



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

### Pump Installation Completion Report

CR-266A  
 MAY 26 2010

FILE NUMBER  
**D(14-13) 14 CAA**  
 WELL REGISTRATION NUMBER  
**55-581135**

- 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>CITY OF TUCSON/OFFICE OF ENVIRONMENTAL MGMT</b>	WELL LOCATION ADDRESS (IF KNOWN) <b>NONE</b>
MAILING ADDRESS <b>PO BOX 27210</b>	TOWNSHIP (NS)   RANGE (EW)   SECTION   1/40 ACRE   40 ACRE   10 ACRE <b>14S   13E   14   SW 1/4   NE 1/4   NE 1/4</b>
CITY / STATE / ZIP <b>TUCSON, AZ 85726</b>	COUNTY ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK   MAP   PARCEL <b>116   23   090A</b>
CONTACT PERSON NAME AND TITLE <b>Molly Collins Project Coordinator</b>	COUNTY WHERE WELL IS LOCATED <b>Pima</b>
TELEPHONE NUMBER <b>520-791-5414</b>	FAX <b>520-791-5412</b>

#### SECTION 2. EQUIPMENT INSTALLED

DATE PUMP INSTALLED <b>5/18/10</b>	<b>Pitless Adaptor</b> CHECK ONE (SEE INSTRUCTIONS FOR DEFINITION) Was a pitless adaptor installed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Pump 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)	IF YES, DEPTH BELOW GROUND LEVEL THE DEVICE WAS INSTALLED _____ Feet
RATED PUMP CAPACITY <b>25</b> Gallons Per Minute	<b>Power Type</b> CHECK ONE <input type="checkbox"/> Diesel Engine <input type="checkbox"/> Natural Gas <input checked="" type="checkbox"/> Electric Motor <input type="checkbox"/> Windmill <input type="checkbox"/> Gasoline Engine <input type="checkbox"/> Other (please specify) <input type="checkbox"/> Hand
	HORSE POWER RATING OF MOTOR <b>3 HP</b>

#### SECTION 3. WELL TEST

Pump Test Data	Method of Discharge Measurement	Method of Measuring Water Level
DATE WELL TESTED	CHECK ONE	CHECK ONE
STATIC WATER LEVEL (A) Feet Below Land Surface	<input type="checkbox"/> Bailer <input 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)	<input type="checkbox"/> Air Line <input type="checkbox"/> Electric Measuring Line (Sounder) <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other (please specify)
PUMPING WATER LEVEL (B) Feet Below Land Surface		
DRAWDOWN [(B) - (A)]		
TEST PUMPING RATE Gallons Per Minute		
DURATION OF PUMP TEST (Minimum 4 Hours) Hours		
TOTAL PUMPING LIFT Feet		
FOR FLOWING WELL, MEASURED SHUT IN HEAD <input type="checkbox"/> FT <input type="checkbox"/> PSI		

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

**JEFF DAWM**

*[Handwritten Signature]*

DATE

**5/26/10**

*[Handwritten Signature]*



CITY OF  
TUCSON

ENVIRONMENTAL  
SERVICES



May 24, 2010

**VIA CERTIFIED U.S. MAIL**

Lori Cason  
Arizona Department of Water Resources  
Water Management Support Section  
P.O. Box 33589  
Phoenix, AZ 85067-3589

**Subject: Pump Installation Completion Report Well # 55-581135 at the Mission Gardens, Tucson, Arizona 85745**

Dear Ms. Cason:

Attached please find the Pump Installation report for Arizona Department of Water Resources (ADWR) Well ID #55-581135 (WR-366A). The well was modified by removing the top 2-feet of casing and encasing the well in an 18-inch, traffic rated vault in accordance with the Notice of Intent to Modify submitted to ADWR on February 23, 2010. If you have any questions, please contact Molly Collins at (520) 873-3703.

Sincerely,

Nancy Petersen  
Deputy Director

JD/MC/mv

Enclosures  
Pump Installation Report

cc: WR-366A Well File

S:\EMCOMMON\Rio Nuevo\Correspondence\ADWR\pumpinstallrpt.doc



**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: 55-581135

*WR-366A*

AUTHORIZED DRILLER: DRILLING SERVICES, INC.

LICENSE NO: 739

NOTICE OF INTENTION TO MODIFY A MONITOR WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: CITY OF TUCSON/OFFICE OF ENVIRONMENTAL MGMT PO BOX 27210 TUCSON, AZ 85726

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

NE ¼ OF THE NE ¼ OF THE SW ¼ SECTION 14 TOWNSHIP 14 SOUTH RANGE 13 EAST

NO. OF WELLS IN THIS PROJECT: 1

ASSESSOR PARCEL NO: 116-23-090A

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 24TH DAY OF FEBRUARY, 2011

WATER MANAGEMENT SUPPORT

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



**ARIZONA DEPARTMENT OF WATER RESOURCES**

3550 N. Central Avenue, Phoenix, Arizona 85012  
Telephone (602) 771-8500  
Fax (602) 771-8691



**Janice K. Brewer**  
Governor

**Herbert R. Guenther**  
Director

March 02, 2010

CITY OF TUCSON/OFFICE OF ENVIRONMENTAL MGMT  
PO BOX 27210  
TUCSON, AZ 85726 - 7210

Registration No. 55-581135  
File No. D(14-13) 14 CAA

Dear Well Owner:

Enclosed for your records is an annotated copy of the Notice of Intention to Drill (NOI) a Monitor/Piezometer/Environmental Well, which 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 a drilling card authorizing the drilling of the well to your designated well drilling contractor. The driller may not begin drilling until he has received the drilling card, which he must keep in his possession at the well site 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 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. A properly amended drilling card will then be issued and must be in the possession of the well drilling contractor before drilling begins.

Since this well is being drilled as a monitor or piezometer well, or for remediation purposes, our standard Well Driller Report and Well Log form (DWR form 55-55) is being furnished to the well drilling contractor. This form must be filed with the Department within 30 days after completion of the well. A Pump Installation Completion Report form (DWR form 55-56) is being furnished to the well owner for monitor wells where a pump installation is authorized. This must be completed within 30 days of installing a pump as required by A.R.S. § 45-600. During the drilling of a new well, if it is determined that it must be abandoned, then a Well Abandonment Completion Report (DWR form 55-58) must be submitted per R12-15-816(F).

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 of ownership of the well and/or information pertaining to the physical characteristics of the well, in order to keep the 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), which is enclosed for your future use.

Sincerely,

Patty Curtis  
NOI Unit  
Water Management Support Section

Enclosures

10/5/0289  
\$150

 <b>Arizona Department of Water Resources</b> Water Management Support Section P.O. Box 33589 Phoenix, Arizona 85067-3589 (602) 771-8500 • (800) 352-8488 www.azwater.gov	FEB 25 2010 <b>Notice of Intent to</b> <b>Drill, Deepen, or Modify a</b> <b>Monitor / Piezometer / Environmental Well</b> WR-366A	<b>\$150 FEE</b>

- Review instructions prior to completing form in black or blue ink.
- You must include with your Notice:
  - \$150 check or money order for the filing fee.
  - Well construction diagram, labeling all specifications listed in Section 6.
- Authority for fee: A.R.S. § 45-596.

RECEIVED DATE <b>2/25/10</b>	TUCSON TUC 16 WS 09	FILE NUMBER <b>D(14-13)14CAA</b>
ISSUED DATE <b>3/2/10</b>	WQAR CERCLA -	WELL REGISTRATION NUMBER <b>55 - 581135</b>

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

SECTION 1. REGISTRY INFORMATION														
<b>Well Type</b> CHECK ONE <input checked="" type="checkbox"/> Monitor <input type="checkbox"/> Piezometer <input type="checkbox"/> Vadose Zone <input type="checkbox"/> Air Sparging <input type="checkbox"/> Soil Vapor Extraction <input type="checkbox"/> Other (please specify):	<b>Proposed Action</b> CHECK ONE <input type="checkbox"/> Drill New Well <input checked="" type="checkbox"/> Deepen <input type="checkbox"/> Modify <i>If Deepening or Modifying:</i> WELL REGISTRATION NUMBER 55 - 581135	<b>Location of Well</b> WELL LOCATION ADDRESS (IF ANY) None <table border="1"> <tr> <td>TOWNSHIP (N/S)</td> <td>RANGE (E/W)</td> <td>SECTION</td> <td>160 ACRE</td> <td>40 ACRE</td> <td>10 ACRE</td> </tr> <tr> <td>14S</td> <td>13E</td> <td>14</td> <td>SW ¼</td> <td>NE ¼</td> <td>NE ¼</td> </tr> </table> COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK 116 MAP 23 PARCEL 090A COUNTY WHERE WELL IS LOCATED Pima	TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE	14S	13E	14	SW ¼	NE ¼	NE ¼
TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE									
14S	13E	14	SW ¼	NE ¼	NE ¼									

SECTION 2. OWNER INFORMATION	
<b>Well Owner</b> FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL City of Tucson Environmental Services MAILING ADDRESS 100 N. Stone St. 2nd Floor CITY / STATE / ZIP CODE Tucson, AZ 85701 CONTACT PERSON NAME AND TITLE Molly Collins, Project Coordinator TELEPHONE NUMBER (520) 429-4986 FAX (520) 791-5417	<b>Landowner (if different from Well Owner)</b> FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL Same MAILING ADDRESS CITY / STATE / ZIP CODE CONTACT PERSON NAME AND TITLE TELEPHONE NUMBER FAX

SECTION 3. DRILLING AUTHORIZATION	
<b>Drilling Firm</b> NAME Drilling Services, Inc. DWR LICENSE NUMBER ROC193358 739 TELEPHONE NUMBER 602-818-8444 E-MAIL ADDRESS clay@drilling-services.com	<b>Consultant (if applicable)</b> CONSULTING FIRM Verdad Group, LLC CONTACT PERSON NAME Matt Wallace TELEPHONE NUMBER (520) 241-0505 FAX (520) 624-1081 E-MAIL ADDRESS matt@verdadgroupllc.com

SECTION 4.			
Questions	Yes	No	Explanation:
1. Are all annular spaces between the casing(s) and the borehole for the placement of grout at least 2 inches?	X		2-inch annular spaces are special standards required for wells located in and near groundwater contamination sites (such as CERCLA, WQARF, DOD, LUST).
2. Is the screened or perforated interval of casing greater than 100 feet in length?		X	100-foot maximum screen intervals are a special standard for wells located in and near groundwater contamination sites (such as CERCLA, WQARF, DOD, LUST).
3. Are you requesting a variance to use thermoplastic casing in lieu of steel casing in the surface seal?		X	The wells must be constructed in a vault as defined in A.A.C. R12-15-801(27).
4. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ2, 06-04, etc.)	X		IF YES, PLEASE STATE WR-366A
5. Have construction plans been coordinated with the Arizona Department of Environmental Quality?		X	IF YES, PLEASE STATE AGENCY CONTACT & PHONE NUMBER
6. For monitor wells, is dedicated pump equipment to be installed?	X		IF YES, PLEASE STATE DESIGN PUMP CAPACITY 15 (existing) Gallons per Minute
7. Is this well a new well located in an Active Management Area AND intended to pump water for the purpose of remediating groundwater?		X	IF YES, UNLESS THE WELL IS A REPLACEMENT WELL AND THE TOTAL NUMBER OF OPERABLE WELLS ON THE SITE IS NOT INCREASING, YOU MUST ALSO FILE A SUPPLEMENTAL FORM A.R.S. § 45-454(C) & (F). (See instructions)
8. Will the well registration number be stamped on the vault cover or on the upper part of the casing?	X		IF NO, WHERE WILL THE REGISTRATION NUMBER BE PLACED?

Notice of Intent to Drill, Deepen, or Modify a Monitor / Piezometer / Environmental Well

WELL REGISTRATION NUMBER  
55 - 581135

**SECTION 5. WELL CONSTRUCTION DETAILS**

<b>Drill Method</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 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):  Not Applicable for Modification	<b>Method of Well Development</b> CHECK ONE <input type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Block <input type="checkbox"/> Surge Pump <input type="checkbox"/> Other (please specify):  Not Applicable for Modification	<b>Grout Emplacement Method</b> CHECK ONE <input type="checkbox"/> Gravity <input type="checkbox"/> Pressure Grout <input type="checkbox"/> Tremie <input type="checkbox"/> Other (please specify):  Not Applicable for Modification
	<b>Method of Sealing at Reduction Points</b> CHECK ONE <input type="checkbox"/> None <input type="checkbox"/> Welded <input type="checkbox"/> Swedged <input type="checkbox"/> Packed <input type="checkbox"/> Other (please specify):  Not Applicable for Modification	<b>Surface or Conductor Casing</b> CHECK ONE <input checked="" type="checkbox"/> Flush Mount in a vault <input type="checkbox"/> Extend 1' above grade  Well casings will be lowered 2' feet and encased in a flush mount vault
DATE CONSTRUCTION TO BEGIN March 15, 2010		

**SECTION 6. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)**

Attach a well construction diagram labeling all specifications below.

Borehole			Casing													
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)					SLOT SIZE IF ANY (inches)	
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	ANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED		IF OTHER TYPE, DESCRIBE

**Annular Material**

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)							FILTER PACK		
FROM (feet)	TO (feet)	NONE	CONCRETE	CEMENT OR GROUT	BENTONITE GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
								See attached sheet for full description of casing and annular materials. Ground surface to be lowered 1.5 feet. All casings to be lowered 2', all depths given reflect the 2' decrease.			

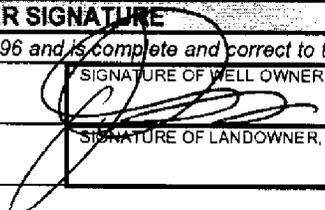
IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS: \_\_\_\_\_ EXPECTED DEPTH TO WATER: 125 Feet Below Ground Surface

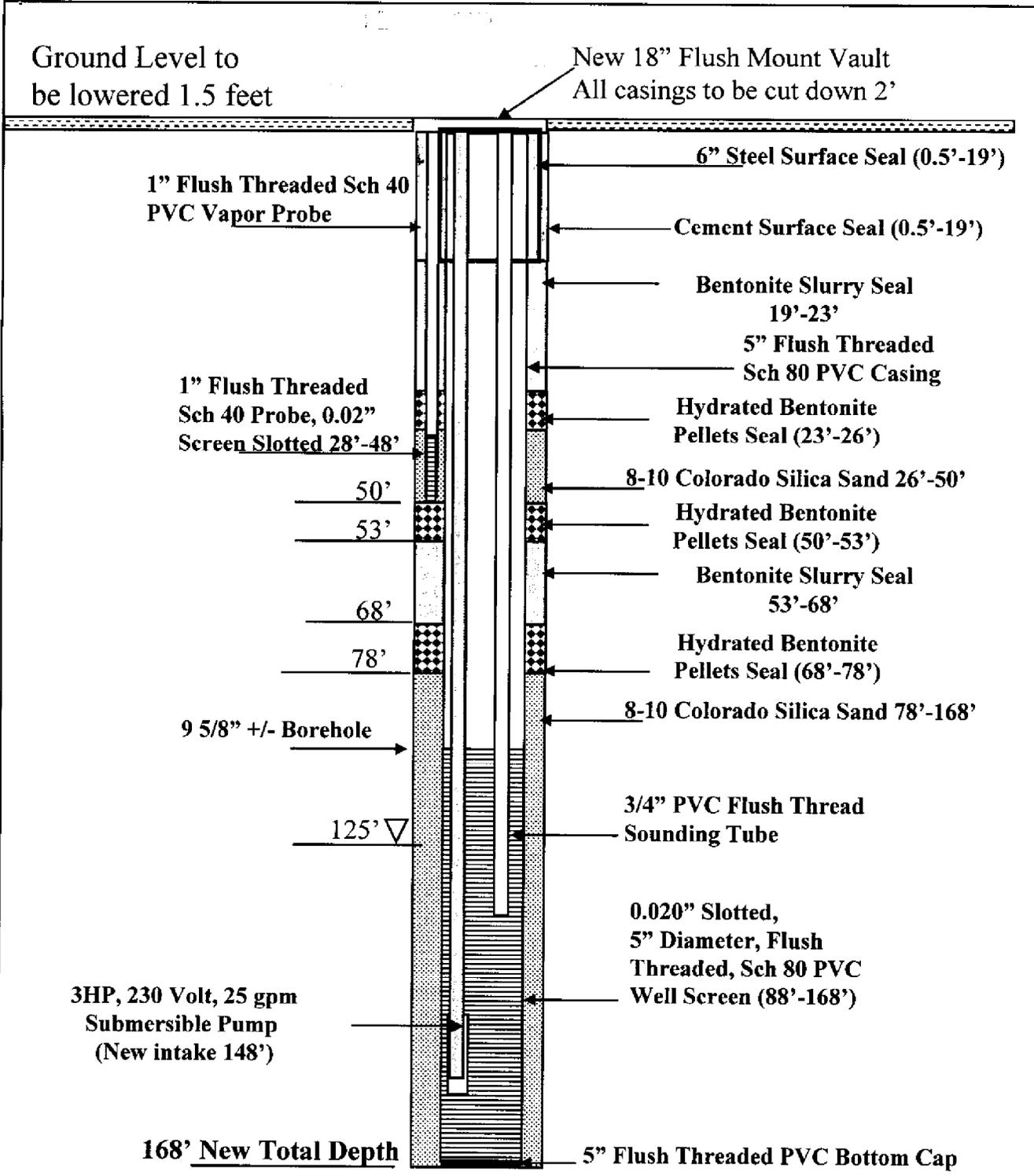
**SECTION 7. OPTIONAL BY PROPERTY OWNER AND WELL OWNER ONLY**

By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (See instructions.)

**SECTION 8. WELL OWNER AND PROPERTY OWNER SIGNATURE**

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 Jeffrey Drumm, Environmental Manager	SIGNATURE OF WELL OWNER 	DATE 2/22/10
TYPE OR PRINT NAME AND TITLE	SIGNATURE OF LANDOWNER, IF APPLICABLE (SEE INSTRUCTIONS)	DATE



Note: All depths reflect 2' decrease from original.



**FIGURE 2**  
**Proposed Modification of**  
**Monitor Well WR-366**  
**ADWR ID # 55-581135**

Section 5. Proposed Well Modification Design Additional Sheet for 55-581135 (WR-366A) Well Abandonment

Borehole				Casing												
Depth from Surface		Borehole Diameter (in)	Depth from Surface		Diameter (in)	Material Type			Perforation Type			Slot Size (in)				
From (ft)	To (ft)		From (ft)	To (ft)		Steel	PVC	ABS	Other	Blank or None	Wire Wrap	Shutter Screen	Mills Knife	Slotted	Other	
0	168	9 5/8	0	18	6	x				x				x		0.02
			0	88	5		x			x						
			88	168	5		x			x						
			0	28	1					x				x		0.02
			28	48	1											
Annular Material																
Annular Material Type																
Depth from Surface		None	Concrete	Cement or Cement Grout	Cement Bentonite Grout	GROUT	Bentonite Chips	Pellets	Other	Sand	Gravel	Size				
0	19			x			x					8-12				
19	23															
23	26															
26	50															
50	53						x					8-12				
53	68															
68	78															
78	168											8-12				

NOTE: Ground surface to be lowered 1.5 feet. All casings to be cut down 2 feet and encased in flush mount vault. Depths of annular and casing materials reflect 2 foot decrease.



Printed: 2/25/2010 1:11:14 PM

Arizona Department of Water Resources

3550 N Central Ave.  
Phoenix AZ 85012

Customer:

CITY OF TUCSON GENERAL  
REVOLVING ACCOUNT  
PO BOX 27450  
TUCSON, AZ 85726-7450

Receipt #: 10-10398  
Office: MAIN OFFICE  
Receipt Date: 2/25/2010  
Sale Type: Mail  
Cashier: WRCCC

Item No.	Index	AOBJ	Description	Ref ID	Qty	Unit Price	Ext Price
82	15245	4439-02	NOT TO DEEPEN REPLACE OR MODIFY EXISTING NE WELL 1	55-581135	1	150.00	150.00
<b>RECEIPT TOTAL:</b>							<b>150.00</b>

Payment type: CHECK

Amount Paid: \$150.00

Payment Received Date: 2/16/2010

Check # 510289

Notes: Well Owner: City of Tucson Environmental Services  
Drilling Firm: Drilling Services, Inc.



CITY OF  
TUCSON  
ENVIRONMENTAL  
SERVICES

FEB 25 2010



February 23, 2010

VIA CERTIFIED U.S. MAIL

Lori Cason  
Arizona Department of Water Resources  
Water Management Support Section  
P.O. Box 33589  
Phoenix, AZ 85067-3589

**Subject: Notice of Intent to Modify Groundwater Well # 55-581135 at the Mission Gardens, Tucson, Arizona 85745**

Dear Ms. Cason:

Attached please find a Notice of Intent (NOI) to modify one groundwater well with Arizona Department of Water Resources (ADWR) Well ID #55-581135 (WR-366A). A location map is provided in Figure 1 and Figure 2 shows the well modification details. Check # 510289 is enclosed for the filing fee in the amount of \$150.00.

The property on which WR-366A is located is part of the Mission Gardens, and the land surface must be lowered 1.5 feet in the vicinity of the well to accommodate the entrance to the Gardens. The well will be modified by removing the top 2-feet of casing, and encasing the well in an 18-inch, traffic rated, flush mount vault.

If you have any questions, please contact Molly Collins at (520) 873-3703 or (520) 429-4986.

Sincerely,

Nancy Petersen  
Deputy Director

NP/MC/mv

Enclosures

- NOI
- Check # 510289
- Figure 1: Location Map
- Figure 2: Proposed Modification of Monitor Well WR-366

cc: Jessie Sanders, Downtown Development (w/o enclosures)  
WR-366A Well File

S:\EMCOMMON\Rio Nuevo\Correspondence\ADWR\WR366modcover.doc



ARIZONA DEPARTMENT OF WATER RESOURCES  
500 North 3rd Street  
Phoenix, Arizona 85004

*Logged 5/11/00*

*A - Mountain*

*342378*

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. LAYNE CHRISTENSEN COMPANY  
12030 EAST RIGGS ROAD  
CHANDLER, AZ 85249-3710



2. Owner Name: CITY OF TUCSON ENVIRONMENTAL  
Address: TUCSON AZ 85726  
City State Zip

3. Location: 195 N/S 13 EW 14 1/4 NE 1/4 NE 1/4 SW  
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-581135 (Required)

5. Permit No. \_\_\_\_\_ (If Issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 170 ft.
- 7. Type of casing 5" SCH-80 PVC & 1" SCH-80 PVC.
- 8. Diameter and length of casing 5 in. from 0 to 90, 1" in from 0 to 30
- 9. Method of sealing at reduction points N/A
- 10. Perforated from 90 to 170, from 30 to 50 from \_\_\_\_\_ to \_\_\_\_\_
- 11. Size of cuts .020 Number of cuts per foot 288
- 12. If screen was installed: Length 80' / 20' ft. Diam 5" & 1" in. Type FACTORY SLOTTE
- 13. Method of construction DRILLED  
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 6 5 00  
Month Day Year
- 15. Date completed 6 7 00  
Month Day Year
- 16. Depth to water 120 ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea\_level elevation if available  
GROUND SURFACE
- 18. If flowing well, state method of flow regulation: \_\_\_\_\_
- 19. Remarks: WR 366 A

ANSWERED JUL 18 2000

DO NOT WRITE IN THIS SPACE  
OFFICE RECORD

Registration No. 55- 581135  
File No. D(14-13) 14 CAA  
Received \_\_\_\_\_ By \_\_\_\_\_  
Entered \_\_\_\_\_ By \_\_\_\_\_



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

**VARIANCE GRANTED**

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

WELL REGISTRATION NO: 55-581135

AUTHORIZED DRILLER: LAYNE CHRISTENSEN COMPANY

LICENSE NO: 7

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

WELL OWNER: CITY OF TUCSON/OFFICE OF ENVIRONMENTAL MGMT PO BOX 27210 TUCSON, AZ 85726

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

NE ¼ of the NE ¼ of the SW ¼ Section 14 Township 14 SOUTH Range 13 EAST

No. of wells in this project: 1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 9TH DAY OF MAY, 2001

  
GROUNDWATER MANAGEMENT SUPPORT

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



ANSWERED JUL 18 2000

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

**VARIANCE GRANTED**

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

**WELL REGISTRATION NO: 55-581135**

**AUTHORIZED DRILLER: LAYNE CHRISTENSEN COMPANY**

**LICENSE NO: 7**

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

**WELL OWNER: CITY OF TUCSON/OFFICE OF ENVIRONMENTAL MGMT PO BOX 27210 TUCSON, AZ 85726**

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

**NE ¼ of the NE ¼ of the SW ¼ Section 14 Township 14 SOUTH Range 13 EAST**

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

**THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 9TH DAY OF MAY, 2001**

**GROUNDWATER MANAGEMENT SUPPORT**

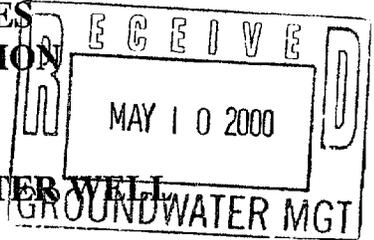
*ACA*

**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 INFORMATION: CALL MONICA ORTIZ AT 602-417-2470



## NOTICE OF INTENTION TO DRILL MONITOR/PIEZOMETER WELL

PLEASE READ GENERAL INSTRUCTIONS AND CONDITIONS ON REVERSE SIDE OF THIS FORM BEFORE COMPLETING.

1. Well/land Location:

14 NS 13 E/W 14  
Township Range Section  
a a c  
1/4 1/4 1/4  
10 Acre 40 Acre 160 Acre

2. Position location of the well on the land:

Latitude 32 o 12 ' 47 " N  
Longitude 110 o 59 ' 11 " W

3. County: Pima

4. Owner of the well:

Attn: Nancy Petersen  
City of Tucson-Env. Management  
Name  
P.O. Box 27210  
Mailing Address  
Tucson, AZ 85726-7210  
City State Zip  
Telephone No. (520) 791-5414

5. Lessee of the land of wellsite:

Name  
Mailing Address  
City State Zip  
Telephone No.

6. Owner of the Land of Wellsite:

City of Tucson - Parks & Rec  
Name  
P.O. Box 27210  
Mailing Address  
Tucson, AZ 85726  
City State Zip  
Telephone No. (520) 791-4873

7. Consulting firm:

Name  
Contact Person  
Telephone No.

8. Purpose of well drilled pursuant to this notice:

Monitor XX  
Piezometer

9. If for deepening or modifying, list well registration number:  
55-

\* FOR DEPARTMENT USE ONLY  
File No. D(14-13)14CAA  
Filed 5-10-00 By YB  
Input By  
DUPLICATE  
Mailed 5-17-00 By YB  
Registration 55-581135  
AMA/INA Tucson  
W/S 09 S/B 16  
m.o.

10. Will this proposed well be associated with a permit: Yes No XX  
If yes, Permit No.

11. Construction will start:

5/22/2000  
Month Day Year

12. Period well will remain in use:

30 Months/Years

13. For monitoring wells, is pump equipment to be installed?

XX  
Yes No

(a) If yes, design pump capacity:

10-30 gpm

(b) What use will be made of the water:

sampling & analysis

14. Drilling Firm:

Layne-Christianson  
Name 2030 E. Riggs Rd.  
Mailing Address  
Chandler, AZ 85249  
City State Zip  
(480) 895-9336  
Telephone No.  
7  
DWR License Number  
A04  
ROC License Category

15. Proposed method of abandonment of well after project is completed: Grout to surface with tremie pipe in accordance with Arizona regulations R12-15-811 and , pursuant to R12-15-816.

16. Is this well to monitor existing contamination? Potential contamination: yes Please explain: Well will be used to determine if contamination exists in vicinity of closed landfill.

SPECIAL REQUIREMENTS

17. If construction plans have been coordinated with Arizona Department of Environmental Quality, who is the agency contact?

18. If construction plans have been coordinated with Arizona Department of Water Resources, who is the agency contact?

19. WELL CONSTRUCTION PLAN:

- a) Drilling method (mud rotary, hollow-stem auger, etc.) Dual Wall Percussion Reverse Air
b) Borehole diameters: 12 inches from 0 feet to 180 feet.
c) Casing materials (PVC, steel, hollow-stem auger, etc.) material Schedule 80 PVC diameter 5 inches from 0 feet to 180 feet.
d) Method of sealing at reductions N/A
e) Annular seal materials (cement, grout, etc.); method of placement (tremied, circulated): material concrete method tremied from 0 feet to 30 feet. material Bentonite slurry method tremied from 30 feet to 90 feet.
f) Filter packs (state material): material 10/20 Colorado Silica Sand from 90 feet to 180 feet.
g) Perforations or screen specifications: Type Machine Cut 2000 slot from 100 feet to 180 feet.
h) Method of well development (bail, air lift, surge) surge block, bail, pump
i) Will surface or conductor casing extend above grade?: Yes XX No + (8-10) inches

20. Include detailed construction diagram showing expected water depth in feet below land surface, and details of vault, if specified.

I state that this Notice is filed in compliance with Rule A.A.C. R12-15-809, is complete and correct to the best of my knowledge and belief and that I understand the conditions set forth on this form.

Dan Felix, Director, Parks & Rec. Signature of Land Owner [ ] Lessee of Wellsite, Title Date 5-4-00

Necessary Steps and Instructions to Obtain Drilling Authority (Monitor/Piezometer Wells)

- 1. Arizona Revised Statutes ("A.R.S.") § 45-596 provides that prior to drilling a monitor or piezometer well, a Notice of Intention to Drill must be filed with the Department. To assist you in understanding the substantive requirements for this application, copies of A.R.S. § 45-596 and Arizona Administrative Code ("A.A.C.") R12-15-810 are available thru the department bookstore.
2. Information to complete items 1, 2, and 3 may be available from your County Tax Receipt or your County Assessors Office.
3. Information to complete item 9 is available from your copy of the original Notice of Intent to Drill or our Records Division at (602)417-2405.
4. Information to complete items 11, 14 and 15 may be available from your driller.
5. If an individual other than the land owner or lessee signs this notice, an original notarized 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 of Intention to Drill a Monitor/Piezometer Well.
6. Please complete two original notices with original signatures and include a \$10.00 check or money order for the processing fee, in accordance with A.R.S. § 45-113. Submit them to: P.O. Box 458, Phoenix, Arizona 85001-0458.

TIME FRAME FOR REVIEW OF YOUR APPLICATION

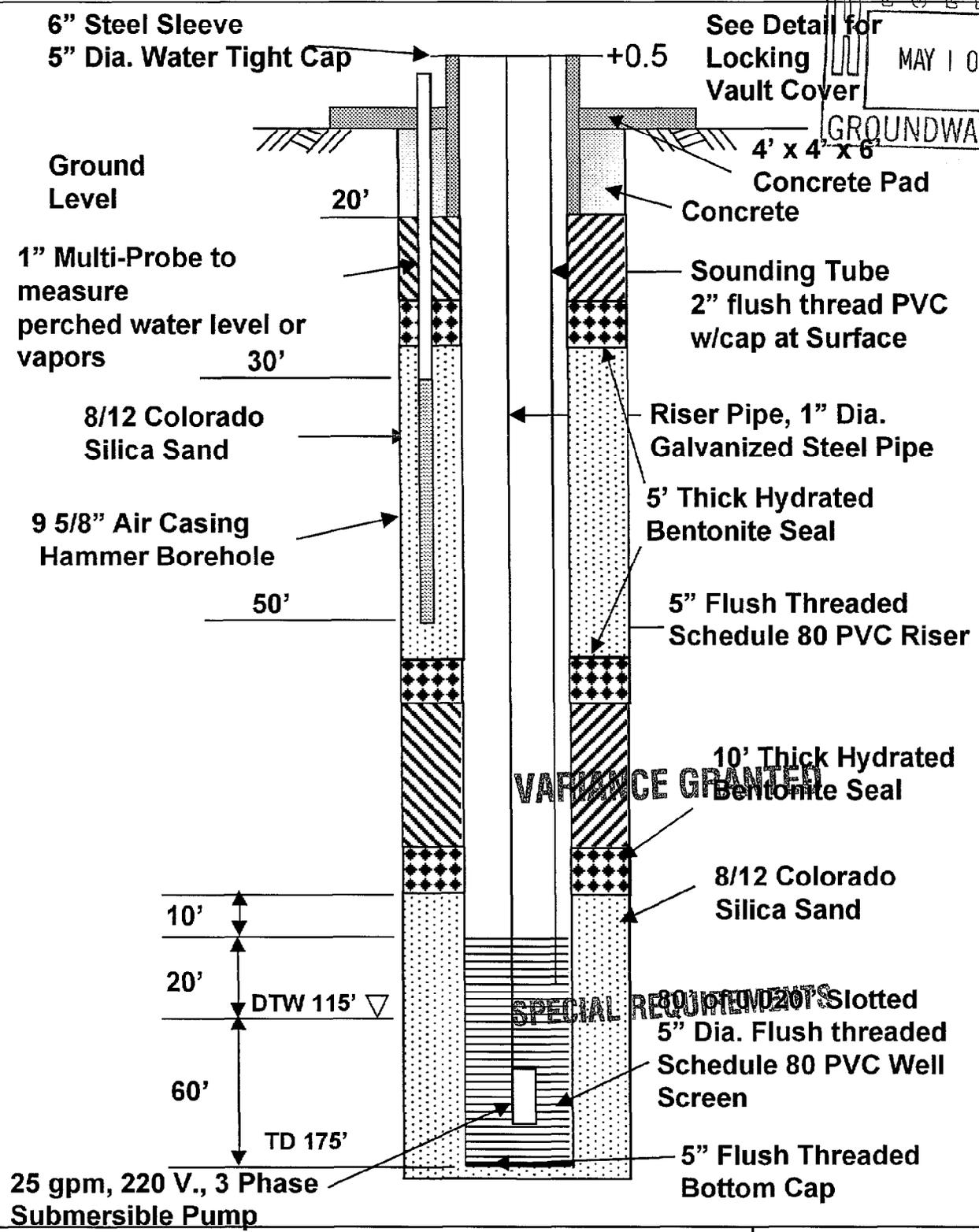
Within 15 days after receipt of your Notice of Intention, the Arizona Department of Water Resources ("Department") will determine whether your application should be granted or denied, unless this time is extended for lack of a complete application. If your application is incomplete, the Department will 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 all wells must be in accordance with Department Rules.
2. A.A.C. Rule R12-15-811(H)(2) requires a monitor well to be identified as such on the vault cover or at the top of the steel casing. Identification information must include the well registration number.
3. Pursuant to A.R.S. § 45-596(E), drilling, deepening or modification of the well must be completed within one year after the date of the Notice of Intent.
4. A Well Driller Report is required within thirty (30) days of completion of drilling. Within thirty (30) days after installation of pumping equipment in monitor wells, a Completion Report must be filed with the Department.
5. Pump equipment may not be installed on a well drilled for piezometer purposes. If a monitor well is pumped, pumping is limited to the maximum amount required for monitor purposes, but in no case may exceed 35 gallons per minute and an annual total volume of 10 acre feet.
6. Special construction standards required pursuant to A.A.C. Rule R12-15-821:

RECEIVED  
MAY 10 2000  
GROUNDWATER MGT

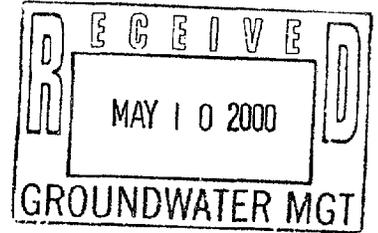


City of Tucson Environmental Division  
WR-366A Monitoring Well

(Not to Scale)  
Figure  
1



CITY MANAGER  
OFFICE OF ENVIRONMENTAL MANAGEMENT



Arizona Department of Water Resources  
500 North Third Street  
Phoenix, AZ. 85004-3903

May 05, 2000

Re: Request for Monitoring Well Construction Variance

Attention Jim Johnson,

The City of Tucson (COT), Office of Environmental Management (OEM) intends to install a groundwater monitoring well in the vicinity of a former landfill. The purpose of the well is to monitor potential changes in groundwater quality. The COT requests in the construction of this well located at T14S, R13E, Section 14, aac.

The following construction variances are requested:

- The top 20 feet of the well casing will be constructed of Schedule 80 PVC in lieu of Steel. A steel sleeve will be installed around the outside of the PVC.
- The screen interval will be allowed to be greater than the 10 feet above current static conditions do to the close proximity of the well to the Santa Cruz River, to allow for possible increasing water table conditions with potential recharge conditions.

Thank-you for your assistance with this variance request. If you have any questions or concerns, please contact Richard M. Byrd at (520) 791-5414

Sincerely,

Richard M. Byrd

cc: Nancy Petersen  
A-Mountain File

**ARIZONA DEPARTMENT OF WATER RESOURCES**

**Hydrology Division**

500 North Third Street, Phoenix, Arizona 85004

Telephone 602-417-2448

Fax 602-417-2425



JANE DEE HULL  
Governor

RITA P. PEARSON  
Director

May 15, 2000

City of Tucson  
City Manager  
P.O. Box 27210  
Tucson, Arizona 85726-7210

Attn: Richard Byrd

**Re: Variance for Three Monitor Wells  
Registration Numbers 55-581135 through 55-581137**

Dear Mr. Byrd:

The Arizona Department of Water Resources received your request dated May 10, 2000 for a variance for construction of three monitor wells to be located in Pima County. The purpose of these wells will be to evaluate potential groundwater contamination.

The Arizona Department of Water Resources approves this request for the following variances:

- Perforations may be installed between 100 and 180 feet below ground surface which is 15 feet above the record water level of 115 feet (R12-15-811.H.1.).
- Thermoplastic casing (riser) may be used in lieu of steel (R12-15-811.B.1).

The following *special requirements* are conditions for this variance (R12-15-821.):

- The inner casings (risers) shall comply with ASTM Standard Guide D5092, Section 6.5.
- The wells shall be constructed per the "Variance Granted" Notice of Intention to Drill.
- The wells shall be abandoned (decommissioned) per A.A.C. R12-15-816.

If you have any questions, please contact Bruce Hammett of my staff at 602-417-2400 ext. # 7301.

Sincerely,

Frank Corkhill  
Technical Support Section Supervisor

**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

May 17, 2000

CITY OF TUCSON/OFFICE OF ENVIRONMENTAL MGMT  
PO BOX 27210  
TUCSON, AZ 85726

Registration No. 55-581135  
File No. D(14-13) 14 CAA

Dear Well Owner:

Enclosed for your records is an annotated copy of the Notice of Intention to Drill a well. This is returned to you as evidence of compliance with A.R.S. §45-596. A drilling card has been mailed to your designated driller. Prior to drilling he must have it in his possession.

Since this well is being drilled as a Monitor well, or for Cathodic Protection, Grounding, Geotechnical or Piezometer purposes, our standard driller report form is also being furnished to the driller. He is required to complete it and return it to the Department within 30 days after the completion of the well. A Completion Report form is being furnished for monitor wells where pump installation is authorized. This must be completed within thirty days of installation as required by A.R.S. §45-600.

A Change of Well Information form is enclosed for your future use. If you deem it necessary to change the location of the proposed well, please notify the Department on the enclosed form. A properly amended Drilling Card will then be issued and must be in possession of the driller before drilling begins. During the drilling of a new well, if it is determined that it must be abandoned, then a Well Abandonment Completion Report must be submitted per R12-15-816.F.

Per A.R.S. §45-593, the person to whom a well is registered shall notify this Department of a change of ownership of the well and/or information pertaining to the physical characteristics of the well, in order to keep the well registration file current and accurate.

Sincerely,

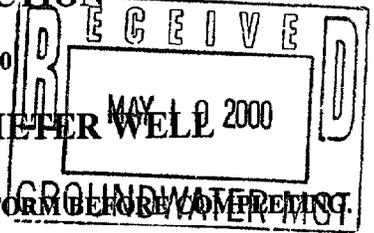
A handwritten signature in cursive script that reads "Toni Bergeman".

Toni Bergeman  
Water Resource Technician  
Groundwater Management Support Section

Enclosures

ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION

MAIL TO: P.O. BOX 458, PHOENIX, ARIZONA 85001-0458  
FOR INFORMATION: CALL MONICA ORTIZ AT 602-417-2470



NOTICE OF INTENTION TO DRILL MONITOR/PIEZOMETER WELL

PLEASE READ GENERAL INSTRUCTIONS AND CONDITIONS ON REVERSE SIDE OF THIS FORM BEFORE COMPLETING.

1. Well/Land Location:

14 N S 13 E W 14  
Township Range Section  
a a c  
10 Acre 40 Acre 160 Acre

2. Position location of the well on the land:

Latitude 32 ° 12 ' 47 " N  
Longitude 110 ° 59 ' 11 " W

3. County: Pima

4. Owner of the well:

Attn: Nancy Petersen  
City of Tucson-Env. Management  
Name  
P.O. Box 27210  
Mailing Address  
Tucson, AZ 85726-7210  
City State Zip  
Telephone No. (520) 791-5414

6. Owner of the Land of Well site:

City of Tucson Parks & Rec  
Name  
P.O. Box 27210  
Mailing Address  
Tucson, AZ 85726  
City State Zip  
Telephone No. (520) 791-4873

7. Consulting firm:

Name  
Contact Person  
Telephone No.

8. Purpose of well drilled pursuant to this notice:

Monitor XX  
Piezometer

9. If for deepening or modifying, list well registration number:  
55-

10. Will this proposed well be associated with a permit: Yes No XX

If yes, Permit No.

11. Construction will start:

5/22/2000  
Month Day Year

12. Period well will remain in use:

30 Months Years

13. For monitoring wells, is pump equipment to be installed?

XX  
Yes No

(a) If yes, design pump capacity:

10-30 gpm

(b) What use will be made of the water:

sampling & analysis

THIS CHECK IS VOID WITHOUT A BROWN BACKGROUND. THIS CHECK IS VOID WITHOUT A BROWN BACKGROUND. THIS CHECK IS VOID WITHOUT A BROWN BACKGROUND. THIS CHECK IS VOID WITHOUT A BROWN BACKGROUND.

CITY OF TUCSON  
GENERAL REVOLVING ACCOUNT  
NORWEST BANK - ARIZONA

CHECK NUMBER  
91-527  
1221  
594449

TO THE ORDER OF  
ARIZONA DEPT OF WATER RESOURCE  
GROUNDWATER MGMT SUPPORT SECTN  
P.O. BOX 458  
PHOENIX AZ 85001-0458

DATE 05-04-2000

VOID AFTER 180 DAYS

PAY \*\*\*\*\*\$30.00

PAY Thirty and 00/100 Dollars

[Signature]  
FINANCE DIRECTOR

[Redacted signature area]

18. If construction plans have been coordinated with Arizona Department of Water Resources, who is the agency contact? \_\_\_\_\_

VARIANCE CHECKLIST - HYDROLOGY

DATE RECEIVED 5-10-00  
DATE TO HYDRO 5-11-00  
DATE TO GMSS 5-16-00

POTENTIAL REG. N° 55-  
55-581135 THRU 55-581137

FRONT OF N.O.I COMPLETE/CORRECT: YES  NO

VARIANCE (?) LETTER RECEIVED YES  NO   
WELL DIAGRAM (?) RECEIVED YES  NO   
SITE PLAN (?) RECEIVED YES  NO

**TYPE AND NUMBER OF WELLS:**

3 MONITOR \_\_\_\_\_ CATHODIC PROTECTION  
\_\_\_\_\_ PIEZOMETER \_\_\_\_\_ GROUNDING  
\_\_\_\_\_ GEOTECHNICAL \_\_\_\_\_ HEAT PUMP  
\_\_\_\_\_ MINERAL EXPLORATION  
\_\_\_\_\_ WATER PRODUCTION \_\_\_\_\_ OTHER \_\_\_\_\_  
DESCRIBE TYPE OF WELL

**VARIANCE:**

REQUIRED  GRANTED  
 NOT REQUIRED  NOT GRANTED  
 LETTER ISSUED

**ATTENTION!!! NOTICE OF INTENT TEAM:**

\_\_\_\_\_ HARD COPY OF LETTER TO FOLLOW  
\_\_\_\_\_ CALL FOR PICKUP

COMMENTS: *Okay 5-16-00 for*

M.O.