u>55-637069</u>	Weather: <u>sunny, cool</u>
Location: <u>1497 W. Purdy Lane</u>	Collected By: <u>KW + MA</u>

### WELL DATA

Well Depth (ft bls): <u>220</u>	Static Water Level (ft bmp): <u>155.08 bms</u>
Casing Diameter (in): <u>6</u>	Date/Time: <u>03/04/08 8:03</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>T.O.C.</u>
3 Casing Volumes: <u>95.4x3=286</u>	GPS: <u>12R 0601350 Y Wm 3468915</u>
	Elevation: <u>4607</u>

### FIELD SAMPLING DATA

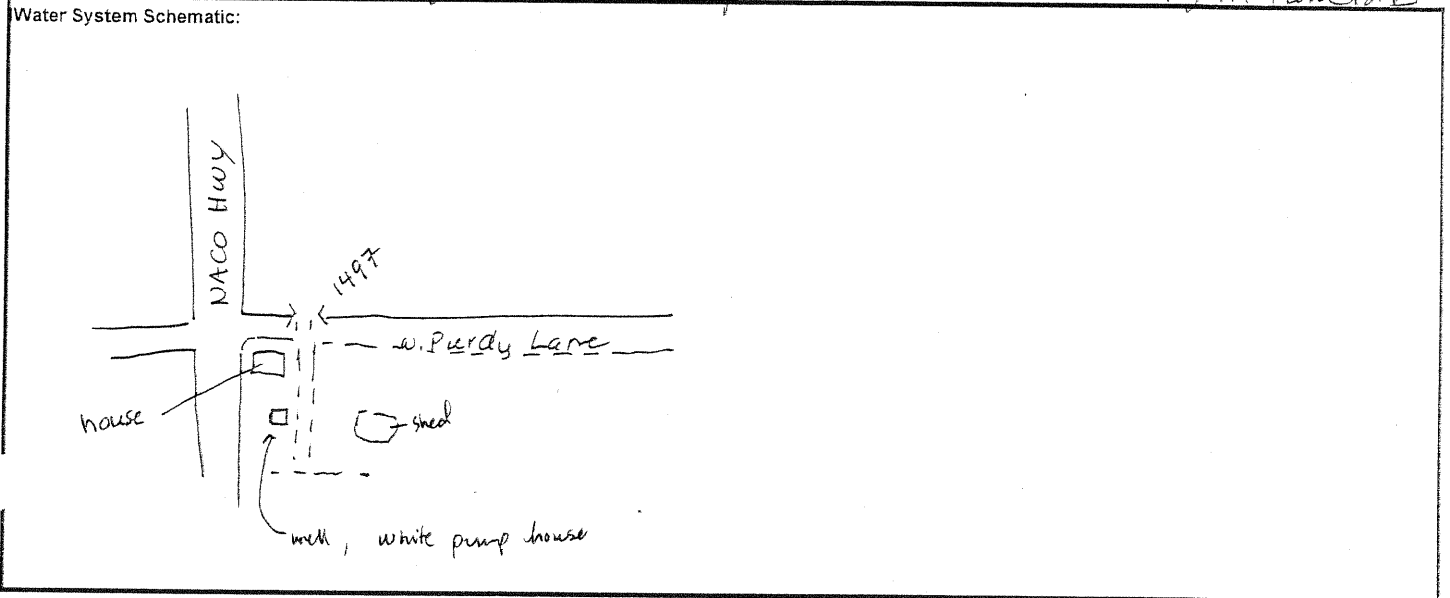
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
8:22	6	6	6.95	19.5	1902	clear	none	few light brown flakes
8:26	"	30	7.01	19.9	1914	"	"	very few flakes
8:30	"	54	7.02	19.9	1914	"	"	" " "
8:34	"	78	7.05	20.4	1908	"	"	" " "
8:41	"	120	7.05	20.0	1910	"	"	no more flakes
8:48	"	162	7.03	20.9	1909	"	"	"
8:55	"	204	7.02	20.8	1892	"	"	"

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
COOPER, C	9:00	plastic	250	1	300.0	N	filtered

Additional Comments: Family of 4, well is well used. When pump is on it pushes water into leaking u.g. pipe behind shed as well as rose. Discharge is therefore greater overall than from both

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872002.2</u>	Client: <u>HELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>COOPER, TERESA</u>	Date: <u>2-14-08</u>
ADWR No. <u>55-623564</u>	Weather: <u>windy, pt cloudy</u>
Location: <u>2171 S. Naco Hwy</u> <u>San Jose</u>	Collected By: <u>KW &amp; AP</u>

### WELL DATA

Well Depth (ft bis): <u>325</u>	Static Water Level (ft bmp): <u>unable to measure</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>2-14-08</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>—</u>
3 Casing Volumes: <u>—</u>	GPS: <u>UTM 3471687 12R 0602138</u>
	Elevation: <u>4759</u>

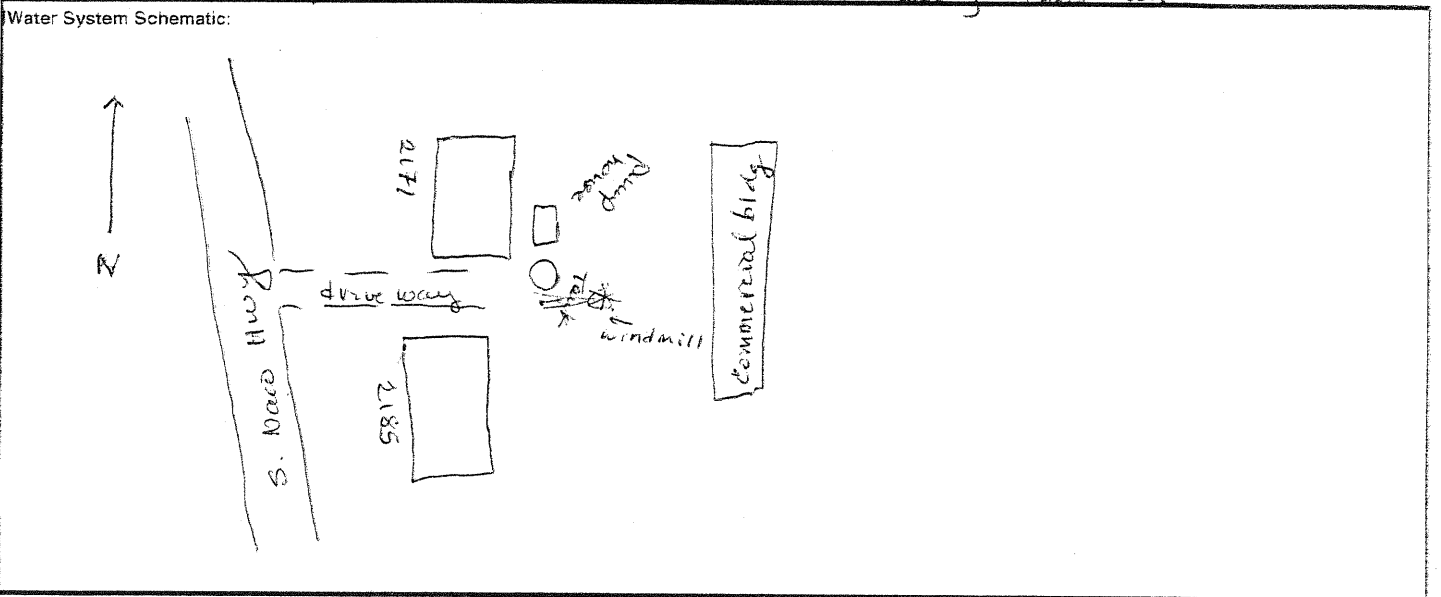
### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
9:53	—	—	7.63	14.1	371	clear	none	composite spl few brown flakey sediments

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
COOPER	10:00	plastic	15/14/40	3	300.0	Y/N/W	composite

Additional Comments: No access to take WL or sample from well head. Will take composite sample from storage tank. Pressure tank on/off every 5 minutes. 3 people + one commercial venture using this well







# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>932002.2</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>Dodson</u>	Date: <u>2/20/08</u>
ADWR No. <u>55-644927</u>	Weather: <u>overcast, Windy</u>
Location: <u>235 Purdy Lane</u> <u>Bisbee AZ 85623</u>	Collected By: <u>Arneson / Thompson</u>

### WELL DATA

Well Depth (ft b/s): <u>200' b/s</u>	Static Water Level (ft bmp): <u>78' b/s measured on 02-20-08</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>2/20/08 / NA</u>
Well Use: <u>Domestic Supply</u>	Point of Measurement: <u>Top of Casing</u>
3 Casing Volumes: <u>587 gal</u>	GPS: <u>12R 062599 UTM 346906S</u>
	Elevation: <u>4666 AMSL</u>

### FIELD SAMPLING DATA

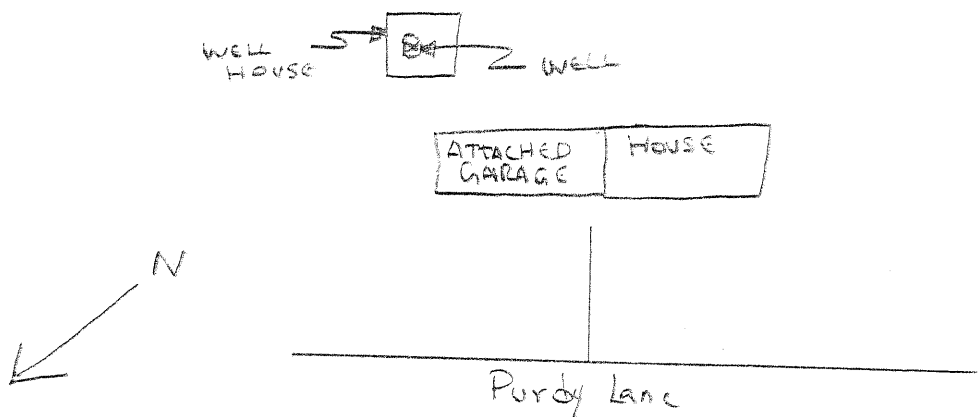
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (uScm)	Color	Odor	Comments
1136	3	3	7.48	14.1	829	Clear	None	1135 opened hole 62
1142	3	15	7.56	12.6	860			
1144	3	27	7.60	18.1	858			
1147	3	30	7.61	12.2	857	↓	↓	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
DODSON	1150	Plastic	125/250	3	3000	HNO <sub>3</sub> -None	

Additional Comments: Could not sound well as probe was too large for access hole in well cap. → Rugged well with Ph/EC and Temp parameters stable

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>EAST</u>	Date: <u>02/08/2008</u>
ADWR No. <u>599796</u>	Weather: <u>CLEAR</u>
Location: <u>BISBE JUNCTION</u>	Collected By: <u>AP/MA</u>

### WELL DATA

Well Depth (ft bis): <u>125 (ft)</u>	Static Water Level (ft bmp): <u>50.20</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>02/08/2008</u>
Well Use: _____	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>110 x 3 = 330 = 15 = 22</u> <u>min</u>	GPS: UTM: <u>3468713 12R 0667076</u>
	Elevation: _____

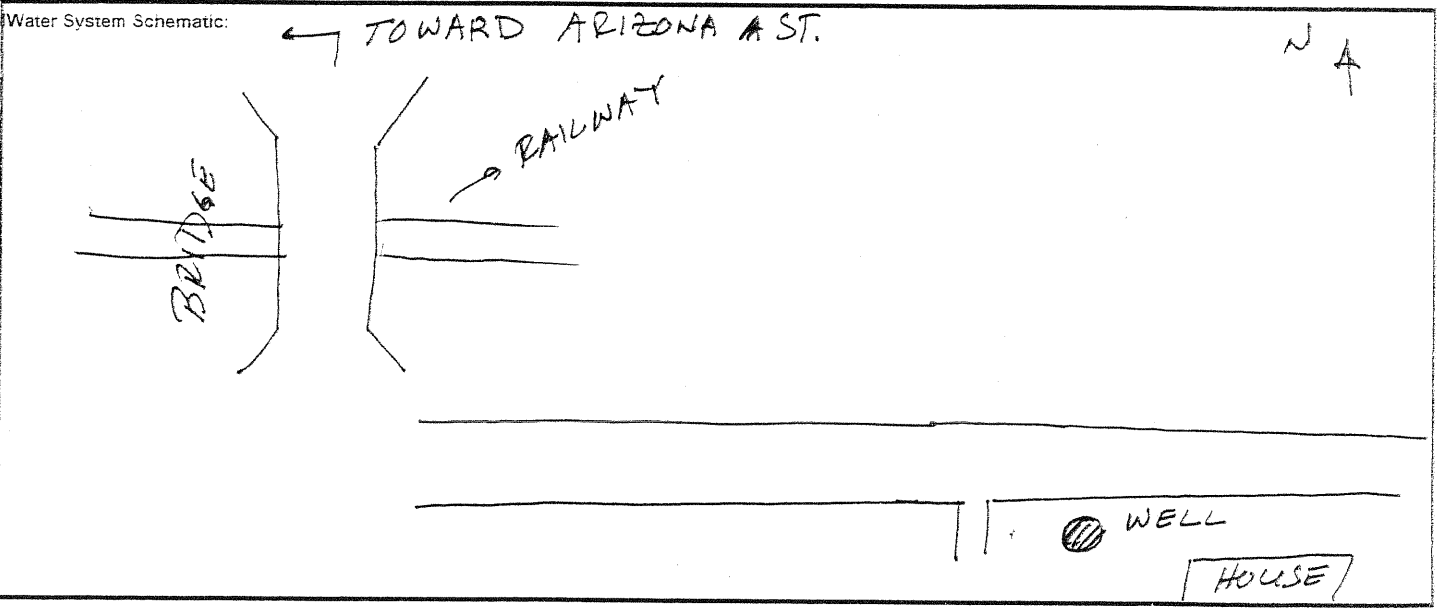
### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
0839	15	15	7.07	17.4	562	CLEAR	N	
0841	"	45	7.27	19.1	423	"	"	
0845	"	105	7.42	19.6	416	"	"	
0848	"	150	7.46	19.8	420	"	"	
0856	"	180	7.45	19.9	423	"	"	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>EAST</u>	<u>0900</u>	<u>PLASTIC</u>	<u>125/250</u> <u>500</u>	<u>3</u>	<u>300.0</u>	<u>Y/N/N</u>	<u>-</u>

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>822001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>55-805641-L</u>	Date: <u>3-11-08</u>
ADWR No. <u>EPPELE</u>	Weather: <u>Clear, breezy</u>
Location: <u>8 Mulberry Lane, Bisbee, AZ</u>	Collected By: <u>MA</u>

### WELL DATA

Well Depth (ft bis): <u>265</u>	Static Water Level (ft bmp): <u>29.52</u>
Casing Diameter (in): <u>8"</u>	Date/Time: <u>3-11-08</u>
Well Use: <u>Domestic drinking water / Irrigation</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>615 = Trace vol.</u>	GPS: <u>12R 0607159 WTM 3469230</u>
<u>3 casing vol = 1845 gal = 205 min</u>	Elevation: <u>4640</u>

### FIELD SAMPLING DATA

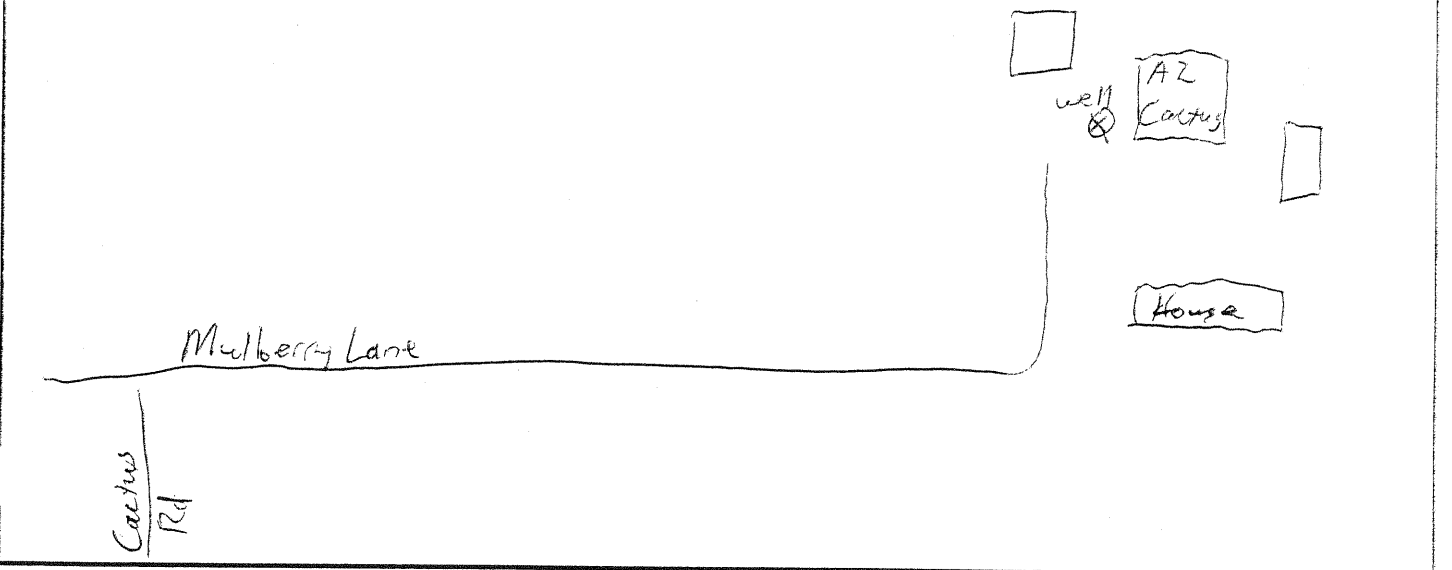
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1143	9	9	7.00	15.6	744	Clear	None	
1146	9	36	7.26	20.1	742			
1151	9	81	7.85	21.2	752			
1203	9	189	7.42	21.6	757			
1212	9	270	7.41	21.3	759			
1243	9	675	7.53	21.4	722			
1255	16	979	7.88	21.4	644	Slight tan	None	
1256	well pumped dry							Recovery
1330			7.98	21.4	646			

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>EPPELE 641</u>	<u>1330</u>	<u>Plastic</u>	<u>250 ml</u>	<u>1</u>	<u>300.0</u>	<u>None</u>	<u>Filtered 30µ</u>

Additional Comments: Difficult to determine casing dia. but is between 7" and 9"

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>FRANCO</u>	Date: <u>02/06/2008</u>
ADWR No. <u>560101</u>	Weather: <u>CLEAR</u>
Location: <u>3245 S. Franco Loop Bisbee, AZ</u>	Collected By: <u>API/MA</u>

### WELL DATA

Well Depth (ft bis): <u>200'</u>	Static Water Level (ft bmp): <u>NA</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>02/06/2008</u>
Well Use: <u>DOMESTIC</u>	Point of Measurement: <u>-</u>
3 Casing Volumes: <u>59x3 = 177 ÷ 25 = 8 min</u>	GPS: <u>UTM 3468828 12 R 0602851</u>
	Elevation: <u>4619</u>

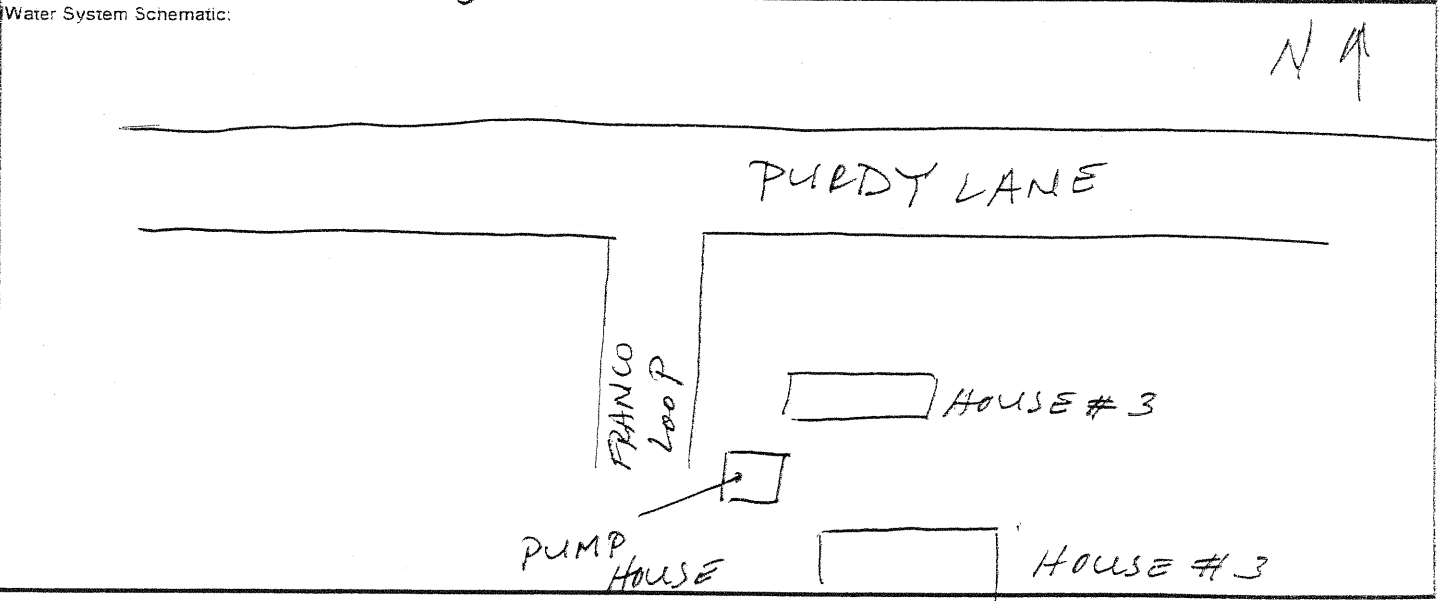
### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1128	25		7.48	21.3	1306	<del>1309</del> CLEAR	N	-
1131	"		7.49	20.1	1300	CLEAR	"	-
1134	"		7.47	19.6	1301	"	"	-
<u>TOTAL DISCHARGE = 200 G.</u>								

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FRANCO	1136	PLASTIC	250	1	300.0	N	

Additional Comments: DUE TO LACK OF A DIRECT OUTLET, A BIB FROM THE HOUSE #3 WAS USED - THE WATER IS USED BY FOUR HOUSES ON THIS PROPERTY. A piece of Rope is blocking hole for w/ measurements - could not remove





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>FULTZ</u>	Date: <u>2/27/08</u>
ADWR No. <u>55-212447</u>	Weather: <u>Sunny</u>
Location: <u>694 E Border Rd</u> <u>Bisbee Junction</u>	Collected By: <u>KW &amp; MA</u>

### WELL DATA

Well Depth (ft bls): <u>300</u>	Static Water Level (ft bmp): <u>unable to measure - port hole too tight</u>
Casing Diameter (in): <u>8</u>	Date/Time: <u>2/27/08</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>15' T.O.C</u>
3 Casing Volumes: <u>460 gal = 1 casing</u> <u>x 3 = 1379</u>	GPS: <u>12R 0607151 x 47M 3469068</u>
	Elevation: <u>4694</u>

### FIELD SAMPLING DATA

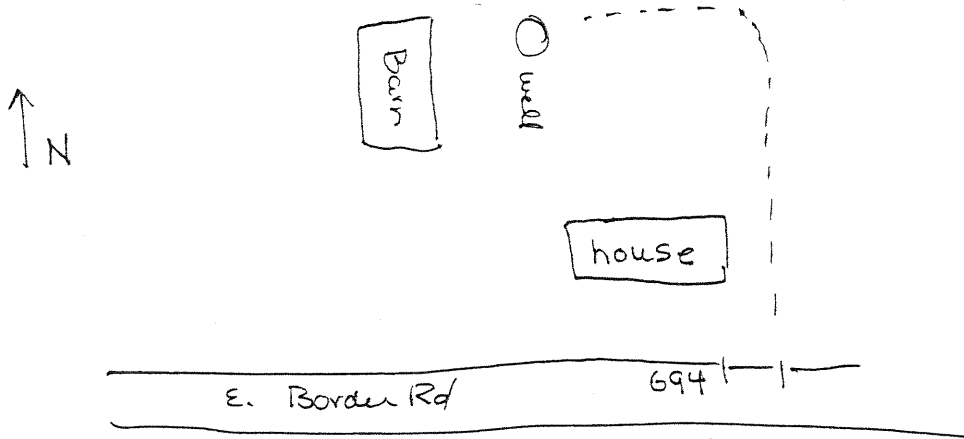
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
15:13	10gpm	10	6.73	18.7	1813	none	none	
15:18		60	6.76	20.6	1824	"	"	
15:23		110	6.78	21.3	1837	"	"	
15:28		160	6.80	21.8	1822	"	"	
15:33		210	6.81	21.7	1818	"	"	
15:38		260	7.03	21.2	1809	"	"	
15:42		310	6.76	21.2	1816	"	"	
15:45		340	6.76	21.1	1827	"	"	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FULTZ	15:45	plastic	250	1	300.0	N	filtered

Additional Comments: 2nd GPS reading 12 R 0607151 . 2006 WL of 124' used for casing volume calculations. House is still connected to NWC. Well drilled in 2006 - used for animals irrigation + some human drinking

### Water System Schematic:





HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>GARNER 635</u>	Date: <u>09/04/2008</u>
ADWR No. <u>55-587635</u>	Weather: <u>CLOUDY - WINDY</u>
Location: <u>1027 W. PURDY LANE Bisbee, AZ</u>	Collected By: <u>AP/MA</u>

WELL DATA

Well Depth (ft bis): <u>680</u>	Static Water Level (ft bmp): <u>193.20</u>
Casing Diameter (in): <u>12"</u>	Date/Time: <u>02/04/2008</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>2960x3 = 8580 @ 20gpm</u> <u>730 min purge</u>	GPS: <u>UTM: 3468972 12 R 0602664</u>
	Elevation: <u>4616</u>

FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
11:45	20	100	7.71	18.1	473	CLEAR	N	open bit at 11:40
11:50	"	200	7.68	21.0	474	"	"	
11:55	"	300	7.70	21.3	478	"	"	
12:00	"	400	7.67	21.3	476	"	"	
12:05	"	500	7.61	22.7	479	"	"	
<b>TOTAL TDS CHARGE = 500 G.</b>								

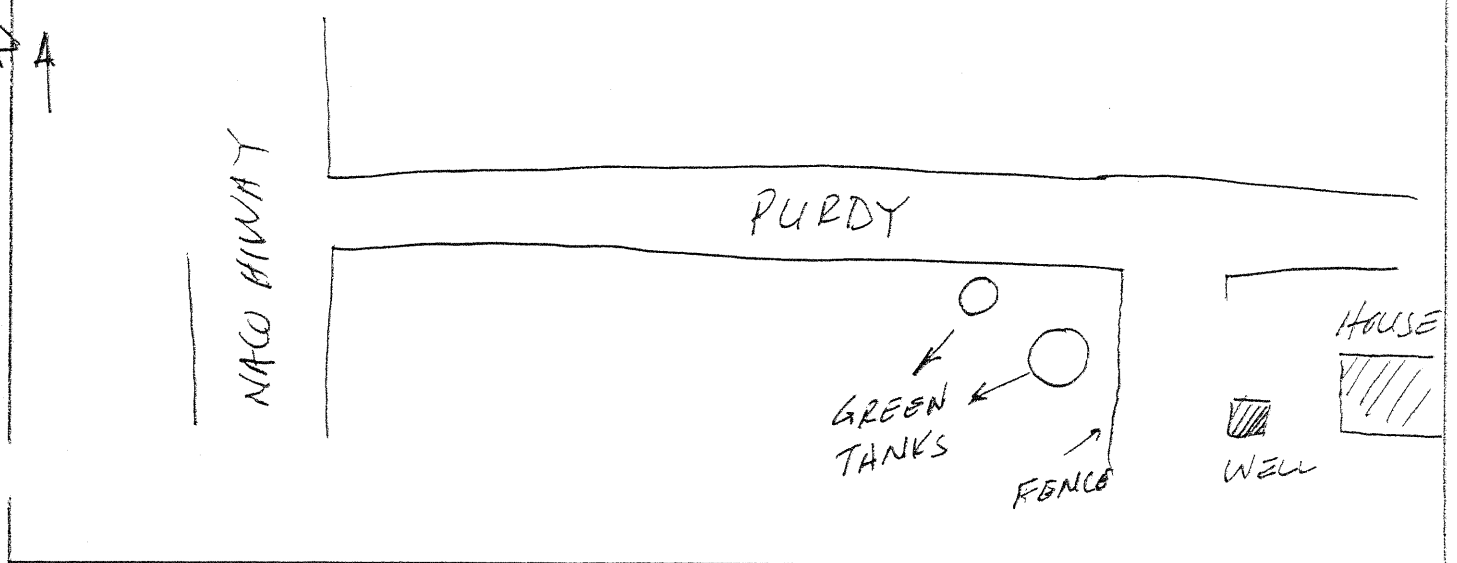
SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GARNER 635	1210	PLASTIC	125/250	1/1	300.0	T/N	
GARNER 635	1210	PLASTIC	500	1	300.0	N	

Additional Comments:

\* AKA GW-47

Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>HOBAN</u>	Date: <u>2/27/08</u>
ADWR No. <u>805290</u> <u>805290</u>	Weather: <u>sunny, breezy</u>
Location: <u>1385 W. Purdy Lane</u>	Collected By: <u>KW + MA</u>

### WELL DATA

Well Depth (ft bls): <u>316</u>	Static Water Level (ft bmp): <u>163.05</u>
Casing Diameter (in): <u>6</u>	Date/Time: <u>2/27/08 11:09</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>T.O.C.</u>
3 Casing Volumes: <u>225 gal x 3 = 675 gal</u>	GPS: <u>Wim 3468878 12R 0601706</u>
<u>45 min</u>	Elevation: <u>4588</u>

### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
11:26	15	45	7.03	19.7	1317	clear	none	
11:31		120	7.00	21.4	1304	"	"	
11:36		795	6.99	21.7	1266	"	"	
11:41		220	7.03	21.5	1283	"	"	
11:46		345	6.98	21.9	1335	"	"	
11:51		420	7.00	21.9	1376	"	"	
11:56		495	6.92	22.2	1377	"	"	
12:01		570	6.94	22.1	1369	"	"	
12:06		645	6.93	22.2	1362	"	"	
12:11		720	6.93	22.1	1359	"	"	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
HOBAN	12:15	plastic	250	1	300.0	N	filtered

Additional Comments:

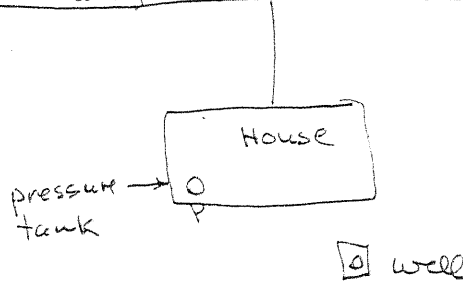
\_\_\_\_\_

Water System Schematic:

Barbara Hoban



1385 W. Purdy Lane





HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>HOWARD</u>	Date: <u>3-4-08</u>
ADWR No. <u>No Record</u>	Weather: <u>Sunny, Cool</u>
Location: <u>3269 S. Naco Hwy</u>	Collected By: <u>MA/KW</u>

WELL DATA

Well Depth (ft bis): <u>est 200' per owner</u>	Static Water Level (ft bmp): <u>150.10</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>3-4-08</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>733 x 3 = 220</u>	GPS: <u>601291 N 3468769 E</u>
	Elevation: <u>4595</u>

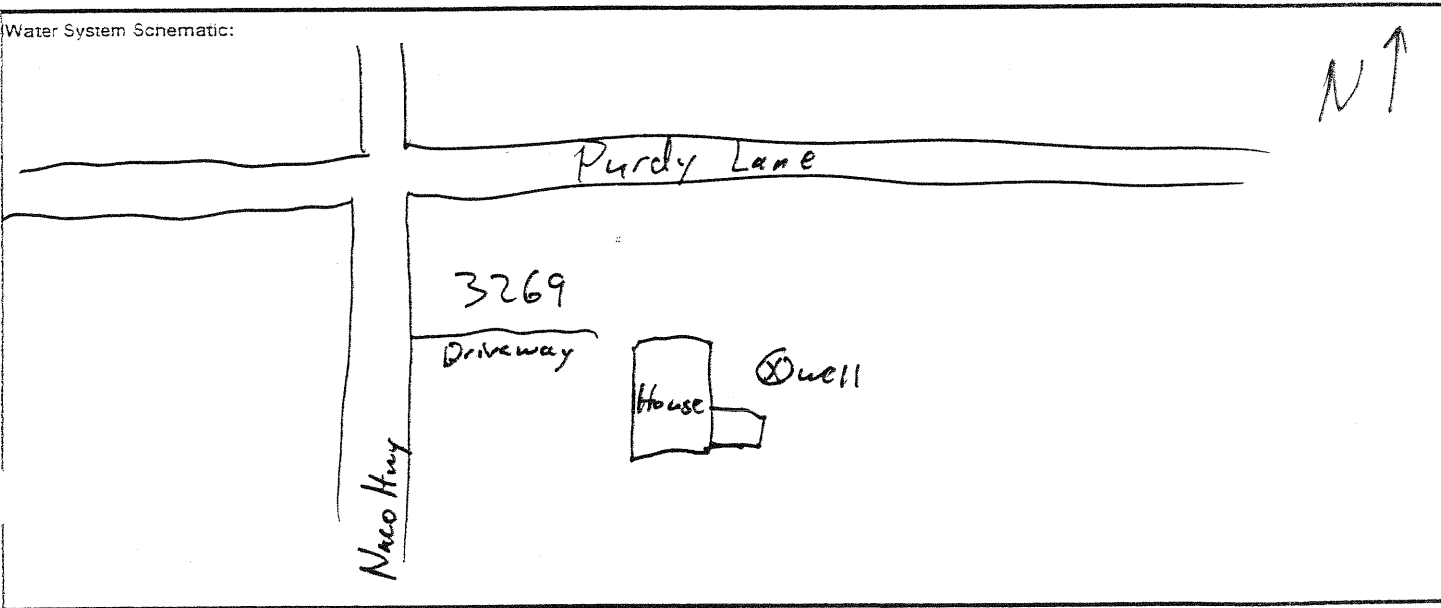
FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
17:52	10	16	6.96	20.0	1259	Clear	No	
17:54	"	30	7.03	20.4	1199	"	"	
17:58	"	70	7.04	20.6	1267	"	"	
18:01	"	100	7.06	20.5	1288	"	"	
18:04	"	130	7.06	20.4	1280	"	"	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
HOWARD	18:10	Plastic	250	1	300.0	N	

Additional Comments: Receiving bottled water for drinking. Well is in regular use.







# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>AP <del>209774</del> KEEFER</u>	Date: <u>02/06/2008</u>
ADWR No. <u>209744</u>	Weather: <u>CLEAR</u>
Location: <u>Naco, AZ</u>	Collected By: <u>AP/MA</u>

### WELL DATA

Well Depth (ft bis): <u>250'</u>	Static Water Level (ft bmp): <u>134.67</u>
Casing Diameter (in): <u>NA</u>	Date/Time: <u>02/06/2008</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>TOC</u>
Casing Volumes: <u>PURGED TILL</u>	GPS: UTM: <u>3468112 NR 0599881</u>
<u>STABILITY</u>	Elevation: <u>4567</u>

### FIELD SAMPLING DATA

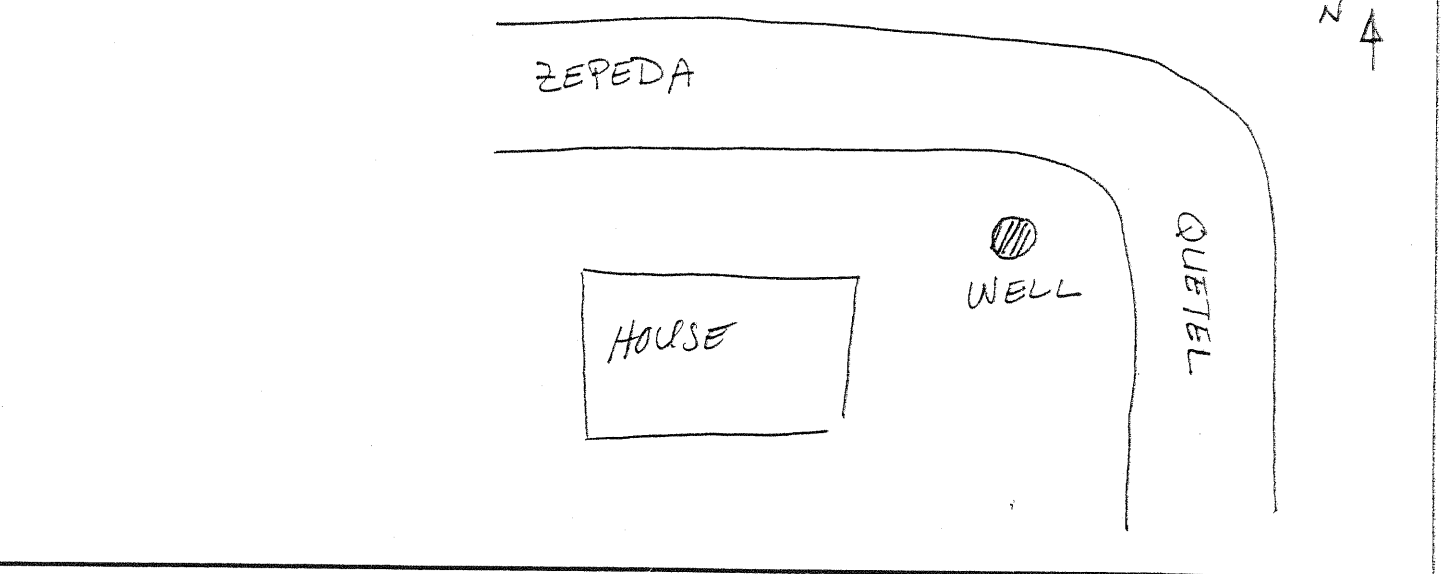
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
0946	14	14	6.75	12.5	396	Clear	None	open to air at 845
0950	"	70	7.29	17.2	354	"	"	
0952	"		7.53	19.1	372	"	"	
0955	"		7.71	16.9	367	"	"	
0958	"		7.70	19.0	378	"	"	
		<u>ap</u>			<u>ap</u>			
<u>TOTAL</u>		<u>684</u>			<u>336</u>			

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>KEEFER</u>	<u>0900</u>	<u>Plastic</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>None</u>	

Additional Comments: This is the only well on this property

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>MCCONNELL 205 Virginia</u>	Date: <u>2/20/08</u>
ADWR No. <u>SS-529265</u>	Weather: <u>Cloudy</u>
Location: <u>1463 Purdy Lane Bisbee, AZ 85603</u>	Collected By: <u>Armson / Thompson</u>

### WELL DATA

Well Depth (ft bls): <u>216</u>	Static Water Level (ft bmp): <u>156.15</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>2-20-08 / 13:15</u>
Well Use: <u>Domestic (not currently in use)</u>	Point of Measurement: <u>Top of Casing</u>
Casing Volumes: <u>264 gal</u>	GPS: <u>12R-0601463 UTM 8469244</u>
	Elevation: <u>4604' AMSL</u>

### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1330	10	10	7.21	16.7	1424	Clear	None	DN at 1329
1337	10	40	7.26	19.7	1437	↓	↓	
1337	10	80	7.19	21.1	1435	↓	↓	
1347	10	140	7.21	21.1	1435	↓	↓	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
MCCONNELL 205	1350	Plastic	250	1	300.0	None	Filtered

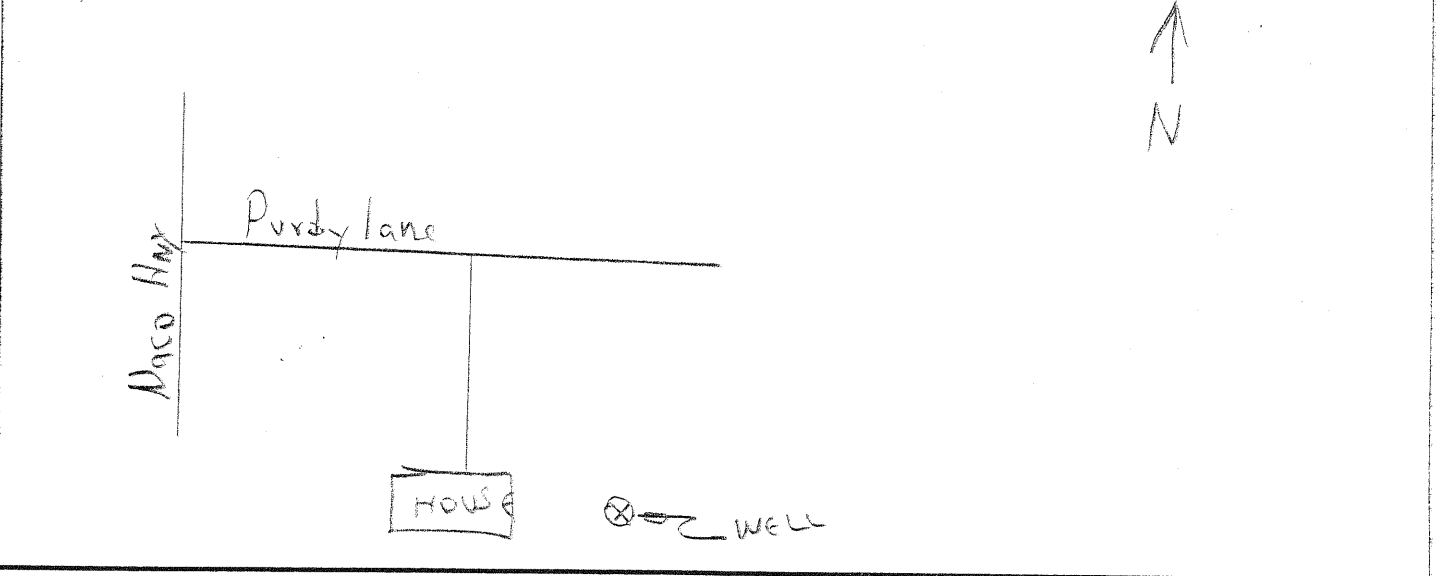
Additional Comments:

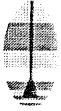
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Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>Olivarra (Metzler)</u>	Date: <u>03-05-08</u>
ADWR No. <u>35-71891 no 55 reg #</u>	Weather: <u>sunny breezy cool</u>
Location: <u>2313 Sunflower St Bisbee (SJ area)</u>	Collected By: <u>MA + KW</u>

### WELL DATA

Well Depth (ft bls): <u>351</u>	Static Water Level (ft bmp): <u>288.30</u>
Casing Diameter (in): <u>6</u>	Date/Time: <u>03-05-08 9:10</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>T.O.C</u>
3 Casing Volumes: <u>92.5 gal x 3 = 277.6</u> <u>yard is flooding - parameters stable</u>	GPS: <u>12R 0602094 WTM 3471380</u>
	Elevation: <u>4733</u>

### FIELD SAMPLING DATA

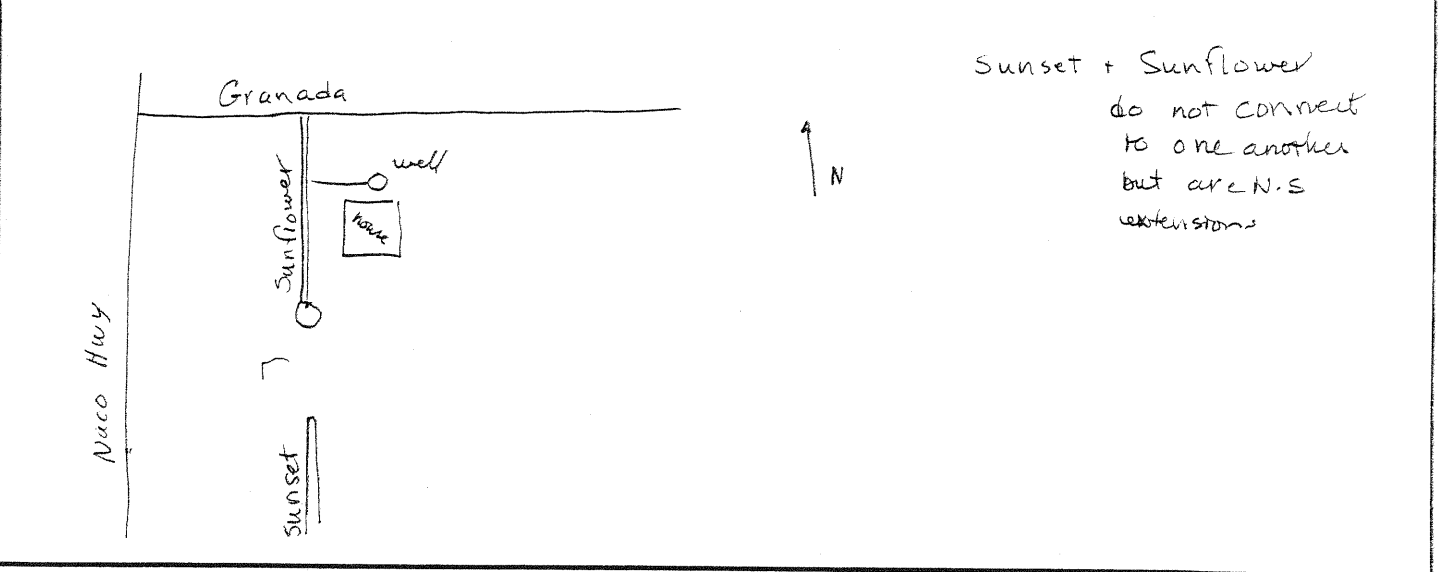
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
9:34	5	0	7.26	19.2	1046	clear	none	
9:39	"	25	7.25	21.0	1071	"	"	
9:44	"	50	7.26	21.5	1058	"	"	
9:49	"	75	7.25	21.9	1063	"	"	
9:54	"	100	7.27	21.5	1055	"	"	
9:59	"	125	7.26	21.7	1071	"	"	
10:04	"	150	7.27	21.6	1055			

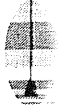
### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>METZLER</u>	<u>10:10</u>	<u>plastic</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>N</u>	

Additional Comments: 0-24-24-5 dbb 35-71891 Metzler @ Olivarra residence. Well used well by several family members. Parameters Stable, yard flooding

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No.	872002.2	Client:	PHELPS DODGE COPPER QUEEN BRANCH
Well ID:	TM-15 MILLER	Date:	2/27/08
ADWR No.	522699	Weather:	Sunny breezy
Location:	D-24-24-6 bcc Willson Road	Collected By:	MA + KW

### WELL DATA

Well Depth (ft bls):	325	Static Water Level (ft bmp):	294.90
Casing Diameter (in):	4"	Date/Time:	2/27/08 9:20
Well Use:	monitoring (Domestic)	Point of Measurement:	T.O.C
3 Casing Volumes:	30 x 3 = 90 (61)	GPS:	utm 3471436 12R 0599618
22 gal x 3 = 61 = 3 casing V	9 min purge	Elevation:	4765

### FIELD SAMPLING DATA

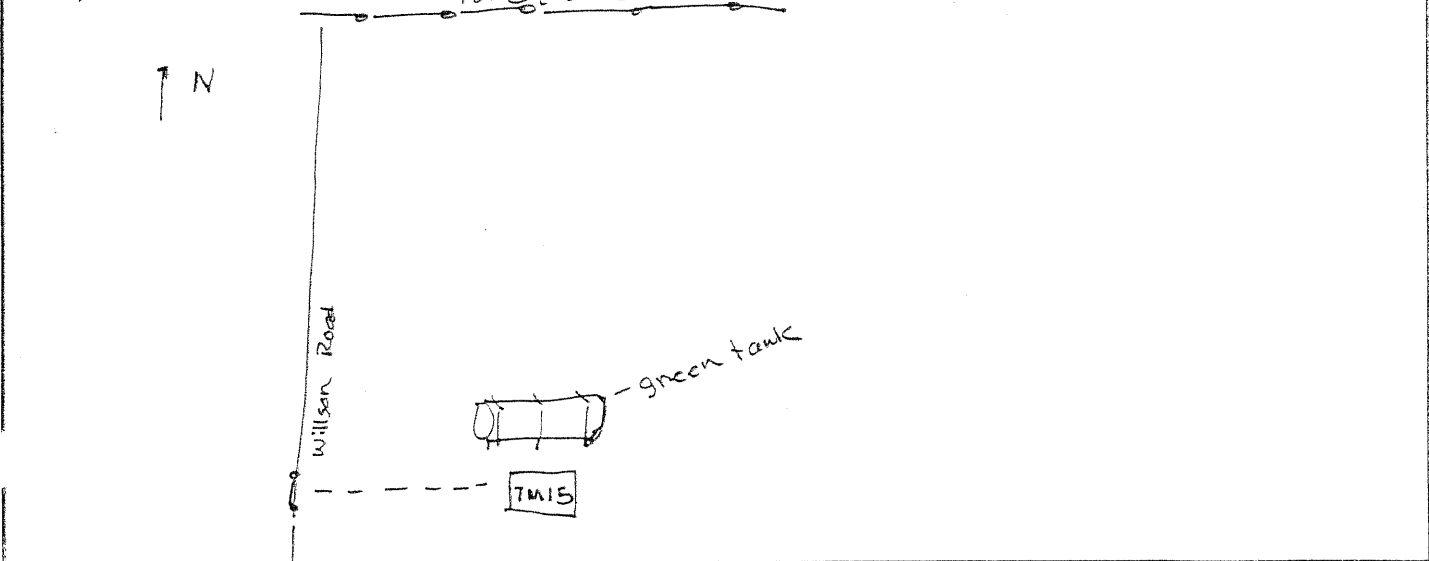
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
9:56	7	0	7.71	18.9	345	clear	none	
9:58		17	7.89	21.2	348	"	"	
10:01		35	7.81	21.7	346	"	"	
10:04		63	7.73	21.8	344	"	"	
10:06	70	77	7.66	21.9	344	"	"	

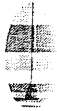
### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
TM-15 MILLER	10:07	plastic	150/150/150	3	300.0	Y/N/N	

Additional Comments: sounder hung up @ 147'

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>8720210</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>MOORE</u>	Date: <u>2-20-08</u>
ADWR No. <u>55-539947</u>	Weather: <u>Clear</u>
Location: <u>3606 Wilson Road</u> <u>Naco, AZ</u>	Collected By: <u>Arneron / Thompson</u>

### WELL DATA

Well Depth (ft bis): <u>220</u>	Static Water Level (ft bmp): <u>6/26/07 = 125' bblc (historic)</u>
Casing Diameter (in): <u>6</u>	Date/Time: <u>2-20-08 / NA</u>
Well Use: <u>Domestic Supply</u>	Point of Measurement: <u>TOP OF CASING</u>
3 Casing Volumes: <u>419 gallons</u>	GPS: <u>12R 0549560 UTM 3467945</u>
	Elevation: <u>4574 AMSL</u>

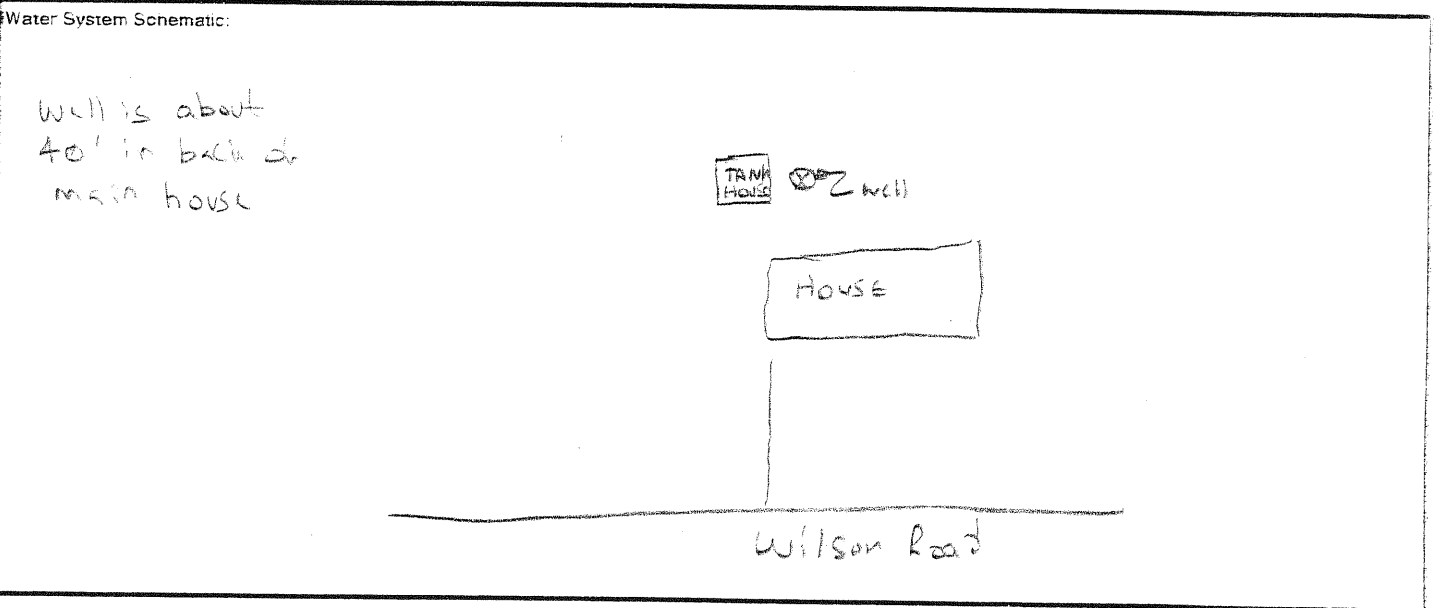
### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µScm)	Color	Odor	Comments
1023	6	6	7.18	24.0	371	Clear	None	Pump on at 1022
1024	6	1230	7.46	22.8	360			
1027	6	<del>24</del>	7.58	22.3	358			
1031	6	<del>54</del> <sup>OK</sup>	7.65	22.2	363			
1035	6	<del>78</del> <sup>OK</sup>	7.7	22.2	365			
1040	6	<del>108</del> <sup>OK</sup>	7.60	22.2	362	↓	↓	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
MOORE	1040	Plastic	250ml	1	300.3	None	

Additional Comments: Unable to sound well. Sealed due to narrow WL was better in 1987 and sealed in well control box





HYDRO GEO CHEM, INC.

Groundwater Sampling Form

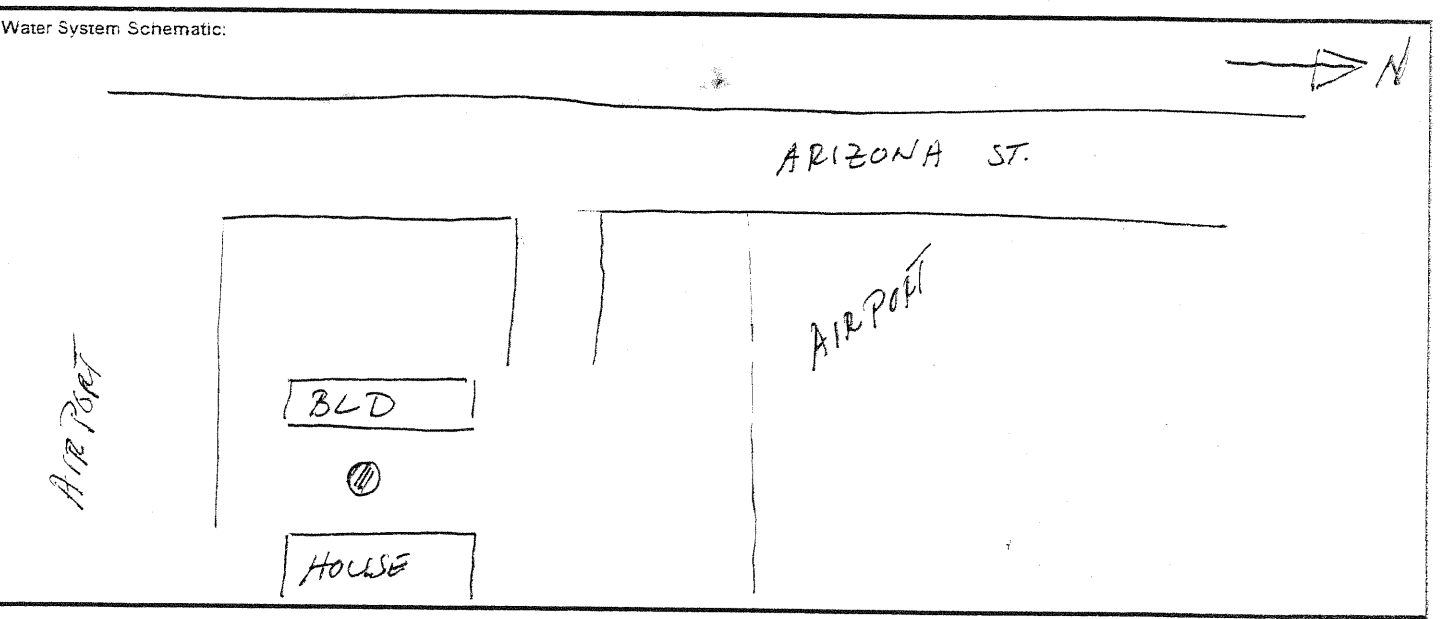
Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>NOTEMAN</u>	Date: <u>02/05/2008</u>
ADWR No. <u>212483</u>	Weather: <u>CLEAR</u>
Location: <u>Arizona St., Bisbee Junction</u>	Collected By: <u>AD/MA</u>

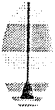
WELL DATA	
Well Depth (ft bis): <u>470</u>	Static Water Level (ft bmp): <u>330 (12-30-07)</u>
Casing Diameter (in): <u>5</u>	Date/Time: <u>02/05/2008</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>143 x 3 = 429 G</u> <u>429 ÷ 10 = 43 min</u>	GPS: UTM: <u>3471575 18 R 0606045</u>
	Elevation:

FIELD SAMPLING DATA								
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µScm)	Color	Odor	Comments
1155	10		6.74	12.2	1311	CLEAR	N	—
1200	"		6.71	19.9	1323			
1205	"		6.70	18.9	1307			
1210	"		6.70	19.9	1317			
<u>TOTAL DISCHARGE = 200 G.</u>								

SAMPLE INFORMATION							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>NOTEMAN</u>	<u>1215</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>N</u>	

Additional Comments: \_\_\_\_\_





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872002.2</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>Osborn</u>	Date: <u>02/25/08</u>
ADWR No. <u>643436</u>	Weather: <u>Sunny, windy</u>
Location: <u>2429 S. Swan Rd Bb AZ</u>	Collected By: <u>MA + KW</u>


### WELL DATA

Well Depth (ft bls): <u>258</u>	Static Water Level (ft bmp): <u>obstructed @ 5.5'</u>
Casing Diameter (in): <u>8</u>	Date/Time: <u>02/25/07 14:05</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>obstructed @ 5.5' TOE</u>
3 Casing Volumes: <u>est 73 x 221</u>	GPS: <u>UTM 3470274 12R 0607030</u>
	Elevation: <u>4712</u>

### FIELD SAMPLING DATA

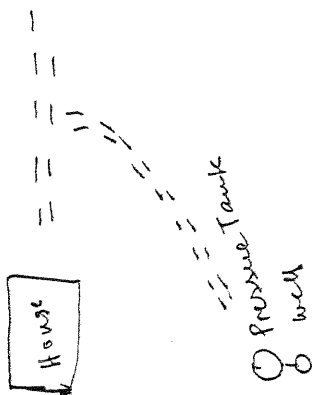
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
14:12	10	10	7.07	21.8	508	none	none	
14:15	10	40	7.31	22.2	506	"	"	
14:18	10	70	7.34	22.2	512	"	"	
14:21	10	100	7.34	22.5	510	"	"	
14:24	10	130	7.36	22.4	508	"	"	
14:27	10	160	7.35	22.4	508	"	"	

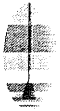
### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
OSBORNE 	14:30	Plastic	125/250/250	3	300.0	Y/N/N	

Additional Comments: \_\_\_\_\_

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872002.2</u>	Client: <u>HELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>PALMER</u>	Date: <u>2-14-08</u>
ADWR No. <u>55-578819</u>	Weather: <u>windy + sunny</u>
Location: <u>D-24-24-12 cbc</u> <u>off Beechcraft Rd</u>	Collected By: <u>KW + AP</u>

### WELL DATA

Well Depth (ft bis): <u>220</u>	Static Water Level (ft bmp): <u>cannot access</u>
Casing Diameter (in): <u>6</u>	Date/Time: <u>2-14-08 13:20</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>—</u>
3 Casing Volumes: <u>THE SAMPLE WAS</u> <u>TAKEN FROM THE TANK.</u>	GPS: <u>UTM 3469485 12R 0607775</u>
	Elevation: <u>4652</u>

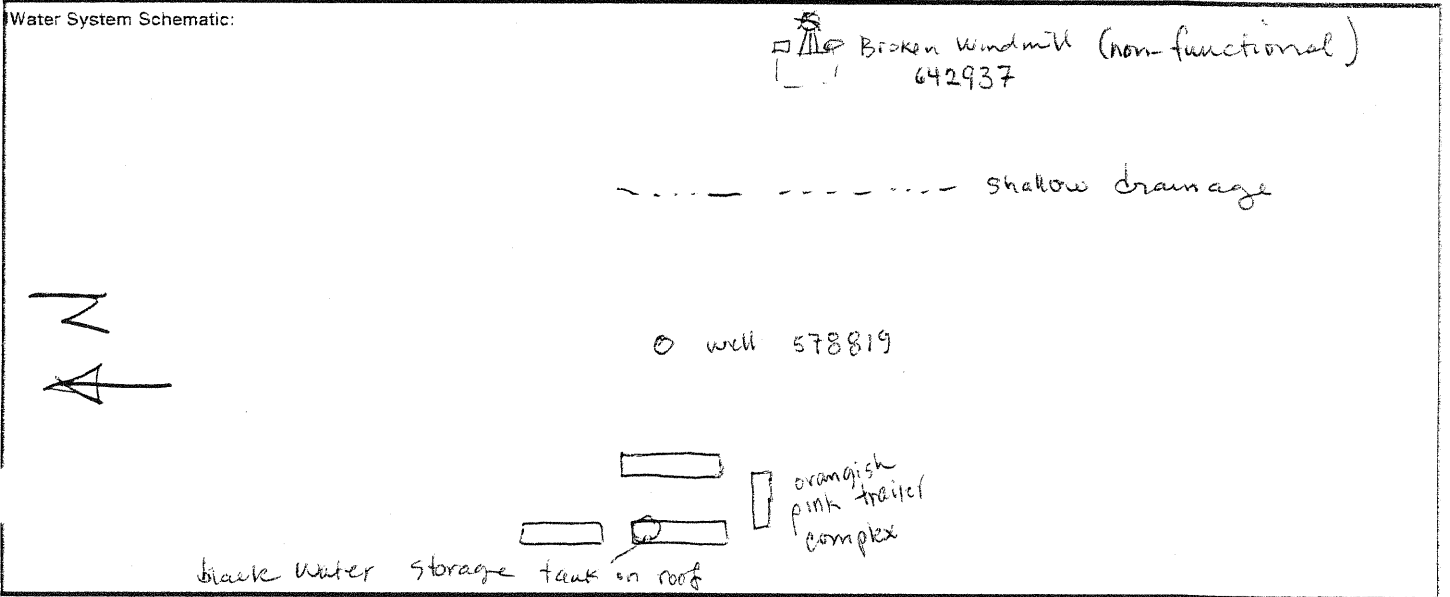
### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
13:40	—	NA	7.91	17.5	435	none	none	composite spl

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
PALMER 819	13:50	plastic	100/250/500	3	300-0	Y/N/N	composite from tank

Additional Comments: Note we are running full suite on water from 578819 because 642937 stated to be regional GWM well is non-functional. 578819 may lie on or outside 1 mile radius based on topography







# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872002.2</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>PANAGAKOS</u>	Date: <u>4-21-08</u>
ADWR No. <u>35-76413</u>	Weather: <u>Clear</u>
Location: <u>500 Purdy Lane</u>	Collected By: <u>MA</u>

### WELL DATA

Well Depth (ft bis): <u>200'</u>	Static Water Level (ft bmp): <u>No Access</u>
Casing Diameter (in): <u>8"</u>	Date/Time: <u>4-21-08 / 8:40</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>NA</u>	GPS: <u>3469317 12R 0605307</u>
	Elevation: <u>4694</u>

### FIELD SAMPLING DATA

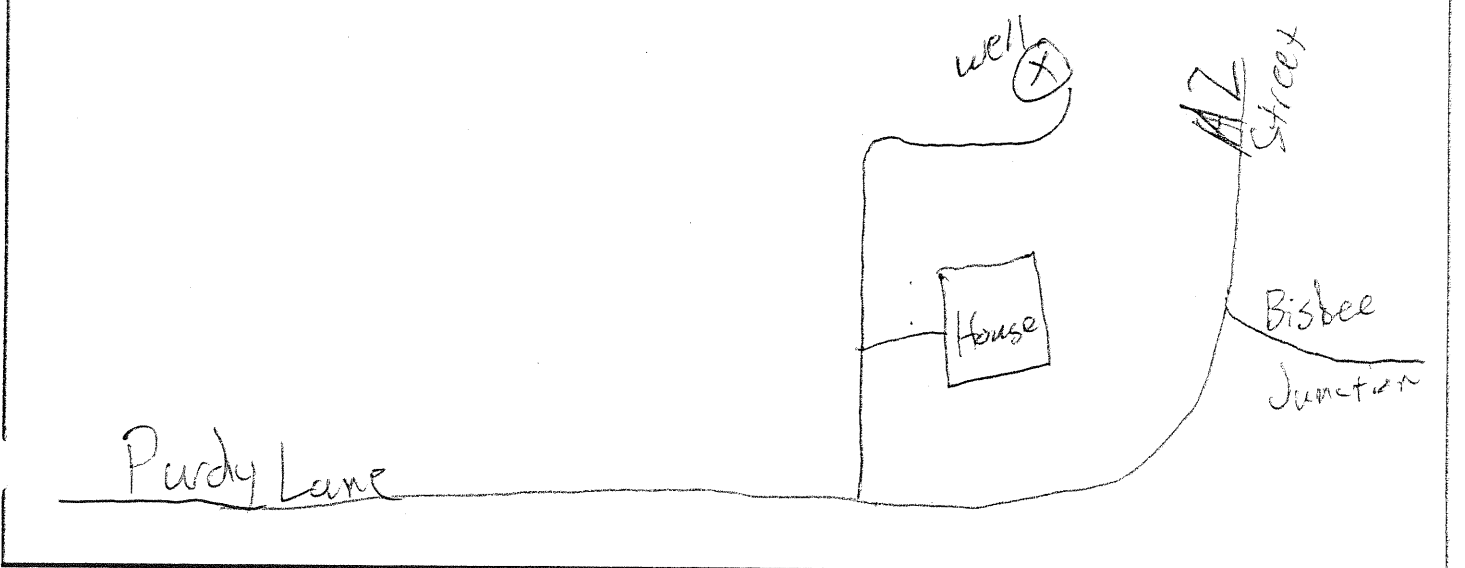
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
9:01	4 gpm	4	6.73	20.5	1226	Clear	None	Open bib at 9:00
9:04	"	16	6.77	20.6	1235	"	"	Pump is on
9:07	"	28	6.79	20.5	1236	"	"	
9:10	"	40	6.79	20.5	1232	"	"	
9:13	"	52	6.80	20.5	1228	"	"	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	Nc. of Containers	Analysis Method	Preservative	Notes
<u>PANAGAKOS</u>	<u>9:15</u>	<u>Plastic</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>None</u>	<u>Filtered</u>

Additional Comments: pump cycled twice during purge, and was running upon arrival

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>87001-0</u>	Client: <u>HELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>PARRA</u>	Date: <u>02/11/2008</u>
ADWR No. <u>576415</u>	Weather: <u>CLEAR</u>
Location: <u>2356 S. HOPE, NACO HWY</u>	Collected By: <u>AP / KW</u>

### WELL DATA

Well Depth (ft bls): <u>355'</u>	Static Water Level (ft bmp): <u>263' from 1999</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>02/11/2008</u>
Well Use: <u>DOMESTIC</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>135 X 3 = 405 - 10</u> <u>= 40 min</u>	GPS: UTM: <u>3471261 12 R 0602170</u>
	Elevation: <u>4726(ft)</u>

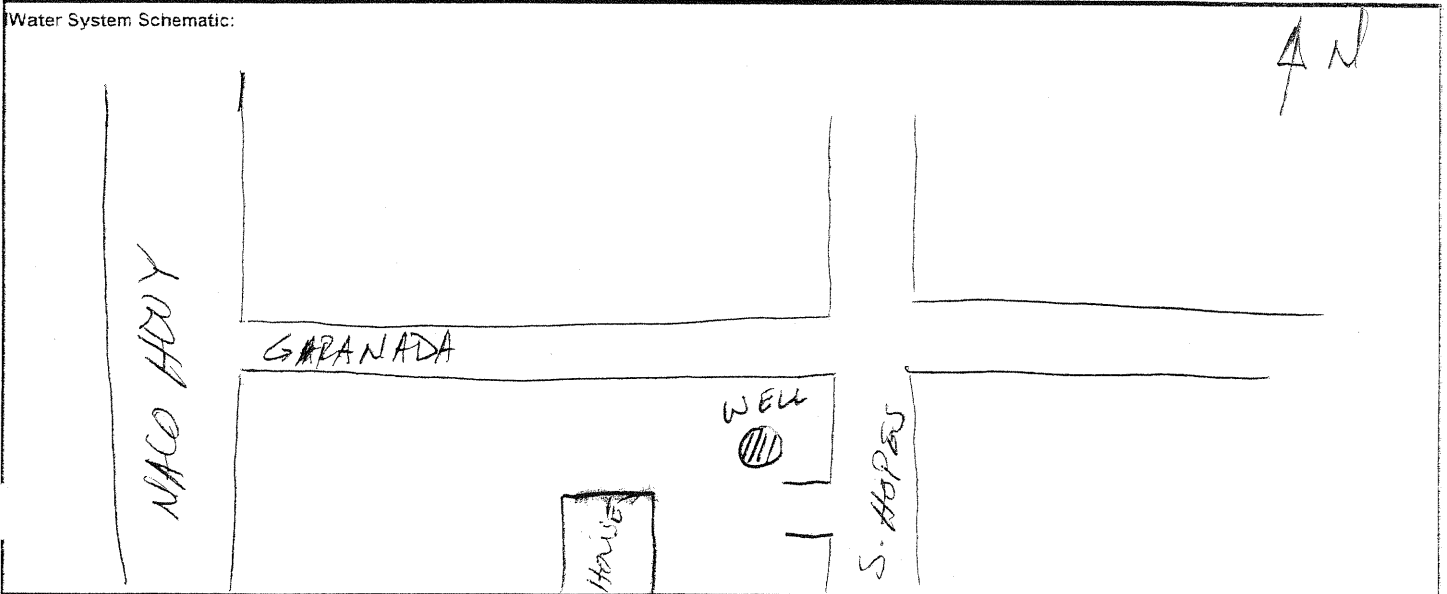
### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1257	10		7.47	34.3	1090	CLEAR	N	
01:02 pm	"		7.09	24.1	1063	"	"	
01:07 pm	"		7.10	22.1	1063	"	"	
01:12 pm	"		7.12	21.6	1064	"	"	
01:17 pm	"		7.11	21.7	1062	"	"	
01:23 pm	"		7.08	21.8	1067	"	"	
<b>TOTAL DISCHARGE = 260</b>								

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
PARRA	1330	PLASTIC	125/350 500	3	300-0	Y/N/N	N

Additional Comments: THE SAMPLES WERE COLLECTED AT 1330 DUE TO THE STABLE PARAMETERS AND THE PROPERTY WAS FLUATED.





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>PIONKE</u>	Date: <u>02/05/2008</u>
ADWR No. <u>013395</u>	Weather: <u>CLEAR</u>
Location: <u>1633 Purdy Lane Off Purdy Lane West of Naco Hwy</u>	Collected By: <u>AP/MA</u>

### WELL DATA

Well Depth (ft bis): <u>330'</u>	Static Water Level (ft bmp): <u>NA</u>
Casing Diameter (in): <u>8"</u>	Date/Time: <u>02/05/2008</u>
Well Use: <u>DOMESTIC</u>	Point of Measurement: <u>—</u>
3 Casing Volumes: <u>PURGED TILL STABLE</u>	GPS: UTM: <u>3468956 12R 06 01048</u>
	Elevation: <u>4592</u>

### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
0955	15		7.38	15	1096	CLEAR	N	—
1000	"		7.40	19.7	936	"	"	—
1005	"		7.41	20.2	1015	"	"	—
1007	"		7.45	18.9	991	"	"	—
1010	"		7.45	19.9	904	"	"	—
1012	"		7.47	19.7	964	"	"	—
1015	"		7.53	19.9	910	"	"	—

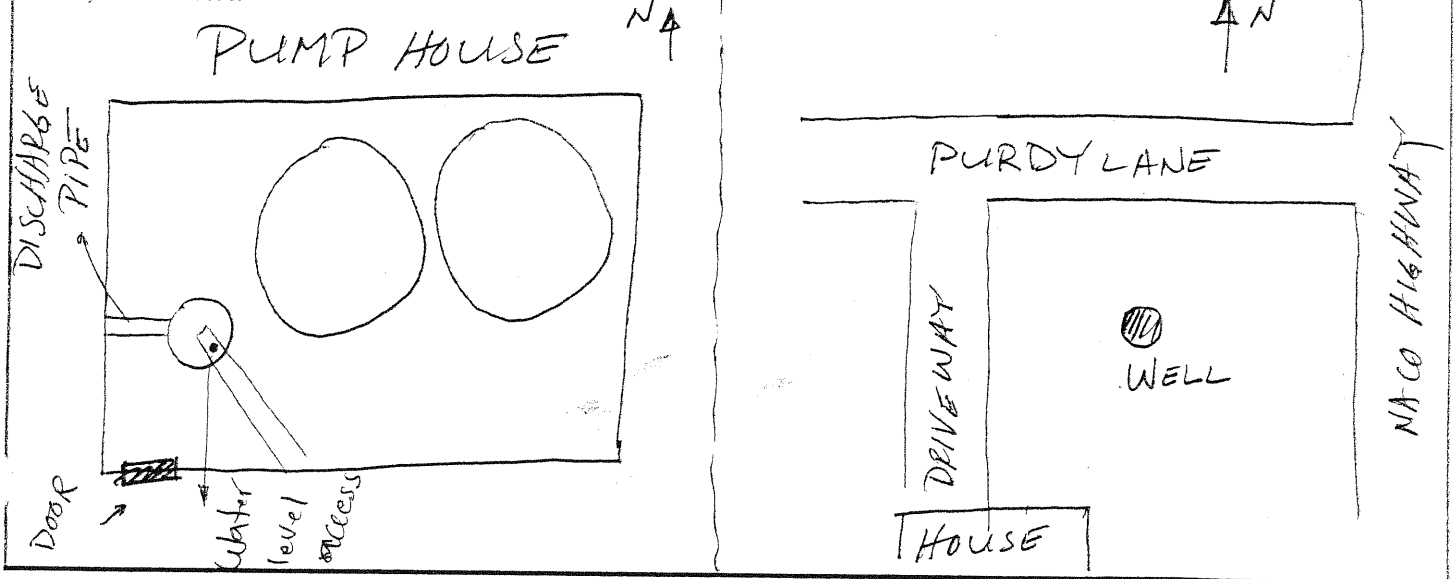
TOTAL DISCHARGE = 330 G.

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
AP PIONKE	1017	PLASTIC	500	1	300-0	N	

Additional Comments: CANNOT obtain W1 as the plug on well head is covered by discharge pipe. This site requires the use of 1 1/2" pipe reduced down for garden hose as the discharge, or sample port, to discharge away from pump house.

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>POOL</u>	Date: <u>2/20/08</u>
ADWR No. <u>SS-519508 509518</u>	Weather: <u>Cloudy Windy</u>
Location: <u>2831 Willson Rd</u> <u>Naco, AZ 85603</u>	Collected By: <u>Amverson</u>

### WELL DATA

Well Depth (ft bis): <u>313</u>	Static Water Level (ft bmp): <u>204.22</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>2-20-08/14:15</u>
Well Use: <u>Domestic Supply</u>	Point of Measurement: <u>Top of Casing</u>
Casing Volumes: <u>479 Gal</u>	GPS: <u>12R 0599682 UTM 347801S</u>
	Elevation: <u>4630' AMSL</u>

### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1430	12	12	7.96	20.5	496	Clear	None	OPENED PUMP 1429
1433	17	49	7.95	20.9	496			
1438	17	108	8.16	20.6	497			
1441	12	144	8.01	20.8	497			
1446	12	204	7.95	20.9	497	↓	↓	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
POOL	1450	Plastic	250ml	1	300.1	None	SO <sub>4</sub>

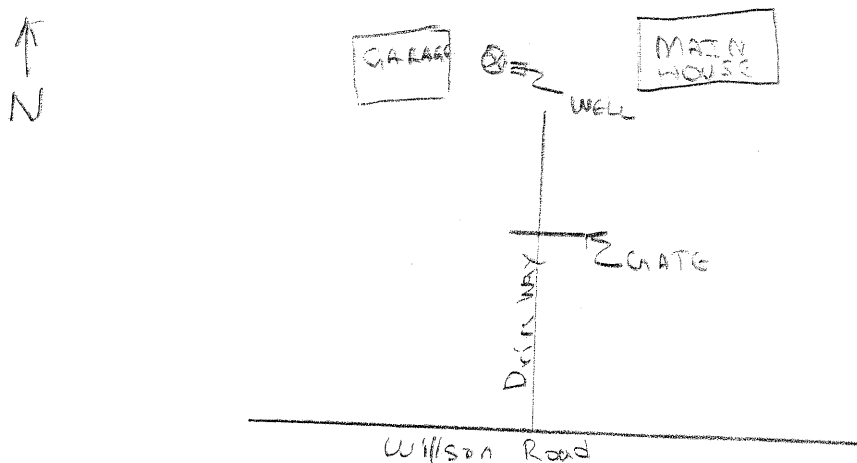
Additional Comments:

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Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>55-216425</u>	Date: <u>2-4-08</u>
ADWR No. <u>RAMIREZ</u>	Weather: <u>WINDY-CLOUDY</u>
Location: <u>Dominguez St. Nulo, AZ</u>	Collected By: <u>AP/MA</u>

### WELL DATA

Well Depth (ft bis): <u>300'</u>	Static Water Level (ft bmp): <u>NA</u>
Casing Diameter (in): <u>AP 6" 6"</u>	Date/Time: <u>02/04/2008</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>PURGE FOR STABILITY</u>	GPS: <u>UTM: 3467584 12 R 0599731</u>
	Elevation: <u>4594 ft</u>

### FIELD SAMPLING DATA

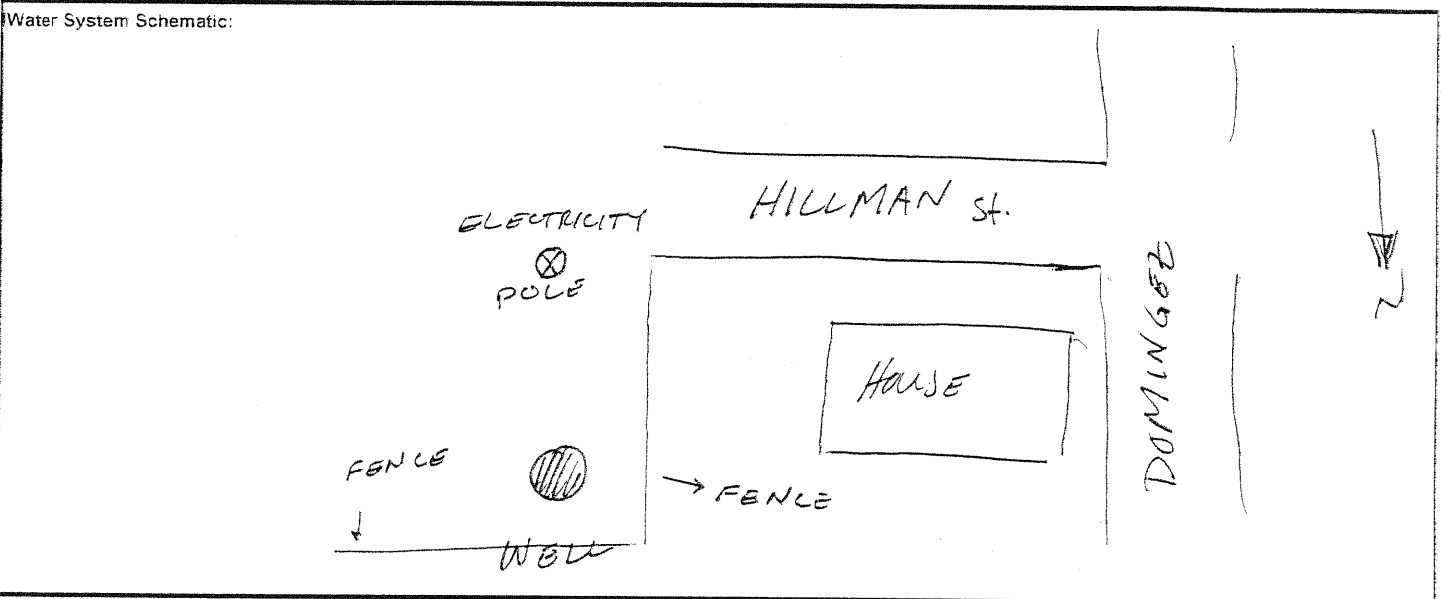
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
10:35	10	20	7.32	19.0	398	CLEAR	N	-
10:40	"	70	7.44	21.0	399	"	"	-
10:45	"	120	7.46	21.8	408	"	"	-
10:50	"	170	7.48	20.7	403	"	"	-
10:55	"	230	7.47	21.7	408	"	"	-

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
RAMIREZ	11:00	PLASTIC	250	1	300-0	N	

Additional Comments: \_\_\_\_\_

\_\_\_\_\_





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>RAY</u>	Date: <u>15 Feb 08</u>
ADWR No. <u>803772</u>	Weather: <u>RAIN</u>
Location: <u>648 E MULBERRY LN</u>	Collected By: <u>KW &amp; AP</u>

### WELL DATA

Well Depth (ft bis): <u>100'</u>	Static Water Level (ft bmp): <u>40.85</u>
Casing Diameter (in): <u>8"</u>	Date/Time: <u>15 Feb 08 9:48</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>154 x 3 = 462</u>	GPS: <u>UTM 3469200 12R 0607083</u>
	Elevation: <u>4652</u>

### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
10:00	10	0	7.28	14.3	1587	clear	none	v. few flakes of rust
10:04	"	40	7.30	18.7	1609	"	"	"
10:10	"	100	7.31	17.9	1586	"	"	clean
10:14	"	140	7.33	19.1	1558	"	"	"
10:19	"	190	7.33	18.8	1556	"	"	"
10:24	"	240	7.30	19.1	1540	"	"	few rusty flakes

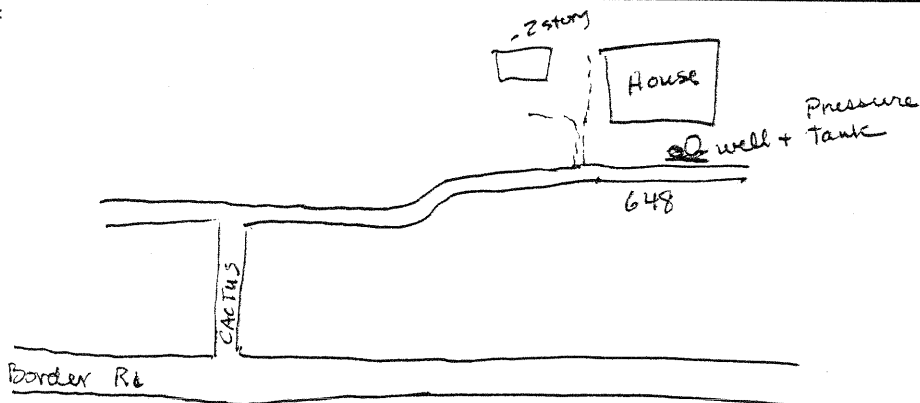
### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
RAY	10:30	plastic	250	1	300.0	NO	

Additional Comments: \_\_\_\_\_

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### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>ROGERS 803</u>	Date: <u>2-7-08</u>
ADWR No. <u>641803</u>	Weather: <u>Clear</u>
Location: <u>Mule Deer Rd</u> <u>Naco, AZ</u>	Collected By: <u>AP/MA</u>

### WELL DATA

Well Depth (ft bis): <u>300'</u>	Static Water Level (ft bmp): <u>129.85</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>2-7-08</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>TUC</u>
3 Casing Volumes: <u>250 x 3 = 750</u>	GPS: <u>3468416 12R 600980</u>
	Elevation: <u>4566</u>

### FIELD SAMPLING DATA

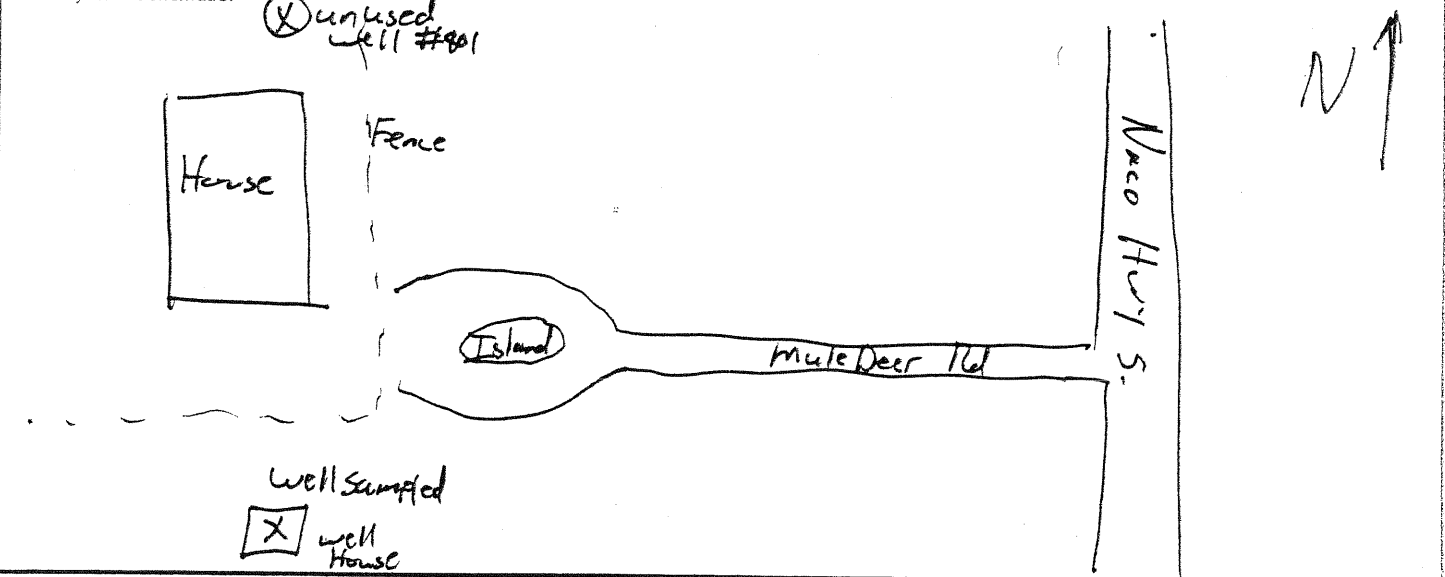
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1358	10		7.34	17.4	451	Clear	No	
1400	"		7.41	17.1	448	"	"	
1403	"		7.52	17.9	443	"	"	
1408	"		7.58	19.0	443	"	"	
1413	"		7.53	19.5	449	"	"	
1418	"		7.52	19.8	455	"	"	
<u>Total Discharge 200 gal</u>								

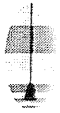
### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>ROGERS 803</u>	<u>14:20</u>	<u>Plastic</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>N</u>	

Additional Comments: Could not purge for full 75 min as the yard is flooding

### Water System Schematic:





# HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No. <u>272001.0</u>	Client: <u>HELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>ROGERS E</u>	Date: <u>02/04/2008</u>
ADWR No. <u>55-216018</u>	Weather: <u>WINDY - CLEAR</u>
Location: <u>Dominguez/Rogers St. Naco, AZ</u>	Collected By: <u>ALI / MARK A</u>

### WELL DATA

Well Depth (ft bis): <u>285</u>	Static Water Level (ft bmp): <u>NM (OBSTRUCTION)</u>
Casing Diameter (in): <u>8"</u>	Date/Time: <u>02/04/2008 / 9:00 AM</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>365x3 = 1096</u>	GPS: <u>XR UTM: 3467634 R: 0600464</u>
<u>Q15gpm = 73 min purge</u>	Elevation: <u>4607 (ft) 12</u>

### FIELD SAMPLING DATA

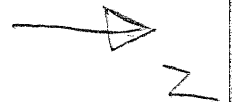
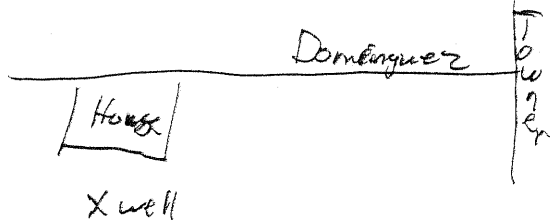
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
0915	15		7.30	20.2	434	CLEAR	N	
0918	N		7.35	19.9	432	"	"	
0925	N		7.33	20.4	436	"	"	
0930	N		7.40	20.9	436	"	"	
0935	N		7.40	21.0	435	"	"	
<u>TOTAL DISCHARGE = 375 G</u>								

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>ROGERSE</u>	<u>0930</u>	<u>Plastic</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>None</u>	

Additional Comments: Pump turned on at 917  
No other wells on property.

### Water System Schematic:







HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>RUIZ</u>	Date: <u>02/05/2008</u>
ADWR No. <u>531770</u>	Weather: <u>CLEAR</u>
Location: <u>S. Barnett Rd San Jose</u>	Collected By: <u>M/A</u>

WELL DATA

Well Depth (ft bis): <u>312</u>	Static Water Level (ft bmp): <u>293.29</u>
Casing Diameter (in): <u>6</u>	Date/Time: <u>02/05/2008</u>
Well Use: <u>Domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>6945 27.9 x 3 = 846</u>	GPS: <u>UTM 3471414 12 R 0602852</u>
<u>@ 15 gpm = 6 min purge</u>	Elevation: <u>4749</u>

FIELD SAMPLING DATA

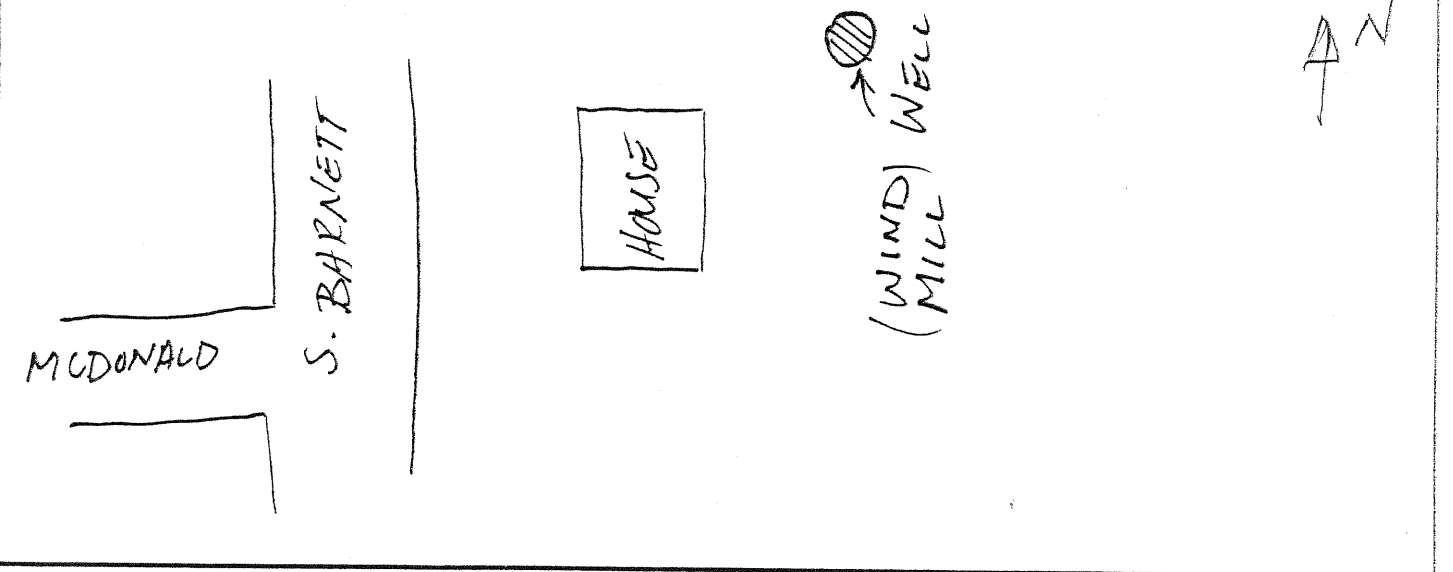
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µScm)	Color	Odor	Comments
0830	15		7.56	16.9	4.53	CLEAR	N	
0840	"		7.58	18.8	4.34			
0850	"		7.64	19.6	9.96			
0855	"		7.73	18.2	4.45			
<u>TOTAL DISCHARGE = 300 G.</u>								

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>RUIZ</u>	<u>8:50</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>N</u>	

Additional Comments: \_\_\_\_\_

Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001.0</u>	Client: <u>HELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>SCHWARTZ</u>	Date: <u>02/08/2008</u>
ADWR No. <u>210865</u>	Weather: <u>CLEAR</u>
Location: <u>3468 S. Clubview Terrace</u> <u>Naco, AZ</u>	Collected By: <u>AP/MA</u>

### WELL DATA

Well Depth (ft bis): <u>305'</u>	Static Water Level (ft bmp): <u>121.80</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>02/08/2008</u>
Well Use: <u>DOMESTIC</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>269x3 = 806 ÷ 15 =</u> <u>54 min purge @ 15 gpm</u>	GPS: UTM <u>3468270 12R 0600813</u>
	Elevation: <u>4567</u>

### FIELD SAMPLING DATA

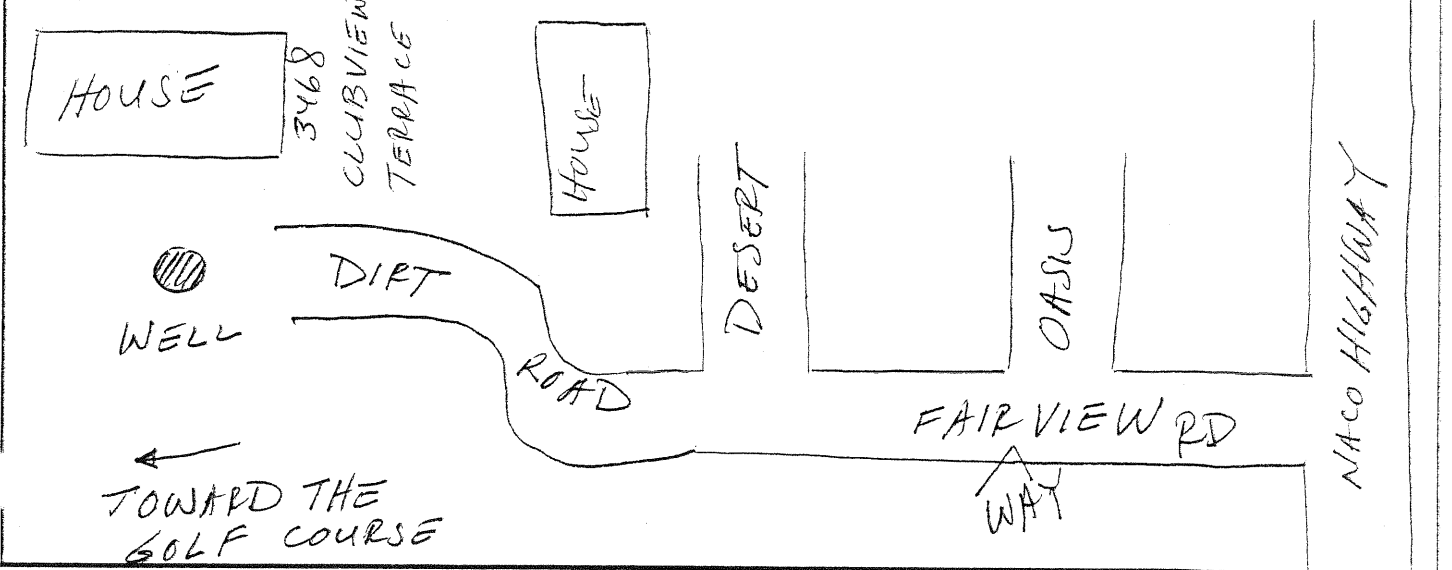
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
1007	15	15	7.55	20.4	509	clear	None	
1009	"	45	7.49	21.2	510	"	"	
1011	"	75	7.50	21.4	504	"	"	
1015	"	135	7.52	21.7	507	"	"	
1020	"	210	7.47	21.8	506	"	"	
1026	"	300	7.46	21.7	505	"	"	
1028	"	330	7.52	21.5	506	"	"	

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>SCHWARTZ</u>	<u>1030</u>	<u>Plastic</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>None</u>	<u>Filtered</u>

Additional Comments: Only this one well on property

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No.	872001.0	Client:	PHELPS DODGE COPPER QUEEN BRANCH
Well ID:	SWAN	Date:	2-13-08
ADWR No.	No Record	Weather:	Sunny & Windy
Location:	2601 SWAN Rd Bisbee, AZ	Collected By:	AP/KW

### WELL DATA

Well Depth (ft b/s):	98	Static Water Level (ft bmp):	26.50
Casing Diameter (in):	4	Date/Time:	2-13-08 12:45
Well Use:	domestic	Point of Measurement:	TOC
3 Casing Volumes:	47x3 = 141	GPS:	UTM 3470649 12R 607378
		Elevation:	4694

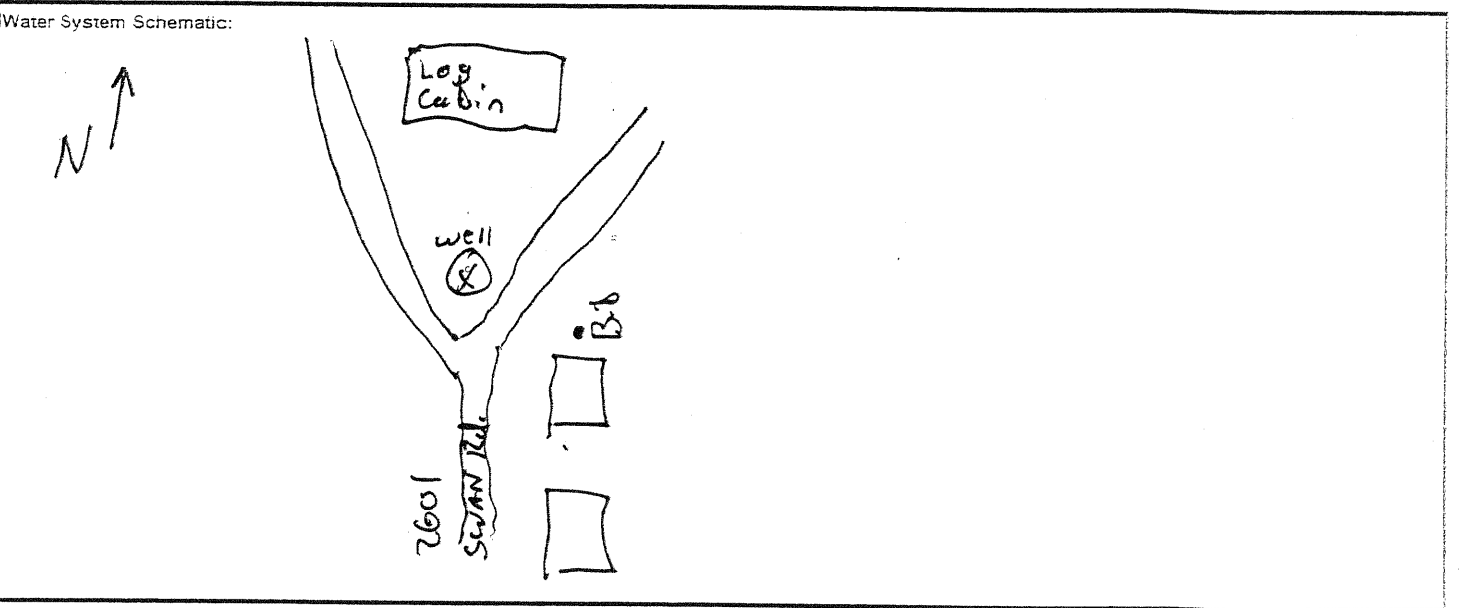
### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
12:57	10		7.24	19.5	455	clear	No	Few brn sed flakes
13:01	"		7.29	20.5	458	"	"	very few brn sed flakes
13:04	"		7.26	20.6	458	"	"	clear, no sediment
13:07	"		7.26	20.2	459	"	"	"
13:11	"		7.28	20.7	467	"	"	"

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
SWAN	13:15	plastic	1250/500	3	300.0	Y/N/N	

Additional Comments: well depth est. based on owner. 4 houses using this well.





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No.	872001.0	Client:	PHELPS DODGE COPPER QUEEN BRANCH
Well ID:	TM-08 SWAN	Date:	2-13-08
ADWR No.	55-522817	Weather:	Sunny, windy; becoming cloudy
Location:	2594 Windmill Ranch Rd (off of Swan Rd)	Collected By:	AW/AP

### WELL DATA

Well Depth (ft bis):	817	Static Water Level (ft bmp):	unable to measure (>500')
Casing Diameter (in):	4"	Date/Time:	2/13/08 13:36
Well Use:	domestic	Point of Measurement:	TOC
3 Casing Volumes:	123 x 3 = 369	GPS:	3470668 12R 607788
		Elevation:	4701

### FIELD SAMPLING DATA

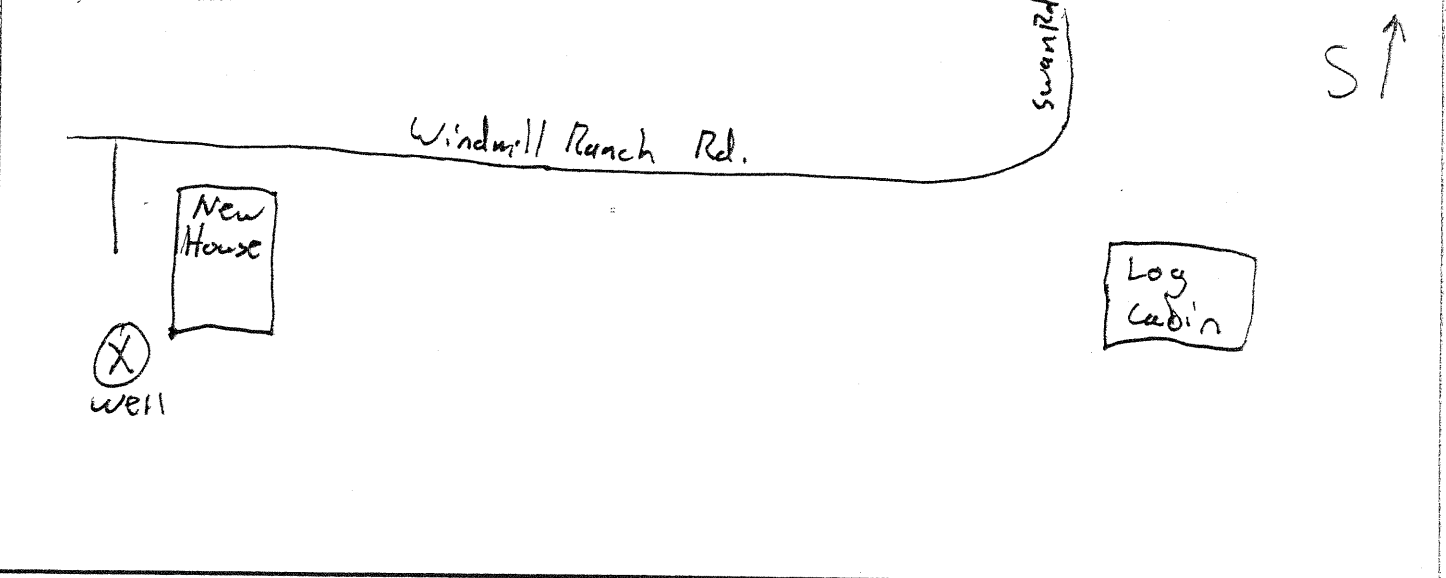
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µScm)	Color	Odor	Comments
13:55	10		7.63	25.2	511	clear	No	Sampled from Tank

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
TM-08 SWAN	14:05	Plastic	125/250/500	3	300.0	Y/N/N	

Additional Comments: At the request of owner, sample was taken from 1000 gal tank which was filled on 2-11-08

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No.	872001.0	Client:	PHELPS DODGE COPPER QUEEN BRANCH
Well ID:	WEED	Date:	2-14-08
ADWR No.	544535	Weather:	Windy, dusty
Location:	1463 Hull Ranch Rd. Naco, AZ	Collected By:	AP/KW

### WELL DATA

Well Depth (ft bls):	300	Static Water Level (ft bmp):	No Access
Casing Diameter (in):	NA	Date/Time:	2-14-08 14:40
Well Use:	domestic	Point of Measurement:	NA
3 Casing Volumes:	NA	GPS:	3470976 12R 601415
		Elevation:	4682

### FIELD SAMPLING DATA

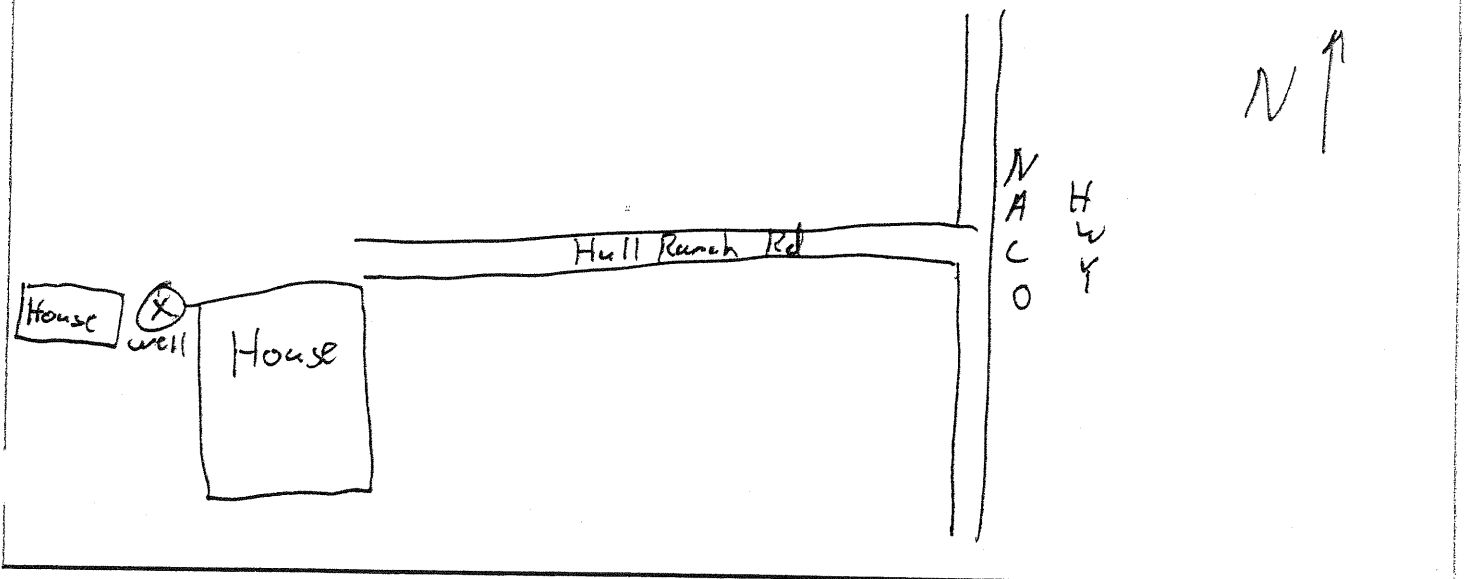
Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
14:52	NA	NA	7.74	21.7	323	clear	no	few rusty sediment

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
WEED	15:10	Plastic	250	1	300.0	N	

Additional Comments: owner reports well depth at 300' and w/ @ about 250' bls  
 This well replaces 1915 well #606854. Other 1915 well #606855 w/ depth of 400' is not in use

### Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872002.2</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>WEISKOPF</u>	Date: <u>15 Feb 08</u>
ADWR No. <u>641802</u>	Weather: <u>RAIN + Wind</u>
Location: <u>3316 S. Naco Hwy</u>	Collected By: <u>KW &amp; AD</u>

### WELL DATA

Well Depth (ft bis): <u>200</u>	Static Water Level (ft bmp): <u>143.31</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>15 Feb 08 8:01</u>
Well Use: <u>domestic</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>83 x 3 = 251</u> <u>25</u>	GPS: <u>KW 4602 UTM 3468667</u> <u>12R 0601147</u>
	Elevation: <u>4602</u>

### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µS/cm)	Color	Odor	Comments
8:15	10		7.17	15.8	997	clear	none	few rusty flakes
8:17	"		7.28	16.4	1000	"	"	" " "
8:19	"		7.39	19.0	995	"	"	clear
8:22	"		7.52	19.6	910	"	"	"
8:24	"		7.51	19.8	965	"	"	"
8:28	"		7.51	20.2	1024	"	"	"
8:31	"		7.50	20.2	1048	"	"	"
8:34	"		7.50	20.0	1069	"	"	"
8:37	"		7.48	20.0	1072	"	"	"
		<u>220 gal</u>						

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>WEISKOPF</u>	<u>8:40</u>	<u>plastic</u>	<u>25/100/200</u>	<u>3</u>	<u>300.0</u>	<u>Y/N/W</u>	<u>—</u>

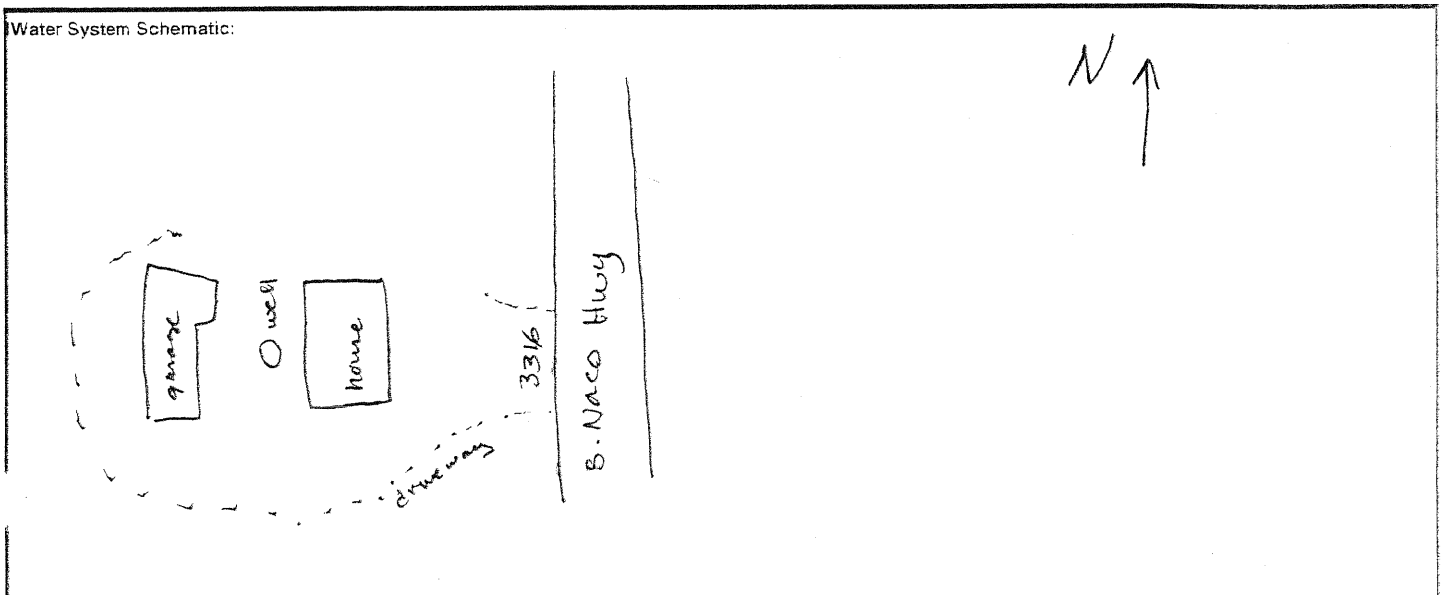
Additional Comments:

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Water System Schematic:





# HYDRO GEO CHEM, INC.

## Groundwater Sampling Form

Project No. <u>872001-0</u>	Client: <u>PHELPS DODGE COPPER QUEEN BRANCH</u>
Well ID: <u>ZANDER</u>	Date: <u>02/04/2008</u>
DWR No. <u>205126</u>	Weather: <u>RAINY-CLOUDY</u>
Location:	Collected By: <u>API/MA</u>

### WELL DATA

Well Depth (ft bis): <u>280'</u>	Static Water Level (ft bmp): <u>144.85</u>
Casing Diameter (in): <u>6"</u>	Date/Time: <u>02/04/2008</u>
Well Use: <u>DOMESTIC</u>	Point of Measurement: <u>TOC</u>
3 Casing Volumes: <u>198X3 = 595 @ 15 gpm</u> <u>40 min purge</u>	GPS: UTM: <u>3468003 12 R 0599677</u>
	Elevation: <u>4566</u>

### FIELD SAMPLING DATA

Time	Discharge Rate (gpm)	Total Discharge (gallons)	pH	Temp (°C)	Specific Conductance (µScm)	Color	Odor	Comments
02:30	20	40	7.07	17.1	395	CLEAR	N	
02:35	"	140	7.13	19	391	"	"	
02:40	"	240	7.14	19.8	395	"	"	
02:50	"	440	7.21	20.2	392	"	"	
02:55	"	540	7.24	19.7	392	"	"	

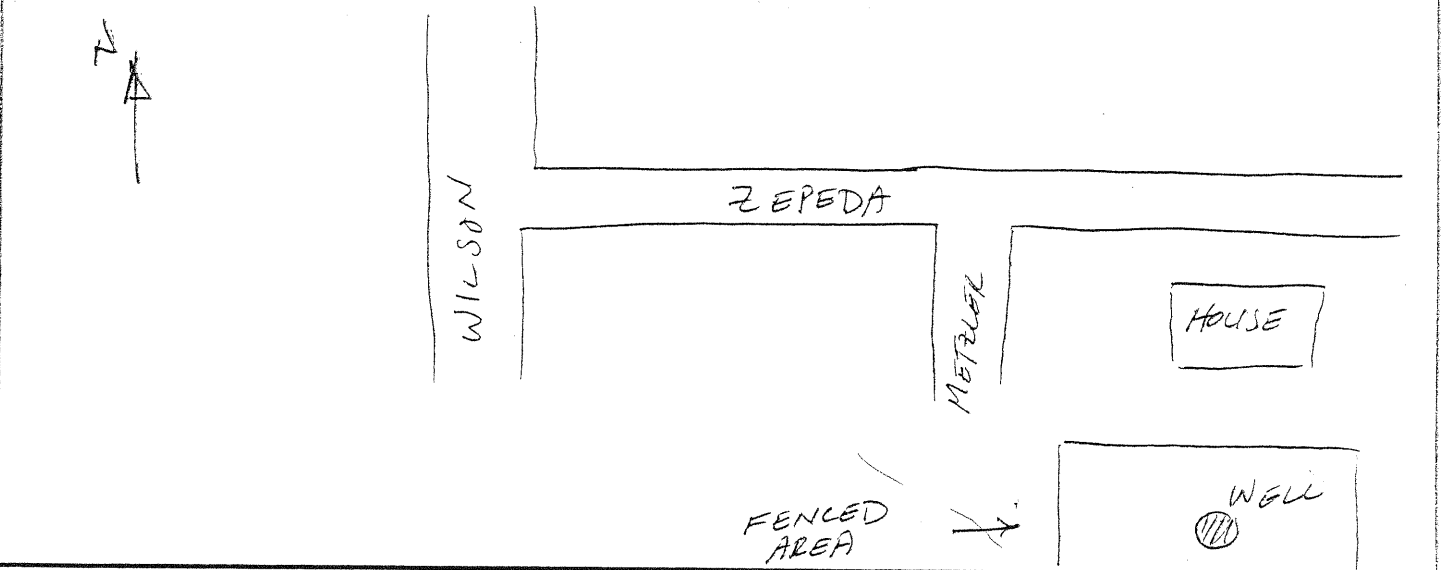
TOTAL DISCHARGE = 600 GALLONS

### SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>ZANDER</u>	<u>1500</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>N</u>	

Additional Comments: \_\_\_\_\_

### Water System Schematic:



**APPENDIX E**

**ANALYTICAL DATA FROM ARIZONA WATER COMPANY**







**ARIZONA WATER COMPANY**  
**BISBEE WATER QUALITY DATA**

<b>System</b>	<b>PWSID</b>	<b>Site Name</b>	<b>Sample Date</b>	<b>Contaminant</b>	<b>Result in mg/L</b>
BE	02001	Well #5	04-Feb-08	Sulfate	13



**APPENDIX F**

**FREEPORT-MCMORAN COPPER QUEEN BRANCH  
INTERIM ACTION REPORT**



Copper Queen Branch/Freeport-McMoRan Corporation  
36 West Highway 92  
Bisbee, Arizona 85603

May 22, 2008

Robert Casey  
Water Enforcement Unit  
Arizona Department of Environmental Quality  
1110 West Washington Street  
Phoenix, Arizona 85007

**RE: Interim Action Report**

Dear Mr. Casey:

In accordance with Mitigation Order on Consent, Docket No. P-121-07 (MO) between Freeport-McMoRan Corporation, Copper Queen Branch (f/k/a Phelps Dodge Corporation Copper Queen Branch) (Freeport) and Arizona Department of Environmental Quality (ADEQ), if the average sulfate concentration of a drinking water supply is found to exceed 250 milligrams per liter (mg/L) sulfate, interim actions selection and implementation will begin immediately.

In addition, the MO requires an interim action report to ADEQ within 30 days of implementing an interim action. The report shall *"state the name of the owner(s)/operator(s) of the affected well, the location and type of well (public or private) affected, and the interim action selected."*

Forty wells verified as drinking water supply wells were sampled for sulfate between February and April 2008. Thirteen private wells contained sulfate concentrations greater than the 250 mg/l limit set by the MO. Residents using ten of the thirteen wells were already receiving bottled water. As an interim action for the three wells used by residents who were not already receiving bottled water, Freeport has elected to provide bottled water to residents using private wells where sulfate concentrations exceed 250 mg/L. The attached table provides the information required on the affected wells.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Jaworski".

Michael Jaworski  
Site Manager  
Copper Queen Branch

Attachment

TABLE 1  
Interim Action Report

Owner	ADWR Program 55 ID	UTM N	UTM E	Address	City	State	Zip Code	Well Type	Sulfate (mg/l)	Interim Action Selected
Anderson, David	613396	3468816.100	601134.726	3272 South Naco Highway	Bisbee	Arizona	85603	Private	431	Provide Bottled Water <sup>1</sup>
Cooper, Charles	637069	3468913.044	601349.985	1497 West Purdy Lane	Bisbee	Arizona	85603	Private	880	Provide Bottled Water <sup>1</sup>
Franco, Irma	500101	3468835.683	602849.900	3245 South Franco Loop	Bisbee	Arizona	85603	Private	670	Provide Bottled Water <sup>1</sup>
Hoban, Barbara	805290	3468880.359	601705.844	1385 Purdy Lane	Bisbee	Arizona	85603	Private	510	Provide Bottled Water <sup>1</sup>
Howard, Joel	NR	3468768.655	601281.932	3269 South Naco Highway	Bisbee	Arizona	85603	Private	571	Provide Bottled Water <sup>1</sup>
McConnell, Virginia	539265	3468840.174	601463.091	1463 Purdy Lane	Bisbee	Arizona	85603	Private	720	Provide Bottled Water <sup>1</sup>
Metzler, Alfonso	35-71891	3471381.200	602091.309	2313 Sunflower Lane	Bisbee	Arizona	85603	Private	317	Provide Bottled Water <sup>1</sup>
Noteman, Russell	551849	3471576.420	606053.795	2247 Arizona Street	Bisbee	Arizona	85603	Private	310	Provide Bottled Water
Panagakos, Alfred	35-76413	3469320.987	605311.680	500 West Purdy Lane	Bisbee	Arizona	85603	Private	410	Provide Bottled Water
Parra, Steve	576415	3471263.571	602170.711	2356 South Hope Street	Bisbee	Arizona	85603	Private	360	Provide Bottled Water <sup>1</sup>
Plonke, Jim	613395	3468836.647	600936.285	1633 West Purdy Lane	Naco	Arizona	85620	Private	394	Provide Bottled Water <sup>1</sup>
Ruiz, David	531770	3471424.239	602857.358	2295 South Barnett Road	Bisbee	Arizona	85603	Private	263	Provide Bottled Water <sup>1</sup>
Weiskopf, Tom	641802	3468658.887	601154.948	3316 Naco Highway	Bisbee	Arizona	85603	Private	500	Provide Bottled Water

ADWR = Arizona Department of Water Resources  
UTM = Universal Transverse Mercator, Zone 12 Band R  
mg/l = milligrams per liter  
NR = No Record  
35-70000 = ADWR Program 35 Database  
<sup>1</sup> Resident receiving bottled water prior to well inventory investigation