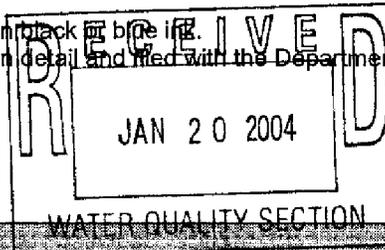




Arizona Department of Water Resources
 Records Management Section
 500 N. 3rd Street • Phoenix, Arizona 85004
 (602) 417-2405 • (800) 352-8488
 www.water.az.gov

**Well Driller Report
 and
 Well Log**

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



FILE NUMBER 0014-13) 14 000
WELL REGISTRATION NUMBER 55-581137
PERMIT NUMBER (IF ISSUED)

**** PLEASE PRINT CLEARLY ****

SECTION 1. REGISTRY INFORMATION		WATER QUALITY SECTION	
Well Owner FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL CITY OF TUCSON ENVIRONMENTAL		Location of Well WELL LOCATION ADDRESS (IF ANY)	
MAILING ADDRESS		TOWNSHIP (WS)	RANGE (EW)
CITY / STATE / ZIP CODE TUCSON, AZ 85726		SECTION 14	160 ACRE SE 1/4
CONTACT PERSON NAME AND TITLE Richard Byrd		40 ACRE NW 1/4	10 ACRE SE 1/4
TELEPHONE NUMBER (520) 791-5414	FAX	METHOD OF LATITUDE / LONGITUDE (CHECK ONE) <input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input type="checkbox"/> GPS: <input type="checkbox"/> Survey-Grade <input type="checkbox"/> Hand-Held	
COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK MAP PARCEL		COUNTY WHERE WELL IS LOCATED PIMA	

SECTION 2. DRILLING AUTHORIZATION	
Drilling Firm NAME LAYNE CHRISTENSEN	
DWR LICENSE NUMBER #7	
TELEPHONE NUMBER (480) 895-9336	FAX (480) 895-8699

WR 364A

SECTION 3. WELL CONSTRUCTION DETAILS		
DATE WELL CONSTRUCTION STARTED 5-31-00	DATE WELL CONSTRUCTION COMPLETED 6-2-00	IF FLOWING WELL, METHOD OF FLOW REGULATION <input type="checkbox"/> Valve <input type="checkbox"/> Other:
Drill Method 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 checked="" type="checkbox"/> Other (please specify): Percussion Hammer.	Method of Well Development CHECK ONE <input type="checkbox"/> Airlift <input checked="" type="checkbox"/> Bail <input type="checkbox"/> Surge Block <input checked="" type="checkbox"/> Surge Pump <input type="checkbox"/> Other (please specify):	Method of Sealing at Reduction Points CHECK ONE <input type="checkbox"/> None <input type="checkbox"/> Packed <input type="checkbox"/> Swedged <input type="checkbox"/> Welded <input type="checkbox"/> Other (please specify):
Water Level Information		
STATIC WATER LEVEL 115 Feet Below Land Surface		
DATE MEASURED 6-2-00		

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 (T)				PERFORATION TYPE (T)					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	185	11	0	21	6 5/8	X										
			0	95	5.5		X									
			95	185	5.5		X						X			1020
			0	35	1.5		X									
			35	55	1.5		X						X			1020
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p style="font-size: 2em; margin: 0;">RECEIVED</p> <p style="margin: 0;">JAN 20 2004</p> <p style="margin: 0;">WATER QUALITY SECTION</p> </div>																

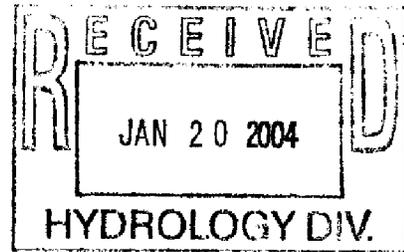
Installed Annular Material												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)							FILTER PACK			
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT-GROUT	CEMENT-BENTONITE GROUT	BENTONITE			IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
						GROUT	CHIPS	PELLETS				
0	28				X							
28	31							X				
31	100									X		10-20
100	89							X				
89	185									X		10-20

DEPTH OF BORING 185	Feet Below Land Surface	DEPTH OF COMPLETED WELL 185	Feet Below Land Surface
-------------------------------	-------------------------	---------------------------------------	-------------------------



CITY OF
TUCSON
ENVIRONMENTAL
SERVICES

January 14, 2004



Mr. Andrew T. Scott
Arizona Department of Water Resources
Hydrology Division – Water Quality Unit
500 North 3rd Street
Phoenix, Arizona 85004

**Re: Groundwater Well Discrepancy for ADWR Well Registration Numbers
55- 581137 (WR- 364A) and 55-581136 (WR-365A)**

Dear Mr. Scott:

This letter is in reference to the discrepancies that arose regarding groundwater monitoring wells WR-364A and WR-365A. In the original Well Driller Report, the location and well registration number of each of these wells were switched, when compared to the ADWR NOIs. Layne Christensen has provided the corrected Well Driller Reports for these two wells (attached), as per your request.

If you have any further questions, please contact me at (520) 791-5414. Thank you for your assistance to correct this matter.

Sincerely,

Nancy Petersen
Environmental Manager, Environmental Services
City of Tucson

Enclosure

cc: Ray Murray, Environmental Services
Well files WR-364A and WR- 365A



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

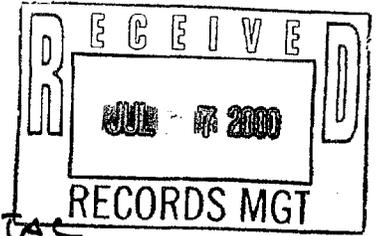
Accepted 5/1/00
A-Mountain

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: 14S N/S 13E E/W 14 1/4 SE 1/4 NW 1/4 SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-581137 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 77 ft.
- 7. Type of casing 4" SCH-80 PUC.
- 8. Diameter and length of casing 4 in. from 0 to 42, _____ in from _____ to _____
- 9. Method of sealing at reduction points N/A
- 10. Perforated from 42 to 77, from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 288
- 12. If screen was installed: Length 35 ft. Diam 4" SCH-80 in. Type FACTORY SLOTTED
- 13. Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 5 30 00
Month Day Year
- 15. Date completed 5 31 00
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 avail _____
- 18. If flowing well, state method of flow regulation: _____
- 19. Remarks: WR 365 A

ANSWERED JUL 18 2000

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55- 581137
File No. D(14-13) 14 DBD
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: 55-581137

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:

SE ¼ of the NW ¼ of the SE 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: 55-581137

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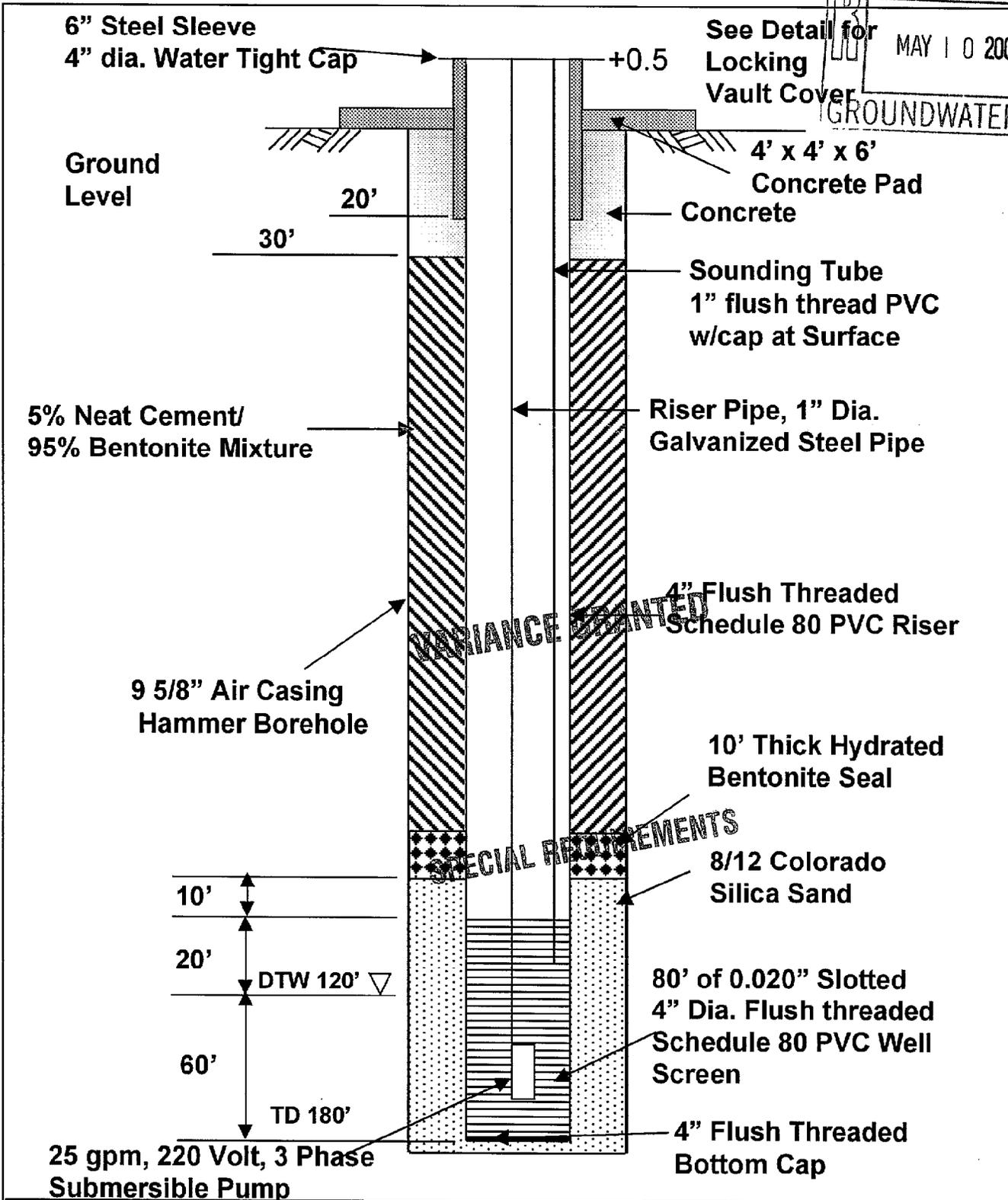
MS

GROUNDWATER MANAGEMENT SUPPORT

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



RECEIVED
MAY 10 2000
GROUNDWATER MGI

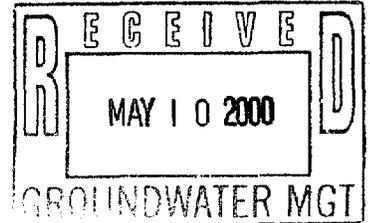


City of Tucson Environmental Division
WR-364A Monitoring Well

(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, dac.

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

FC/BH/ef
503044

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. 55-581137
File No. D(14-13) 14 DBD

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,

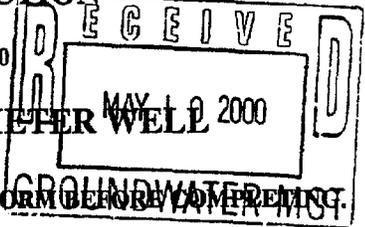
A handwritten signature in cursive script that reads "Toni Bergeman".

Toni Bergeman
Water Resource Technician
Groundwater Management Support Section

Enclosures

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 1/4 a 1/4 c 1/4
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

14. _____

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

91-527
1221

CHECK NUMBER
594449

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

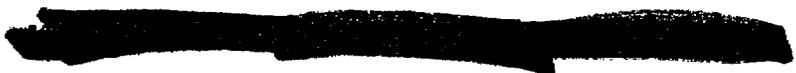
DATE 05-04-2000

VOID AFTER 180 DAYS

PAY ***\$30.00**

PAY Thirty and 00/100 Dollars

FINANCE DIRECTOR



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 POTENTIAL REG. Nº 55- _____
 DATE TO HYDRO 5-11-00
 DATE TO GMSS 5-16-00 55-581135 THRU 55-581137

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

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

TYPE AND NUMBER OF WELLS:

<u>3</u>	MONITOR		CATHODIC PROTECTION
_____	PIEZOMETER	_____	GROUNDING
_____	GEOTECHNICAL	_____	HEAT PUMP
_____	MINERAL EXPLORATION		
_____	WATER PRODUCTION	_____	OTHER _____

DESCRIBE TYPE OF WELL

VARIANCE:

<u>✓</u>	REQUIRED	<u>✓</u>	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

