

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 HOWARD NEEDLES TAMMEN & BERGENDOFF
Name
9200 WARD PARKWAY KANSAS CITY MISSOURI 64141
Address

2. Lessee or Operator
Name
Address

3. Driller Sergent, Hauskins & Beckwith - Ralph E. Weeks
Name
3940 West Clarendon Avenue, Phoenix, Arizona 85019
Address

4. Location of well: TIN, R3E, SW1/4, SE1/4, NW1/4

5. Permit No. 319
(if issued)

DESCRIPTION OF WELL

6. Total depth of hole 100 ft.

7. Type of Casing Steel & PVC

8. Diameter and length of casing 4 in. from 0 to 20', 2 in from 0 to 91'

9. Method of sealing at reduction points Steel surface casing grouted

10. Perforated from 71' to 91', from to , from to

11. Size of cuts 0.2' long, 0.03" wide Number of cuts per foot 2

12. If screen was installed: Length N/A ft. Diam in. Type

13. Method of construction Drilled, Air
drilled, dug, driven, bored, jetted, etc.

14. Date started 1 27 83
Month day year

15. Date completed 1 28 83
Month day year

16. Depth to water 59.0 ft. (If flowing well, so state.)

17. Describe point from which depth measurements were made, and give sea-level elevation if available.
Ground surface elevation = 1073.4'

18. If flowing well, state method of flow regulation

19. REMARKS: 4" steel casing was grouted
and extends 1.1 feet above ground
surface. 2" PVC pipe extends 1.0
feet above ground surface. Sand
and gravel was used as backfill
below the grouted surface casing.



DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-504683
Received By
Entered 3-16-83 By
File No. A(1-3)17dbb

(Well log to appear on Reverse side)

MICROFILMED

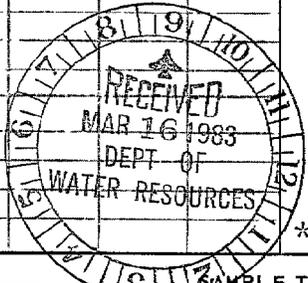


PROJECT West Papago/Inner Loop Offsite Drainage Study  
 JOB NO. E83-11 DATE 1-27-83

1 of 2  
**LOG OF TEST BORING NO. 4**

RIG TYPE Becker Hammer Drill  
 BORING TYPE 6 1/2" O.D. Pipe  
 SURFACE ELEV. 1073.4'  
 DATUM ADOT

Depth in Feet	Blows Per Foot	Graphical Log	Sample	Sample Type	Blows per foot 140 lb. 30" free-fall drop hammer	Dry Density Lbs. per cu. ft.	Moisture Content Per Cent of Dry Wt.	Unified Soil Classification	REMARKS	VISUAL CLASSIFICATION
0	7								slightly moist	CLAYEY SAND, predominantly fine grained, moderately cemented, low plasticity, brown  note: top 1' man-made fill
	15									
	12									
	13									
5	13									
	15									
	13							SC		
	13									
	14									
10	12									
	18									
	20									
	26								slightly moist to moist	RIVER-RUN (SGC)  SAND, GRAVEL & COBBLES, poorly graded, nonplastic, brown
	28									
15	36									
	22		X	A						
	31									
	34		X	A						
	33									
20	25									
	22									
	40									
	97									
25	101									
	64									
	68									
	125									
	101									
30	*225		X	A						
	*469		X	A						
	134							GP		
	135									
	221									
	139									
35	176									
	*150									
	*143									
	*135									
	153									
40	158									
	84									
	132									
	420									
	183									
45	160									
	103									
	151									
	108									
	83									
50	73									



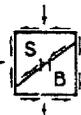
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*RE Wink*

\*Turbocharged Energy = 12,000 ft.-lbs.

GROUND WATER		
DEPTH	HOUR	DATE
59.0'	5:00p	1-28
55.7'	2:45p	2-8

SAMPLE TYPE  
 A - Auger cuttings. B - Block sample  
 S - 2" O.D. 1.38" I.D. tube sample.  
 U - 3" O.D. 2.42" I.D. tube sample.  
 T - 3" O.D. thin walled Shelby tube.



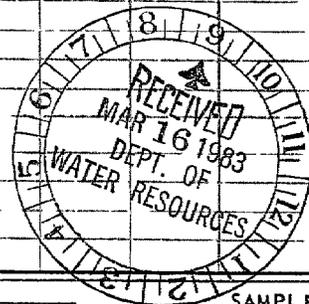
**SERGEANT, HAUSKINS & BECKWITH**  
 CONSULTING GEOTECHNICAL ENGINEERS  
 PHOENIX • ALBUQUERQUE • SANTA FE • SALT LAKE CITY

Depth in Feet	Blows Per Foot	Graphical Log	Sample	Sample Type	Blows per foot 140 lb. 30" free-fall drop hammer	Dry Density Lbs. per cu. ft.	Moisture Content Per Cent of Dry Wt.	Unified Soil Classification
50	84							
108								
120								
116				X	A			
55	354							
257								
201								
93								
109								
60	115							
98								
72								
180								
220								
224								
65	*182							
*96								
*68								
114								
70	214							
243								
109								
110								
107								
75	83							GP
155								
*154								
*55				X	A			
*43								
80	43							
85								
38								
86								
73								
85	185							
*151								
120								
217								
*136								
90	146							
93								
90								
114								
86								
95	65							
80								
150								
180								
*363								
100	158							

RIG TYPE Becker Hammer Drill  
 BORING TYPE 6 1/2" O.D. Pipe  
 SURFACE ELEV. 1073.4'  
 DATUM ADOT

REMARKS	VISUAL CLASSIFICATION
slightly moist to saturated	note: trace of clay at 53' to 60' note: added water to aid in drilling from 55' to 82'
	note: some silt below 60' to 80'
	note: increase in sand at 82' to 83'
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	note: 2", schedule 40 PVC set at 91', slotted from 71' to 91'

*REW*



GROUND WATER		
DEPTH	HOUR	DATE

SAMPLE TYPE  
 A - Auger cuttings. B - Block sample  
 S - 2" O.D. 1.38" I.D. tube sample.  
 U - 3" O.D. 2.42" I.D. tube sample.  
 T - 3" O.D. thin walled Shelby tube.

Stopped hammer at 100'

**SERGEANT, HAUSKINS & BECKWITH**  
 CONSULTING GEOTECHNICAL ENGINEERS  
 PHOENIX • ALBUQUERQUE • SANTA FE • SALT LAKE CITY

State of Arizona  
DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004



BRUCE BABBITT, Governor  
WESLEY E. STEINER, Director

1/24/83

HOWARD NEEDLES TAMMEN & BERGENDOFF  
9200 WARD PARKWAY  
KANSAS CITY MISSOURI 64141

File No. A(1-3)8cdd A(1-3)17dbb A(1-3)\_5dcc  
A(1-3)18caa A(1-3)7cad A(1-3)7abb  
Registration No. 55-504683 55-504684 55-504685  
55-504686 55-504687 55-504688

Dear Well Owner:

Enclosed for your records is a copy of the Notice of Intention to drill a well which you recently filed with this Department. This is returned as evidence of your compliance with ARS 45-596. Your driller has been mailed separately a Well Drilling Card, Well Drilling Report form and a Completion Report form.

In the event that you determine it necessary to change the location of the proposed well, you should obtain the written permission of the Department of Water Resources 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 driller to furnish this Department a complete and accurate log of the well within 30 days after completion of drilling and a Completion Report within 30 days after the installation of pumping equipment. You should insist and ensure that this is done.

For your future use, a Change of Well Information form is enclosed should it become needed. 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 the well registration file current and accurate.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Richard A. Gessner".

Richard A. Gessner  
Chief, Operations Branch

RAG :ek  
Enclosures

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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 1581, Hydrology 255 1586



Registration No. 55-504683  
Owner of  
Well Site H NEEDLES TAMMEN & BERGENDOFF  
File No. A(1-3)17dbb

COMPLETION REPORT

1. Completion Report to be filed with the Department within 30 days after installation of pump equipment.
2. 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.
3. 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.
4. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.

LOCATION OF THE WELL

T1N, R3E, SW $\frac{1}{4}$ , SE $\frac{1}{4}$ , NW $\frac{1}{4}$

Date Well Completed 1-28-83 Depth of Well 100'

1. Well Test:  
Test Pumping Capacity Not Tested Date Well Tested \_\_\_\_\_  
(Gal. per min.)

Method of Discharge Measurement \_\_\_\_\_  
(weir, orifice, current meter, etc.)

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

2. Equipment Installed:

Kind of Pump None installed (non planned)  
(turbine, centrifugal, etc.)

Kind of Power \_\_\_\_\_ H.P. Rating of Motor \_\_\_\_\_  
(Elec., Nat. Gas, Etc.)

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

RE Watten  
Signature  
3940 West Clarendon Avenue  
Address

March 14, 1983  
Date

Phoenix Arizona 85019  
City State Zip

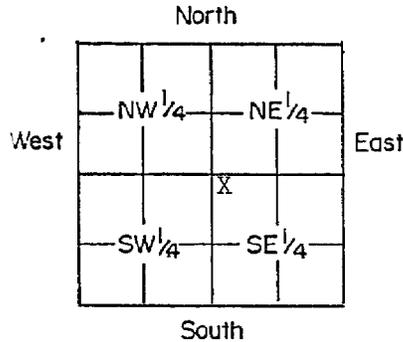
11/27/83

EXEMPT WELL  
FILING FEE: \$10.00

DEPARTMENT OF WATER RESOURCES  
NOTICE OF INTENTION TO DRILL OR DEEPEN  
AN EXEMPT WELL

EXEMPT WELL

Section 45-596, Arizona Revised Statutes, provides: A person may not drill or cause to be drilled any well or deepen or replace an existing well without first filing a Notice of Intention to Drill with the Department on a form prescribed and furnished by the Department. The well shall be completed within one year after the date of Notice. An exempt well means a well having a pump with maximum design 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 less than 2 acres of land.



-Indicate Well Location by X  
(Above diagram represents one  
640 acre section)

WELL/LAND LOCATION:

1. Township T1N  
2. Range R3E  
3. Section 17  
4. NW 1/4 NW 1/4 SE 1/4  
10 acre sub-division  
County Maricopa

Owner of Well:  
Howard Needles Tammen  
& Bergendoff

Name 9200 Ward Parkway  
Address Kansas City, Missouri 64141  
City State Zip

Owner of Land:  
State of Arizona  
Department of Transportation

Name 206 South 17th Avenue  
Address Phoenix, Arizona 85007  
City State Zip

DESCRIPTION OF WELL:

8. Diameter 6"  
Depth 100'  
9. Type of Casing 2" PVC  
& 4" Steel Surface Casing  
10. Principal use of Water.  
Monitoring only.

11. Other uses Intended

None

(If for non-commercial irrigation, state approximate area being cultivated.)

12. Construction will start about:

January 1983  
Month Year

PLACE OF USE:

13. Township \_\_\_\_\_  
14. Range \_\_\_\_\_  
15. Section \_\_\_\_\_  
16. Legal description of land water is to be used on:  
\_\_\_\_\_

17. Design Pump Capacity

None

18. Action Requested:

Drill X  
Deepen \_\_\_\_\_  
Replace \_\_\_\_\_

19. This notice filed by:

Owner \_\_\_\_\_  
Lessee \_\_\_\_\_  
Driller X

**07**

DO NOT WRITE IN THIS SPACE  
OFFICE RECORD

FILE NO A(1-3)17 ddb  
FILED 1-21-83 BY EK  
INPUT 1-26-83 BY \_\_\_\_\_  
DUPLICATE MAILED 1-24-83 BY EK  
REGISTRATION NO 55-504683  
AMA NON EXPANSION AREA Phf

Sergent, Hauskins & Beckwith  
Name  
3940 West Clarendon  
Address  
Phoenix, Arizona 85019  
City State Zip

20. Drillers Name:  
Ralph E. Weeks  
Name  
Sergent, Hauskins & Beckwith  
Name  
3940 West Clarendon  
Address  
Phoenix, Arizona 85019  
City State Zip  
319  
Department License Number

- Fill out this form in duplicate and mail to P.O. Box 2600, Phoenix, Arizona, 85002, or deliver to 99 East Virginia, Suite 100, Phoenix, Arizona 85004.
- If the Exempt Well is in fact a replacement (or deepening) well, state the registration number of the existing well.
- Construction standards for new and replacement wells and the deepening and abandonment of existing wells, shall be in accordance with Department Rules and Regulations.
- Norman H. Wetz, P.E., state that the construction will be under the direct and personal supervision of the well driller designated on this form and that the designated driller holds contractors license pursuant to ARS 45-595.

January 21, 1983

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Norman H. Wetz  
Signature of Person Filing

SERGEANT HAUSKINS & BECKWITH  
 3940 W CLARENDON AVE  
 PHOENIX AZ 85019

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

RECEIPT

KIND ENTRY	FILE REFERENCE NO
55	504683
	THRU
55	504688

HOWARD NEEDLES TAMMEN & BERGENDOFF

FUND SOURCE	ACCOUNT NO			INT ACCT	ITEM DESCRIPTION	RATE	\$ AMOUNT
	AGENCY	CHAPTER	DIV.				
					FILING FEE FOR NOTICE OF INTENTION TO DRILL	10.00	60.00
					(6) Exempt Wells		
					FILE#A(1-3) 17dbb Reg#55-504683	NOTED	PAYMENT
					A(1-3) 8edd Reg#55-504684	GUESTS	6
					A(1-3) 5doc Reg#55-504685	CHK NO	41185
					A(1-3) 18caa Reg#55-504686	55-1	60.00
					A(1-3) 7cad Reg#55-504687	TAX	0.00
					A(1-3) 7abb Reg#55-504688	TOTL	60.00
						GEN.CHEK	60.00
					CHECK# 41185	# 5907 A	11:02

1/24/83/ek

TOTAL

\$

60.00

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

04

CHANGE OF WELL INFORMATION

Well Reg. No. 504683  
File (location) No. A(1-3) 17dbb  
SEP 20 1990

I/We request the following well information be changed:

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

Date: \_\_\_\_\_, 19\_\_\_\_ Signature of current Well Owner

(DO NOT CUT THIS FORM IN HALF)

STATEMENT OF CHANGE OF WELL OWNERSHIP

I, THOMAS R. WARNE, state that I am (~~xxxxxxx~~) the (new)  
(please print)  
owner of the well described below:

Township 1N Range 3E Section 17; NW 1/4 NW 1/4 SE 1/4  
Well Registration No. 55-504683 File (location) No. A01003017DBB

Tammen & Bergendoff  
Previous Owner

ADOT  
PRINT New Owner's Name

9200 Ward Parkway  
Address

[Signature]  
Signature of New Owner

Kansas City, MO 64141  
City State Zip

2140 West Hilton Avenue  
Address

DATED: \_\_\_\_\_ **MICROFILMED**

Phoenix AZ 85009  
City State Zip

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, PRIOR TO DRILLING THE WELL, IN ADDITION TO AMENDING INFORMATION PREVIOUSLY FILED.

\* \* \* \* \*

ENTERED OCT 12 1990