

**APPENDIX B:
PROFESSIONAL-LEVEL
LOGS IN FHA AND THA**

Log # 1

(D-24-22) & DBA

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

RECEIVED
MAR 13 2002
RECORDS MGT

WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS- Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 08 Township 24 S Range 22 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588973 (Required) 6a. Latitude 31 21 27 "
- Permit No. _____ (If issued) 6b. Longitude 10 07 31 "

DESCRIPTION OF WELL

- Total Depth of Hole 17 ft
- Type of Casing(s): Surface Seal steel Well PVC
- Diameter and length of casing(s) 1.5 inches from -3.75 to 8.25, 1 inches from -3.6 to 12
- Method of sealing at reduction points no reduction points.
- Perforated from 12 to 17 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 feet. Diameter 1 inches. Type Slotted 0.20 PVC
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geoprobe
- Date started 04 16 2001
Month Day Year
- Date completed 04 16 2001
Month Day Year
- Depth to water 8.3 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of outer galvanized casing at 3.75 ft above land surface.
- If flowing well, state method of flow regulation: _____
- Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

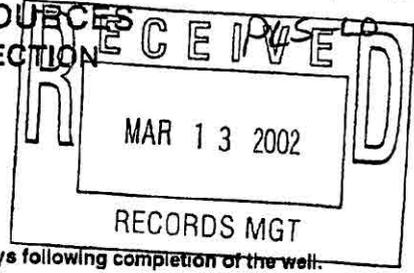
ANSWERED MAR 13 2002

Log # 2

(11-24-22) 803A

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- 1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- 2. Drilling Firm: USGS- Geoprobe
Address: 5338 Montgomery Blvd Albuquerque 87104 (505) 830-7900
Street City State Zip Telephone Number
- 3. Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 08 Township 24 S Range 22 E
10 Acre 40 Acre 160 Acre
- 4. Well Registration No. 55- 588975 (Required) 6a. Latitude 31 21 27 "
- 5. Permit No. _____ (If issued) 6b. Longitude 110 07 33 "

DESCRIPTION OF WELL

- 7. Total Depth of Hole 19 ft
- 8. Type of Casing(s): Surface Seal Steel Well PVC
- 9. Diameter and length of casing(s) 1.5 inches from -4.25 to 7.5 inches from -4 to 14
- 10. Method of sealing at reduction points no reduction points
- 11. Perforated from 14 to 19 from _____ to _____ from _____ to _____
- 12. Size of cuts _____ Number of cuts per foot _____
- 13. If screen was installed: Length 5 feet. Diameter 1 inches. Type Slotted .020 PVC
- 14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One)
- 15. Date started 04 16 2001
Month Day Year
- 16. Date completed 04 16 2001
Month Day Year
- 17. Depth to water 13.6 ft. (If flowing well, so state).
- 18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galvanized outer casing at 4.25 ft above land surface.
- 19. If flowing well, state method of flow regulation: _____

20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

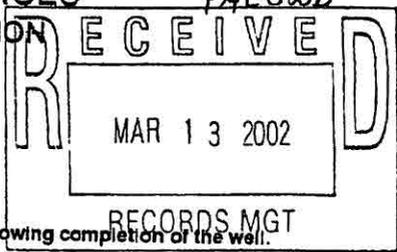
Log # 3

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

(0-24-22) 4CBC

PALUWD



WELL DRILLER REPORT

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

- 1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- 2. Drilling Firm: USGS - Central Region
Address: Box 25046 Denver Fed. Ctr. Denver CO 80225 (303) 236-5900
Street City State Zip Telephone Number
- 3. Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 04 Township 24 S Range 22 E
10 Acre 40 Acre 160 Acre
- 4. Well Registration No. 55- 588968 (Required) 6a. Latitude 31 22 14 "
- 5. Permit No. _____ (if issued) 6b. Longitude 110 07 16 "

DESCRIPTION OF WELL

- 7. Total Depth of Hole 68 ft
- 8. Type of Casing(s): Surface Seal PVC Well PVC
- 9. Diameter and length of casing(s) 6 inches from -1.4 to 4.2 inches from -1.13 to 6.3
- 10. Method of sealing at reduction points no reduction points
- 11. Perforated from 63 to 68 from _____ to _____ from _____ to _____
- 12. Size of cuts _____ Number of cuts per foot _____
- 13. If screen was installed: Length 5 feet. Diameter 2 inches. Type slotted 0.25 PVC
- 14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
- 15. Date started 03 08 2001
Month Day Year
- 16. Date completed 03 09 2001
Month Day Year
- 17. Depth to water 18.3 ft. (If flowing well, so state).
- 18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from measure point on wner PVC casing at 1.13 ft above land surface.
- 19. If flowing well, state method of flow regulation: _____
- 20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

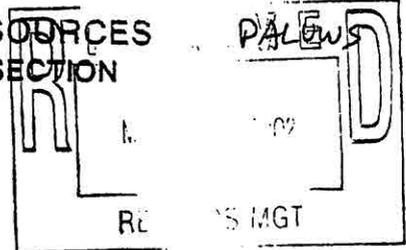
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 4

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



(17-24-22)4C3C

WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Central Region
Address: Box 25046 Denver Federal Center Denver CO 80255 (303) 236-5900
Street City State Zip Telephone Number
- Location: SW 1/4 NW 1/4 SW 1/4 of Section 04 Township 24 S Range 22 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588969 (Required) 6a. Latitude 31 22 14 "
- Permit No. _____ (If issued) 6b. Longitude 110 07 16 "

DESCRIPTION OF WELL

- Total Depth of Hole 36 ft
- Type of Casing(s): Surface Seal PVC Well PVC
- Diameter and length of casing(s) 6 inches from -1.4 to 4.2 inches from -1.17 to 26
- Method of sealing at reduction points no reduction points
- Perforated from 26 to 31 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 feet. Diameter 2 inches. Type slotted .020 PVC
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
- Date started 03 08 2001
Month Day Year
- Date completed 03 08 2001
Month Day Year
- Depth to water 14.4 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from measure point on inner PVC casing at 1.17 ft above land surface.
- If flowing well, state method of flow regulation: _____
- Remarks: _____

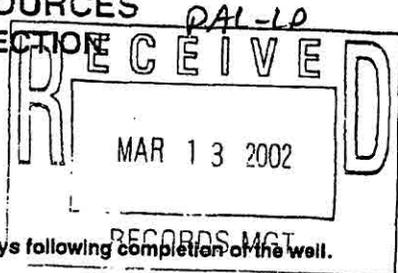
DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

Log # 5

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson A.Z. 85719 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- Location: NE 1/4 NW 1/4 SW 1/4 of Section 04 Township 24 S Range 22 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588970 (Required) 6a. Latitude 31 22 . 08 "
- Permit No. _____ (If issued) 6b. Longitude 110 07 . 05 "

DESCRIPTION OF WELL

- Total Depth of Hole 24.6 ft
- Type of Casing(s): Surface Seal none Well Steel
- Diameter and length of casing(s) _____ inches from _____ to _____, 1.5 inches from -4.4 to 23.6
- Method of sealing at reduction points no reduction points
- Perforated from 23.6 to 24.6 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 1 feet. Diameter 1 inches. Type Steel
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe
- Date started 05 Month 22 Day 2000 Year
- Date completed 05 Month 22 Day 2000 Year
- Depth to water 10.7 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galv. casing at 4.2 ft above land surface
- If flowing well, state method of flow regulation: _____
- Remarks: _____

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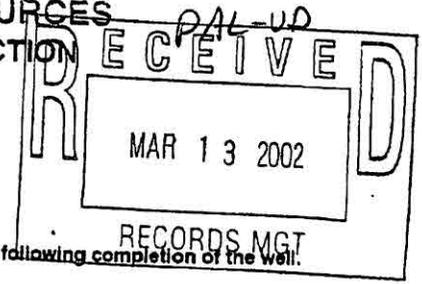
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File No. _____
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ANSWERED MAR 13 2002

Log # 6

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USG-S- Geoprobe
Address: 5338 Montgomery Blvd. Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 04 Township 24 S Range 22 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588971 (Required) 6a. Latitude 31 22 07 "
- Permit No. _____ (If issued) 6b. Longitude 110 07 07 "

DESCRIPTION OF WELL

- Total Depth of Hole 32.04 ft
- Type of Casing(s): Surface Seal none Well Steel
- Diameter and length of casing(s) _____ inches from _____ to 1.5 inches from 0.96 to 31.04
- Method of sealing at reduction points no reduction points
- Perforated from 31.04 to 32.04 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 1 feet. Diameter 1 inches. Type Steel
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geoprobe
- Date started 05 23 2000
Month Day Year
- Date completed 05 23 2000
Month Day Year
- Depth to water 16.6 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galv. casing at 0.96 ft above land surface
- If flowing well, state method of flow regulation: _____

20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

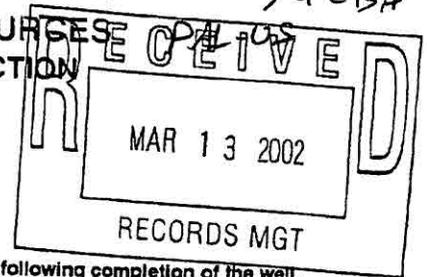
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

Log # 7

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

(U-24-22) UCBA



WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 620-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd. Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 04 Township 24 S Range 22 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588472 (Required) 6a. Latitude 31 22 07 "
- Permit No. _____ (If issued) 6b. Longitude 110 07 07 "

DESCRIPTION OF WELL

- Total Depth of Hole 21.25 ft
- Type of Casing(s): Surface Seal None Well Steel
- Diameter and length of casing(s) _____ inches from _____ to 6.5 inches from 0.75 to 20.25
- Method of sealing at reduction points no reduction points
- Perforated from 20.25 to 21.25 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 1 feet. Diameter 1 inches. Type Steel
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geoprobe
- Date started 05 23 2000
Month Day Year
- Date completed 05 23 2000
Month Day Year
- Depth to water 16.5 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galvanized casing at 0.75 ft above land surface
- If flowing well, state method of flow regulation: _____
- Remarks: _____

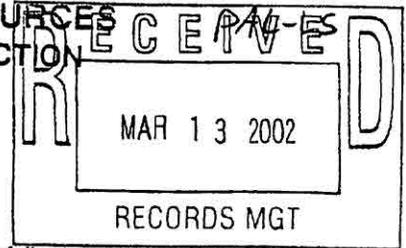
DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

Log # 8

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- 1. Owner's Name: US Geological Survey
Address: 520 M. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- 2. Drilling Firm: USGS - Geo probe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- 3. Location: NE 1/4 NW 1/4 SW 1/4 of Section 04 Township 24 S Range 22 E
10 Acre 40 Acre 160 Acre
- 4. Well Registration No. 55- 588974 (Required) 6a. Latitude 31 22 . 08 "
- 5. Permit No. _____ (If issued) 6b. Longitude 110 07 . 05 "

DESCRIPTION OF WELL

- 7. Total Depth of Hole 16.3 ft
- 8. Type of Casing(s): Surface Seal none Well Steel
- 9. Diameter and length of casing(s) _____ inches from _____ to 1.5 inches from -4.7 to 15.3
- 10. Method of sealing at reduction points _____
- 11. Perforated from 15.3 to 16.3 from _____ to _____ from _____ to _____
- 12. Size of cuts _____ Number of cuts per foot _____
- 13. If screen was installed: Length 1 feet. Diameter 1 inches. Type Steel
- 14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geo probe
- 15. Date started 05 Month 22 Day 2000 Year
- 16. Date completed 05 Month 22 Day 2000 Year
- 17. Depth to water 11.3 ft. (If flowing well, so state).
- 18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galvanized casing at 4.7 ft above land surface
- 19. If flowing well, state method of flow regulation: _____
- 20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

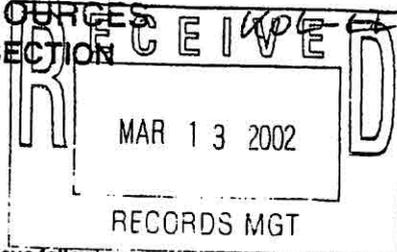
ANSWERED MAR 13 2002

Logs # 10-15

Log # 16

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 570 N Park Ave. Tucson A.Z. 85719 (520)-670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd. Albuquerque NM 87109 (505)-830-7900
Street City State Zip Telephone Number
3. Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 22 Township 23 S Range 22 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588965 (Required) 6a. Latitude 31 24 53 "
5. Permit No. _____ (If issued) 6b. Longitude 110 06 14 "

DESCRIPTION OF WELL

7. Total Depth of Hole 20 ft
8. Type of Casing(s): Surface Seal Steel Well PVC
9. Diameter and length of casing(s) 1.5 inches from -4.25 to 10.75 inches from -3.95 to 15
10. Method of sealing at reduction points no reduction points
11. Perforated from 15 to 20 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 5 feet. Diameter 1 inches. Type Slotted .020 PVC
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geoprobe
15. Date started 04 19 2001
Month Day Year
16. Date completed 04 19 2001
Month Day Year
17. Depth to water 127 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galv. outer casing at 4.1 ft above land surface.
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

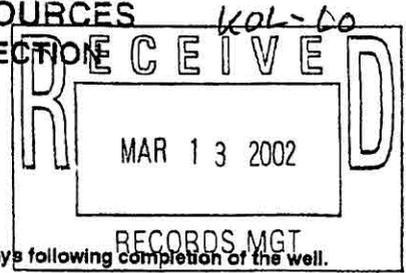
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 17

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- Owner's Name: U.S. Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520)-670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd. Albuquerque NM 87109 (505)-830-7900
Street City State Zip Telephone Number
- Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 22 Township 23 S Range 22 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588966 (Required) 6a. Latitude 31 24 53 "
- Permit No. _____ (If issued) 6b. Longitude 110 06 13 "

DESCRIPTION OF WELL

- Total Depth of Hole 20 ft
- Type of Casing(s): Surface Seal Steel Well PVC
- Diameter and length of casing(s) 1.5 inches from 4.10 to 2.75, 1 inches from 3.85 to 15
- Method of sealing at reduction points no reduction points
- Perforated from 15 to 20 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 feet. Diameter 1 inches. Type slotted .020 PVC
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geoprobe
- Date started 04 19 2001
Month Day Year
- Date completed 04 19 2001
Month Day Year
- Depth to water 12.4 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galv. outer casing at 4.1' above land surface.
- If flowing well, state method of flow regulation: _____
- Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 18

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

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: U.S. Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520)-670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS-Tucson
Address: 520 N. Park Ave. Tucson AZ 85719 (520)-670-6671 ext. 278
Street City State Zip Telephone Number
3. Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 22 Township 23 S Range 22 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588967 (Required) 6a. Latitude 31 24 . 53 "
5. Permit No. _____ (If issued) 6b. Longitude 110 06 . 11 "

DESCRIPTION OF WELL

7. Total Depth of Hole 16 ft
8. Type of Casing(s): Surface Seal steel Well PVC
9. Diameter and length of casing(s) 1.5 inches from -4.15 to 10.85, 1 inches from -4 to 11
10. Method of sealing at reduction points no reduction points
11. Perforated from 11 to 16 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 5 feet. Diameter 1 inches. Type Slotted .020 PVC
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe
15. Date started 04 14 2001
Month Day Year
16. Date completed 04 14 2001
Month Day Year
17. Depth to water 14.0 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galv. casing at 4.15 ft above land surface.
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

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Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Logs # 19-22

LOG OF BORING NO. B-2										Page 1 of 1	
CLIENT		PROJECT								DATE	
Terracon Corporation		Hereford Bridge Foundation Analysis								12-18-03	
Cochise County, Arizona		SERIES								12-18-03	
DEPTH (FEET)	ELEVATION (FEET)	SOIL TYPE	REMARKS	MOISTURE (%)	SPLINTER (%)						
0.0	87.00	CLAYEY SAND WITH SILT	Approx. Surface Elev: 87.00								
1.0	86.00	CLAYEY SAND WITH SILT	CLAYEY SAND WITH SILT, dark brown, medium dense, non-plastic, fine sand								
2.0	85.00	CLAYEY SAND WITH SILT									
3.0	84.00	CLAYEY SAND WITH SILT									
4.0	83.00	CLAYEY SAND WITH SILT									
5.0	82.00	CLAYEY SAND WITH SILT									
6.0	81.00	CLAYEY SAND WITH SILT									
7.0	80.00	CLAYEY SAND WITH SILT									
8.0	79.00	CLAYEY SAND WITH SILT									
9.0	78.00	CLAYEY SAND WITH SILT									
10.0	77.00	CLAYEY SAND WITH SILT									
11.0	76.00	CLAYEY SAND WITH SILT									
12.0	75.00	CLAYEY SAND WITH SILT									
13.0	74.00	CLAYEY SAND WITH SILT									
14.0	73.00	CLAYEY SAND WITH SILT									
15.0	72.00	CLAYEY SAND WITH SILT									
16.0	71.00	CLAYEY SAND WITH SILT									
17.0	70.00	CLAYEY SAND WITH SILT									
18.0	69.00	CLAYEY SAND WITH SILT									
19.0	68.00	CLAYEY SAND WITH SILT									
20.0	67.00	CLAYEY SAND WITH SILT									
21.0	66.00	CLAYEY SAND WITH SILT									
22.0	65.00	CLAYEY SAND WITH SILT									
23.0	64.00	CLAYEY SAND WITH SILT									
24.0	63.00	CLAYEY SAND WITH SILT									
25.0	62.00	CLAYEY SAND WITH SILT									
26.0	61.00	CLAYEY SAND WITH SILT									
27.0	60.00	CLAYEY SAND WITH SILT									
28.0	59.00	CLAYEY SAND WITH SILT									
29.0	58.00	CLAYEY SAND WITH SILT									
30.0	57.00	CLAYEY SAND WITH SILT									
31.0	56.00	CLAYEY SAND WITH SILT									
32.0	55.00	CLAYEY SAND WITH SILT									
33.0	54.00	CLAYEY SAND WITH SILT									
34.0	53.00	CLAYEY SAND WITH SILT									
35.0	52.00	CLAYEY SAND WITH SILT									
36.0	51.00	CLAYEY SAND WITH SILT									
37.0	50.00	CLAYEY SAND WITH SILT									
38.0	49.00	CLAYEY SAND WITH SILT									
39.0	48.00	CLAYEY SAND WITH SILT									
40.0	47.00	CLAYEY SAND WITH SILT									
41.0	46.00	CLAYEY SAND WITH SILT									
42.0	45.00	CLAYEY SAND WITH SILT									
43.0	44.00	CLAYEY SAND WITH SILT									
44.0	43.00	CLAYEY SAND WITH SILT									
45.0	42.00	CLAYEY SAND WITH SILT									
46.0	41.00	CLAYEY SAND WITH SILT									
47.0	40.00	CLAYEY SAND WITH SILT									
48.0	39.00	CLAYEY SAND WITH SILT									
49.0	38.00	CLAYEY SAND WITH SILT									
50.0	37.00	CLAYEY SAND WITH SILT									
51.0	36.00	CLAYEY SAND WITH SILT									
52.0	35.00	CLAYEY SAND WITH SILT									
53.0	34.00	CLAYEY SAND WITH SILT									
54.0	33.00	CLAYEY SAND WITH SILT									
55.0	32.00	CLAYEY SAND WITH SILT									
56.0	31.00	CLAYEY SAND WITH SILT									
57.0	30.00	CLAYEY SAND WITH SILT									
58.0	29.00	CLAYEY SAND WITH SILT									
59.0	28.00	CLAYEY SAND WITH SILT									
60.0	27.00	CLAYEY SAND WITH SILT									
61.0	26.00	CLAYEY SAND WITH SILT									
62.0	25.00	CLAYEY SAND WITH SILT									
63.0	24.00	CLAYEY SAND WITH SILT									
64.0	23.00	CLAYEY SAND WITH SILT									
65.0	22.00	CLAYEY SAND WITH SILT									
66.0	21.00	CLAYEY SAND WITH SILT									
67.0	20.00	CLAYEY SAND WITH SILT									
68.0	19.00	CLAYEY SAND WITH SILT									
69.0	18.00	CLAYEY SAND WITH SILT									
70.0	17.00	CLAYEY SAND WITH SILT									
71.0	16.00	CLAYEY SAND WITH SILT									
72.0	15.00	CLAYEY SAND WITH SILT									
73.0	14.00	CLAYEY SAND WITH SILT									
74.0	13.00	CLAYEY SAND WITH SILT									
75.0	12.00	CLAYEY SAND WITH SILT									
76.0	11.00	CLAYEY SAND WITH SILT									
77.0	10.00	CLAYEY SAND WITH SILT									
78.0	9.00	CLAYEY SAND WITH SILT									
79.0	8.00	CLAYEY SAND WITH SILT									
80.0	7.00	CLAYEY SAND WITH SILT									
81.0	6.00	CLAYEY SAND WITH SILT									
82.0	5.00	CLAYEY SAND WITH SILT									
83.0	4.00	CLAYEY SAND WITH SILT									
84.0	3.00	CLAYEY SAND WITH SILT									
85.0	2.00	CLAYEY SAND WITH SILT									
86.0	1.00	CLAYEY SAND WITH SILT									
87.0	0.00	CLAYEY SAND WITH SILT									

LOG OF BORING NO. B-3										Page 1 of 1	
CLIENT		PROJECT								DATE	
Terracon Corporation		Hereford Bridge Foundation Analysis								12-18-03	
Cochise County, Arizona		SERIES								12-18-03	
DEPTH (FEET)	ELEVATION (FEET)	SOIL TYPE	REMARKS	MOISTURE (%)	SPLINTER (%)						
0.0	87.00	CLAYEY SAND WITH SILT	Approx. Surface Elev: 87.00								
1.0	86.00	CLAYEY SAND WITH SILT	CLAYEY SAND WITH SILT, dark brown, medium dense, non-plastic, fine sand								
2.0	85.00	CLAYEY SAND WITH SILT									
3.0	84.00	CLAYEY SAND WITH SILT									
4.0	83.00	CLAYEY SAND WITH SILT									
5.0	82.00	CLAYEY SAND WITH SILT									
6.0	81.00	CLAYEY SAND WITH SILT									
7.0	80.00	CLAYEY SAND WITH SILT									
8.0	79.00	CLAYEY SAND WITH SILT									
9.0	78.00	CLAYEY SAND WITH SILT									
10.0	77.00	CLAYEY SAND WITH SILT									
11.0	76.00	CLAYEY SAND WITH SILT									
12.0	75.00	CLAYEY SAND WITH SILT									
13.0	74.00	CLAYEY SAND WITH SILT									
14.0	73.00	CLAYEY SAND WITH SILT									
15.0	72.00	CLAYEY SAND WITH SILT									
16.0	71.00	CLAYEY SAND WITH SILT									
17.0	70.00	CLAYEY SAND WITH SILT									
18.0	69.00	CLAYEY SAND WITH SILT									
19.0	68.00	CLAYEY SAND WITH SILT									
20.0	67.00	CLAYEY SAND WITH SILT									
21.0	66.00	CLAYEY SAND WITH SILT									
22.0	65.00	CLAYEY SAND WITH SILT									
23.0	64.00	CLAYEY SAND WITH SILT									
24.0	63.00	CLAYEY SAND WITH SILT									
25.0	62.00	CLAYEY SAND WITH SILT									
26.0	61.00	CLAYEY SAND WITH SILT									
27.0	60.00	CLAYEY SAND WITH SILT									
28.0	59.00	CLAYEY SAND WITH SILT									
29.0	58.00	CLAYEY SAND WITH SILT									
30.0	57.00	CLAYEY SAND WITH SILT									
31.0	56.00	CLAYEY SAND WITH SILT									
32.0	55.00	CLAYEY SAND WITH SILT									
33.0	54.00	CLAYEY SAND WITH SILT									
34.0	53.00	CLAYEY SAND WITH SILT									
35.0	52.00	CLAYEY SAND WITH SILT									
36.0	51.00	CLAYEY SAND WITH SILT									
37.0	50.00	CLAYEY SAND WITH SILT									
38.0	49.00	CLAYEY SAND WITH SILT									
39.0	48.00	CLAYEY SAND WITH SILT									
40.0	47.00	CLAYEY SAND WITH SILT									
41.0	46.00	CLAYEY SAND WITH SILT									
42.0	45.00	CLAYEY SAND WITH SILT									

Log # 23

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 BLM - Safford District
Name
425 E 4th St Safford, Az 85546
Mailing Address

2. Driller Same as above
Name

3. Location of well: NE SE NE Sec 9 Mailing Address
SE NE, Sec 9, T. 23 S., R. 22 E. Hereford North
4. Permit No. None 55-522010 M #1
(if issued)

DESCRIPTION OF WELL

- 5. Total depth of hole 9 ft.
- 6. Type of casing Galvanized steel
- 7. Diameter and length of casing 1.25 in. from 0 to 7, in from _____ to _____
- 8. Method of sealing at reduction points Compacted earth
- 9. Perforated from N/A to _____, from _____ to _____, from _____ to _____
- 10. Size of cuts N/A Number of cuts per foot _____
- 11. If screen was installed: Length 2 ft. Diam 1.25 in. Type 10 slot
- 12. Method of construction Hand-driven
drilled, dug, driven, bored, jetted, etc.
- 13. Date started 1/22/87
Month Day Year
- 14. Date completed 1/22/87
Month Day Year
- 15. Depth to water 5.7 ft. (If flowing well, so state.)
- 16. Describe point from which depth measurements were made, and give sea-level elevation if available _____
- 17. If flowing well, state method of flow regulation: _____
- 18. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

REG. NO. _____
File No. _____
Entered _____ By _____

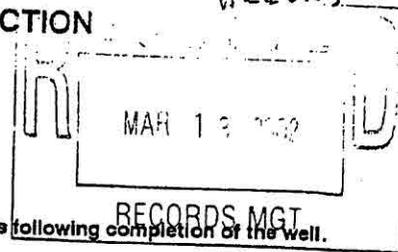
ENTERED APR 25 1989

Log # 24

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

HEED UWS



WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Central Region
Address: Box 25046 Denver Fed. Ctr. Denver CO 80225 (303) 236-5900
Street City State Zip Telephone Number
- Location: NE 1/4 SW 1/4 SE 1/4 of Section 04 Township 23 S Range 22 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588950 (Required) 6a. Latitude 31 27 17
- Permit No. _____ (If issued) 6b. Longitude 110 06 35

DESCRIPTION OF WELL

- Total Depth of Hole 58 ft
- Type of Casing(s): Surface Seal PVC Well PVC
- Diameter and length of casing(s) 6 inches from -1.44 to 2 inches from -2.5 to 25
- Method of sealing at reduction points _____
- Perforated from 25 to 30 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 feet. Diameter 2 inches. Type Slotted .020 PVC
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
- Date started 03 09 2001
Month Day Year
- Date completed 03 09 2001
Month Day Year
- Depth to water 14.1 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured from measure point on PVC inner casing at 0.75 ft above land surface
- If flowing well, state method of flow regulation: _____
- Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

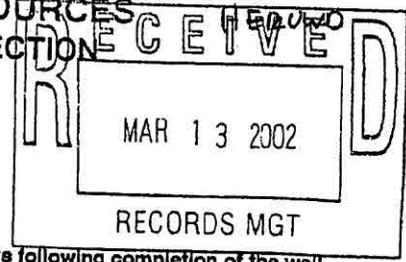
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 25

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85714 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Central Region
Address: Box 25046 Denver Fed. Ctr. Denver CO 80225 (303) 236-5900
Street City State Zip Telephone Number
- Location: NF 1/4 SW 1/4 SE 1/4 of Section 04 Township 23 S Range 22 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588951 (Required) 6a. Latitude 31 27 17
- Permit No. _____ (If issued) 6b. Longitude 110 06 35

DESCRIPTION OF WELL

- Total Depth of Hole 58 ft
- Type of Casing(s): Surface Seal PVC Well PVC
- Diameter and length of casing(s) 6 inches from -1.44 to 2 inches from -2.71 to 48
- Method of sealing at reduction points _____
- Perforated from 48 to 53 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 feet. Diameter _____ inches. Type Slotted .020 PVC
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
- Date started 03 Month 09 Day 2001 Year
- Date completed 03 Month 09 Day 2001 Year
- Depth to water 14.2 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured from measure point on inner PVC casing at 0.7 ft above land surface
- If flowing well, state method of flow regulation: _____
- Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

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
0	2	Surface sediment
2	4	Gravel - hard drilling but unconsolidated
4	6	Softer material w/ sand matrix
6	12	Gravel to 70 mm, hard drilling
12	23	v. soft probably saturated flowing sand
23	23	Harder layer. Saturated muds flowing out of hole due to augering action.
23	28	Soft, probably sand.
30	35	Possibly top of basin fill deposits
35	40	Softer sand again
39.5	44	Core - Mostly clay and silt w/ calcite nodules
44	47	Core - Mostly clay to v. fine sand.
47	48	Core - Coarse gravel and sand
48	49	Core - clay and sand
49	54	Core - soft to somewhat indurated sand
54	59	Interbedded silt and sand
		Recorded Saturation at 23' NLS but may have occurred in the 12' - 23' range.

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.

Drilling Firm: US Geological Survey - Central Region Drillers

Signature of Qualifying Party: [Signature] Date: 1/22/02

Street: Box 25046 MS 406 DFC

City: Denver State: CO Zip: 80225

Log # 26

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

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

RESERVE WELLS
MAR 13 2002
RECORDS MGT

WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave Tucson AZ 85719 (520)670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS-Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505)830-7900
Street City State Zip Telephone Number
3. Location: SE ¼ SW ¼ SE ¼ of Section 04 Township 23 S Range 22E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588952 (Required) 6a. Latitude 31 27 16 "
5. Permit No. _____ (If issued) 6b. Longitude 110 06 32 "

DESCRIPTION OF WELL

7. Total Depth of Hole 12.8 ft
8. Type of Casing(s): Surface Seal _____ Well Galv. Steel
9. Diameter and length of casing(s) 1.5 inches from 4.2 to 11.8, inches from _____ to _____
10. Method of sealing at reduction points _____
11. Perforated from 11.8 to 12.8 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 1 feet. Diameter _____ inches. Type drilled steel
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe
15. Date started 05 14 2000
Month Day Year
16. Date completed 05 14 2000
Month Day Year
17. Depth to water 6.7 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured from lip of casing at 4.2 ft above land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

**DO NOT WRITE IN THIS SPACE
OFFICE RECORD**

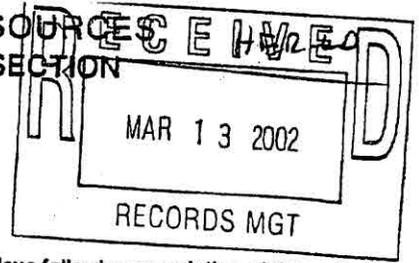
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 27

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
3. Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 04 Township 23 S Range 22 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588953 (Required) 6a. Latitude 31 27 16
5. Permit No. _____ (If issued) 6b. Longitude 110 06 32

DESCRIPTION OF WELL

7. Total Depth of Hole 21.25 ft
8. Type of Casing(s): Surface Seal _____ Well Galv. Steel
9. Diameter and length of casing(s) 1.5 inches from -3.75 to 2.25 inches from _____ to _____
10. Method of sealing at reduction points _____
11. Perforated from 20.25 to 21.25 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 1 feet. Diameter 1 inches. Type drilled steel
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe
15. Date started 05 14 2000
Month Day Year
16. Date completed 05 14 2000
Month Day Year
17. Depth to water 7.1 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured From lip of casing at 3.75 ft above land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

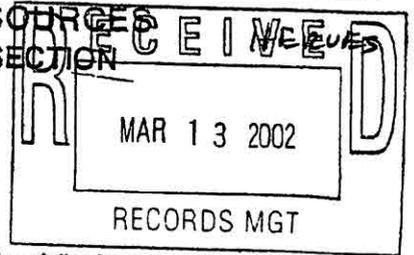
DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

Log # 28

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

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85714 (520) 670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USA-S - Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87104 (505) 830-7400
Street City State Zip Telephone Number
3. Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 04 Township 23 S Range 22 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588954 (Required) 6a. Latitude 31 27 16
5. Permit No. _____ (If issued) 6b. Longitude 110 06 33

DESCRIPTION OF WELL

7. Total Depth of Hole 20.04 ft
8. Type of Casing(s): Surface Seal _____ Well Galv. Steel
9. Diameter and length of casing(s) 1.5 inches from -0.96 to 17.04 inches from _____ to _____
10. Method of sealing at reduction points _____
11. Perforated from 19.04 to 20.04 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 1 feet. Diameter 1 inches. Type drilled pipe
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: 20 (Check One) Geoprobe
15. Date started 05 14 _____
Month Day Year
16. Date completed 05 14 2000
Month Day Year
17. Depth to water 8.3 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured from l.p of casing at 0.96 ft above land surface.
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

Log # 29

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Port Ave Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
3. Location: SE 1/4 SW 1/4 SE 1/4 of Section 04 Township 23 S Range 22 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588955 (Required) 6a. Latitude 31 27 16
5. Permit No. _____ (If issued) 6b. Longitude 110 06 33

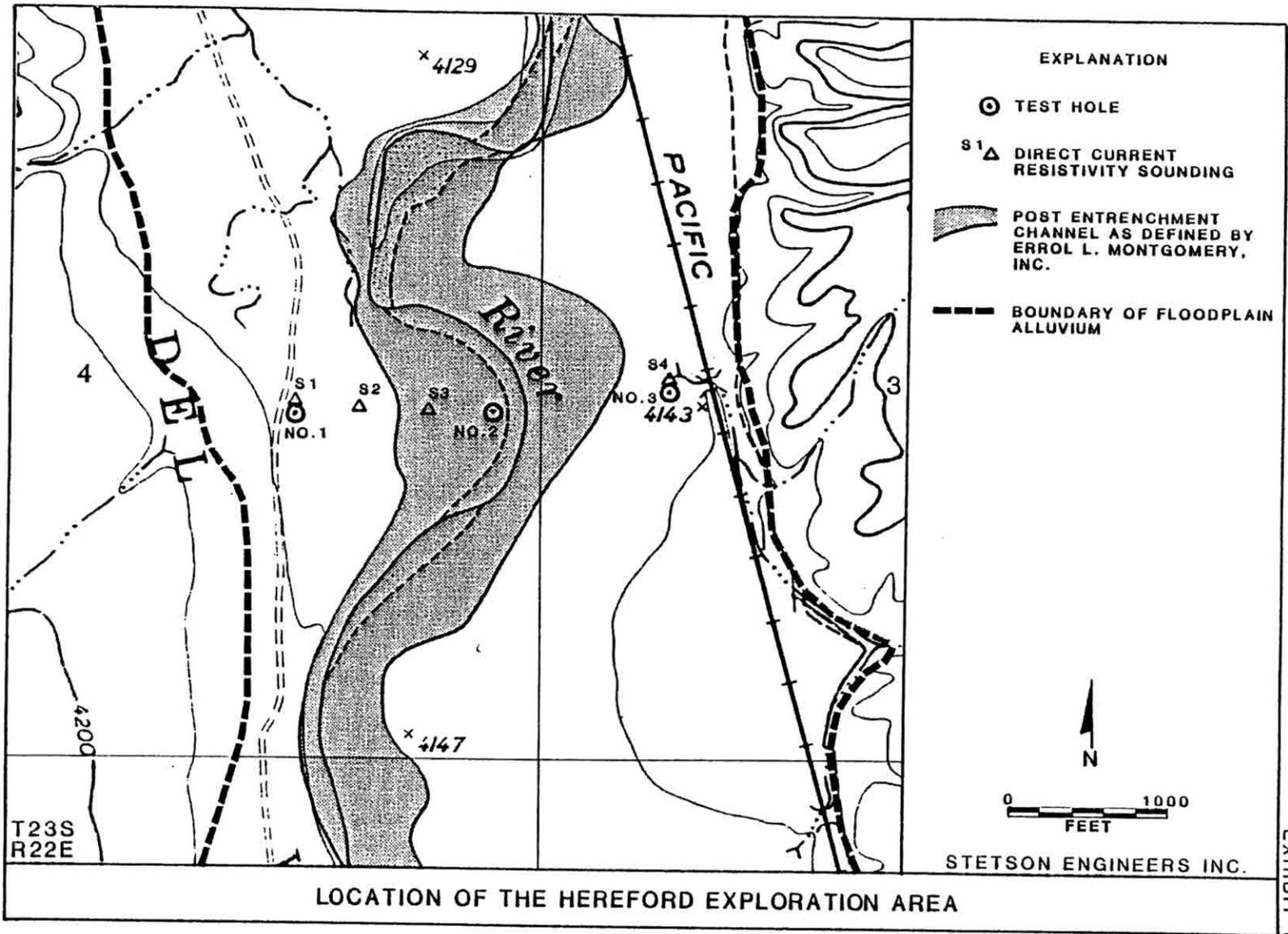
DESCRIPTION OF WELL

7. Total Depth of Hole 25.8 ft
8. Type of Casing(s): Surface Seal _____ Well Galv. Steel
9. Diameter and length of casing(s): 1.5 inches from -3.2 to 24.8 inches from _____ to _____
10. Method of sealing at reduction points _____
11. Perforated from 24.8 to 25.8 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 1 feet. Diameter 1 inches. Type drilled
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: K (Check One) Geoprobe
15. Date started 05 14 2000
Month Day Year
16. Date completed 05 14 2000
Month Day Year
17. Depth to water 413 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured to lip of casing at 3.2 ft above land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

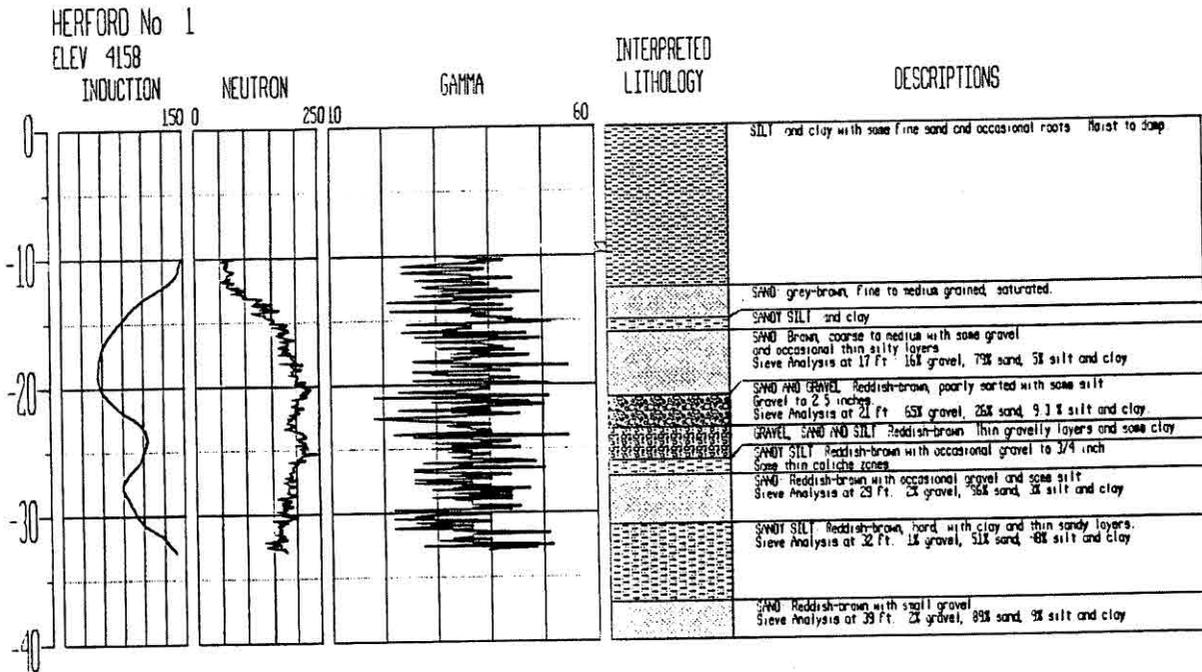
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

Log # 30



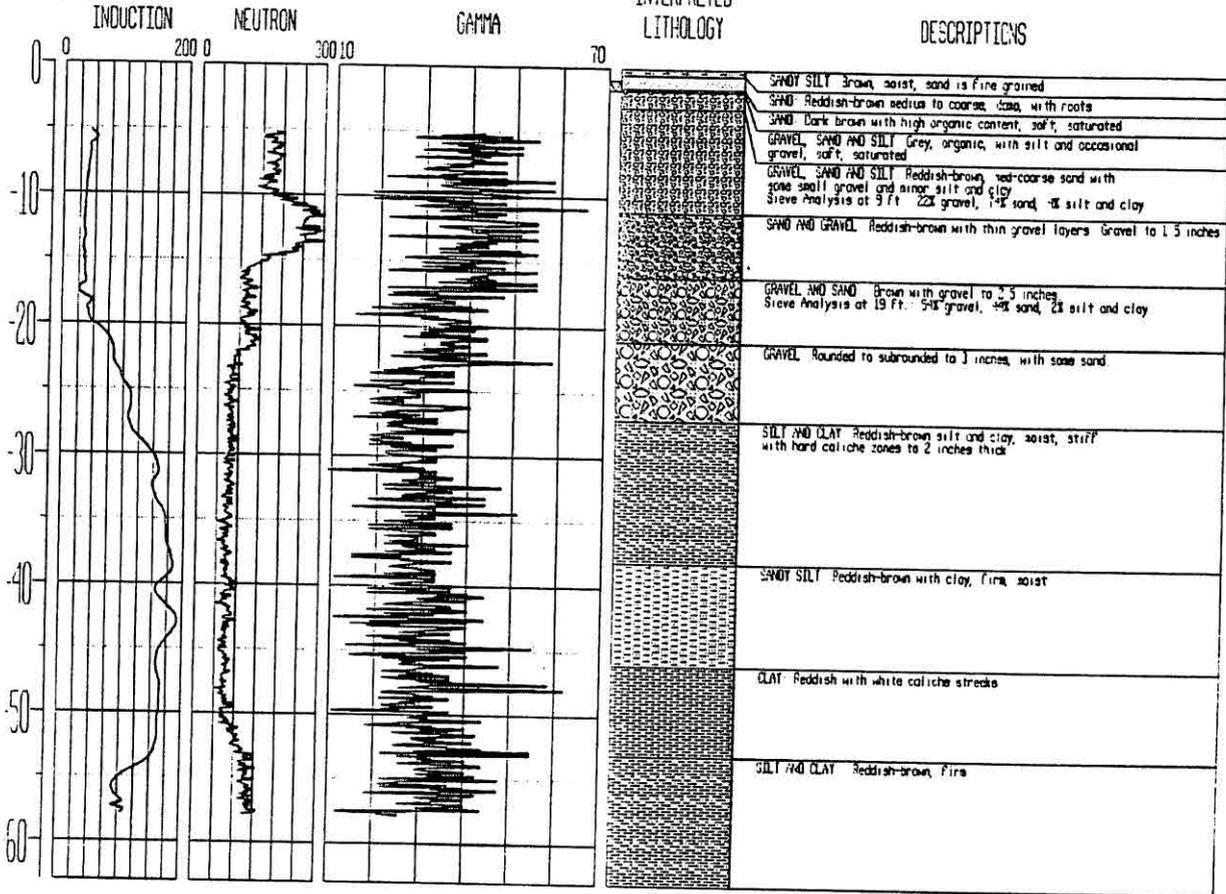
LOCATION OF THE HEREFORD EXPLORATION AREA

EXHIBIT 1

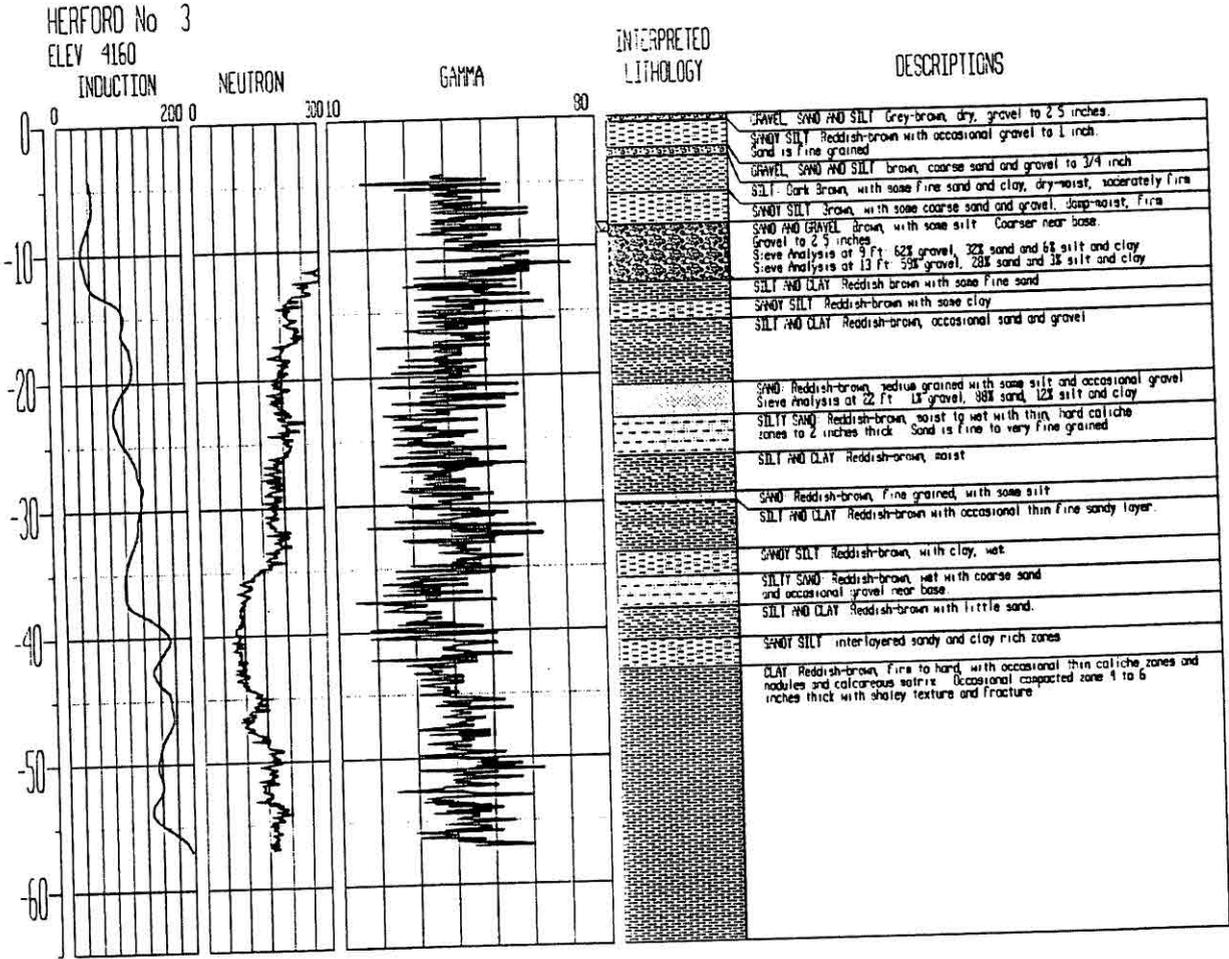


Log # 31

HERFORD No 2
ELEV 4147.5



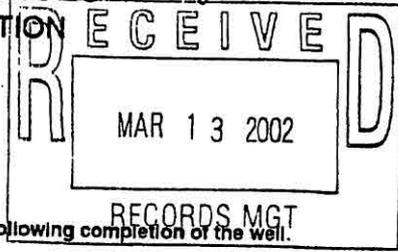
Log # 32



Log # 34

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- 1. Owner's Name: US Geological Survey
Address: 570 N. Park Ave. Tucson AZ 85719 570-670-6671
Street City State Zip Telephone Number
- 2. Drilling Firm: USGS - Geoprobe
Address: 5838 Montgomery Blvd. Albuquerque NM 87109 505 830-7100
Street City State Zip Telephone Number
- 3. Location: NE SW SW SW of Section 28 Township 22S Range 22E
10 Acre 40 Acre 160 Acre
- 4. Well Registration No. 55- 588962 (Required) 6a. Latitude 31 28 59 "
- 5. Permit No. _____ (If issued) 6b. Longitude 110 07 06 "

DESCRIPTION OF WELL

- 7. Total Depth of Hole 14 ft
- 8. Type of Casing(s): Surface Seal galv. steel Well PVC
- 9. Diameter and length of casing(s) 1.5 inches from -4.2' to 7.8', 1.0 inches from -4' to 9'
- 10. Method of sealing at reduction points no reduction points
- 11. Perforated from 9' to 14' from _____ to _____ from _____ to _____
- 12. Size of cuts _____ Number of cuts per foot _____
- 13. If screen was installed: Length 5 feet. Diameter 1 inches. Type slotted 0.020" PVC
- 14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe
- 15. Date started 04 17 2001
Month Day Year
- 16. Date completed 04 17 2001
Month Day Year
- 17. Depth to water 7.9' ft. (If flowing well, so state).
- 18. Describe point from which depth measurements were made, and give sea-level elevation if available Measurements made to lip of galvanized casing at 4.2' above land surface
- 19. If flowing well, state method of flow regulation: _____
- 20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

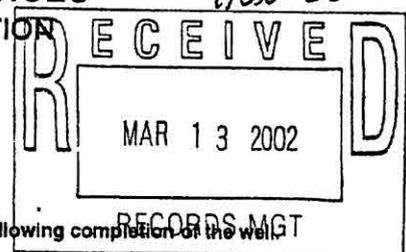
ANSWERED MAR 13 2002

Log # 35

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

HW-10



WELL DRILLER REPORT

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

1. Owner's Name: USGS
Address: 520 N. Park Ave. Tucson AZ 85719 520-670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd, Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
3. Location: NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 28 Township 22S Range 22E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588963 (Required) 6a. Latitude 31 29 . 00
5. Permit No. _____ (If issued) 6b. Longitude 110 07 . 10

DESCRIPTION OF WELL

7. Total Depth of Hole 15 ft
8. Type of Casing(s): Surface Seal Steel Well PVC
9. Diameter and length of casing(s) 1.5 inches from -4.27' to 8' 1.0 inches from -4 to 10
- Method of sealing at reduction points _____
11. Perforated from 10 to 15 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 5 feet. Diameter 1 inches. Type slotted 0.020" PVC pipe
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe/hammer
15. Date started 04 17 2001
Month Day Year
16. Date completed 04 17 2001
Month Day Year
17. Depth to water 8.5 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Depth measured from lip of galvanized surface casing at 4.27' above land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

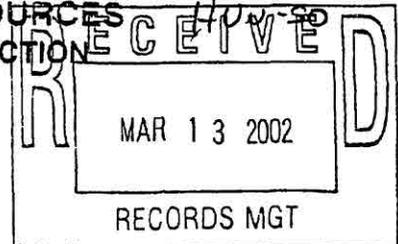
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 36

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- 1. Owner's Name: USGS
- Address: 520 N. Park Ave Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- 2. Drilling Firm: USGS- Geoprobe
- Address: 5338 Montgomery Blvd. Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- 3. Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 28 Township 22S Range 22E
10 Acre 40 Acre 160 Acre
- 4. Well Registration No. 55- 588964 (Required) 6a. Latitude 31 28 53
- 5. Permit No. _____ (If issued) 6b. Longitude 110 07 04

DESCRIPTION OF WELL

- 7. Total Depth of Hole 15 ft
- 8. Type of Casing(s): Surface Seal galvanized Well PVC
- 9. Diameter and length of casing(s) 1.5 inches from -4.3' to 4.2', 1.0 inches from -4' to 10'
- 10. Method of sealing at reduction points no reduction points
- 11. Perforated from 10' to 15' from _____ to _____ from _____ to _____
- 12. Size of cuts _____ Number of cuts per foot _____
- 13. If screen was installed: Length 5 feet. Diameter 1 inches. Type 0.020" slotted PVC
- 14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe
- 15. Date started 04 17 2001
Month Day Year
- 16. Date completed 04 17 2001
Month Day Year
- 17. Depth to water 8.2' ft. (If flowing well, so state).
- 18. Describe point from which depth measurements were made, and give sea-level elevation if available Measurements made to lip of galvanized casing at 4.3' above land surface
- 19. If flowing well, state method of flow regulation: _____
- 20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

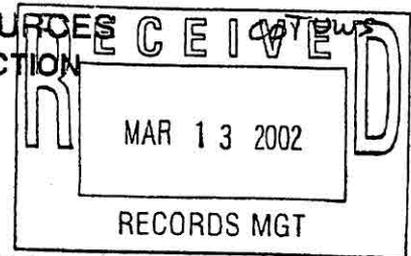
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 37

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS - Central Region
Address: Box 25046 Denver Fed. Ctr. Denver CO 80225 (303) 236-5900
Street City State Zip Telephone Number
3. Location: SE 1/4 SE 1/4 NW 1/4 of Section 17 Township 22 S Range 22 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 558943 (Required) 6a. Latitude 31 31 08 "
5. Permit No. _____ (If issued) 6b. Longitude 110 07 52 "

DESCRIPTION OF WELL

7. Total Depth of Hole 24 ft
8. Type of Casing(s): Surface Seal PVC Well PVC
9. Diameter and length of casing(s) 6 inches from -1.96 to 4.2 inches from -1.56 to 14
10. Method of sealing at reduction points _____
11. Perforated from 14 to 19 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 5 feet. Diameter 2 inches. Type 0.020" slotted PVC
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
15. Date started 03 06 2001
Month Day Year
16. Date completed 03 07 2001
Month Day Year
17. Depth to water 13.2 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured below lip of inner PVC casing at -1.56 ft above land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

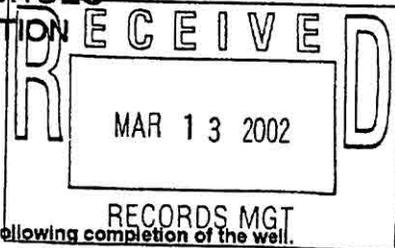
ANSWERED MAR 13 2002

Log # 38

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

(V-22-22/11 BVD)
COTUND



WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Central Region
Address: Box 25046 Denver Fed. Ctr. Denver CO 80225 (303) 236-5900
Street City State Zip Telephone Number
- Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 17 Township 22 S Range 22 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588944 (Required) 6a. Latitude 31 31 08 "
- Permit No. _____ (If issued) 6b. Longitude 110 07 52 "

DESCRIPTION OF WELL

- Total Depth of Hole 68 ft
- Type of Casing(s): Surface Seal PVC Well PVC
- Diameter and length of casing(s) 6 inches from -1.96 to 4.2 inches from -1.63 to 58
- Method of sealing at reduction points _____
- Perforated from 58 to 63 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 feet. Diameter 2 inches. Type Slotted (0.020") PVC
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
- Date started 03 07 2001
Month Day Year
- Date completed 03 07 2001
Month Day Year
- Depth to water 3.3 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from measuring point on inner PVC casing at 1.96 FE above land surface
- If flowing well, state method of flow regulation: _____

20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

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
0	2.5	auger cuttings - surface overbank deposits
2.5	4	auger cuttings - caliche
4	12.5	auger cuttings - less caliche, more sand & gravels but partly indurated
12.5	13	auger cuttings - coarse sand & gravel, Saturated
13	15	auger cuttings - clay, wet
15	22	auger cuttings - coarse sand and gravel
22	24	auger cuttings - sandy
24	29	Core - Saturated
29	49	auger cuttings - calcic sandy clay, Saturated
49	54	core - abrupt change to dry caliche at 53.5 ft
54	54.5	core - sandy clay
54.5	54.6	core - thin saturated caliche
54.6	56	core - sandy clay
56	57.8	core - caliche, Saturated
57.8	59	core - sandy clay, unsaturated
59	64	core - sandy to gravelly clay
<p>Saturation state varied in this hole. First saturation was observed at about 12.5' BLS. Static water level is close to ground surface. Generally, the sand and gravel stringers were saturated and the tighter clays and caliche layers were dry.</p> <p>These are probably all basin fill deposits</p>		

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.

Drilling Firm: US Geological Survey - Central Region

Signature of Qualifying Party: [Signature] Date: 1/22/02

Box 25046 MS 406 DFC

Street Denver State CO Zip 80225

Log # 39

Log # 40



Arizona Department of Water Resources
 Information Management Unit
 P.O. Box 33589 Phoenix, Arizona 85067-3589
 (602) 771-8627 • (800) 352-8488
 www.azwater.gov

RECEIVED

JAN 14 2010

Well Driller Report
 and
 Well Log

DSK

WATER MGMT

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL.

PLEASE PRINT CLEARLY USING BLACK OR BLUE INK.

FILE NUMBER
 D177-12) 5086
 WELL REGISTRATION NUMBER
 55-219444
 PERMIT NUMBER (IF ISSUED)

SECTION 1: DRILLING AUTHORIZATION

Drilling Firm		
Mail To:	NAME Crux Subsurface, Inc.	DWR LICENSE NUMBER 628
	ADDRESS 16707 E Euclid Avenue	TELEPHONE NUMBER 509-892-9409
	CITY / STATE / ZIP Spokane Valley, WA 99216	FAX 509-892-9408

SECTION 2: REGISTRY INFORMATION

Well Owner	Location of Well					
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL Arizona Dept. of Transportation	WELL LOCATION ADDRESS (IF ANY)					
MAILING ADDRESS 205 S. 17th Ave., MD 613 E	TOWNSHIP (N/S) 22S	RANGE (E/W) 22E	SECTION 5	160 ACRE SW ¼	40 ACRE NW ¼	10 ACRE NW ¼
CITY / STATE / ZIP CODE Phoenix, AZ 85007-3212	LATITUDE 31 ° 33 ' 6.59 " N Degrees Minutes Seconds		LONGITUDE 110 ° 8 ' 19.8 " W Degrees Minutes Seconds			
CONTACT PERSON NAME AND TITLE William Harmon, Safford District Engineer	METHOD OF LATITUDE/LONGITUDE (CHECK ONE) <input checked="" type="checkbox"/> *GPS: Hand-Held <input type="checkbox"/> *GPS: Survey-Grade					
TELEPHONE NUMBER 602-712-7481	FAX	LAND SURFACE ELEVATION AT WELL 6064' Feet Above Sea Level				
WELL NAME (e.g., MW-1, PZ-3, Lot 25 Well, Smith Well, etc.) BR-1	METHOD OF ELEVATION (CHECK ONE) <input checked="" type="checkbox"/> *GPS: Hand-Held <input type="checkbox"/> *GPS: Survey-Grade *GEOGRAPHIC COORDINATE DATUM (CHECK ONE) <input checked="" type="checkbox"/> NAD-83 <input type="checkbox"/> Other (please specify):					
		COUNTY Cochise	ASSESSOR'S PARCEL ID NUMBER BOOK MAP PARCEL			

SECTION 3: WELL CONSTRUCTION DETAILS

Drill Method	Method of Well Development	Method of Sealing at Reduction Points
CHECK ALL THAT APPLY <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 ALL THAT APPLY <input type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Block <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 type="checkbox"/> Other (please specify):
	Condition of Well CHECK ONE <input type="checkbox"/> Capped <input type="checkbox"/> Pump Installed	Construction Dates DATE WELL CONSTRUCTION STARTED 12/2/2009 DATE WELL CONSTRUCTION COMPLETED 12/4/2009

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.
 SIGNATURE OF QUALIFYING PARTY:
 DATE: 12/22/2009

Well Driller Report and Well Log

JAN 14 2010

WELL REGISTRATION NUMBER
55-219444

SECTION 4 WELL CONSTRUCTION DESIGN AND CONSTRUCTION

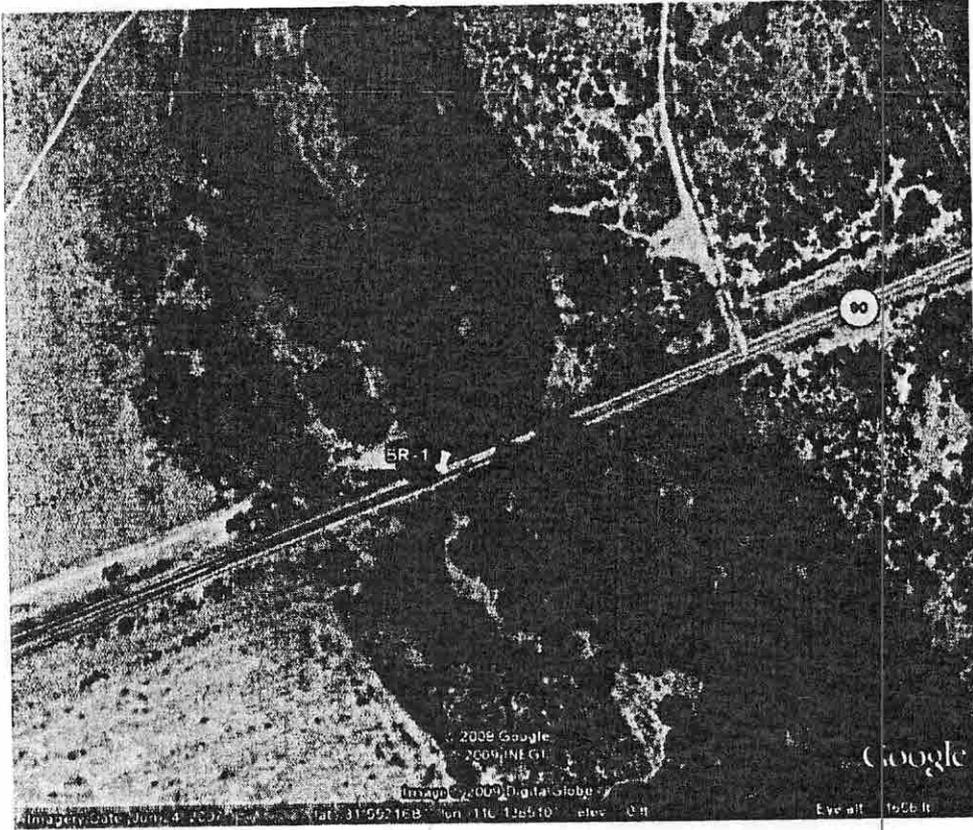
Depth	
DEPTH OF BORING 125' Feet Below Land Surface	DEPTH OF COMPLETED WELL Feet Below Land Surface

Water Level Information			
STATIC WATER LEVEL 19 Feet Below Land Surface	DATE MEASURED 12-4-2009	TIME MEASURED 7:30 AM	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 (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	125	5.0														

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	125			x								

55-219444



RECEIVED

JAN 14 2010

WATER CENTER

Log # 42

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

RECEIVED
MAR 13 2002
RECORDS MGT

WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS- Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
3. Location: NE 1/4 NE 1/4 NE 1/4 of Section 06 Township 22 S Range 23 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588947 (Required) 6a. Latitude 31 33 10
5. Permit No. _____ (If issued) 6b. Longitude 118 08 17

DESCRIPTION OF WELL

7. Total Depth of Hole 19 ft
8. Type of Casing(s): Surface Seal _____ Well Galv. steel
9. Diameter and length of casing(s) 1.5 inches from -6' to 18' inches from _____ to _____
10. Method of sealing at reduction points _____
11. Perforated from 16 to 19 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 1 feet. Diameter 1 inches. Type drilled pipe
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geoprobe
15. Date started 05 15 2000
Month Day Year
16. Date completed 05 15 2000
Month Day Year
17. Depth to water 10.2 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galv. casing at 6 ft above land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

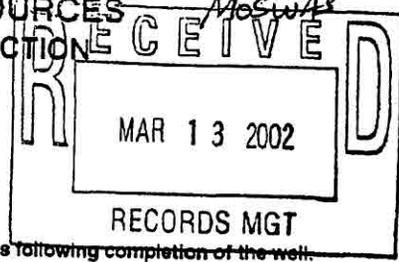
Logs # 43-48

Logs # 49-54

Log # 56

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- 1. Owner's Name: US Geological Survey
- Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- 2. Drilling Firm: USGS-Geoprobe
- Address: 5338 Montgomery Blvd. Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- 3. Location: SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 13 Township 21 S Range 21 E
10 Acre 40 Acre 160 Acre
- 4. Well Registration No. 55- 588930 (Required) 6a. Latitude 31 36 38 "
- 5. Permit No. _____ (If issued) 6b. Longitude 110 09 59 "

DESCRIPTION OF WELL

- 7. Total Depth of Hole 24.2 ft
- 8. Type of Casing(s): Surface Seal none Well 1.5" galv. steel
- 9. Diameter and length of casing(s) 1.5 inches from -4.8 to 232 inches from -4.8 to 23.2
- 10. Method of sealing at reduction points _____
- 11. Perforated from 23.2 to 24.2 from _____ to _____ from _____ to _____
- 12. Size of cuts _____ Number of cuts per foot _____
- 13. If screen was installed: Length 1 feet. Diameter 1 inches. Type drilled steel pipe
- 14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe
- 15. Date started 05 25 2000
Month Day Year
- 16. Date completed 05 25 2000
Month Day Year
- 17. Depth to water 17.3 ft. (If flowing well, so state).
- 18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of well casing at 4.8 ft above land surface.
- 19. If flowing well, state method of flow regulation: _____
- 20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

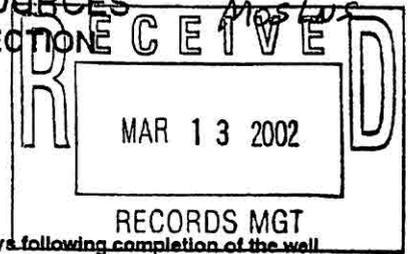
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 57

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- 1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- 2. Drilling Firm: VSA-Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- 3. Location: NW 1/4 NE 1/4 NW 1/4 of Section 13 Township 21 S Range 21 E
10 Acre 40 Acre 160 Acre
- 4. Well Registration No. 55- 588931 (Required) 6a. Latitude 31 36 43 "
- 5. Permit No. _____ (If issued) 6b. Longitude 110 10 01 "

DESCRIPTION OF WELL

- 7. Total Depth of Hole 12.7 ft
- 8. Type of Casing(s): Surface Seal none Well galv. steel
- 9. Diameter and length of casing(s) 1.5 inches from -4.3 to 11.7
- 10. Method of sealing at reduction points _____
- 11. Perforated from 11.7 to 12.7 from _____ to _____ from _____ to _____
- 12. Size of cuts _____ Number of cuts per foot _____
- 13. If screen was installed: Length 1 feet. Diameter 1 inches. Type drilled steel pipe
- 14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geoprobe
- 15. Date started 05 25 2000
Month Day Year
- 16. Date completed 05 25 2000
Month Day Year
- 17. Depth to water 9.6 ft. (If flowing well, so state).
- 18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of well casing at 4.3 ft above land surface.
- 19. If flowing well, state method of flow regulation: _____
- 20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

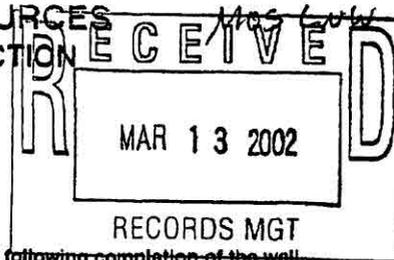
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 58

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- 1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave Tucson AZ 85719 (520) 620-6671
2. Drilling Firm: US G-S- Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
3. Location: NW 1/4 NE 1/4 NW 1/4 of Section 13 Township 21 S Range 21 E
4. Well Registration No. 55- 588932 (Required) 6a. Latitude 31 36 42
5. Permit No. (If issued) 6b. Longitude 110 10 01

DESCRIPTION OF WELL

- 7. Total Depth of Hole 20.2 ft
8. Type of Casing(s): Surface Seal none Well galv. steel
9. Diameter and length of casing(s) 1.5 inches from -4.8 to 19.2
10. Method of sealing at reduction points
11. Perforated from 19.2 to 20.2 from to from to
12. Size of cuts Number of cuts per foot
13. If screen was installed: Length 1 feet. Diameter inches. Type drilled steel pipe
14. Constructed by: Air Rotary Mud Rotary Reverse Rotary Cable Tool Boring/Augering Jet/Driven
Sonic Hand Dug Other: X (Check One) Geoprobe
15. Date started 05 25 2000
Month Day Year
16. Date completed 05 25 2000
Month Day Year
17. Depth to water 13.3 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made. and give sea-level elevation if available Measured down from lip of galvanized well casing at 4.8 ft above land surface.
19. If flowing well, state method of flow regulation:
20. Remarks:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No.
File No.
Received By
Entered By

ANSWERED MAR 13 2002

Log # 59

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

(D-21-21) 13 BAC

RECEIVED

MAR 13 2002

RECORDS MGT

WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd. Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
3. Location: SW 1/4 NE 1/4 NW 1/4 of Section 13 Township 21 S Range 21 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588933 (Required) 6a. Latitude 31 36 40 "
5. Permit No. _____ (If issued) 6b. Longitude 110 10 00 "

DESCRIPTION OF WELL

7. Total Depth of Hole 32.1 ft
8. Type of Casing(s): Surface Seal none Well galv. steel
9. Diameter and length of casing(s) _____ inches from _____ to 1.5 inches from -.92 to 31.1
10. Method of sealing at reduction points _____
11. Perforated from 31.1 to 32.1 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 1 feet. Diameter _____ inches. Type drilled steel pipe
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geoprobe
15. Date started 05 25 2000
Month Day Year
16. Date completed 05 25 2000
Month Day Year
17. Depth to water 20.6 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of well casing at 0.9 ft above land surface.
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____

File No. _____

Received _____ By _____

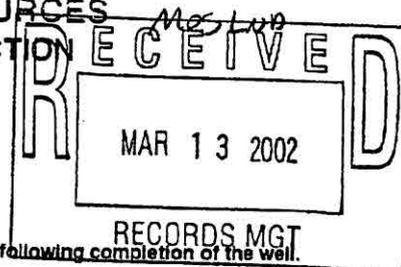
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 60

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: VS Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85714 (520)670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS- Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505)830-7900
Street City State Zip Telephone Number
3. Location: NW NE NW of Section 13 Township 21 S Range 21 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588934 (Required) 6a. Latitude 31 36 43 "
5. Permit No. _____ (If issued) 6b. Longitude 110 10 01 "

DESCRIPTION OF WELL

7. Total Depth of Hole 20.6 ft
8. Type of Casing(s): Surface Seal none Well galv. steel
9. Diameter and length of casing(s) _____ inches from _____ to 1.5 inches from -4.4 to 19.6
10. Method of sealing at reduction points _____
11. Perforated from 19.6 to 20.6 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 1 feet. Diameter 1 inches. Type drilled steel pipe
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) Geoprobe
15. Date started 05 28 2000
Month Day Year
16. Date completed 05 25 2000
Month Day Year
17. Depth to water 9.6 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of well casing at 4.4 ft above land surface.
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

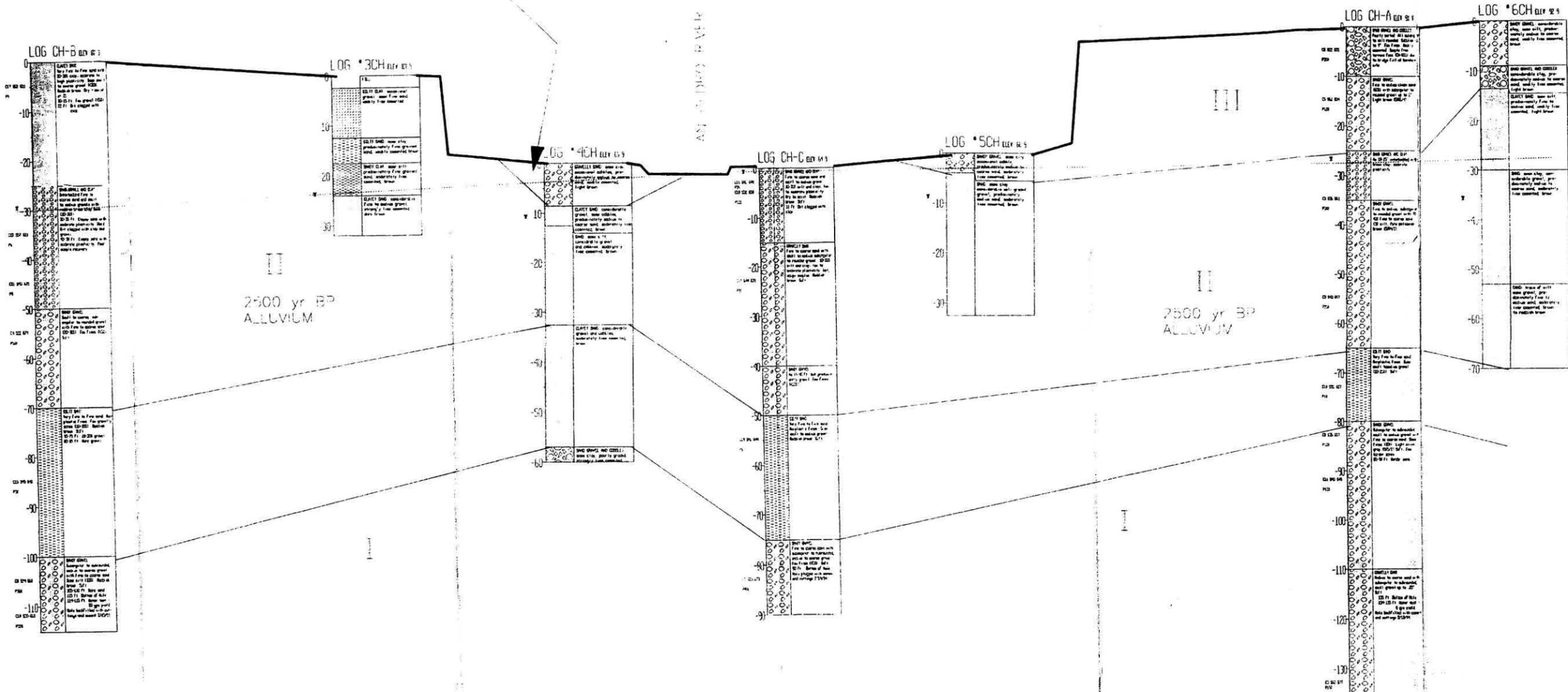
Logs # 61-67

WEST

EAST

POSSIBLE POST
1880 ALLUVIUM

SAN PEDRO RIVER



EXPLANATION

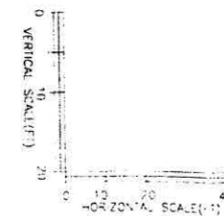
SIZE AND PERCENTS

- SAND %
- CLAY AND SILT %
- GRAVEL %
- PERMEABILITY (BY DAY)
- (HYDRAULIC CONDUCTIVITY)
- LINE OF CORRELATION BETWEEN GEOLOGIC UNITS (NOT ALL LINES SHOWN)
- INFERRED BASE OF SATURATED STREAM ALLUVIUM
- WATER TABLE (2/79)

PRE 1880 CHANNEL FILL
DEPOSITS A SATURATED
STREAM ALLUVIUM (TO BE
NOT IDENTIFIED BY DRILLING
MAY BE PRESENT)

NOTE: HOLES WITH NUMERIC DESIGNATION WERE DRILLED
BY ADOT PRIOR TO BRIDGE CONSTRUCTION.

HOLES WITH ALPHA DESIGNATION WERE DRILLED
BY SRP IN 1/94 AND SAMPLES LOGGED BY D. M'GRANE
GROUND WATER GEOLOGIST FOR LEONARD RICE
CONSULTING WATER ENGINEERS, INC.

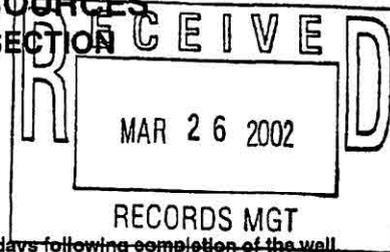


SAN PEDRO RIVER	
CHARLESTON BRIDGE GEOLOGIC CROSS SECTION	
LEONARD RICE CONSULTING WATER ENGINEERS, INC 2401 Fifteenth Street, Suite 300 Denver, Colorado 80202-1143 U.S.A. (303) 455-9585	
DRAWN: JRT	DATE: 2/22/94
FIGURE: D	

Log # 68

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

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: USDA-ARS
Address: 2000 E. Allen Rd Tucson AZ 85719 520.670.6380
Street City State Zip Telephone Number
2. Drilling Firm: USDA-ARS
Address: 2000 E. Allen Rd Tucson AZ 85719 520.670.6380
Street City State Zip Telephone Number
3. Location: NE ¼ NW ¼ SE ¼ of Section 26 Township 20 Range 21
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 590131 (Required) 6a. Latitude 31 39 50 "
5. Permit No. _____ (If issued) 6b. Longitude 110 10 42 "

DESCRIPTION OF WELL

7. Total Depth of Hole 40 ft 8. Type of Casing(s): Surface Seal none Well Steel
Diameter and length of casing(s) 2 1/2" inches from -2 to 40 inches from _____ to _____
10. Method of sealing at reduction points NA
11. Perforated from -30' to 40' from _____ to _____ from _____ to _____
12. Size of cuts 3" Number of cuts per foot 2
13. If screen was installed: Length NA feet. Diameter _____ inches. Type _____
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
15. Date started APR 1 2001
Month Day Year
16. Date completed APRIL 1 2001
Month Day Year
17. Depth to water 33 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available
TOP of casing
19. If flowing well, state method of flow regulation: _____

20. Remarks: _____

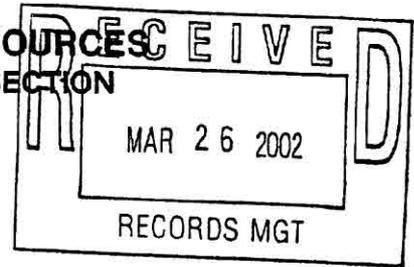
DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-590131
File No. _____
Received _____ By _____
Entered _____ By _____

Log # 69

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

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: USA-023
 Address: 2200 E. Allen Rd Tucson AZ 85719 5206706380
 Street City State Zip Telephone Number
2. Drilling Firm: SAME AS ABOVE
 Address: _____
 Street City State Zip Telephone Number
3. Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 26 Township 26 Range 21
 10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 590132 (Required) 6a. Latitude 31 39 57 "
5. Permit No. _____ (If issued) 6b. Longitude 110 10 42 "

DESCRIPTION OF WELL

7. Total Depth of Hole 30 ft 8. Type of Casing(s): Surface Seal None Well Steel
9. Diameter and length of casing(s) 1.5 inches from 6 to 30 inches from _____ to _____
10. Method of sealing at reduction points NA
11. Perforated from 20 to 30 from _____ to _____ from _____ to _____
12. Size of cuts 5" slots in steel casing Number of cuts per foot 1
13. If screen was installed: Length _____ feet. Diameter _____ inches. Type _____
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
 Sonic _____ Hand Dug _____ Other: _____ (Check One)
15. Date started APRIL 1 2001
 Month Day Year
16. Date completed APRIL 1 2001
 Month Day Year
17. Depth to water 24 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Top of casing
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

ANSWERED MAR 26 2002

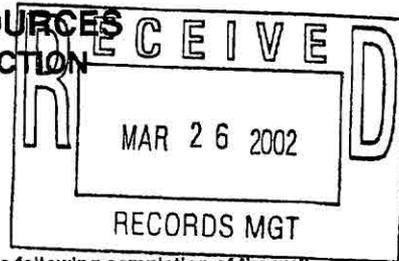
DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-590132
 File No. _____
 Received _____ By _____
 Entered _____ By _____

Log # 70

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- 1. Owner's Name: USDA-ARC
Address: 2050 E. Allen Tucson AZ 85719 5206706380
Street City State Zip Telephone Number
- 2. Drilling Firm: SANEAR ASOVE
Address: _____
Street City State Zip Telephone Number
- 3. Location: SW 1/4 54 1/4 NW 1/4 of Section 26 Township 20 Range 21
10 Acre 40 Acre 160 Acre
- 4. Well Registration No. 55- 590133 (Required) 6a. Latitude 31 39 57 "
- 5. Permit No. _____ (If Issued) 6b. Longitude 110 10 42 "

DESCRIPTION OF WELL

- 7. Total Depth of Hole 40 ft 8. Type of Casing(s): Surface Seal NA Well Steel
- 9. Diameter and length of casing(s) 1.5 inches from 0 to 40 inches from _____ to _____
- 10. Method of sealing at reduction points NA
- 11. Perforated from 38 to 40 from _____ to _____ from _____ to _____
- 12. Size of cuts 5 Number of cuts per foot 2
- 13. If screen was installed: Length _____ feet. Diameter _____ inches. Type _____
- 14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
- 15. Date started APRIL 8 2001
Month Day Year
- 16. Date completed APRIL 2 2001
Month Day Year
- 17. Depth to water 24 ft. (If flowing well, so state).
- 18. Describe point from which depth measurements were made, and give sea-level elevation if available
TOP of casing
- 19. If flowing well, state method of flow regulation: _____
- 20. Remarks: _____

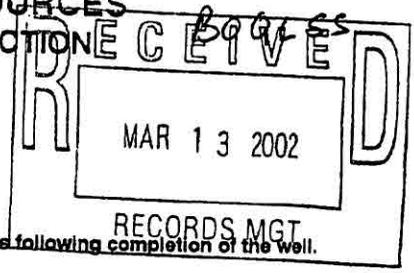
DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-590133
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 26 2002

Log # 71

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

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS-GeoProbe
Address: 5338 Montgomery Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
3. Location: NW 1/4 SW 1/4 NE 1/4 of Section 22 Township 20 S Range 21 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588936 (Required) 6a. Latitude 31 40.58 "
5. Permit No. _____ (If issued) 6b. Longitude 110 11.19 "

DESCRIPTION OF WELL

7. Total Depth of Hole 16 ft
8. Type of Casing(s): Surface Seal none Well Steel
9. Diameter and length of casing(s) _____ inches from _____ to _____, 1.5 inches from -3.92 to 12.08
10. Method of sealing at reduction points _____
11. Perforated from 12.08 to 13.08 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 1 feet. Diameter _____ inches. Type Steel, drilled
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: X (Check One) GeoProbe
15. Date started 05 19 2001
Month Day Year
16. Date completed 05 19 2001
Month Day Year
17. Depth to water 14 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of well casing at 39 ft above land surface.
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

**DO NOT WRITE IN THIS SPACE
OFFICE RECORD**

Registration No. _____

File No. _____

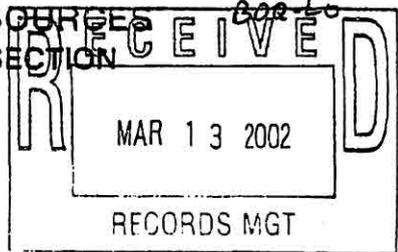
Received _____ By _____

Entered _____ By _____

Log # 72

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

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
 Address: 520 N. Parks Ave. Tucson AZ 85719 (520)-670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS- Geoprobe
 Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
City State Zip Telephone Number
3. Location: SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 15 Township 20 S Range 21 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588958 (Required) 6a. Latitude 31 41 26 "
5. Permit No. _____ (If issued) 6b. Longitude 110 11 05 "

DESCRIPTION OF WELL

7. Total Depth of Hole 15.33 ft 8. Type of Casing(s): Surface Seal _____ Well Galv. steel
9. Diameter and length of casing(s) 1 inches from -3.67 to 14.33 inches from _____ to _____
10. Method of sealing at reduction points no reduction points
11. Perforated from 14.33 to 15.33 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 1 feet. Diameter _____ inches. Type _____
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) hand powered
15. Date started 05 16 01
Month Day Year
16. Date completed 05 16 01
Month Day Year
17. Depth to water 1.20 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available corrected to below land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE OFFICE RECORD	
Registration No. _____	_____
File No. _____	_____
Received _____	By _____
Entered _____	By _____

Log # 74

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. U.S. GEOLOGICAL SURVEY - DENVER
BOX 25046 MS 403 DFC
DENVER, CO 80225-0046

2. Owner Name: USGS
Address: Tucson AZ 85719
City State Zip

3. Location: 20 N15 21 (EW) 15 1/4 SE 1/4 NW 1/4 SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-590606 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 15.5 ft.
- 7. Type of casing Galvanized steel
- 8. Diameter and length of casing 1.5 in. from -3.5 to 4.5, 1.0 in from 4.5 to 14.5
- 9. Method of sealing at reduction points _____
- 10. Perforated from 14.5 to 15.5, from _____ to _____ from _____ to _____
- 11. Size of cuts 1/8" drilled holes Number of cuts per foot _____
- 12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
- 13. Method of construction Hand powdered
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 04 10 2002
Month Day Year
- 15. Date completed 04 10 2002
Month Day Year
- 16. Depth to water about 10' b/s ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea level elevation if available
Measured from lip at top of galvanized casing
- 18. If flowing well, state method of flow regulation: _____
- 19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55- 590606
File No. D(20-21) 15 DBD
Received _____ By _____
Entered _____ By _____

ENTERED M C O 112

Log # 76



FBK-10

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.

- U.S. GEOLOGICAL SURVEY - DENVER
BOX 25046 MS 403 DFC
DENVER, CO 80225-0046
- Owner Name: USGS
Address: Tucson AZ 85719
City State Zip
- Location: 20 N 21 EW 03 1/4 SW 1/4 NE 1/4 NW
Township Range Section 10-acre 40-acre 160-acre
- Well Registration No. 55-590609 (Required)
- Permit No. _____ (If Issued)

DESCRIPTION OF WELL

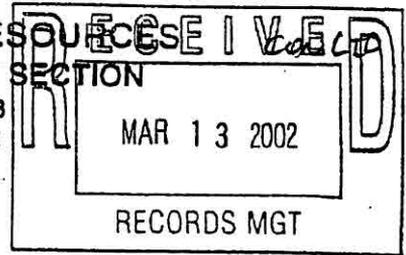
- Total depth of hole 23 ft.
- Type of casing PVC well casing, galvanized steel surface casing
- Diameter and length of casing 1 in. from -2.25' to 17.75' in from _____ to _____
- Method of sealing at reduction points _____
- Perforated from _____ to _____, from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 ft. Diam 1" in. Type slotted
- Method of construction augered
(drilled, dug, driven, bored, jetted, etc)
- Date started 06 06 02
Month Day Year
- Date completed 06 06 02
Month Day Year
- Depth to water 13.84' BLS ft. (If flowing well, so state)
- Describe point from which depth measurements were made, and give sea level elevation if available
Measurements made to lip of surface casing and corrected to land surface
- If flowing well, state method of flow regulation: _____
- Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 590609
File No. D(20-21) 3 BAC
Received _____ By _____
Entered _____ By _____

Log # 77

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 21 Township 19 S Range 21 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588456 (Required) 6a. Latitude 31 46 01 "
- Permit No. _____ (If issued) 6b. Longitude 110 12 09 "

DESCRIPTION OF WELL

- Total Depth of Hole 32 ft
- Type of Casing(s): Surface Seal Steel Well PVC
- Diameter and length of casing(s): 1.5 inches from -3.54 to 8.46 inches from -3.37 to 27
- Method of sealing at reduction points no reduction points
- Perforated from 27 to 32 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 feet. Diameter 1 inches. Type Slotted .020 PVC
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe
- Date started 04 20 2001
Month Day Year
- Date completed 04 20 2001
Month Day Year
- Depth to water 6.9 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Corrected to below land surface
- If flowing well, state method of flow regulation: _____
- Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 78

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

CON-LI
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MAR 13 2002
RECORDS MGT

WELL DRILLER REPORT

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

1. Owner's Name: VS Geological Survey
Address: 520 N. Park Ave Tucson AZ 85714 (520) 670-6671
Street City State Zip Telephone Number
2. Drilling Firm: VSGS- Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
3. Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 21 Township 19 S Range 21 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 588957 (Required) 6a. Latitude 31 46 .01
5. Permit No. _____ (If issued) 6b. Longitude 110 12 .09

DESCRIPTION OF WELL

7. Total Depth of Hole 15 ft
8. Type of Casing(s): Surface Seal Steel Well PVC
9. Diameter and length of casing(s) 1.5 inches from -4.23 to 7.77, 1 inches from -3.94 to 10
10. Method of sealing at reduction points no reduction points
11. Perforated from 10 to 15 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 5 feet. Diameter 1 inches. Type Slotted .020 PVC
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: (Check One) Geoprobe
15. Date started 04 18 2001
Month Day Year
16. Date completed 04 18 2001
Month Day Year
17. Depth to water 6.0 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Corrected to below land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

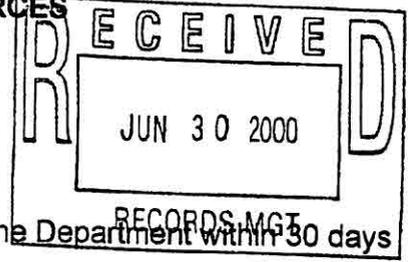
DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 88

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. WATER DEVELOPMENT CORP. DBA WDC EXPLORATION
1202 EAST KENTUCKY AVENUE
WOODLAND, CA 95776-5906

2. Owner Name: Apache Nitrogen Products
Address: POB 700 Benson AZ 85602
City State Zip

3. Location: 18 NS 21 EW 8 1/4 SW 1/4 NW 1/4 NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-579872 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 130 ft.
- 7. Type of casing PR SCH 40
- 8. Diameter and length of casing 4 in. from 0 to 86.9 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 15 ft. Diam 4 in. Type PR SCH 40
- 13. Method of construction Drilled
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 5 15 00
Month Day Year
- 15. Date completed 6 15 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 available
- 18. If flowing well, state method of flow regulation: _____
- 19. Remarks: _____

ANSWERED JUL 07 2000

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55- 579872
File No. D(18-21) 8 BBC
Received _____ By _____
Entered _____ By _____

LITHOLOGIC LOG FOR MONITOR WELL MW-26 (EXB-5)
ADWR Registration Number 55-579872

DEPTH INTERVAL (feet below land surface)	SOIL TYPE	GROUP SYMBOL(a)	DESCRIPTION OF MATERIALS
0-30	SILTY FAT CLAY	CH	Dusky yellowish brown (10 YR 2/2); trace fine sand; strong HCl reaction; medium plasticity; very stiff; damp.
30-36	SILTY FAT CLAY	CH	Moderate yellowish brown (10 YR 5/4); trace fine sand; strong HCl reaction; medium plasticity; very stiff; damp (slight increase in water content).
36-37	CLAYEY SANDY GRAVEL	GW/GC	Moderate brown (5 YR 4/4); fine to coarse, well graded, subangular to rounded sand; fine to medium, medium graded, subrounded gravel; silty clay matrix; moderate HCl reaction; loose; damp.
37-49	SANDY SILTY CLAY	CH	Moderate brown (5 YR 4/4); fine to coarse, well graded, subangular to subrounded sand; trace rounded gravel to ½"; weak HCl reaction; low plasticity; soft; damp.
49-80	SILTY CLAY (weakly cemented)	CL	Moderate brown (5 YR 4/4); trace fine sand; chips of weakly cemented silty clay in soft silty clay matrix (interlayered?); strong HCl reaction; low plasticity; soft/firm; damp.
80-87	SILTY CLAY	CL	Moderate brown (5 YR 4/4); trace fine sand; trace weakly cemented silty clay in soft silty clay matrix; strong HCl reaction; low plasticity; soft/very stiff; damp.
87-108	SILTY CLAY (weakly cemented)	CL	Light brown (5 YR 6/4); trace fine sand; weakly cemented silty clay in minor soft silty clay matrix; increase in soft silty clay matrix below 100 feet bls; moderate HCl reaction; non-plastic; hard; groundwater enters drive casing at 90 ft bls.
108-130	FAT CLAY (St. David Clay)	CH	Moderate brown (5 YR 4/4); fine, poorly graded sand; strong HCl reaction; low to medium plasticity; hard; damp.

TOTAL DEPTH OF BOREHOLE = 130 FEET

ANSWERED JUL 07 2000

(a) United Soil Classification System ASTM D2488
MW-26 litho log.xls

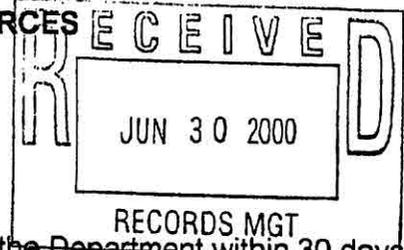


HARGIS + ASSOCIATES, INC.

Log # 89

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. WATER DEVELOPMENT CORP. DBA WDC EXPLORATION
1202 EAST KENTUCKY AVENUE
WOODLAND, CA 95776-5906

2. Owner Name: Apache Nitrogen Products
Address: POB 700 Benson, AZ 85602
City State Zip

3. Location: 18 N 21 E 8 1/4 SW 1/4 NW 1/4 NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-579874 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 160 ft.

7. Type of casing PVC SCH 40

8. Diameter and length of casing 4 in. from 0 to 85.2 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 15 ft. Diam 4 in. Type PVC SCH 40

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

14. Date started 5 15 00
Month Day Year

15. Date completed 6 15 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 available

18. If flowing well, state method of flow regulation: _____

19. Remarks: _____
ANSWERED JUL 07 2000

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 579874
File No. D(18-21) 8 BBC
Received _____ By _____
Entered _____ By _____

LITHOLOGIC LOG FOR MONITOR WELL MW-25 (EXB-6)
ADWR Registration Number 55-579874

DEPTH INTERVAL (feet below land surface)	SOIL TYPE	GROUP SYMBOL(a)	DESCRIPTION OF MATERIALS
0-14	SILTY FAT CLAY	CH	Dusky yellowish brown (10 YR 2/2); trace fine sand; strong HCl reaction; medium plasticity; very stiff; damp.
14-21	SANDY CLAY	CL	Moderate yellowish brown (10 YR 5/4); fine, poorly sorted sand; strong HCl reaction; loose; low plasticity; soft; damp/dry.
21-30	SAND	SW	Pale yellowish brown (10 YR 6/2); fine to medium, medium graded, angular to subrounded sand; trace silt/clay; moderate HCl reaction; loose; soft; damp to 24 ft/saturated 24-30 ft.
30-42	CLAYEY SAND	SC	Moderate brown (5 YR 3/4); fine to medium, poorly graded, subangular sand; moderate HCl reaction; low plasticity; firm; damp.
42-57	SANDY SILTY CLAY	CL	Moderate brown (5 YR 4/4); fine, poorly graded sand; strong HCl reaction; low plasticity; stiff; damp.
57-60	SILTY CLAY	CL	Moderate brown (5 YR 4/4); trace fine sand; moderate HCl reaction; sticky; medium plasticity; soft; damp.
60-119	SILTY CLAY (weakly cemented)	CL	Moderate brown (5 YR 4/4); trace fine sand; weak HCl reaction; low plasticity; very stiff; damp, except groundwater enters drive casing at 90 and 110 ft bls.
119-131	SILTY CLAY (weakly cemented)	CL	Moderate brown (5 YR 4/4); weakly cemented silty clay in soft silty clay matrix (interlayered?); trace fine sand; weak HCl reaction; low plasticity; soft/very stiff; damp.
131-160	FAT CLAY (St. David Clay)	CH	Moderate brown (5 YR 4/4); fine, poorly graded sand; strong HCl reaction; medium plasticity; hard; damp.

TOTAL DEPTH OF BOREHOLE = 160 FEET

ANSWERED JUL 07 2000

(a) United Soil Classification System ASTM D2488
MW-25 litho log.xls

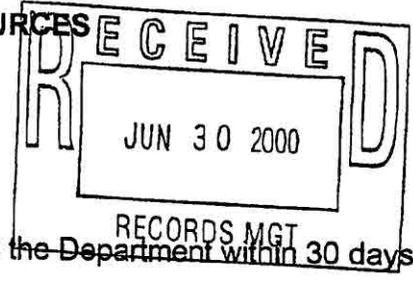


HARGIS + ASSOCIATES, INC.

Log # 90

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. WATER DEVELOPMENT CORP. DBA WDC EXPLORATION
1202 EAST KENTUCKY AVENUE
WOODLAND, CA 95776-5906

2. Owner Name: Apache Nitrogen Products
Address: _____
City State Zip

3. Location: 18 NS 21 EW 8 $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-579877 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 130 ft.

7. Type of casing PVC SCH 40

8. Diameter and length of casing 4 in. from 0 to 83.8, _____ 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 15 ft. Diam 4 in. Type PVC SCH 40

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

14. Date started 5 15 00
Month Day Year

15. Date completed 6 15 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 available

18. If flowing well, state method of flow regulation: _____

19. Remarks: _____

ANSWERED JUL 07 2000

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 579877
File No. D(18-21) 8 BBC
Received _____ By _____
Entered _____ By _____

LITHOLOGIC LOG FOR MONITOR WELL MW-27 (EXB-4)
ADWR Registration Number 55-579877

DEPTH INTERVAL (feet below land surface)	SOIL TYPE	GROUP SYMBOL(a)	DESCRIPTION OF MATERIALS
0-28	SILTY FAT CLAY	CH	Dusky yellowish brown (10 YR 2/2); trace fine to medium, poorly graded sand; strong HCl reaction; medium plasticity; very stiff; damp.
28-34	SANDY GRAVEL	GW	Moderate brown (5 YR 4/4); fine to coarse, well graded, rounded sand; fine to medium, medium graded, rounded gravel; trace silt/clay; some rounded cobbles to 3"; moderate HCl reaction; loose; damp.
34-51	CLAYEY SANDY GRAVEL	GW/GC	Moderate brown (5 YR 4/4); fine to coarse, well graded, subrounded to rounded sand; fine to medium, medium graded, rounded gravel; silty clay matrix; moderate HCl reaction; loose; damp to 40 ft bls, moist below.
51-65	SANDY SILTY CLAY	CL	Light brown (5 YR 6/4); minor fine, poorly graded, subangular to subrounded sand; minor gravel stringers; weak HCl reaction; sticky; low plasticity; soft; damp.
65-80	SANDY SILTY CLAY WITH MINOR GRAVEL	CL	Light brown (5 YR 6/4); fine to medium, medium graded, subangular to subrounded sand; minor fine, subrounded gravel; strong HCl reaction; sticky; low plasticity; soft; damp.
80-82	SILTY FAT CLAY	CH	Light brown (5 YR 6/4); trace fine sand; weak HCl reaction; medium plasticity; soft; damp.
82-90	SILTY FAT CLAY(?)	CH(?)	NO RETURNS
90-100	SANDY CLAY (weakly cemented)	CL	Light brown (5 YR 6/4); trace fine sand; minor chips of weakly cemented sandy clay in soft silty clay matrix; weak HCl reaction; low plasticity; soft/firm (interlayers?); some water enters drive casing at 90 ft bls.

ANSWERED JUL 07 2000



LITHOLOGIC LOG FOR MONITOR WELL MW-27 (EXB-4)
ADWR Registration Number 55-579877

100-108	SANDY CLAY (weakly cemented)	CL	Light brown (5 YR 6/4); trace fine sand; increased minor chips of weakly cemented sandy clay in soft silty clay matrix; weak HCl reaction; low plasticity; soft/firm (interlayers?); some water enters drive casing at 90 ft bls.
108-130	FAT CLAY (St. David Clay)	CH	Moderate brown (5 YR 4/4); fine, poorly graded sand; strong HCl reaction; medium plasticity; very stiff; damp.

TOTAL DEPTH OF BOREHOLE = 130 FEET

ANSWERED JUL 07 2000



Logs # 92-99

Log # 100

USGS

(D-17-20) 23ACA

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55-215011

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

Depth	
DEPTH OF BORING 55 Feet Below Land Surface	DEPTH OF COMPLETED WELL 55 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL 10.31 Feet Below Land Surface	DATE MEASURED 6-8-07	TIME MEASURED 1036	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 (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	50	4	0	50	2		X										
50	55	4	50	55	2		X						X				

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	5							X				
5	55	X							filter pack is in situ natural material			

Logs # 102-106

SAN PEDRO RIVER

**BENSON BRIDGE
GEOLOGIC CROSS SECTION**

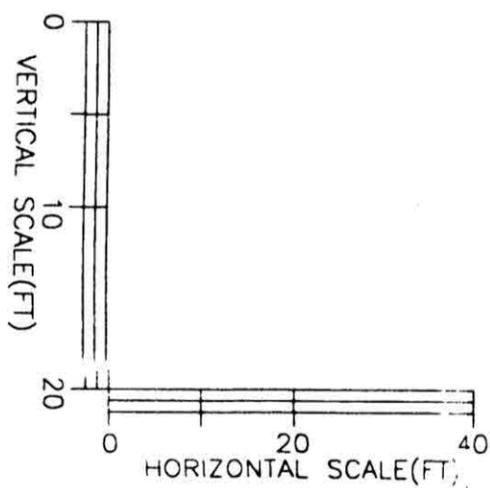
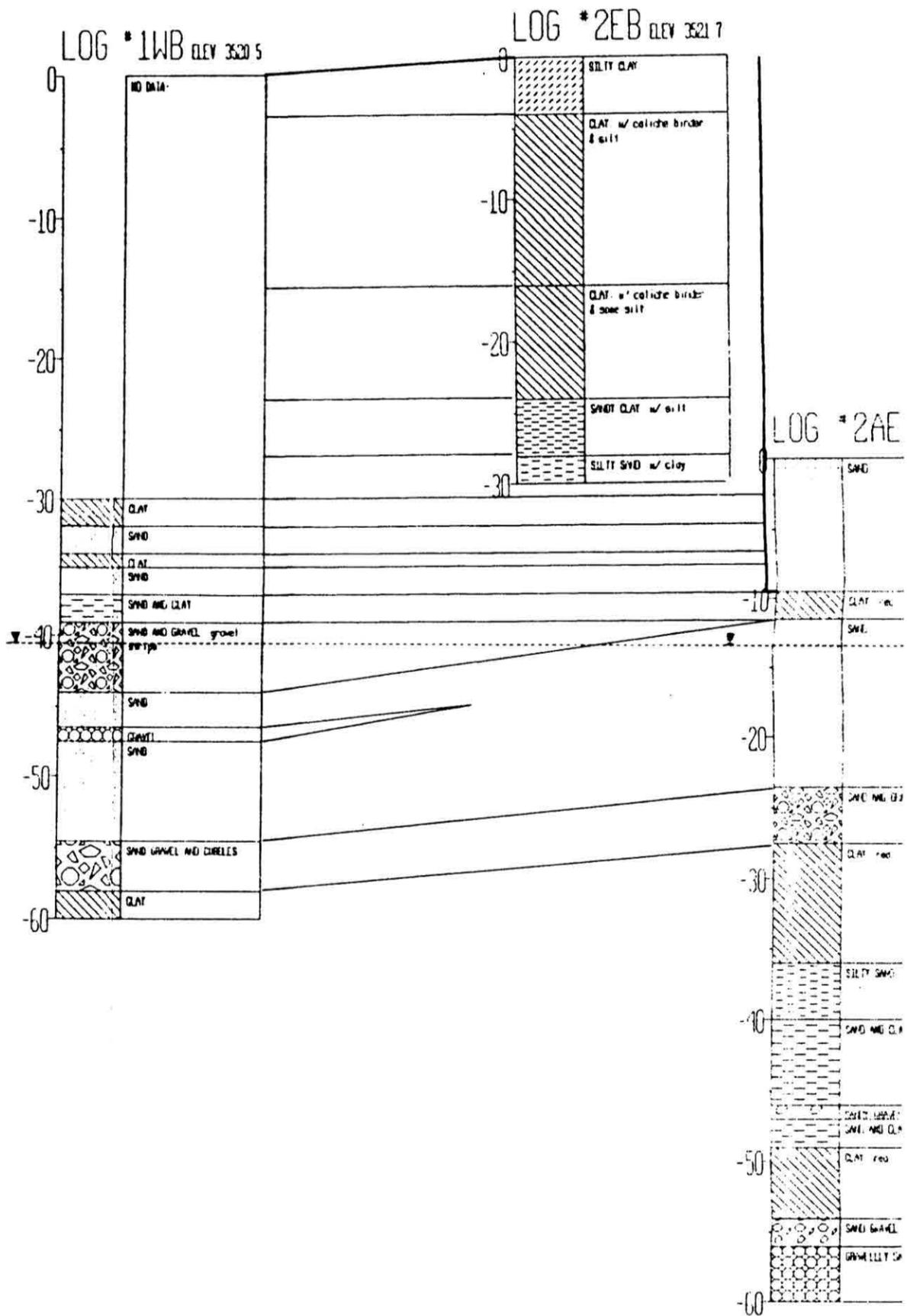
LEONARD RICE CONSULTING WATER ENGINEERS, INC
2401 Fifteenth Street, Suite 500
Denver, Colorado 80202-1143 U.S.A.
(303) 455-9589

DWN: JRF

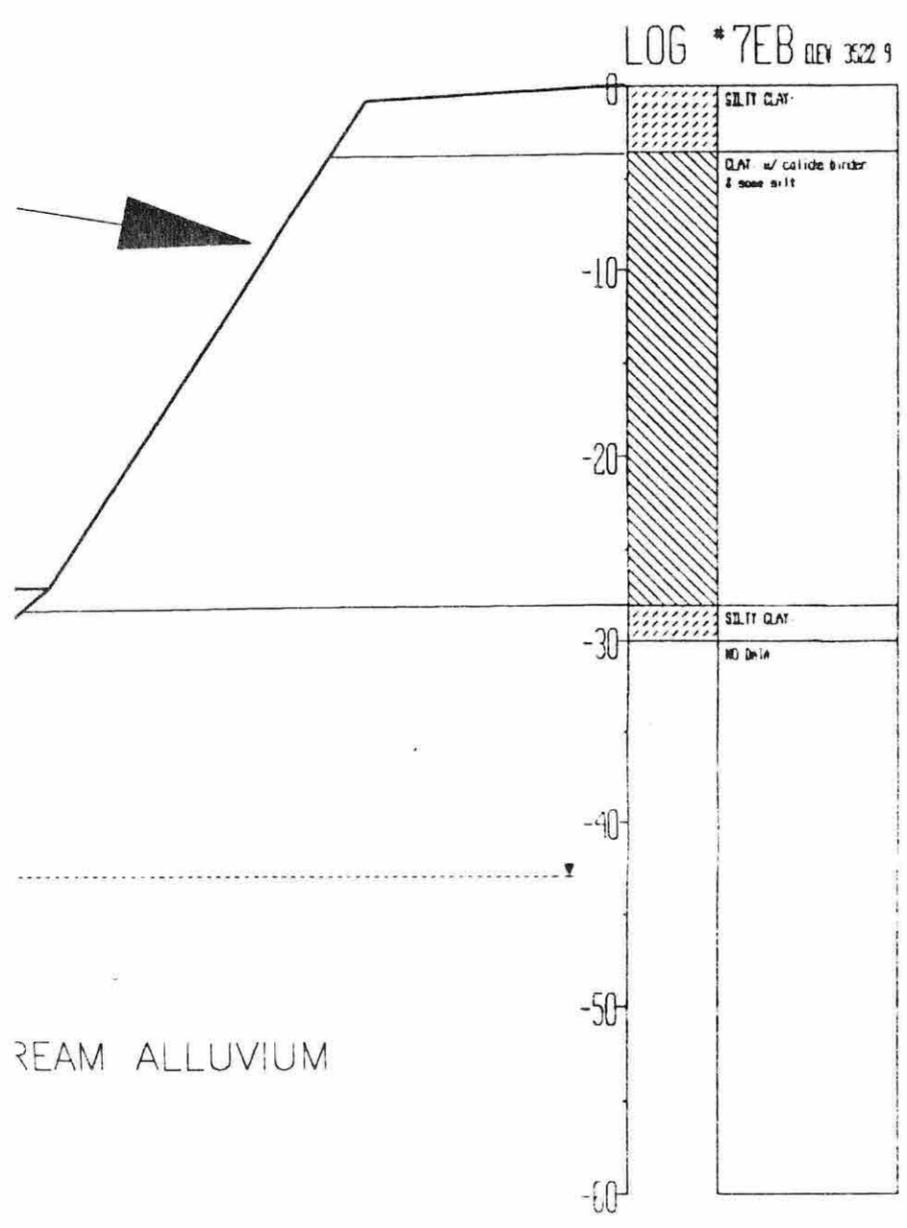
DATE: 2/22/94

FIGURE: **E**

WEST



EAST



EXPLAN

LINE:
BETW
(NOT

WAT

TA FOR
GEOLOGIC
AREA

SAN PEDRO RIVER
(APPROXIMATELY LOCATED)

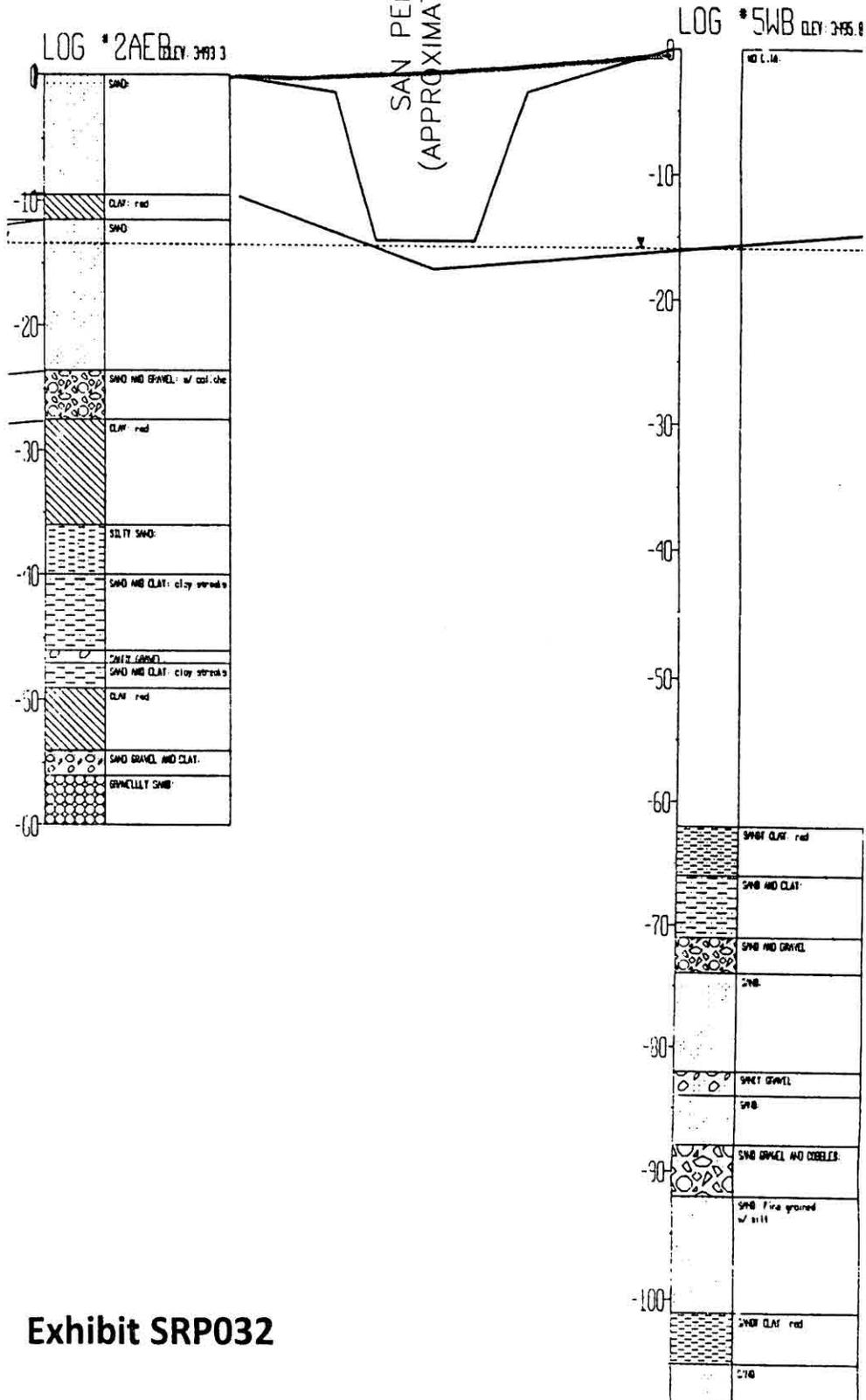
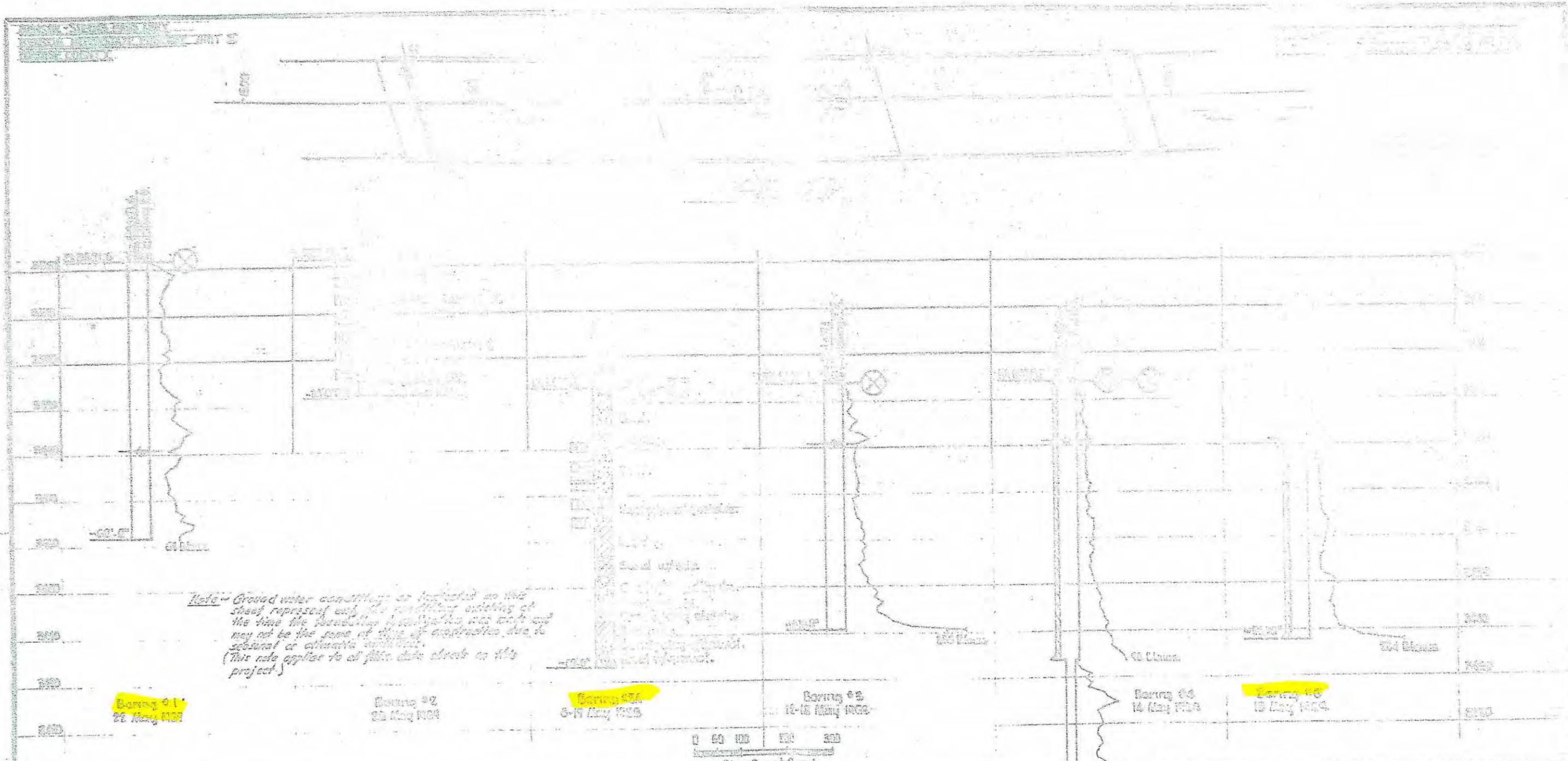


Exhibit SRP032

Logs # 107-110



Note - Ground water conditions as indicated on this sheet represent only the conditions existing at the time the borings were made and may not be the same at time of construction due to seasonal or climatic variations. (This note applies to all field data sheets on this project)

Boring #1
22 May 1954

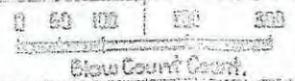
Boring #2
23 May 1954

Boring #3
6-15 May 1955

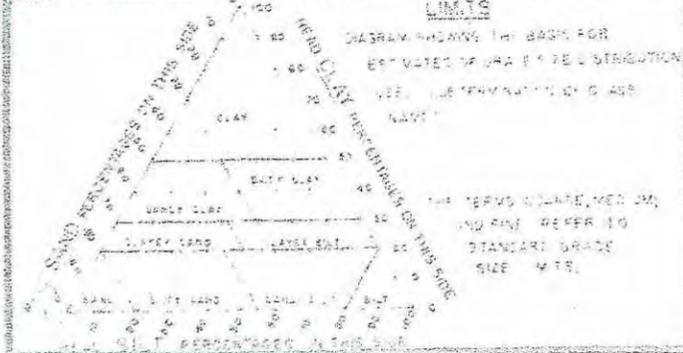
Boring #4
18-15 May 1955

Boring #5
14 May 1954

Boring #6
15 May 1954



CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS



LEGEND OF BORING OPERATIONS

- | | | | |
|--|---------------------|--|--------------------|
| | PLAN OF ANY BORING | | 2" PENETROMETER |
| | CASING | | CASING SHOE |
| | ROTARY BORING (WET) | | AUGER BORING (DRY) |
| | CONE BORING | | TEST PIT |

LEGEND OF BORING OPERATIONS

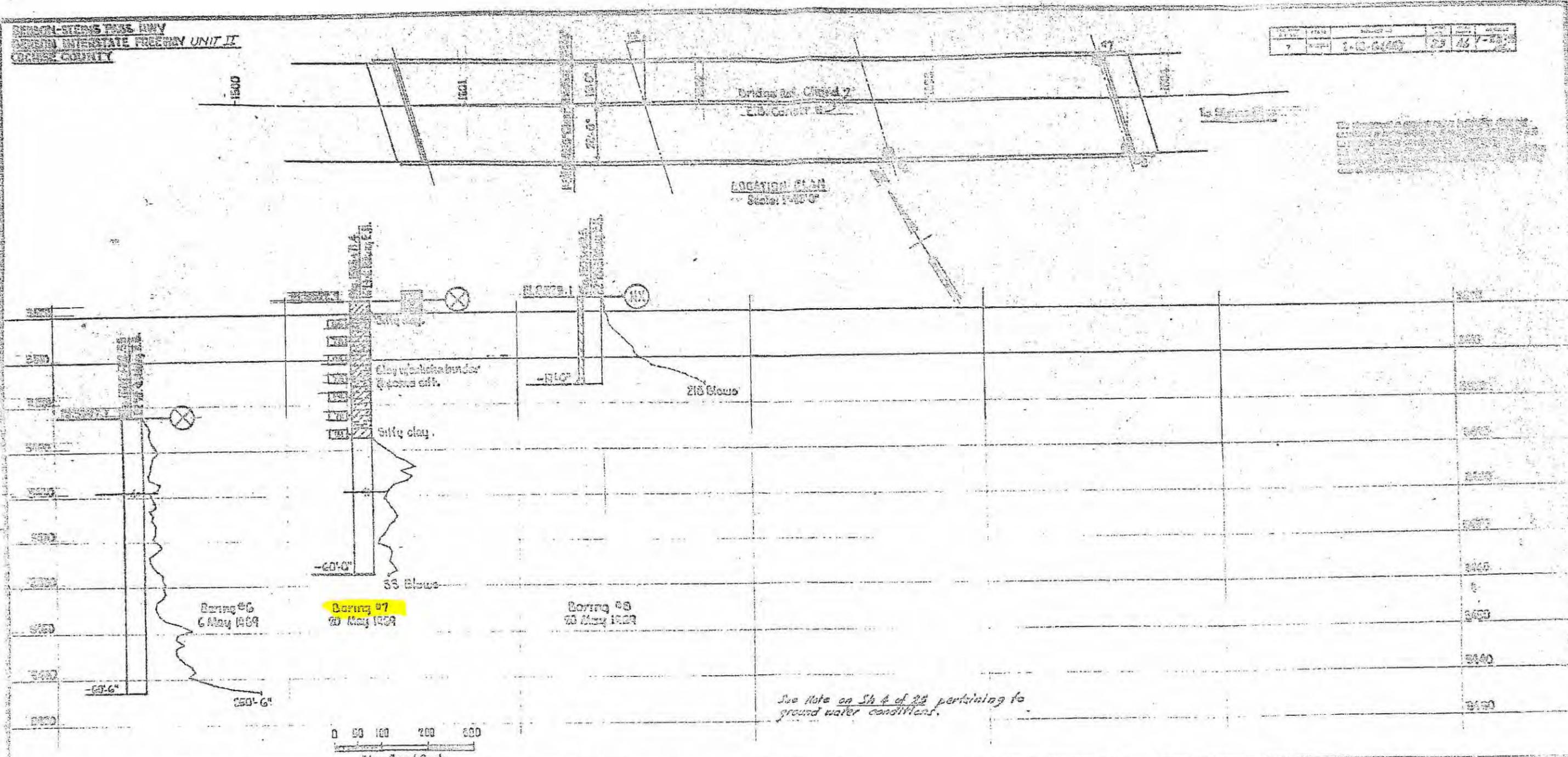
- | | | | |
|--|-------------------------------|--|---------------------------------------|
| | DESCRIPTION OF MATERIAL | | BLOW COUNT ON CASING |
| | CONFORMABLE MATERIAL CHANGE | | UNCONFORMABLE MATERIAL CHANGE |
| | BLOW COUNT ON 2" PENETROMETER | | EXPLORATION WITH 2" NOSE PENETROMETER |

NOTES

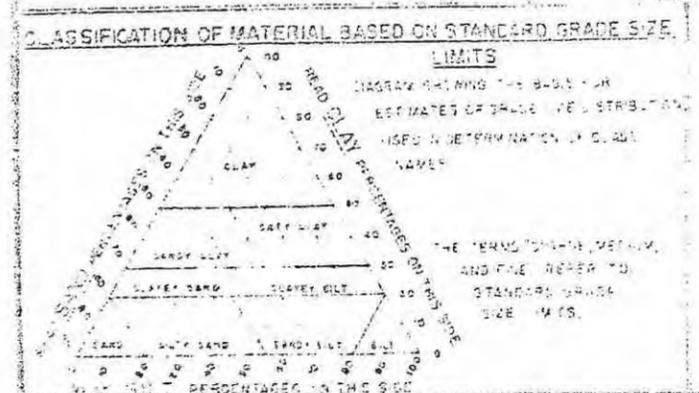
INFORMATION CONTAINED ON THIS SHEET IS BASED ENTIRELY ON PROSPECTIVE SURVEYS AND INFORMATION FURNISHED ONLY AND IS NOT TO BE CONSIDERED A PART OF THE CONTRACT HEREIN. THE INFORMATION IS DEVELOPED AS ACCURATELY AS POSSIBLE BY THE METHOD UTILIZED. HOWEVER, THE STATE ACCEPTS NO RESPONSIBILITY FOR ANY INFORMATION ENCOUNTERED WHICH MAY BE AT VARIANCE FROM INFORMATION OBTAINED FROM CLASSIFICATION OF EARTH MATERIALS IS BASED UPON FIELD INSPECTION AND IS NOT TO BE CONSIDERED TO BE A BASIS FOR DESIGN OR ANALYSIS. NO CASING IS DRIVEN WITH 2 1/2" DIA. 100 LB. NUMBER, 2 1/2" DIA. 100 LB. NO. 6X CASING AND 2" PENETROMETER CASING WITH 1 1/2" DIA. 100 LB. NO. 6X CASE NO. CUSHION.

Project No.	1530	Sheet No.	1 of 2
Date	5/15/54	Scale	AS SHOWN
Drawn by	W.C.	Checked by	W.C.
Approved by		Engineer	

ARIZONA HIGHWAY DEPARTMENT
BRUCE DANFORTH
 ENGINEER
FOUNDATION DATA SHEET
SMARTRIDGE BRIDGE



See Note on Sh 4 of 25 pertaining to ground water conditions.



LEGEND OF EARTH MATERIALS

	SAND		SILTY SAND
	SILTY CLAY		CLAY
	SHELL MATERIAL		ORGANIC MATERIAL
	SHELL ROCK		SEDIMENTARY ROCK
	METAMORPHIC ROCK		ROCK

LEGEND OF BORING OPERATIONS

	HAND DRIVEN		DESCRIPTION OF MATERIAL
	2' LENGTH WATER CASING		BLOW COUNT ON GAS 16
	GAS 16		CONFORMABLE MATERIAL CHANGE
	ROTARY BORING (WET)		UNCONFORMABLE MATERIAL CHANGE
	AUGER BORING (DRY)		BLOW COUNT ON 2' PENETROMETER
	CORE BORING		EXPLORATION WITH RIAL NOSE PENETROMETER
	TEST PIT		DATE

NOTES

INFORMATION CONTAINED ON THIS SHEET IS MADE AVAILABLE TO PROSPECTIVE BUYERS FOR INFORMATION PURPOSES ONLY AND IS NOT TO BE CONSIDERED A PART OF THE CONTRACT PAPERS. THE INFORMATION IS DEVELOPED AS ACCURATELY AS POSSIBLE BY THE METHOD UTILIZED, HOWEVER, THE STATE ACCEPTS NO RESPONSIBILITY FOR ANY CONDITIONS ENCOUNTERED WHICH MAY BE AT VARIANCE FROM INFORMATION CONTAINED HEREIN. CLASSIFICATION OF EARTH MATERIALS IS BASED UPON FIELD INSPECTION AND IS NOT TO BE CONSIDERED TO IMPLY MECHANICAL ANALYSIS.

16" CASING IS DRIVEN WITH 345 POUND HAMMER, 10" FREE FALL, NO CUSHION. 6" CASING AND 2" PENETROMETER (DRIVEN WITH 140 POUND HAMMER, 10" FREE FALL, NO CUSHION).

DATE	5-29-29
ENGINEER	RUB
CONTRACT NO.	170
POST NO.	5 of 25

ARIZONA HIGHWAY DEPARTMENT
BRIDGE DIVISION

FOUNDATION DATA SHEET
SARASOTA BRIDGE

Log # 111

(D-15-20) 21 CAB

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 215009

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

Depth	
DEPTH OF BORING 85 Feet Below Land Surface	DEPTH OF COMPLETED WELL 85 Feet Below Land Surface

Water Level Information			
STATIC WATER LEVEL 18.07 Feet Below Land Surface	DATE MEASURED 6-8-07	TIME MEASURED 1450	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 (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	70	4	0	70	2		X										
70	75	4	70	75	2		X							X			
75	85	4	75	85	2		X										

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	5											
5	85	X							filter pack is in situ natural material			

Log # 117

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 Magma Copper Company
Name
P.O. Box M, San Manuel, AZ 85631-0460
Mailing Address
2. Driller B-J Drilling Company Inc.
Name
P.O. Box 815, Benson, AZ 85602
Mailing Address
3. Location of well: Twp. 9S, Rge 17E, Section 23: NE $\frac{1}{4}$, SW $\frac{1}{4}$, NW $\frac{1}{4}$
4. Permit No. 55-530124
(If issued)

DESCRIPTION OF WELL

5. Total depth of hole 1000' ft.
6. Type of casing Steel
7. Diameter and length of casing 10 3/4 in. from +1' to 20', 6 5/8 in from +1' to 310',
4 1/2" from +1' to 999'
8. Method of sealing at reduction points Cemented
9. Perforated from 285' to 1000', from _____ to _____, from _____ to _____.
10. Size of cuts .125 x 3" Number of cuts per foot 12
11. If screen was installed: Length _____ ft. Diam _____ in. Type _____
12. Method of construction drilled
drilled, dug, driven, bored, jetted, etc
13. Date started 1/28/91
Month Day Year
14. Date completed 2/08/91
Month Day Year
15. Depth to water 172.82' 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. 55-530124
File No. D(9-17)23bca
Entered ENTERED APR 27 1991

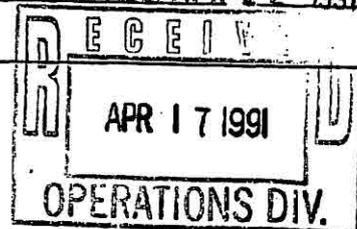




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR
CONFINED AQUIFER MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

DEPTH (feet)	DESCRIPTION
0-10	GRAVELLY SILTY SAND; tan; fine to coarse-grained subangular to subrounded sand 50%, silt and clay 40%, gravel 10%; unconsolidated. Gravel fraction: quartz 50%, granitic fragments 40%, k-feldspar 10%. Reaction to acid: strong. Some tan to white caliche. Dry.
10-20	SILTY SAND; tan; fine to coarse-grained subangular to subrounded sand 55%, silt and clay 40%, gravel 5%; unconsolidated. Gravel fraction: quartz 30%, granitic fragments 50%, k-feldspar 20%, some volcanic fragments. Reaction to acid: strong. Some tan to white caliche. Moist.
20-30	SILTY SANDY GRAVEL; tan to pink; subangular to angular gravel 70%, subangular to subrounded coarse-grained sand 20%, silt and clay 10%; unconsolidated. Gravel fraction: quartz 30%, granitic fragments 50%, volcanic fragments 10% limestone, sandstone, and chert 10% Reaction to acid: moderate. Begin mud-rotary drilling method at 20 feet.
30-40	SANDY GRAVEL; tan to pink; subangular to angular gravel 75%, subangular to subrounded coarse-grained sand 20%, silt and clay 5%; unconsolidated. Gravel fraction: quartz 30%, granitic fragments 50%, volcanic fragments 10% limestone, sandstone, and chert 10% Reaction to acid: weak.
40-50	SILTY SANDY GRAVEL; brown to pink; subangular to angular gravel 50%, subangular to subrounded medium to coarse-grained sand 40%, silt and clay 10%; unconsolidated. Gravel fraction: quartz 30%, granitic fragments 50%, volcanic fragments 10% limestone, sandstone, and chert 10% Reaction to acid: weak. Sandy red clay 49-50 feet.
50-60	SILTY SANDY GRAVEL; brown to pink; subangular to angular gravel 70%, subangular to subrounded medium to coarse-grained sand 20%, silt and clay 10%; unconsolidated (trace of cemented conglomerate). Gravel fraction: quartz 20%, granitic fragments 20%, volcanic fragments 60% (pink, red, and black rhyolite, andesite, and ignimbrite (?)). Reaction to acid: weak. Sandy red clay 49-50 feet.

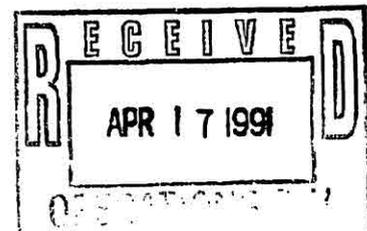




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

DEPTH (feet)	DESCRIPTION
60-70	SANDY GRAVEL; brown to pink; angular gravel 90%, subangular to subrounded coarse-grained sand 10%; unconsolidated. Gravel fraction: quartz 20%, granitic fragments 20%, volcanic fragments 60% (pink, red, and black rhyolite, andesite, and ignimbrite (?). Reaction to acid: weak. Sandy red clay 49-50 feet.
70-80	SILTY CLAY; brown; angular gravel 20%, silt and clay 80%; poorly consolidated. Reaction to acid: moderate. Drilling action indicates base of sandy gravel at 75 feet.
80-90	CLAY; brown; silt and clay 100% (predominantly clay); poorly consolidated. Reaction to acid: moderate.
90-100	CLAY; brown; silt and clay 100% (predominantly clay); poorly consolidated. Reaction to acid: moderate.
100-110	CLAY; brown; silt and clay 100% (predominantly clay); poorly consolidated. Reaction to acid: moderate.
110-120	CLAY; brown; silt and clay 100% (predominantly clay); poorly consolidated. Reaction to acid: moderate.
120-130	CLAY; brown; silt and clay 100% (predominantly clay); poorly consolidated. Reaction to acid: moderate.
130-140	CLAY; brown; silt and clay 100% (predominantly clay); poorly consolidated. Reaction to acid: moderate.
140-150	CLAY; brown; silt and clay 100% (predominantly clay); poorly consolidated. Reaction to acid: moderate.
150-160	CLAY; brown; silt and clay 100% (predominantly clay); poorly consolidated. Reaction to acid: moderate.
160-170	CLAY; brown; silt and clay 100% (predominantly clay); poorly consolidated. Reaction to acid: moderate.
170-180	SANDY CLAY; brown; silt and clay 90% (predominantly clay), fine to medium-grained sand 10%; poorly consolidated. Reaction to acid: moderate.
180-190	SANDY CLAY; brown; silt and clay 90% (predominantly clay), fine to medium-grained sand 10%; poorly consolidated. Reaction to acid: moderate.

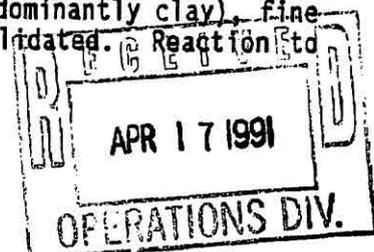




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

<u>DEPTH (feet)</u>	<u>DESCRIPTION</u>
190-200	SANDY CLAY; brown; silt and clay 90% (predominantly clay), fine to medium-grained sand 10%; poorly consolidated. Reaction to acid: moderate.
200-210	SANDY CLAY; brown; silt and clay 95% (predominantly clay), fine to medium-grained sand 5%; poorly consolidated. Reaction to acid: moderate.
210-220	SILTY CLAY; brown; silt and clay 100% (clay 80%, silt 20%); poorly consolidated. Reaction to acid: moderate.
220-230	SILTY CLAY; brown; silt and clay 100% (clay 80%, silt 20%); poorly consolidated. Reaction to acid: moderate.
230-240	SANDY SILTY CLAY; brown; silt and clay 100% (clay 60%, silt 40%), fine to medium-grained sand 20%, trace gravel; poorly consolidated. Reaction to acid: moderate.
240-250	GRAVELLY SANDY SILTY CLAY; brown to tan; silt and clay 50% (predominantly clay), gravel 30%, fine to medium-grained sand 20%; poorly to moderately consolidated. Reaction to acid: moderate.
250-260	GRAVELLY SANDY SILTY CLAY; brown to tan; silt and clay 50% (predominantly clay), gravel 30%, fine to medium-grained sand 20%; poorly to moderately consolidated. Reaction to acid: moderate.
260-270	SANDY CLAYEY GRAVEL; brown to tan; gravel 50%, silt and clay 30%, medium to coarse-grained sand 20%; poorly to moderately consolidated. Gravel fraction: quartz 50%, granitic fragments 50%. Reaction to acid: weak.
270-280	GRAVELLY SANDY CLAY; brown to tan; silt and clay 60% (predominantly clay), medium to coarse-grained sand 30%; gravel 10%. poorly to moderately consolidated. Gravel fraction: quartz 50%, granitic fragments 50%. Reaction to acid: weak.
280-290	GRAVELLY SANDY CLAY; brown to tan; silt and clay 60% (predominantly clay), medium to coarse-grained sand 30%; gravel 10%. poorly to moderately consolidated. Gravel fraction: quartz 50%, granitic fragments 50%. Reaction to acid: weak.

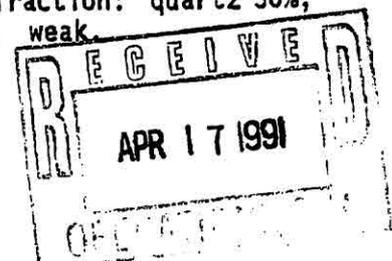




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

DEPTH (feet)	DESCRIPTION
290-300	GRANITIC CONGLOMERATE; brown to tan; gravel 40%, silt and clay 40% (predominantly clay), medium to coarse-grained sand 20%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Reaction to acid: weak. Silt and clay interpreted to be from above.
300-310	GRANITIC CONGLOMERATE; brown to tan; gravel 70%, medium to coarse-grained sand 20% silt and clay 10%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Reaction to acid: moderate.
310-320	GRANITIC CONGLOMERATE; tan, white, pink, black; gravel 70%, angular to subrounded fine to coarse-grained sand 20% silt and clay 10%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Reaction to acid: weak.
320-330	GRANITIC CONGLOMERATE; tan, white, pink, black, brown; gravel 55%, subangular to subrounded fine to coarse-grained sand 30% silt and clay 15%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Volcanic fragments up to 2 cm. with weathered surfaces. Trace epidote. Reaction to acid: weak.
330-340	GRANITIC CONGLOMERATE WITH CLAYEY SAND INTERBEDS; tan and brown; gravel 50%, subangular to subrounded fine to coarse-grained sand 30% silt and clay 20%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Reaction to acid: weak.
340-350	GRANITIC CONGLOMERATE WITH CLAYEY SAND INTERBEDS; tan and brown; gravel 50%, subangular to subrounded fine to coarse-grained sand 30% silt and clay 20%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Reaction to acid: weak.
350-360	GRANITIC CONGLOMERATE; tan, white, pink, black; gravel 75%, subangular to subrounded fine to coarse-grained sand 20% silt and clay 5%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Volcanic fragments up to 3 cm. with weathered surfaces. Reaction to acid: weak.

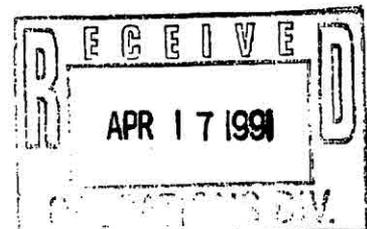




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

DEPTH (feet)	DESCRIPTION
360-370	GRANITIC CONGLOMERATE; tan, white, pink, black; gravel 80%, subangular to subrounded medium to coarse-grained sand 20%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Volcanic fragments up to 3 cm. with weathered surfaces. Reaction to acid: weak.
370-380	GRANITIC CONGLOMERATE WITH SANDY CLAY INTERBEDS; tan, white, pink, black; gravel 70%, subangular to subrounded medium to coarse-grained sand 20%, silt and clay 10%. Moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Some quartz chips up to 2 cm. Calcareous rind on some chips. Reaction to acid: weak.
380-390	GRANITIC CONGLOMERATE WITH SANDY CLAY INTERBEDS; tan, white, pink, black; gravel 60%, subangular to subrounded medium to coarse-grained sand 30% silt and clay 10%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Reaction to acid: weak.
390-400	GRANITIC CONGLOMERATE WITH CLAYEY SAND INTERBEDS; tan, white, pink, black; gravel 60%, subangular to subrounded medium to coarse-grained sand 30%, silt and clay 10%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Reaction to acid: weak.
400-410	GRANITIC CONGLOMERATE WITH SANDY CLAY MATRIX AND INTERBEDS; tan, white, pink, black; gravel 80%, angular to subrounded medium to coarse-grained sand 15% silt and clay 5%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Reaction to acid: weak.
410-420	GRANITIC CONGLOMERATE WITH SANDY CLAY MATRIX AND INTERBEDS; tan, white, pink, black; gravel 60%, angular to subrounded fine to coarse-grained sand 20%, silt and clay 20%. moderately consolidated. Gravel fraction: quartz 30%, granitic fragments 60%, volcanic fragments 10%. Reaction to acid: weak.
420-430	GRANITIC CONGLOMERATE WITH SANDY CLAY MATRIX AND INTERBEDS; tan, white, pink, black; gravel 70%, angular to subrounded fine to coarse-grained sand 20%, silt and clay 10%. moderately to well consolidated. Gravel fraction: quartz 40%, granitic fragments 50%, volcanic fragments 10%. Reaction to acid: weak.

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FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

DEPTH (feet)	DESCRIPTION
430-440	CLAYEY SAND AND GRAVEL; brown; gravel 50%, angular to subrounded fine to coarse-grained sand 30%, silt and clay 20%. poorly to moderately consolidated. Gravel fraction: quartz 40%, granitic fragments 50%, volcanic fragments 10%, in clayey sand matrix. Reaction to acid: weak.
440-450	CLAYEY SAND AND GRAVEL; brown; gravel 50%, angular to subrounded fine to coarse-grained sand 30%, silt and clay 20%. poorly to moderately consolidated. Gravel fraction: quartz 40%, granitic fragments 50%, volcanic fragments 10%, in clayey sand matrix. Reaction to acid: weak.
450-460	CLAYEY SAND AND GRAVEL; brown; gravel 40%, subangular to subrounded fine to medium-grained sand 40%, silt and clay 20%. poorly to moderately consolidated. Gravel fraction: quartz 40%, granitic fragments 50%, volcanic fragments 10%, in clayey sand matrix. Reaction to acid: weak.
460-470	CLAYEY SAND AND GRAVEL; brown; gravel 50%, subangular to subrounded fine to medium-grained sand 30%, silt and clay 20%. poorly to moderately consolidated. Gravel fraction: quartz 40%, granitic fragments 50%, volcanic fragments 10%, in clayey sand matrix. Reaction to acid: weak.
470-480	CLAYEY SAND AND GRAVEL; brown; gravel 50%, angular to subrounded fine to medium-grained sand 30%, silt and clay 20%. poorly to moderately consolidated. Gravel fraction: quartz 40%, granitic fragments 50%, volcanic fragments 10%. Reaction to acid: weak.
480-490	CLAYEY SAND AND GRAVEL; brown; gravel 50%, angular to subrounded fine to medium-grained sand 30%, silt and clay 20%. poorly to moderately consolidated. Gravel fraction: quartz 40%, granitic fragments 50%, volcanic fragments 10%. Reaction to acid: weak.
490-500	CLAYEY SAND WITH SANDY CLAY AND CLAY INTERBEDS; brown; gravel 30%, subangular to subrounded fine to medium-grained sand 40%, silt and clay 30%. poorly to moderately consolidated. Gravel fraction: quartz 40%, granitic fragments 50%, volcanic fragments 10%. Reaction to acid: weak.

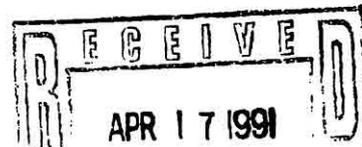




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

DEPTH (feet)	DESCRIPTION
500-510	SANDY CLAY WITH CLAYEY SAND AND GRAVEL; brown and black; gravel 20%, subangular to subrounded fine to medium-grained sand 30%, silt and clay 50%. poorly to moderately consolidated. Gravel fraction: black and red volcanic fragments 70%, quartz 10%, granitic fragments 20%. Reaction to acid: weak.
510-520	SANDY CLAY WITH CLAYEY SAND AND GRAVEL; brown and black; gravel 20%, subangular to subrounded fine to medium-grained sand 30%, silt and clay 50%. poorly to moderately consolidated. Gravel fraction: black and red volcanic fragments 70%, quartz 10%, granitic fragments 20%. Reaction to acid: weak.
520-530	CLAYEY SAND AND GRAVEL; brown, black, and red; gravel 40%, subangular to subrounded fine to medium-grained sand 40%, silt and clay 30%. poorly to moderately consolidated. Gravel fraction: black and red volcanic fragments 70%, quartz 10%, granitic fragments 20%. Reaction to acid: weak.
530-540	CLAYEY SAND AND GRAVEL; brown, black, and red; gravel 40%, subangular to subrounded fine to coarse-grained sand 30%, silt and clay 30%. poorly consolidated. Gravel fraction: gray volcanic fragments 70%, black and red volcanic fragments 30%. Some weathered volcanic surfaces. Clay more red than above. Reaction to acid: weak.
540-550	VOLCANIC CONGLOMERATE; brown, black, and red; gravel 70%, subangular to subrounded fine to coarse-grained sand 10%, silt and clay 20%. poorly consolidated. Gravel fraction: gray volcanic fragments 40%, red volcanic fragments 60%. Reaction to acid: weak.
550-560	VOLCANIC CONGLOMERATE; black and red; gravel 75%, subangular to subrounded fine to coarse-grained sand 15%, silt and clay 10%. poorly consolidated. Gravel fraction: gray volcanic fragments 40%, red volcanic fragments 60%. Reaction to acid: weak.
560-570	VOLCANIC CONGLOMERATE; black and red; gravel 70%, subangular to subrounded fine to coarse-grained sand 15%, silt and clay 15%. poorly consolidated. Gravel fraction: gray volcanic fragments 40%, red volcanic fragments 60%. Reaction to acid: weak.

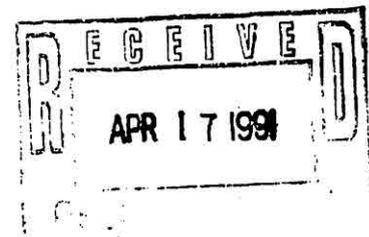




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

DEPTH (feet)	DESCRIPTION
570-580	CLAYEY SILTY GRAVEL; black and red; gravel 50%, subangular to subrounded very fine to medium-grained sand 10%, silt and clay 40%. poorly consolidated. Gravel fraction: gray volcanic fragments 40%, red volcanic fragments 60%. Reaction to acid: weak.
580-590	CLAYEY SILTY GRAVEL; black, red, and gray; gravel 50%, subangular to subrounded very fine to medium-grained sand 10%, silt and clay 40%. poorly consolidated. Gravel fraction: gray volcanic fragments 40%, red volcanic fragments 60%. Some gray clay. Reaction to acid: weak.
590-600	SANDY SILTY CLAY AND GRAVEL; black, red, and gray; gravel 40%, subangular to subrounded very fine to medium-grained sand 20%, silt and clay 40%. poorly consolidated. Gravel fraction: gray volcanic fragments 40%, red volcanic fragments 60%. Increasing amounts of gray clay, some yellow limonitic clay. Reaction to acid: weak.
600-610	CLAYEY SANDY GRAVEL; red and brown; gravel 50%, subangular to subrounded very fine to medium-grained sand 10%, silt and clay 40%. poorly consolidated. Gravel fraction: gray volcanic fragments 40%, red volcanic fragments 60%. Reaction to acid: weak.
610-620	CLAYEY SANDY GRAVEL; red and brown; gravel 30%, subangular to subrounded very fine to medium-grained sand 10%, silt and clay 60%. poorly consolidated. Gravel fraction: gray volcanic fragments 40%, red volcanic fragments 60%. Some sub-rounded gravel fragments in sandy clay matrix. Reaction to acid: weak.
620-630	CLAYEY SANDY GRAVEL; red and brown; gravel 30%, subangular to subrounded very fine to medium-grained sand 10%, silt and clay 60%. poorly consolidated. Gravel fraction: gray volcanic fragments 40%, red volcanic fragments 60%. Some sub-rounded gravel fragments in sandy clay matrix. Reaction to acid: weak.
630-640	SANDY SILTY CLAY; red, brown, and gray; gravel 10%, sand 10%, silt and clay 80%. poorly consolidated. Reaction to acid: weak. Dramatic color change (more gray). clay is sticky.
640-650	SANDY SILTY CLAY; brown and gray; very fine to medium-grained sand 15%, silt and clay 85%. poorly consolidated. Reaction to acid: weak.

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FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

<u>DEPTH (feet)</u>	<u>DESCRIPTION</u>
650-660	SILTY SANDY CLAY WITH CLAY INTERBEDS; brown and gray; very fine to medium-grained sand 15%, silt and clay 85%. poorly consolidated. Reaction to acid: weak.
660-670	SILTY SANDY CLAY WITH CLAY INTERBEDS; brown and gray; very fine to medium-grained sand 15%, silt and clay 85%. poorly consolidated. Reaction to acid: weak.
670-680	SILTY SANDY CLAY WITH SILTY CLAY INTERBEDS; brown and gray; very fine to medium-grained sand 20%, silt and clay 80%. poorly consolidated. Reaction to acid: weak.
680-690	SILTY SANDY CLAY WITH SILTY CLAY INTERBEDS; brown and gray; very fine to medium-grained sand 10%, silt and clay 90%. poorly consolidated. Reaction to acid: weak. Trace of gypsum (?).
690-700	SILTY SANDY CLAY WITH SILTY CLAY INTERBEDS; brown and gray; very fine to medium-grained sand 10%, silt and clay 90%. poorly consolidated. Reaction to acid: weak.
700-710	SANDY SILTY CLAY; tan and brown; medium to coarse-grained sand 40%, silt and clay 60%. poorly to moderately consolidated. Reaction to acid: moderate.
710-720	SANDY SILTY CLAY; tan and brown; medium to coarse-grained sand 30%, silt and clay 70%. poorly to moderately consolidated. Reaction to acid: moderate.
720-730	SILTY SANDY CLAY WITH SILTY CLAYEY SAND INTERBEDS; tan and brown; gravel 10%, medium to coarse-grained sand 30%, silt and clay 60%. poorly to moderately consolidated. Reaction to acid: moderate. Gravel is contamination from tripping in.
730-740	SILTY CLAY WITH SANDY SILTY CLAY INTERBEDS; brown and gray; gravel 5%, medium to coarse-grained sand 15%, silt and clay 80%. poorly to moderately consolidated. Reaction to acid: moderate.
740-750	SILTY CLAY WITH SANDY SILTY CLAY INTERBEDS; brown and gray; gravel 5%, medium to coarse-grained sand 15%, silt and clay 80%. poorly to moderately consolidated. Some moderately lithified clayey sandy siltstone. Reaction to acid: moderate.

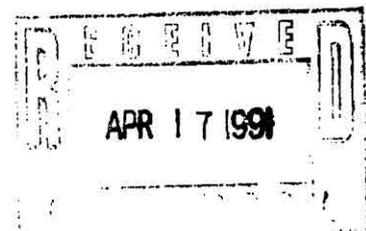




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

<u>DEPTH (feet)</u>	<u>DESCRIPTION</u>
750-760	SANDY SILTY CLAY WITH CLAYEY SILTSTONE AND CLAYEY SILTY SANDSTONE INTERBEDS; brown and gray; gravel 10%, fine to coarse-grained sand 30%, silt and clay 60%. poorly to moderately consolidated. Some moderately lithified clayey siltstone and clayey silty sandstone. Reaction to acid: moderate.
760-770	SANDY SILTY CLAY; brown and gray; fine to medium-grained sand 20%, silt and clay 80%. poorly consolidated. No visible lithified chips. Reaction to acid: moderate.
770-780	GRAVELLY SANDY SILTY CLAY WITH CLAYEY SILTSTONE AND CLAYEY SILTY SANDSTONE INTERBEDS; brown and gray; gravel 10%, fine to medium-grained sand 20%, silt and clay 70%. poorly to moderately consolidated. Some moderately lithified clayey siltstone and clayey silty sandstone. Reaction to acid: moderate.
780-790	GRAVELLY SANDY SILTY CLAY WITH CLAYEY SILTSTONE AND CLAYEY SILTY SANDSTONE INTERBEDS; brown and gray; gravel 5%, fine to medium-grained sand 25%, silt and clay 70%. poorly to moderately consolidated. Some moderately lithified clayey siltstone and clayey silty sandstone. Reaction to acid: moderate.
790-800	SANDY SILTY CLAY; brown and gray; fine to medium-grained sand 30%, silt and clay 70%. poorly consolidated. No visible lithified chips. Reaction to acid: moderate.
800-810	SANDY SILTY CLAY; brown and gray; fine to medium-grained sand 30%, silt and clay 70%. poorly to moderately consolidated. Trace of red silty sandstone, trace of gypsum. Reaction to acid: moderate.
810-820	SANDY SILTY CLAY; brown and gray; fine to medium-grained sand 20%, silt and clay 80%. poorly to moderately consolidated. Reaction to acid: moderate.
820-830	GRAVELLY SANDY SILTY CLAY; brown and gray; gravel 10%, fine to medium-grained sand 20%, silt and clay 70%. poorly to moderately consolidated. Reaction to acid: moderate.
830-840	SANDY CLAYEY GRAVEL AND GRAVELLY SANDY SILTY CLAY; brown and gray; gravel 20%, fine to medium-grained sand 30%, silt and clay 50%. poorly to moderately consolidated. Reaction to acid: moderate.

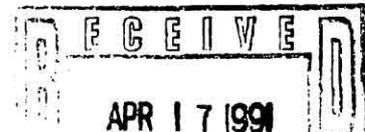




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

<u>DEPTH</u> <u>(feet)</u>	<u>DESCRIPTION</u>
840-850	SANDY CLAYEY GRAVEL AND GRAVELLY SANDY SILTY CLAY; brown and gray; gravel 20%, fine to medium-grained sand 30%, silt and clay 50%. poorly to moderately consolidated. Reaction to acid: moderate.
850-860	GRAVELLY SANDY SILTY CLAY WITH SANDY SILTSTONE AND SILTY SANDSTONE INTERBEDS; brown and gray; gravel 20%, fine to medium-grained sand 30%, silt and clay 50%. poorly to moderately consolidated. Gravel fraction: granitic fragments 25%, red and black volcanics 25%, siltstone 50%. Reaction to acid: moderate.
860-870	GRAVELLY SANDY SILTY CLAY WITH SANDY SILTSTONE AND SILTY SANDSTONE INTERBEDS; brown and gray; gravel 20%, fine to medium-grained sand 30%, silt and clay 50%. poorly to moderately consolidated. Gravel fraction: granitic fragments 25%, red and black volcanics 25%, siltstone 50%. Reaction to acid: moderate.
870-880	CLAYEY SANDSTONE; brown and gray; gravel 10%, medium to coarse-grained sand 60%, silt and clay 30%. moderately consolidated. Poorly sorted, well compacted, contains some white calcareous caliche-like material. Reaction to acid: moderate.
880-890	GRAVELLY CLAYEY SANDSTONE; brown and gray; gravel 20%, medium to coarse-grained sand 60%, silt and clay 30%. moderately consolidated. Poorly sorted, well compacted, contains some white calcareous caliche-like material. Reaction to acid: moderate.
890-900	SANDY CLAY; brown and gray; gravel 5%, medium to coarse-grained sand 35%, silt and clay 60%. moderately consolidated. Contains gypsum laths and white amorphous gypsum. Reaction to acid: moderate.
900-910	GRAVELLY SANDY CLAY; brown and gray; gravel 30%, medium to coarse-grained sand 20%, silt and clay 50%. poorly to moderately consolidated. Trace of red clay. Reaction to acid: moderate.
910-920	GRAVELLY SANDY CLAY WITH CLAYEY SANDSTONE AND SILTSTONE INTERBEDS; brown and gray; gravel 10%, medium to coarse-grained sand 20%, silt and clay 70%. poorly to moderately consolidated. Reaction to acid: Moderate.

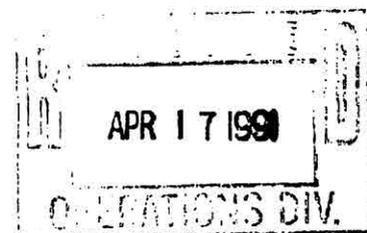
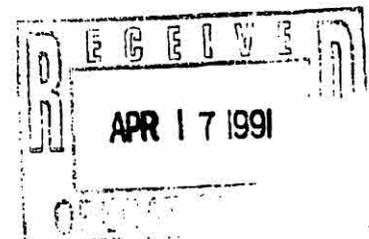




FIGURE A-1. LITHOLOGIC DESCRIPTIONS FOR CONFINED AQUIFER
MONITOR WELL (D-9-17)23bca2[CAM-1]
MAGMA COPPER COMPANY SAN MANUEL DIVISION PRODUCTION WELLFIELD
PINAL COUNTY, ARIZONA

<u>DEPTH (feet)</u>	<u>DESCRIPTION</u>
920-930	CLAYEY SILTSTONE, CLAYEY SANDSTONE AND CLAYSTONE; brown and gray; medium to coarse-grained sand 30%, silt and clay 70%. moderately to well consolidated. Reaction to acid: moderate. Some gypsum cement.
930-940	CLAYEY SILTSTONE, CLAYEY SANDSTONE AND CLAYSTONE; brown and gray; medium to coarse-grained sand 30%, silt and clay 70%. moderately to well consolidated. Reaction to acid: moderate. Some gypsum cement.
940-950	CLAYEY SILTSTONE AND CLAYSTONE; pink, brown and gray; medium to coarse-grained sand 20%, silt and clay 80%. moderately to well consolidated. Reaction to acid: moderate.
950-960	CLAYEY SILTSTONE, CLAYEY SANDSTONE AND CLAYSTONE; brown and gray; gravel 10%, medium to coarse-grained sand 20%, silt and clay 70%. moderately to well consolidated. Reaction to acid: moderate.
960-970	CLAYEY SILTSTONE, CLAYEY SANDSTONE AND CLAYSTONE; pink, brown and gray; gravel 10%, medium to coarse-grained sand 20%, silt and clay 70%. moderately to well consolidated. Reaction to acid: moderate.
970-980	CLAYEY SILTSTONE, CLAYEY SANDSTONE AND CLAYSTONE; pink, brown and gray; gravel 10%, medium to coarse-grained sand 20%, silt and clay 70%. moderately to well consolidated. Reaction to acid: moderate. Some gypsum laths.
980-990	CLAYEY SILTSTONE, CLAYEY SANDSTONE AND CLAYSTONE; pink, brown and gray; gravel 10%, medium to coarse-grained sand 20%, silt and clay 70%. poorly to moderately consolidated. Reaction to acid: moderate.
990-1,000	CLAYEY SILTSTONE, CLAYEY SANDSTONE AND CLAYSTONE; pink, brown and gray; gravel 10%, fine to coarse-grained sand 30%, silt and clay 60%. poorly to moderately consolidated. Reaction to acid: moderate.

TOTAL DEPTH DRILLED: 1,000 FEET BELOW LAND SURFACE



Log # 128

(D-7-16) 10 CAD

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
65 - 912804

SECTION 1 - WELL CONSTRUCTION DESIGN (AS BUILT) (attach additional pages if needed)

Depth
DEPTH OF BORING 30' Feet Below Land Surface DEPTH OF COMPLETED WELL 30' Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL 23.39' Feet Below Land Surface DATE MEASURED 1-3-11 TIME MEASURED IF FLOWING WELL, METHOD OF FLOW REGULATION
Valve Other:

Borehole			Installed Casing														
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)					SLOT SIZE (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	30	2"	0	20	1"		X										
			20	30	1"		X							X			1.010"

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	8			X								
8	10							X				
10	30									X		10-20

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: BF PZ EastDate: 1/3/2011 (0' - 30')Location: Black Farm near Mammoth, AZPersonnel: Steve Westwood,(SRP)ADWR well reg. #: 55-912804Drilling Co.: GSILand surface elevation: 2177'Driller: Mike, Jimmy & OscarTD: 30'Rig/Method: Air Hammer/RotaryDepth to water: 23.39'Drill fluid: None/WaterSample type: Grab/Split Spoon

Est. Time and Interval Sampled	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
11:00	Begin drilling using CME 95 Air Rotary; sampling with Drive Sample (DS) clear tubing
11:25 8'	Fine grained silt - light brown; 10% clay content (DS) Light brown with sub rounded sand and gravel to (0.5cm); caliche present
13'	Fine grained silt - light brown; 10% clay content (DS) Light brown fines, cakes with moisture present; caliche present
17'	Fine grained silt - light brown; 10% clay content (DS) Light brown fines, cakes with moisture present; caliche present
20'	Fine grained silt - light brown; 10% clay content (DS) Light brown well sorted fines - increasing clay, elastic, becoming moist;
swl ~23.39'	25' Fine grained silty clay - dark brown; saturated at 24', 60% clay content (DS)
30'	Fine grained silty clay - dark brown; saturated horizon 65% clay content, 10% fines, 25% sub rounded gravel to (1 cm) (DS)
	Total Depth of piezometer is 30'. Screened from 30-20' with 010 PVC and blank casing.

Log # 129

(D-7-16) 9 DDB

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 912807

SECTION 1: WELL CONSTRUCTION DESIGN (AS BUILT) DATA AND INFORMATION

Depth: DEPTH OF BORING 185' Feet Below Land Surface DEPTH OF COMPLETED WELL 185' Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL 20.65' Feet Below Land Surface DATE MEASURED 1-10-11 TIME MEASURED IF FLOWING WELL, METHOD OF FLOW REGULATION Valve Other:

Borehole			Installed Casing														
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)					SLOT SIZE (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	5"	0	165	2		X		Sch 80	X							
			165	185	2		X		Sch 80					X			.110"

SECTION 2: WELL CONSTRUCTION DESIGN (AS BUILT) DATA AND INFORMATION

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	13			X								
13	15					X	X					
15	185									X		10x20

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: <u>Black Farm Observation Well #1</u> Location: <u>Black Farm near Mammoth, AZ</u> (Closest to Highway) ADWR well reg. #: <u>55-912807</u> Land surface elevation: <u>2157'</u> TD: <u>185'</u> Depth to water: <u>20.65' at 13:06 1/10/2011</u>	Date: <u>1/7/2011</u> Personnel: <u>Steve Westwood, Ruth</u> <u>Valencia, Angie Bond (SRP)</u> Drilling Co.: <u>GSI</u> Driller: <u>Mike, Jimmy & Oscar</u> Rig/Method: <u>Air Hammer</u> Drill fluid: <u>None</u> Sample type: <u>Grab</u>
---	--

Time and Interval Sampled	Description
	[Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
8:00	On site- warm up/mob CME 195 (semi mounted rig)
8:45 5'	5' grab sample (bagged but not in chip tray) loamy soil
9:27 25'	25' split spoon (first chip tray)- moisture in sample. Fine silty clay; cohesive, low plasticity. strong reaction with acid
9:38-9:50 40'	40' grab sample. Goopy chocolate brown clay/mud. resembles chocolate pudding. Trace fine silts, silty clay; not much in chip tray (check bagged sample). strong reaction with acid * clay sticking between drill stem and casing. Sample may be more representative of 30'. Driller wanted to punch through clay (no samples between 25-40')
9:59-10:03 45'	45' grab sample. Gravels coated with clay (probably from upper formations) poorly sorted subangular to subrounded gravels & sands. Grain sizes range from 1mm subrounded quartz sands to 2.5 cm variety of compositions; quartz, red conglomerate, greenstone. Matrix effervesces with acid

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: 55-912807; BF OW #1

Date: 1/7/2011

Interval sampled (feet)	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
10:14 55'	55' grab sample gravelly sand 35% fine to medium subangular gravels. Variety of purple, grey, and red volcanic and chert grains. 65% medium to coarse sand *matrix effervesces with acid
10:17 to 10:20 60'	60' grab sample- gravelly sand subangular to angular gravels. 1-3.5 cm Same composition and ratios as 55' *matrix effervesces with acid
10:23-10:31 65'	65' grab sample -gravelly clayey silty sand trace gravels 15% silty sands with some clay and moisture (binds together) 85% fine to coarse sand biotite rich in fines; brownish fines. *reacts with acid
10:32-10:37 70'	70' grab sample- gravelly silty sand-similar to above with less moisture (trace clay component) more fine gravel; angular white and grey granite; red conglomerate up to 2 cm poorly sorted fine to coarse sands 85% Silts ~10% * reacts with acid
10:44 75'	75' grab sample- Gravelly sand 20% gravel angular quartzite, conglomerate and quartz clast up to 3 cm. Poorly sorted sand 75%, trace silts not a strong reaction to acid; some grains and fines react variety of rock types from red conglomerate to olivine rich mafics

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: 55-912807; BF OW #1

Date: 1/7/2011

Interval sampled (feet)	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
10:50 80'	80' grab sample-gravelly sand medium to coarse sand abundant, more quartz 15% gravel 85% sand
10:57 85' 90'	85' grab sample - same as 80' varying fines 90' grab sample- same as 80' varying fines
11:15	* had to field a phone call (not there for 85 & 90' samples)
11:20 95'	95' grab sample- gravelly sand same compositions and clasts as 75-90' 20% gravel up to 4cm; 80% poorly sorted sand
11:21 100'	100' grab sample- gravelly sand same compositions and clasts as 75-95' 10% angular gravel up to 3cm; 85% poorly sorted sand; trace fines
11:25 105'	105' grab sample- gravelly sand same compositions and clasts as 75-100' (maybe small increased mafic content) 15% gravel; 85% poorly sorted sand * some matrix reaction with acid
11:33 110'	110' grab sample- silty gravelly sand increased fine content; 15% subangular gravel purple quartzite, white, black and pink granite, red chert 80% poorly sorted sands; trace fines * poor acid reaction

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: 55-912807; BF OW #1

Date: 1/7/2011 and 1/10/2011

Interval sampled (feet)	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
11:38 115'	115' grab sample- silty gravelly sand same as 110' with increased fines 10% fines; 15% gravel; 75% poorly sorted sand *poor acid reaction
11:43 120'	120' grab sample- silty gravelly sand - same as 110-115' 5% fines; 15% gravel; 80% poorly sorted sand * poor acid reaction
11:50 125'	125' grab sample- gravelly sand 15% gravel; 85% sand poor acid reaction
End of outer casing. Will begin Monday (1/10/11) with more pipe	
Begin	<i>January 10, 2011 Logged by Ruth Valencia (review by Steve Westwood)</i>
9:02 130'	130' grab sample: gravelly sand, angular to sub-angular gravel (1 to 1.5 cm); 15% gravel; 85% sand - light brown, wet and unconsolidated
9:11 135'	135' grab sample: gravelly sand, angular to sub-angular gravel (1 to 2 cm); 15% gravel; 85% sand - dark brown, wet and unconsolidated
9:18 140'	140' grab sample: gravelly sand, angular to sub-angular gravel (1.5 to 3 cm); 25% gravel; 75% sand - dark brown, wet and unconsolidated
9:27 145'	145' grab sample: silty sand, gravels, sub-angular/rounded gravel (1 to 2 cm); 10% gravel; 80% sand; 10% silt - dark brown, wet and unconsolidated
9:38 150'	150' grab sample: silty sand, gravels, sub-angular/rounded gravel (1 to 2 cm); 10% gravel; 80% sand; 10% silt - dark brown, wet and unconsolidated

Log # 130



Arizona Department of Water Resources
 Information Management Unit
 P.O. Box 36020 • Phoenix, Arizona 85067-3589
 (602) 771-8627 • (800) 352-8488
 www.water.az.gov

Well Driller Report
 and
 Well Log

MAR 18 2011

FILE NUMBER
D(7-18)10 CAB
 WELL REGISTRATION NUMBER
55 - 912805
 PERMIT NUMBER (IF ISSUED)

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL.
 PLEASE PRINT CLEARLY USING BLACK OR BLUE INK

SECTION 1: DRILLING AUTHORIZATION

Mail To	Drilling Firm	
	NAME GEOMECHANICS SOUTHWEST, INC.	DWR LICENSE NUMBER 498
	ADDRESS 5839 S. BELVEDERE AVE	TELEPHONE NUMBER 520-252-0559
	CITY / STATE / ZIP TUCSON, AZ, 85706	FAX

SECTION 2: REGISTRY INFORMATION

Well Owner		Location of Well					
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL Salt River Project Agricultural Improv - Attn: Ruch Valanci		WELL LOCATION ADDRESS (IF ANY) Black Farm, near Mammoth, AZ					
MAILING ADDRESS PO Box 52025		TOWNSHIP (N/S) 7S	RANGE (E/W) 16E	SECTION 10	160 ACRE SW 1/4	40 ACRE NE 1/4	10 ACRE NW 1/4
CITY / STATE / ZIP Phoenix, AZ, 85072-2025		LATITUDE		"N	LONGITUDE		"W
CONTACT PERSON NAME AND TITLE		METHOD OF LATITUDE/LONGITUDE (CHECK ONE)			*GPS: Hand-Held		
TELEPHONE NUMBER 602 236-2830		FAX		USGS Quad Map		Conventional Survey	
WELL NAME (e.g. MW-1, PZ-3, lot 25 Well, Smith Well, etc.) BF ON 2		METHOD OF ELEVATION (CHECK ONE)			*GPS: Hand-Held		
		USGS Quad Map		Conventional Survey		*GPS: Survey-Grade	
		*IF GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (CHECK ONE)					
		NAD-83 Other (please specify)					
		COUNTY Pinal		ASSESSOR'S PARCEL ID NUMBER (MOST RECENT)			
				BOOK 300	MAP 34	PARCEL 010A	

SECTION 3: WELL CONSTRUCTION DETAILS

Drilling 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 checked="" type="checkbox"/> Air Percussion / Odex Tubing <input type="checkbox"/> Other (please specify)	Method of Well Development CHECK ONE <input type="checkbox"/> Airlift <input checked="" type="checkbox"/> Bail <input type="checkbox"/> Surge Block <input type="checkbox"/> Surge Pump <input type="checkbox"/> Other (please specify)	Method of Sealing at Reduction Points 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)	
	Condition of Well CHECK ONE <input type="checkbox"/> Capped <input checked="" type="checkbox"/> Pump Installed	Construction Dates DATE WELL CONSTRUCTION STARTED 1-4-11 DATE WELL CONSTRUCTION COMPLETED 1-6-11	
	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.		

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.

SIGNATURE OF QUALIFYING PARTY: *Sandra Monroe for Greg Jones* DATE: 2-23-11

SYM

GSI Job # 12-11P

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 912805

SECTION: WELL CONSTRUCTION DESIGN: BUILDING APPROVAL: (as needed)

Depth: DEPTH OF BORING 150' Feet Below Land Surface DEPTH OF COMPLETED WELL 90' Feet Below Land Surface

Water Level Information: STATIC WATER LEVEL 19.35' Feet Below Land Surface DATE MEASURED 1-6-11 TIME MEASURED IF FLOWING WELL, METHOD OF FLOW REGULATION Valve Other:

Borehole			Installed Casing														
DEPTH FROM SURFACE		BOREHOLE DIAMETER (Inches)	DEPTH FROM SURFACE		OUTER (Inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)					SLOT SIZE (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	150	5"	0	70	2		X		Sub B	X							
			70	90	2		X		Sub B					X			1.010"

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	22			X								
22	75					X	X			X		10x20
75	150											

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: Black Farm Observation Well #2Date: 1/4/2011 (0' - 65')Location: Black Farm near Mammoth, AZPersonnel: Steve Westwood, RuthValencia, (SRP)ADWR well reg. #: 55-912805Drilling Co.: GSILand surface elevation: 2170'Driller: Mike, Jimmy & OscarTD: 150' (back filled to 90')Rig/Method: Air Hammer/RotaryDepth to water: 19.35'Drill fluid: None/WaterSample type: Grab/Split Spoon

Est. Time and Interval Sampled	Description
	[Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
13:00	Start drilling using CME 95 Air Rotary; first split spoon at 25'
13:25 7'	Fine grained silt - light brown; 10% clay content (GS)
13:50 10'	Silty sand, light brown with pea sized sub angular to sub rounded gravel to (1.5cm) 70% fine grained sand, 20% silt, and 10% gravels - unconsolidated (GS)
14:05 15'	Fine grained silt matrix with light brown to gray sub angular gravels (1 cm- 3 cm) 70% fine grained silt, 30% gravels - unconsolidated; moist soil(GS)
14:30 20'	Fine grained silt matrix with light brown, gray, red, sub angular gravels (1 cm- 3 cm) 60% fine grained silt, 40% gravels - unconsolidated; wet soil (first water @19.35')
14:45 25'	25' split spoon sample. Sandy gravelly deposits; well sorted and unconsolidated Angular to sub angular (1 to 3.5 cm), gray, red tan gravels; 0.5" of clay at 24.5', wet sample saturated from 20' to 25'; blow count 11, 14, 13
15:00 30'	Grab sample. Well sorted sand and gravel; river alluvium Sub angular (1 to 3 cm), gray, red, light brown gravels; wet.
15:07 35'	Split spoon sample. Sub angular to rounded gravels 1 cm to 4 cm, minor sand water bearing, light brown, gray, orange, red, gravels: Blow counts: 3, 16, 21
15:15 40'	Light brown silty sand and angular gravels, saturated, unconsolidated - liquid 35% poorly sorted coarse sands, 55% gravels, 20% clay rich silt - 'Chocolate milk' Grab Sample at 40'

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: 55-912805; BF OW #2

Date:

1/6/2011

Interval sampled (feet)	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
8:00 115'	115' Split spoon sample. Silty clay. Brown silty clay, cohesive, low to medium plasticity varying in sample Blow Counts: 25-49-50 for 5
8:58-9:21 125'	125' Split spoon sample. Silty Clay. silty brown clay with some fine blackish sands. Grey and black streaks in clay. Sugary texture in higher silt/sand areas varying to hard clay nodules with little silt. Cohesive low to medium plasticity. * sample bagged but not included in chip tray Blow Counts: 27-49-50 for 2 min * Will continue drilling (capability with current set-up is 150') Call to Jon Ford and Craig Sommers Clay is likely Tertiary and prolific in the stratigraphy of the San Pedro valley. For our purposes drilling should halt at clay
10:45 141'	Will continue to 150 and grab sample
12:40 150'	150' split spoon sample. Silty clay with white clay horizon clay varies in silt content but mostly non cohesive, non plastic silty brittle clay. White clay horizon roughly 5" thick (see photos) of uniform non silty clay. White clay has brittle behavior of playdough but not as soft. Kaolinite or gypsum? *sample bagged but not included in chip tray Blow Counts: 24-47-50 for 4
	END

Log # 131

(D-7-16) 10 BDB

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 912806

SECTION 4 - WELL CONSTRUCTION DESIGN (AS BUILT) (Add additional page if needed)

Depth
DEPTH OF BORING 30' Feet Below Land Surface DEPTH OF COMPLETED WELL 30' Feet Below Land Surface

Water Level Information
STATIC WATER LEVEL 20.17' Feet Below Land Surface DATE MEASURED 1-4-11 TIME MEASURED IF FLOWING WELL METHOD OF FLOW REGULATION
Valve Other:

Borehole			Installed Casing															
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)						SLOT SIZE (inches)		
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE DESCRIBE	BLANK OR NONE	WIPE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE DESCRIBE			
0	30	8"	0	20	1"		X											
			20	30	1"		X							X				.010"

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	8			X									
8	10							X					
10	30									X		10x20	

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Page 1 of 1

Well ID: BF PZ West

Date: Jan. 3-4, 2011

Location: Black Farm near Mammoth, AZ

Personnel: Steve Westwood

along the South bank of Aravaipa Creek

Ruth Valencia assisting on Jan. 4, 2011.

ADWR well reg. #: 55-912806

Drilling Co.: GSI

Land surface elevation: 2173'

Driller: Mike, Jimmy, Oscar

TD: 30'

Rig/Method: CME Air Hammer/Rotary

Depth to water: 20.17' (1/5/2011)

Drill fluid: None/water

Sample type: Drive (DS)/Split Spoon (SS)

Est. Time and Interval Sampled	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
13:00	Begin drilling using CME 95 Air Rotary; sampling with Drive Sample (DS) clear tubing
13:25 5'	Fine grained sand/silt - light brown; compacts easy, well sorted, some veg., (DS)
13:45 10'	Sub rounded to angular gravels up to 2 cm, (15%) in coarse to fine grained sand (85%); active riverchannel deposits on terrace in gray, white, and light pink, no veg., (DS)
14:10 14'	Sub rounded/angular gravels (35%) in coarse to fine grained sand (65%) - light brown, gray, black, white, and light pink gravel to 3.5 cm, sand; no water present, (DS)
14:15	Unconsolidated formation; change method to hollow stem auger
14:45 20'	Wet; dark brown silty with clay sand with gravels to 2.5 cm. Unconsolidated, free water - at 17', 35% gravels, 50% sand, 15% fines and clay - first water bearing horizon (SS)
15:30 End	Stopped drilling for the day; will need water for drilling beginning January 4, 2011
1/4/2011	Begin drilling using hollow stem auger and split spoon sampling, water used.
10:20 25' swl ~20.17'	Coarse grained, brown, red, gray sand (70%), subangular gravel (20%) to 2.5 cm.; fines 10%, fines mostly clay, saturated at 24', increasing dark red sands (SS) Blow Count: 17, 24, 30
10:50 30'	Coarse grained sand - dark brown to dark gray with reddish gravels (meta-granite); angular to subangular gravels to 3.5 cm, granite - basalt, mechanically modified. Blow Count: 17, 24, 34 at 30' SS sample
TD 12:23	Total Depth of piezometer is 30'. Screened from 30-20' with 010 PVC and blank casing. swl test after construction 20.28' (before settlement)

Log # 132

(D-7-16)9DCB

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 912838

SECTION 4 - WELL CONSTRUCTION DESIGN (AS BUILT) (Additional Information)

Depth: DEPTH OF BORING 35' Feet Below Land Surface | DEPTH OF COMPLETED WELL 35' Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL 15.49' Feet Below Land Surface | DATE MEASURED 1-12-11 | TIME MEASURED | IF FLOWING WELL, METHOD OF FLOW REGULATION Valve Other:

Borehole			Installed Casing														
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)					SLOT SIZE (inches)		
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE DESCRIBE	BLANK OR NONE	WIRE WRAP	SLUTTER SCREEN	MILLS KNIFE	SLOTTED		IF OTHER TYPE DESCRIBE	
0	35	8"	0	25	1"		X			X							
			25	35	1"		X						X				.010"

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	3			X								
3	5							X				
5	35									X		10x20

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: Stillinger PZ
 Location: Stillinger Preserve, south of Black Farm
along the West bank of San Pedro River (old Camp Grant)
 ADWR well reg. #: 55-912838
 Land surface elevation: 2157'
 TD: 35'
 Depth to water: 15.49' (1/13/2011)

Date: 1/12/2011 (0' - 35')
 Personnel: Steve Westwood, SRP
 Drilling Co.: GSI
 Driller: Mike, Jimmy & Oscar
 Rig/Method: CME 95 Air Hammer/Rotary
 Drill fluid: None/Water
 Sample type: Drive (DS)/Split Spoon (SS)

Est. Time and Interval Sampled	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
12:00	Begin drilling using CME 95 Air Rotary; sampling with Drive Sample (DS) clear tubing
12:10 10'	(SS) Fine grained silt - brown with much organics and vegetation; Blow Count: 5, 8, 12 and dry
12:20 15'	Fine grained sand from 11' to 12'; well sorted gray - light brown becoming a dense/fine grained dark brown clay (elastic) at 13' to 15' Blow Count: 3, 4, 16 and Dry
12:30 20'	Fine grained silty clay, dark brown, moist - not wet. Roots/vegetation in sample Blow Count: 2, 4, 6
14:45 25'	Fine grained silty clay, dark brown, very sticky. Sandy layer 7" thick at 23' Blow Count: 3, 5, 5 moist not wet - no free water.
10:20 30'	Dark brown, dark gray clay; highly elastic and cohesive moist throughout. free water at 27'. Minor gravels (5%) at 30' Blow Count: 1, 1, 3 Advance another five feet for discovery.
13:10 35'	Dark brown, dark gray clay; highly elastic and cohesive wet throughout. Organic odor to clay sample Blow Count: 1, 1, 3
TD	Total Depth of piezometer is 35'. Screened from 35-25' with 010 PVC and blank casing. * water in borehole is under pressure, rising water level: first water at 27', at last sample the water level had risen to 14.9'; at well construction/completion the water was at surface elevation. On January 13th (24 hour recovery) the static water level had settled to 15.49'. END

Log # 133

(D-7-16) 4 BAC

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 912835

SECTION 4. WELL CONSTRUCTION DESIGN SHEET (attach additional page if needed)

Depth of Boring: 25' Foot Below Land Surface | DEPTH OF COMPLETED WELL: 18' Foot Below Land Surface

Water Level Information: STATIC WATER LEVEL: 7.87' Foot Below Land Surface | DATE MEASURED: 1-11-11 | TIME MEASURED: | IF FLOWING WELL, METHOD OF FLOW REGULATION: Valve Other:

Borehole			Installed Casing													
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER (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	SLOT SIZE (inches)
0	25	8"	0	3	1"		X									
			3	18	1"		X							X		.010"

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	3			X								
3	5					X						
5	25									X		10x20

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Page 1 of 1

Well ID: Adobe PZ East
 Location: PZ Ranch (Adobe)
near Mammoth, AZ
 ADWR well reg. #: 55-912835
 Land surface elevation: 2127' hand held gps
 TD: Twenty five (25')
 Depth to water: 7.87'

Date: 1/11/2011
 Personnel Steve Westwood (SRP),
Dan Wolgast (TNC observer)
 Drilling Co.: GSI
 Driller: Mike, Jimmy & Oscar
 Rig/Method: CME 750Ht
 Drill fluid: None
 Sample type: Split Spoon (SS)

Time and Interval Sampled	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
9:30	
9:35 5'	Brown silty fine grained soil, some clay (10%)
9:42 10'	Light brown silty sand some clay (20%) with angular to subrounded gravel to 3.5 cm, wet. hit first water at 7.87'
9:51 15'	Gradation from 14'-15' of fine clay with organics - fine silt and fine well sorted sand. chips of unconsolidated gravels to 5 cm in silty sand matrix, clay (15-20%) light brown. Blow Count: 6, 12, 12 Shift to Hollow stem auger method due to large gravels.
10:14 20'	Split spoon sample variable; gradation at 16' to 18' of fine silty sand with organic matter, 18'-18.5' unconsolidated coarse sand with gravels ranging from 1 cm to 5 cm, and 18.5' to 20' consisting of brown fine clay, well sorted, caked - hard/dry. Blow Count: 28, 38, 46.
10:49 25'	Light brown fine clays, minor fine sand (10%) with some minor gravels (10%); dry. Blow Count: 22, 32, 50 for 6 minutes.
25'	TD
	Well construction: back fill hole to 18', screened using .010 PVC 1" screen from 18'-8' and 1" blank PVC casing to ground surface elevation plus 36" for ground monument. filter pack was #45 silica sand, sealing material was bentonite chip then concrete (3,500 psi) to surface seal and well apron.

END

Log # 134

(D-7-16) 4 BBC

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 912836

SECTION: [REDACTED] WELL: [REDACTED] COUNTY: [REDACTED] STATE: [REDACTED] CITY: [REDACTED] ZIP: [REDACTED] ADDRESS: [REDACTED]

Depth: [REDACTED]

DEPTH OF BORING: 90' Feet Below Land Surface

DEPTH OF COMPLETED WELL: 90' Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL: 10.75' Feet Below Land Surface

DATE MEASURED: 1-13-11

TIME MEASURED: [REDACTED]

F FLOWING WELL, METHOD OF FLOW REGULATION: Valve Other: [REDACTED]

Borehole			Installed Casing															
DEPTH FROM SURFACE		BOREHOLE DIAVETER (inches)	DEPTH FROM SURFACE		OUTER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)						SLOT SIZE (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	90	5"	0	70	2		X			X								
			70	90	2		X							X				0.010"

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	3			X								
3	5						X					
5	90									X		10 x 20

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: Adobe Observation Well
 Location: Adobe Farm near Mammoth, AZ
 ADWR well reg. #: 55-912836
 Land surface elevation: 2143'
 TD: 90'
 Depth to water: 10.75' (After construction 1/13/11)

Date: 1/13/2011
 Personnel: Ruth Valencia
Angie Bond (SRP)
 Drilling Co.: GSI
 Driller: Mike, Jimmy & Oscar
 Rig/Method: Air Hammer
 Drill fluid: None
 Sample type: Grab/Split Spoon

Time and Interval Sampled	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
8:00	Arrive on site. Rig-up
9:00	Begin drilling
9:05-9:06 5'	Grab sample 5'. dry soil * strong reaction to HCL
9:06-9:13 10'	Grab sample 10'. Moist soil * strong reaction to HCL
9:15-9:17 15'	15' No sample (clay) * strong reaction to HCL
9:26	Static water level 14.3'- clays hydrating (soil moist at 10')
9:30-9:31 20'	Grab sample 20'. Silty sandy mud Very wet and runny grayish brown mud. Grasses and stems present *no reaction with HCL
9:36-9:38 25'	Grab sample 25'- Silty sandy mud like a gritty chocolate mousse, very wet *no reaction with HCL
9:46-9:48 30'	Grab sample 30'- Clayey gravelly sand subrounded fine to medium gravels, mostly 1-2 cm, but up to 6cm elongated prolates. Washed samples indicate quartz, pink granite, purple quartzite green olivine, and black volcanic composition of grains. 15% brown clay; 30% fine to medium gravel; 55% poorly sorted rounded to subrounded sands *no reaction with HCL

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: 55-912836; Adobe OW

Date: 1/13/2011

Interval sampled (feet)	Description
	[Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
10:01-10:04 35'	<p>Grab Sample 35'- Gravelly sand more quartz in small gravels. Subangular to angular quartzite, mafics, and conglomerate grains. Trace fines; 30% fine to medium gravel; 70% poorly sorted sand abundant water in this zone.</p>
35'	<p>Split spoon 35' 6-8-12 blow counts layers 6" of silty clayey sandy gravel, 5" of clean sorted fine gravel and sands, 5" of sands and up to 8cm' angular gravels. Up to 10 cm rounded granite cobbles water heaving into drill pipe and casing *no reaction with HCL</p>
10:23-10:24 40'	<p>Grab sample 40'- Silty sand fine to medium sands, quartz and biotite dominant *no reaction with HCL</p>
10:28-10:30 45'	<p>Grab sample (w/ shovel) 45'- Gravelly sand 10% gravels up to 1.5cm; 90% poorly sorted subrounded to rounded sands *no reaction with HCL</p>
10:33-10:34 50'	<p>Grab sample 50'- Gravelly sand 40% subangular to subrounded gravel up to 4cm, sandstone appears; 60% poorly sorted sands heaving prevented split spoon sample at 50'; abandon split spoon samples *no reaction with HCL</p>
10:52-10:54 55'	<p>Grab sample 55'- Gravelly sand same as 50'- coarser sands more dominant *no reaction with HCL</p>
11:06-11:08 60'	<p>Grab sample 60'- Gravelly sand same as 50-55- few cobbles sized fragments *no reaction with HCL</p>
11:11-11:13 65'	<p>Grab sample 65'- Gravelly sand 20% gravel; 80% sand quartz and granite fragments appear more rounded *no reaction with HCL</p>

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: 55-912836; Adobe OW

Date: 1/13/2011

Interval sampled (feet)	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
11:15-11:18 65'	Tripping in split spoon b/c driller thought felt a change in lithology. Cobble sized fragments of granite, but mostly gravel and sand some clay binding to grains.
11:38-11:40 70'	Grab sample 70' Gravelly sand Same as 65'; sands more clear quartz. Some subangular white granite pink volcanics *no reaction with HCL
11:45-11:48 75'	Grab sample 75' - Gravelly sand 30% gravel; 70% sand trace silt in the water poorly sorted angular mafic gravels; granite and quartz subrounded *no reaction with HCL
11:53-11:57 80'	Grab sample 80' - Gravelly sand increasing gravel rounded quartz, angular quartzite 40% gravel; 60% poorly sorted sand *no reaction with HCL
12:01-12:04 85'	Grab sample 85' - Gravelly sand Same as 80' *minor reaction with HCL
12:07-12:12 90'	Grab sample 90' Gravelly sand equal parts sand and gravel. Mixed subrounded to subangular up to 5cm in size *no reaction with HCL
90'	Total depth of the well installed 20' of screen from 70-90' static measured after construction 10.75'
	Composition of grains did not vary much in gravel and sandy samples.

Log # 135



Arizona Department of Water Resources
 Information Management Unit
 P.O. Box 36020 • Phoenix, Arizona 85067-3580
 (602) 771-8627 • (800) 352-8488
 www.water.az.gov

MAR 18 2011

Well Driller Report
 and
 Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL.
 PLEASE PRINT CLEARLY USING BLACK OR BLUE INK

FILE NUMBER
D(7-16)5 AAD
 WELL REGISTRATION NUMBER
55 - 912837
 PERMIT NUMBER (IF ISSUED)

SECTION 1: DRILLING AUTHORIZATION

Drilling Firm	NAME		DWR LICENSE NUMBER	
	GEOMECHANICS SOUTHWEST, INC.		498	
	ADDRESS		TELEPHONE NUMBER	
	5839 S. BELVEDERE AVE		520-252-0559	
Mail To	CITY / STATE / ZIP		FAX	
	TUCSON, AZ, 85706			

SECTION 2: REGISTRY INFORMATION

Well Owner		Location of Well					
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL		WELL LOCATION ADDRESS (IF ANY)					
Salt River Project Agricultural Improv ATTN: Ruth Valencia		Adobe PZ West					
MAILING ADDRESS		TOWNSHIP (NS)	RANGE (EW)	SECTION	180 ACRE	40 ACRE	10 ACRE
PO Box 52025		T5	16E	5	NE 1/4	NE 1/4	SE 1/4
CITY / STATE / ZIP		LATITUDE		LONGITUDE			
Phoenix, AZ, 85072-2025				"N		"W	
CONTACT PERSON NAME AND TITLE		METHOD OF LATITUDE/LONGITUDE (CHECK ONE)				*GPS: Hand-Held	
		<input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey				<input type="checkbox"/> *GPS: Survey-Grade	
TELEPHONE NUMBER	FAX	LAND SURFACE ELEVATION AT WELL					
602 236-2830		Feet Above Sea Level					
WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.)		METHOD OF ELEVATION (CHECK ONE)				*GPS: Hand-Held	
Adobe PZ W		<input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey				<input type="checkbox"/> *GPS: Survey-Grade	
*IF GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (CHECK ONE)							
<input type="checkbox"/> NAD-83 <input type="checkbox"/> Other (please specify)							
COUNTY				ASSESSOR'S PARCEL ID NUMBER (MOST RECENT)			
Pinal				BOOK	MAP	PARCEL	
				300	31	006A	

SECTION 3: WELL CONSTRUCTION DETAILS

Drilling Method CHECK ONE <input type="checkbox"/> Air Rotary <input checked="" 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)	Method of Well Development 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)	Method of Sealing at Reduction Points 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)	
	Condition of Well CHECK ONE <input type="checkbox"/> Capped <input type="checkbox"/> Pump Installed	Construction Dates DATE WELL CONSTRUCTION STARTED 1-11-11 DATE WELL CONSTRUCTION COMPLETED 1-11-11	
	GSI did not develop	N/A	

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.

SIGNATURE OF QUALIFYING PARTY

DATE

Sondra Monroe for Greg Jones

2-23-11

SYM

GSI Job # 12-11P

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
65 - 912837

SECTION: WELL CONSTRUCTION DESIGN (SCHEDULE) Attach Diagrams Page Headed

Depth: DEPTH OF BORING 30' Feet Below Land Surface DEPTH OF COMPLETED WELL 30' Feet Below Land Surface

Water Level Information: STATIC WATER LEVEL 11.9' Feet Below Land Surface DATE MEASURED 1-11-11 TIME MEASURED IF FLOWING WELL, METHOD OF FLOW REGULATION Valve Other:

Borehole			Installed Casing															
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)						SLOT SIZE (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	30	5	0	20	1"		X											
			20	30	1"		X											1.010"

Installed Annular Material										FILTER PACK					
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)							IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE			SAND	GRAVEL	SIZE	
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE									
					GROUT	CHIPS	PELLETS								
0	3			X											
3	5						X								
5	30											X			10x20

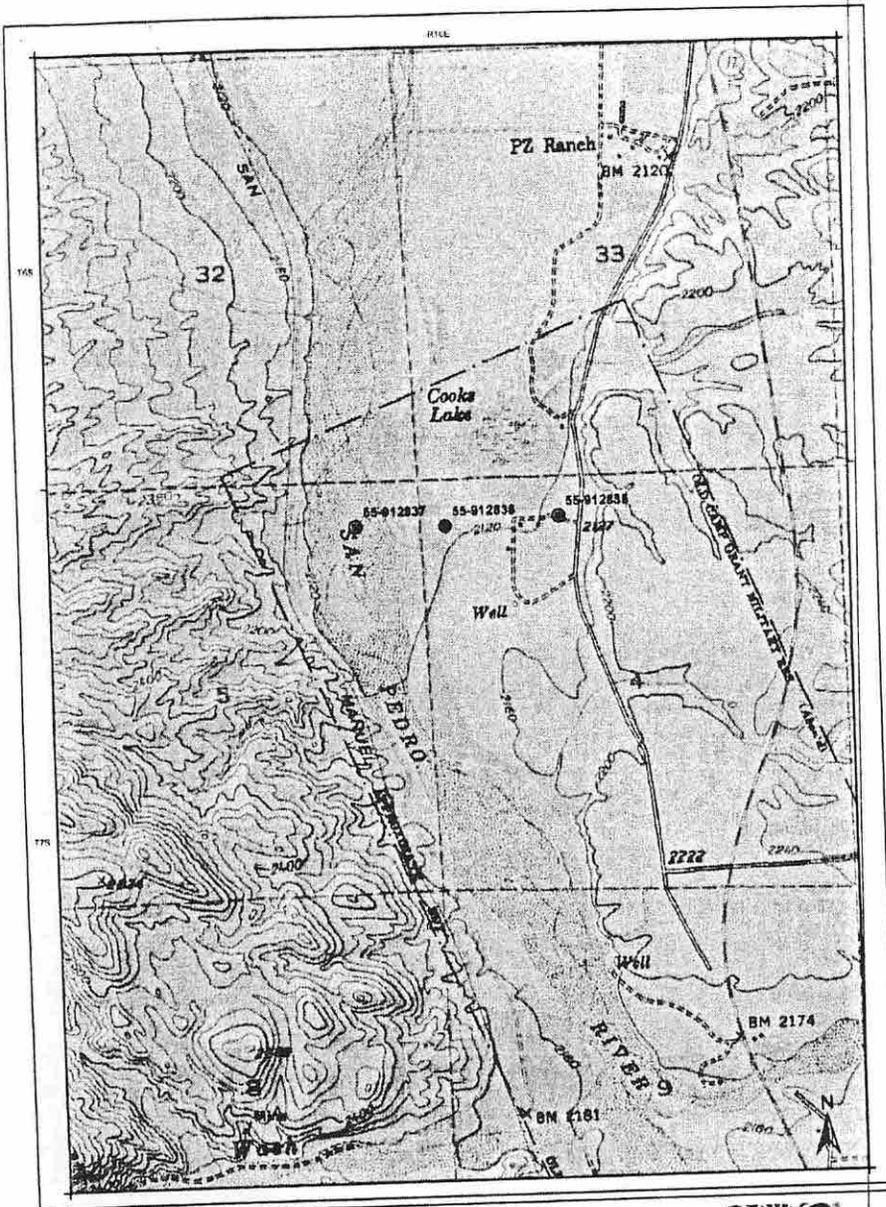
ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Page 1 of 1

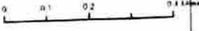
Well ID: <u>Adobe PZ West</u>	Date: <u>1/11/2011</u>
Location: <u>PZ Ranch (Adobe) near Mammoth, AZ</u>	Personnel: <u>Steve Westwood (SRP),</u>
ADWR well reg. #: <u>55-912837</u>	<u>Dan Wolgast (TNC observer)</u>
Land surface elevation: <u>2115'</u>	Drilling Co.: <u>GSI</u>
TD: <u>Thirty (30')</u>	Driller: <u>Mike, Jimmy & Oscar</u>
Depth to water: <u>11.9'</u>	Rig/Method: <u>CME 750HT</u>
	Drill fluid: <u>None</u>
	Sample type: <u>Split Spoon (SS)</u>

Time and Interval Sampled	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
13:54 10'	Coarse grained sand and gravel to 2cm in fine silt as minor matrix, subrounded, reddish, gray, yellow, tan, white gravels: unconsolidated. Blow count 2, 6, 6 (split spoon sample)
<i>swl 11.9'</i>	
15'	Very coarse gravels to 5 cm; reddish gray subangular sand with silty fines; wet. From 14' to 15' sample had black organics in clay rich consolidated silt layered with fine sands: Blow Count 2, 4, 4 (split spoon)
20'	Very coarse gravels to 4 cm in coarse sand and silty matrix; sub rounded to sub-angular granitic and metamorphic gravels in deep red and gray color. Blow count: 7, 7, 10 (wet).
25'	From 20' to 22' fine grained organic rich silty sands; wet. At 23' horizon a 30% clay rich silty matrix with fine grained sand and sub-angular gravels to 3 cm (wet); 24' to 25' light brown clay matrix with angular gravels to 3 cm, deep red, gray and white, (wet). Blow Count: 13, 15, 25 (split spoon)
30'	25'- 26' fine grained sand with black organic rich silt sized particles; ubiquitous. 26' - 29' unconsolidated sand and gravels in light brown clay rich 'soup'; gravels of olivine, chert, metamorphic rock - (wet) 30' very coarse unconsolidated gravels 5 cm to 7 cm in size, consisting of gabbro, granite and chert. Blow Count: 20, 31, 30 (wet)
15:05	

END



San Pedro Locations: Map 1 of 3

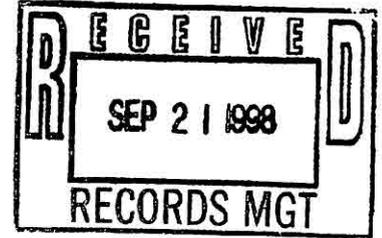


- Piezometer
- Observation Well

Log # 138

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85705
City State Zip

3. Location: 6 N(S) 16 (E)W 8 $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569977 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 18' ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2 to 5', 2 in from 5' to 18'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 8' to 18', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started Aug 25 1998
Month Day Year
- 15. Date completed Aug 25 1998
Month Day Year
- 16. Depth to water 10ft. While Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 18' , filter pack to 8' , bentonite seal to 7' , then cement grouted to the surface with steel locking casing 2ft (+/-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569977
File No. D(6-16)8 CBA
Received _____ By _____
Entered _____ By _____

Log # 139

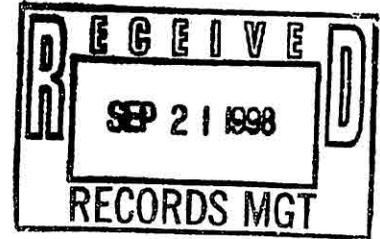
ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street
Phoenix, Arizona 85004

D(6-16)7 ADA

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026
2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85703
City State Zip
3. Location: 6 N(S) 16 (E)W 7 $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55-569978 (Required)
5. Permit No. NA (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 27' ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 2 in. from +2 to 8.5', 2 in from 8.5' to 27'
9. Method of sealing at reduction points NA
10. Perforated from 17' to 27', from _____ to _____ from _____ to _____
11. Size of cuts .020 Number of cuts per foot 125
12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
14. Date started 8 27 1998
Month Day Year
15. Date completed 8 27 1998
Month Day Year
16. Depth to water 17' While Drilling ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 27', filter pack to 14.5', bentonite seal to 12.75', then cement grouted to the surface with steel locking casing 2ft (4") above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569978
File No. D(6-16)7 ADA
Received _____ By _____
Entered _____ By _____

ANSWERED SEP 21 1998

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	2'	Brn. dry Sandy Gravelly SILT & CLAY
2'	8'	Brn dry sandy SILT & CLAY, Uncemented
8'	13'	Brn dry coarse sandy SILT & CLAY Uncemented
13'	17'	Brn sandy SILT & CLAY, Uncemented
17'	25'	Brn. Wet sandy SILT & CLAY, Uncemented
25'	27'	Brn Wet Coarse sandy SILT & CLAY, Uncemented
		Bottom of Boring @ 27'
		Groundwater @ 17' while Drilling

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: HEBER MINING & EXPLORATION

COMPANY

22010 NORTH 21ST AVENUE
Street

PHOENIX, AZ 85027-0026 602-780-0023
City State Zip Phone No.

Paul Allen #269 9-11-98
Signature of Driller Date

Log # 140

ARIZONA DEPARTMENT OF WATER RESOURCES
 500 North Third Street
 Phoenix, Arizona 85004
WELL DRILLER REPORT

D(6-16)7 ADA

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. HEBER MINING & EXPLORATION COMPANY
 22010 NORTH 21ST AVENUE
 PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
 Address: 300 E. University Blvd. #230 Tucson, AZ. 85703
City State Zip

3. Location: G NS 16 EW 7 $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569984 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 18' ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from 2 to 5', 2 in from 5' to 18'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 8' to 18', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started Aug 25 1998
Month Day Year
- 15. Date completed Aug 25 1998
Month Day Year
- 16. Depth to water 11' while drilling ft. (If flowing well, so state)

17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well

18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 18', filter pack to 6', bentonite seal to 5', then cement grouted to the surface with steel locking casing 2ft (4") above grade.

DO NOT WRITE IN THIS SPACE
 OFFICE RECORD

Registration No. 55-569984
 File No. D(6-16)7 ADA
 Received _____ By _____
 Entered _____ By _____

Log # 141

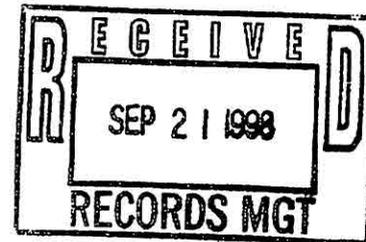
ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street
Phoenix, Arizona 85004

D(6-16)8 BCD

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85705
City State Zip

3. Location: 6 N(S) 16 (E)W 8 1/4 SE 1/4 SW 1/4 NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569986 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 17 ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2' to 5', 2 in from 5' to 17'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 7' to 17', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 8 25 1998
Month Day Year
- 15. Date completed 8 25 1998
Month Day Year
- 16. Depth to water 0' While Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 17' - filter pack to 6', bentonite seal to 5', then cement grouted to the surface with steel locking casing 2ft (+/-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569986
File No. D(6-16)8 BCD
Received _____ By _____
Entered _____ By _____

Log # 142

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 TUCSON, AZ. 85703
City State Zip

3. Location: 6 (NS) 16 (EW) 8 1/4 NE 1/4 NW 1/4 SW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569990 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 15' ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2 to 5.5, 2 in from 5.5' to 15'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 5.5' to 15', from to from to
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 8 25 1998
Month Day Year
- 15. Date completed 8 25 1998
Month Day Year
- 16. Depth to water 8' While Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 15', filter pack to 5', bentonite seal to 4', then cement grouted to the surface with steel locking casing 2ft (+) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569990
File No. D(6-16)8CBA
Received _____ By _____
Entered _____ By _____

Log # 143

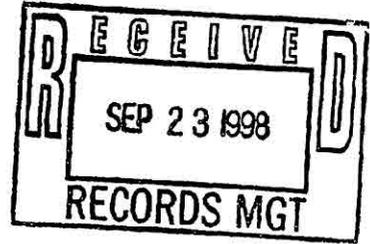
ARIZONA DEPARTMENT OF WATER RESOURCES

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 day following completion of the well.



1. DRILLING SERVICES
12030 EAST RIGGS ROAD
CHANDLER, AZ 85249

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address:
City State Zip

3. Location: 6 S N/S 16 E E/W 8 1/4 NE 1/4 NW 1/4 SW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55--570118 (Required)

5. Permit No. (If issued)

DESCRIPTION OF WELL

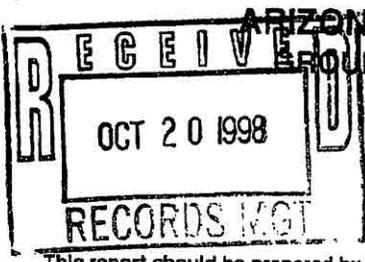
- 6. Total depth of hole 81 ft.
7. Type of casing 4" 40 PVC
8. Diameter and length of casing 4 in. from 0 to 81
9. Method of sealing at reduction points N/A
10. Perforated from 21 to 81
11. Size of cuts .020 Number of cuts per foot 240
12. If screen was installed: Length 60 ft. Diam 4 in. Type Mill Slot
13. Method of construction Drilled
14. Date started 8 20 98
15. Date completed 8 20 98
16. Depth to water 10 ft.
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: NA-1

DO NOT WRITE IN THIS SPACE OFFICE RECORD
Registration No. 55-570118
File No. D(6-16) 8 CBA
Received By
Entered By
ANSWERED SEP 24 1998

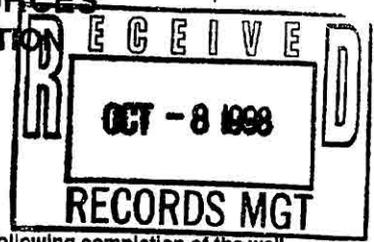
Log # 144

(1-6-10) 0047
PZE



ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422



WELL DRILLER REPORT

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

- Owner's Name: Arizona Nature Conservancy
Address: 300 E. University, Tucson, AZ 85705 520-622-3861
Street City State Zip Telephone Number
- Drilling Firm: Geo Systems Analysis, Inc.
Address: 100 N. Stone, 405, Tucson, AZ 85701 520-628-9330
Street City State Zip Telephone Number
- Location: NE 1/4 SW 1/4 NW 1/4 of Section 8 Township 6 S Range 16 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 570461 (Required) 6a. Latitude 32 55 41.4 "
- Permit No. D(6-16)8BCA (If issued) 6b. Longitude 110 44 43.5 "

DESCRIPTION OF WELL

- Total Depth of Hole 15 ft
- Type of Casing(s) Steel
- Diameter and length of casing(s) 1 1/4 inches from 0 to 15' inches from _____ to _____
- Method of sealing at reduction points none
- Perforated from 13' to 15' from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 2 feet. Diameter 1 1/4 inches. Type 0.020 wire-wrap
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven
Sonic Hand Dug Other: _____ (Check One)
- Date started September 18 1998
Month Day Year
- Date completed September 18 1998
Month Day Year
- Depth to water 7 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available ground surface, elevation 1984
- If flowing well, state method of flow regulation: _____

20. Remarks: hand driven to 15 feet,
with steel locking casing
2 feet above grade

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED OCT 20 1998

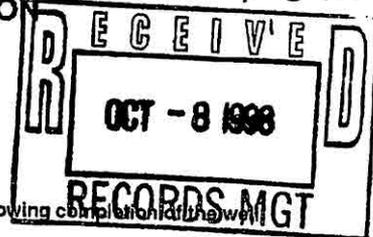
Log # 145

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P2-C
 (D-6-16) 8 BDB

P.O. Box 458 Phoenix, Arizona 85001-0458
 Phone (602) 417-2470 Fax (602) 417-2422

WELL DRILLER REPORT



Also reports should be prepared by the Driller in detail and filed with the Department within 30 days following completion of the well.

1. Owner's Name: Arizona Nature Conservancy
 Address: 300 E. University, Tucson, AZ 85705 520-622-3861
Street City State Zip Telephone Number
2. Drilling Firm: GeoSystems Analysis, Inc.
 Address: 100 N. Stone, 405, Tucson, AZ 85701 520-628-9330
Street City State Zip Telephone Number
3. Location: NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 8 Township 6 S Range 16 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 570462 (Required) 6a. Latitude 32° 55' 40.3
5. Permit No. D(6-16)8BDB (If issued) 6b. Longitude 110 44 12.8

DESCRIPTION OF WELL

7. Total Depth of Hole 10 ft
8. Type of Casing(s) Steel
9. Diameter and length of casing(s) 1 1/4 inches from 0' to 10' inches from _____ to _____
10. Method of sealing at reduction points none
11. Perforated from 8' to 10' from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 2 feet. Diameter 1 1/4 inches. Type 0.020 wire-wrap
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven
Sonic Hand Dug Other: (Check One)
15. Date started September 18 1998
Month Day Year
16. Date completed September 18 1998
Month Day Year
17. Depth to water 7 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available ground surface, elevation 1987 feet
19. If flowing well, state method of flow regulation: _____
20. Remarks: hand driven to 10 feet, with steel locking casing 2 feet above grade

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
 File No. _____
 Received _____ By _____
 Entered _____ By _____

ANSWERED OCT 20 1998

Log # 146

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
 Phone (602) 417-2470 Fax (602) 417-2422

PZB



WELL DRILLER REPORT

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

1. Owner's Name: Arizona Nature Conservancy
 Address: 300 E. University, Tucson, AZ 85705 520-622-3861
Street City State Zip Telephone Number
2. Drilling Firm: GeoSystems Analysis, Inc.
 Address: 100 N. Stone, 405, Tucson, AZ 85701 520-628-9330
Street City State Zip Telephone Number
3. Location: NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 8 Township 6 S Range 16 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 570463 (Required) 6a. Latitude 32 55 . 40.0 ..
5. Permit No. D(6-14)8BDB (If issued) 6b. Longitude 110 44 . 3.8 ..

DESCRIPTION OF WELL

7. Total Depth of Hole 15 ft
8. Type of Casing(s) steel
9. Diameter and length of casing(s) 1 1/4 inches from 0 to 15' inches from _____ to _____
10. Method of sealing at reduction points none
11. Perforated from 13' to 15' from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 2 feet. Diameter 1 1/4 inches. Type 0.020 wire-wrap
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven
Sonic Hand Dug Other: (Check One)
15. Date started September 18 1998
Month Day Year
16. Date completed September 18 1998
Month Day Year
17. Depth to water 10 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available ground surface, elevation 1990 feet
19. If flowing well, state method of flow regulation: _____
20. Remarks: hand driven to 15 feet, with steel locking casing 2 feet above grade

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
 File No. _____
 Received _____ By _____
 Entered _____ By _____

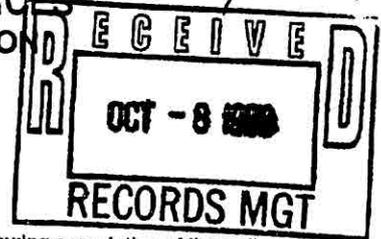
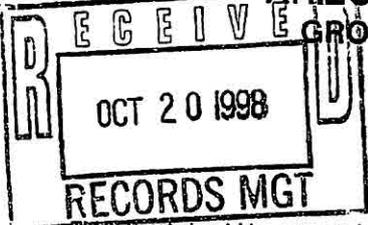
ANSWERED OCT 20 1998

Log # 147

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

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

WELL DRILLER REPORT



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

1. Owner's Name: Arizona Nature Conservancy
Address: 300 E. University, Tucson, AZ 85705 520-622-3861
Street City State Zip Telephone Number
2. Drilling Firm: GeoSystems Analysis, Inc.
Address: 100 N. Stone, 405, Tucson AZ 85701 520-628-9330
Street City State Zip Telephone Number
3. Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 8 Township 6 S Range 16 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 570464 (Required) 6a. Latitude 32 55 33.6
5. Permit No. D(6-16)8BDD (If issued) 6b. Longitude 110 44 56.8

DESCRIPTION OF WELL

7. Total Depth of Hole 15 ft 8. Type of Casing(s) Steel
9. Diameter and length of casing(s) 1 1/4 inches from 0 to 15' inches from _____ to _____
10. Method of sealing at reduction points none
11. Perforated from 13' to 15' from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 2 feet. Diameter 1 1/4 inches. Type 0.020 wire-wrap
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven
Sonic Hand Dug Other: (Check One)
15. Date started September 18 1998
Month Day Year
16. Date completed September 18 1998
Month Day Year
17. Depth to water 6 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available ground surface, elevation 1989 feet
19. If flowing well, state method of flow regulation: _____
20. Remarks: hand driven to 15 feet, with steel locking casing 2 feet above grade

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED OCT 20 1998

Log # 148

RECEIVED
OCT 20 1998
RECORDS MGT

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

PZ-D
RECEIVED
OCT - 8 1998
RECORDS MGT

WELL DRILLER REPORT

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

1. Owner's Name: Arizona Nature Conservancy
Address: 300 E. University, Tucson, AZ 85705 520-622-3861
Street City State Zip Telephone Number
2. Drilling Firm: Geo Systems Analysis, Inc.
Address: 100 N. Stone, 405, Tucson, AZ 85701 520-628-9330
Street City State Zip Telephone Number
3. Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 8 Township 6 S Range 16 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 570465 (Required) 6a. Latitude 32 55 33.8 "
5. Permit No. D(6-16)8BDC (If issued) 6b. Longitude 110 44 14.5 "

DESCRIPTION OF WELL

7. Total Depth of Hole 16 ft 8. Type of Casing(s) Steel
9. Diameter and length of casing(s) 1 1/4 inches from 0 to 16, inches from _____ to _____
10. Method of sealing at reduction points none
11. Perforated from 14' to 16' from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 2 feet. Diameter 1 1/4 inches. Type 0.020 wire-wrap
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven
Sonic _____ Hand Dug _____ Other: _____ (Check One)
15. Date started September 18 1998
Month Day Year
16. Date completed September 18 1998
Month Day Year
17. Depth to water 10 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available ground surface, elevation 1990 feet
19. If flowing well, state method of flow regulation: _____
20. Remarks: hand driven to 16 feet, with steel locking casing 2 feet above grade

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____
ANSWERED OCT 20 1998

Log # 152

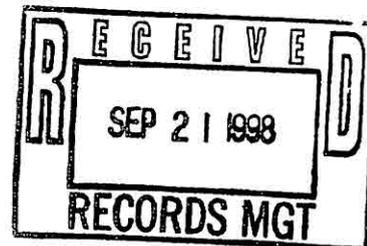
ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

D(6-16) 7 AAD

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026
2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85705
City State Zip
3. Location: 6 N(S) 16 (E)W 7 1/4 SE 1/4 NE 1/4 NE
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55-569982 (Required)
5. Permit No. NA (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 22' ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 2 in. from +2' to 5', 2 in from 5' to 22'
9. Method of sealing at reduction points NA
10. Perforated from 12' to 22', from _____ to _____ from _____ to _____
11. Size of cuts .020 Number of cuts per foot 125
12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
14. Date started Aug 28 1998
Month Day Year
15. Date completed Aug 28 1998
Month Day Year
16. Depth to water 13' while drilling ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 22', filter pack to 11.5', bentonite seal to 10', then cement grouted to the surface with steel locking casing 2ft (+/-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569982
File No. D(6-16) 7 AAD
Received _____ By _____
Entered _____ By _____

ANSWERED SEP 21 1998

Log # 157

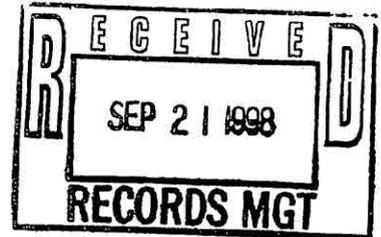
ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

D(5-16)31 CCC

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026
2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85705
City State Zip
3. Location: 5 N(S) 16 (E)W 31 1/4 SW 1/4 SW 1/4 SW
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55-569983 (Required)
5. Permit No. NA (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 20' ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 2 in. from +2 to 5', 2 in from 5' to 20'
9. Method of sealing at reduction points NA
10. Perforated from 10' to 20', from _____ to _____ from _____ to _____
11. Size of cuts .020 Number of cuts per foot 125
12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
14. Date started SEP 3 1998
Month Day Year
15. Date completed SEP 3 1998
Month Day Year
16. Depth to water 10' While Drilling ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 20', filter pack to 6', bentonite seal to 5', then cement grouted to the surface with steel locking casing 2ft (+/-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569983
File No. D(5-16)31 CCC
Received _____ By _____
Entered _____ By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	3'	Brn. SILT & CLAY
3'	6'	Brn silty clayey SAND & GRAVEL
6'	9'	Brn SAND
9'	12'	Brn SAND & GRAVEL w/ Cobbles
12'	15'	Brn Gravelly SAND
15'	20'	Brn. silty clayey SAND & GRAVEL
		Bottom of Boring @ 20'
		Groundwater @ 10' while Drilling

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: HEBER MINING & EXPLORATION

COMPANY

22010 NORTH 21ST AVENUE
Street

PHOENIX, AZ 85027-0026 602-780-0023
City State Zip Phone No.

[Signature] #269 7-11-98
Signature of Driller Date

Log # 158

ARIZONA DEPARTMENT OF WATER RESOURCES

D(6-16)6 DBB

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85705
City State Zip

3. Location: 6 N(S) 10 (E)W 6 1/4 NW 1/4 NW 1/4 SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569987 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 21' ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2' to 5', 2 in from 5' to 21'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 11' to 21', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 8 27 1998
Month Day Year
- 15. Date completed 8 27 1998
Month Day Year
- 16. Depth to water 15.5' While Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 21', filter pack to 10', bentonite seal to 8.5', then cement grouted to the surface with steel locking casing 2ft (+/-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

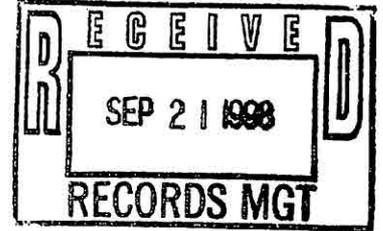
Registration No. 55-569987
File No. D(6-16)6 DBB
Received _____ By _____
Entered _____ By _____

Log # 160

D(6-16)6 BAC

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026
2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 TUCSON, AZ. 85703
City State Zip
3. Location: 6 N(S) 16 (E)W 6 $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55-569991 (Required)
5. Permit No. NA (If issued)

DESCRIPTION OF WELL

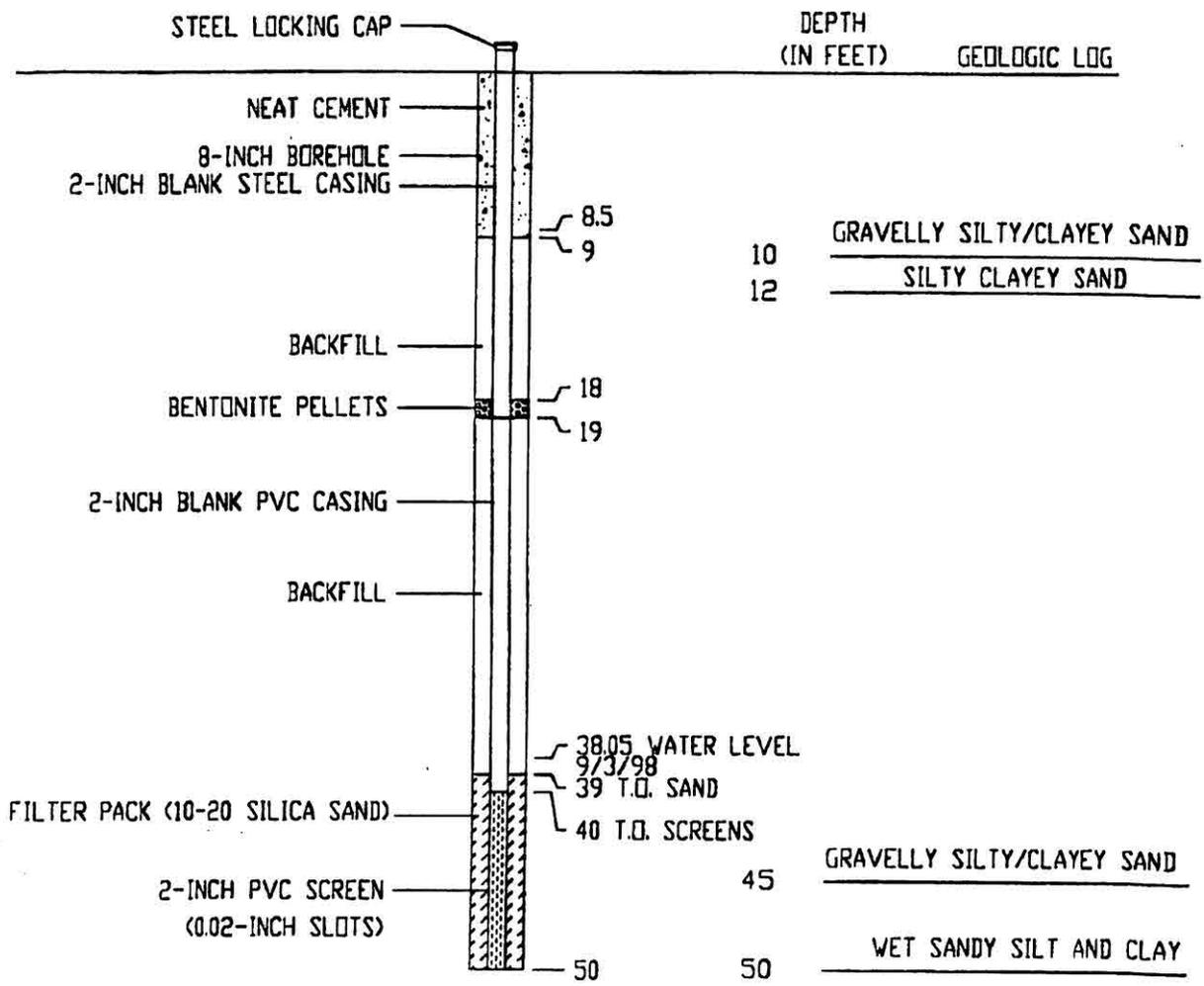
6. Total depth of hole 32' ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 2 in. from +2' to 5.5', 2 in from 5.5' to 32'
9. Method of sealing at reduction points NA
10. Perforated from 22' to 32', from _____ to _____ from _____ to _____
11. Size of cuts .020 Number of cuts per foot 125
12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
14. Date started 9 1 1998
Month Day Year
15. Date completed 9 1 1998
Month Day Year
16. Depth to water 24' while Drilling ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 32' - filter pack to 21.5', bentonite seal to 20', then cement grouted to the surface with steel locking casing 2ft (+/-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569991
File No. D(6-16)6 BAC
Received _____ By _____
Entered _____ By _____

Log # 161



JOB No.: 9808	DRAWN: CMJ	GeoSystems Analysis, Inc. Tucson, AZ	CLIENT/ PROJECT:	THE NATURE CONSERVANCY
REVISION:	CHECKED: JPL		TITLE:	WELL LOG FOR PZ-BB (D-5-16) 26AAC, 55-569968
LAST UPDATED: 10-28-99	DATE: 9-7-99		FIGURE:	27
ACAD FILE NAME: 9808-WELLS	SCALE: 1 INCH = 10 FT			

Log # 162

ARIZONA DEPARTMENT OF WATER RESOURCES
 500 North Third Street
 Phoenix, Arizona 85004
WELL DRILLER REPORT

D(5-16)26 ADA
 (D-5-15)26ABA?

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. HEBER MINING & EXPLORATION COMPANY
 22010 NORTH 21ST AVENUE
 PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
 Address: 300 E. University Blvd. #230 TUCSON, AZ. 85705
City State Zip

3. Location: 5 NS 15 EW 26 1/4 NE 1/4 SE 1/4 NE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55--569988 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 28' ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from 2 to 8.5', 2 in from 8.5' to 28'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 18' to 28', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 8 26 1998
Month Day Year
- 15. Date completed 8 26 1998
Month Day Year
- 16. Depth to water 18' while drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 28', filter pack to 18', bentonite seal to 14', then cement grouted to the surface with steel locking casing 2ft (+) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569988
 File No. D(5-16)26 ADA
 Received _____ By _____
 Entered _____ By _____

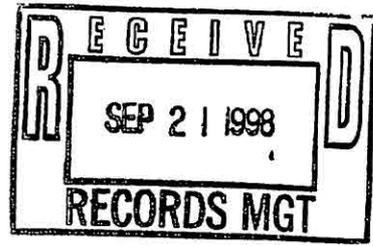
ANSWERED SEP 21 1998

Log # 163

ARIZONA DEPARTMENT OF WATER RESOURCES
 500 North Third Street
 Phoenix, Arizona 85004
WELL DRILLER REPORT

~~D(5-16)26 AAD~~
 (D-5-15)25 BAD

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. HEBER MINING & EXPLORATION COMPANY
 22010 NORTH 21ST AVENUE
 PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
 Address: 300 E. University Blvd. #230 TUCSON, AZ. 85705
City State Zip

3. Location: 5 NS 16 E W 26 $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569992 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 37' ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2 to 8.5', 2 in from 8.5' to 37'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 27' to 37', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 9 2 1998
Month Day Year
- 15. Date completed 9 2 1998
Month Day Year
- 16. Depth to water 10' while drilling ft. (If flowing well, so state)

17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well

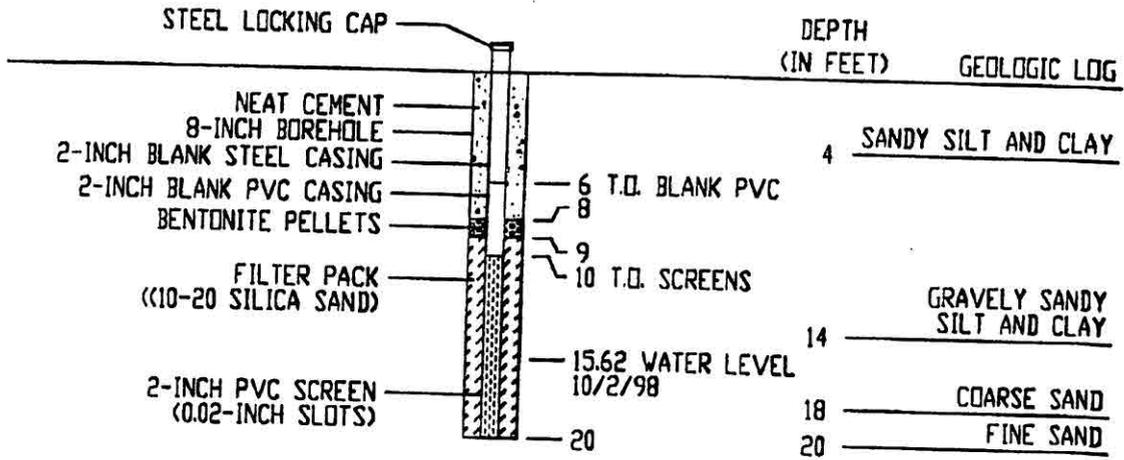
18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 37', filter pack to 24.75', bentonite seal to 23.25', then cement grouted to the surface with steel locking casing 2ft (+) above grade.

**DO NOT WRITE IN THIS SPACE
OFFICE RECORD**

Registration No. 55-569992
 File No. D(5-16)26 AAD
 Received _____ By _____
 Entered _____ By _____

Log # 164



JOB No.: 9808	DRAWN: KMJ	GeoSystems Analysis, Inc. Tucson, AZ	CLIENT/ PROJECT:	THE NATURE CONSERVANCY	
VISION:	CHECKED: JPL		TITLE:		WELL LOG FOR PZ-GG (D-5-16) 23 CCC, 55-569974
	APPROVED:		FIGURE:		
LAST UPDATED: 10-28-99	DATE: 9-7-99				
ACAD FILE NAME: 9808-WELLS	SCALE: 1/4" = 10 FT				

Log # 165

(D-5-15) 23 DI
P2EE

RECEIVED
OCT 20 1998
RECORDS MGT

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION
P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

RECEIVED
OCT - 8 1998
RECORDS MGT

WELL DRILLER REPORT

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

- Owner's Name: Arizona Nature Conservancy
Address: 300 E. University Blvd, Tucson, AZ 85705 520-622-3861
Street City State Zip Telephone Number
- Drilling Firm: GeoSystems Analysis, Inc.
Address: 100 N. Stone, 405, Tucson, AZ 85701 520-628-9330
Street City State Zip Telephone Number
- Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 26 Township 5E S Range 16 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 570466 (Required) 6a. Latitude 32 58 33.5 "
- Permit No. D(5-16)26AAA (If issued) 6b. Longitude 110 46 40.6 "

DESCRIPTION OF WELL

- Total Depth of Hole 10 ft
- Type of Casing(s) Steel
- Diameter and length of casing(s) 1 1/4 inches from 0' to 10' inches from _____ to _____
- Method of sealing at reduction points none
- Perforated from 8' to 10' from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 2 feet. Diameter 1 1/4 inches. Type 0.020 wire-wrap
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven
Sonic _____ Hand Dug 2 Other: _____ (Check One)
- Date started October 2 1998
Month Day Year
- Date completed October 2 1998
Month Day Year
- Depth to water 3.5 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available ground surface,
elevation 1905 feet
- If flowing well, state method of flow regulation: _____

20. Remarks: hand driven to 10 feet
with steel locking casing
2 feet above grade

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____
ANSWERED OCT 20 1998

Log # 166

(D-5-15) 24000
PZ-HH

ARIZONA DEPARTMENT OF WATER RESOURCES

GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

RECEIVED
OCT 20 1998
RECORDS MGT

RECEIVED
OCT - 8 1998
RECORDS MGT

WELL DRILLER REPORT

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

- Owner's Name: Arizona Nature Conservancy
Address: 300 E. University, Tucson, AZ 85705 520-622-3861
Street City State Zip Telephone Number
- Drilling Firm: GeoSystems Analysis, Inc.
Address: 100 N. Stone, 405, Tucson, AZ 85701 520-628-9330
Street City State Zip Telephone Number
- Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 23 Township 5S Range 16E
10 Acre 40 Acre 160 Acre
- Well Registration No. 570467 (Required) 6a. Latitude 32 58 39.7
- Permit No. D(5-16)23DDC (If issued) 6b. Longitude 110 46 21.4

DESCRIPTION OF WELL

- Total Depth of Hole 10 ft
- Type of Casing(s) Steel
- Diameter and length of casing(s) 1 1/4 inches from 0' to 10' inches from _____ to _____
- Method of sealing at reduction points none
- Perforated from 8' to 10' from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 2' feet. Diameter 1 1/4 inches. Type 0.020 wire-wrap
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven
Sonic Hand Dug _____ Other: _____ (Check One)
- Date started October 2 1998
Month Day Year
- Date completed October 2 1998
Month Day Year
- Depth to water 3.5 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available ground surface, elevation 1900 feet
- If flowing well, state method of flow regulation: _____

20. Remarks: hand driven to 10 feet with steel locking casing 2 feet above grade

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED OCT 20 1998

Log # 167

ARIZONA DEPARTMENT OF WATER RESOURCES DEPARTMENT OF WATER Boring No. B-6

15 South 15th Avenue
Phoenix, Arizona 85007

NOV 18 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: Pinal County Highway Department
Address: 30 North Florence Street Florence Arizona 85232
Street City State Zip
- 2. Driller Name: AGRA Earth & Environmental, Inc. (formerly SHB AGRA, Inc.)
Address: 3232 West Virginia Avenue Phoenix Arizona 85009
Street City State Zip
- 3. Location: 5 N/S 15 E/W 23 1/4 1/4 1/4
Township Range Section 10-acre 40-acre 160-acre
- 4. Well Registration No. 55-541149 (Required)
- 5. Permit No. N/A (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 150 ft.
- 7. Type of Casing N/A
- 8. Diameter and length of casing N/A in. from _____ to _____, _____ in from _____ to _____.
- 9. Method of sealing at reduction points N/A
- 10. Perforated from N/A to _____, from _____ to _____, from _____ to _____.
- 11. Size of cuts N/A Number of cuts per foot _____
- 12. If screen was installed: Length N/A ft. Diam _____ in. Type _____
- 13. Method of construction 6 5/8" Hollow Stem Augers
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 10 12 1994
Month Day Year
- 15. Date completed 10 15 1994
Month Day Year
- 16. Depth of water 8.5 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: N/A
- 19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____
Entered ENTERED NOV 22 1994

Log # 9

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

(D-24-22) 4 ADD

DAL-SA

RECEIVED

MAR 13 2002

RECORDS MGT

WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave Tucson AZ 85714 (520) 670-6671
Street City State Zip Telephone Number
2. Drilling Firm: USGS - Western Region
Address: 345 Middlefield Rd Menlo Park CA 94025 (650) 853-8300
Street City State Zip Telephone Number
3. Location: SE ¼ SE ¼ NE ¼ of Section 04 Township 24 S Range 22 E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55- 5889339 ⁰⁰ (Required) 6a. Latitude 31 22 28 "
5. Permit No. _____ (If issued) 6b. Longitude 110 06 21 "

DESCRIPTION OF WELL

7. Total Depth of Hole 49 ft
8. Type of Casing(s): Surface Seal PVC Well PVC
9. Diameter and length of casing(s) 6 inches from -9.2 to 2.2 inches from -4.2 to 4.4
10. Method of sealing at reduction points _____
11. Perforated from 44 to 49 from _____ to _____ from _____ to _____
12. Size of cuts _____ Number of cuts per foot _____
13. If screen was installed: Length 5 feet. Diameter 2 inches. Type slotted 0.020" PVC
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
15. Date started 05 25 2001
Month Day Year
16. Date completed 05 25 2001
Month Day Year
17. Depth to water 32.5 ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Below land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-588939

File No. _____

Received _____ By _____

Entered _____ By _____

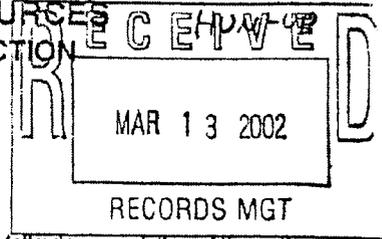
ANSWERED MAR 13 2002

Log # 33

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

(D-22-22) 33 B BC



WELL DRILLER REPORT

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

1. Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 520-670-6671
Street City State Zip Telephone Number
2. Drilling Firm: US Geological Survey
Address: 520 N. Park Ave Tucson AZ 85719 520-670-6671
Street City State Zip Telephone Number
3. Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 33 Township 22S Range 22E
10 Acre 40 Acre 160 Acre
4. Well Registration No. 55-5 88961 (Required) 6a. Latitude 31 28 43 "
5. Permit No. _____ (If issued) 6b. Longitude 110 07 08 "

DESCRIPTION OF WELL

7. Total Depth of Hole 31 ft
8. Type of Casing(s): Surface Seal Galv. steel Well PUC
9. Diameter and length of casing(s) 1.5 inches from -1.8' to 6.2', 1.0 inches from -1.5 to 26
10. Method of sealing at reduction points _____
11. Perforated from 26 to 31 from _____ to _____ from _____ to _____
12. Size of cuts 0.020" Number of cuts per foot _____
13. If screen was installed: Length 5 feet. Diameter 1.0 inches. Type Slotted 0.020" PUC
14. Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other _____ (Check One)
15. Date started 06 06 2001
Month Day Year
16. Date completed 06 06 2001
Month Day Year
17. Depth to water 26.9' below measure pt. ft. (If flowing well, so state).
18. Describe point from which depth measurements were made, and give sea-level elevation if available Depths to water measured below lip of galvanized surface casing at 1.8' above land surface
19. If flowing well, state method of flow regulation: _____
20. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 41

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

(D-22-22) 6 AAB
RECEIVED
MAR 13 2002
RECORDS MGT

WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Geoprobe
Address: 5338 Montgomery Blvd Albuquerque NM 87109 (505) 830-7900
Street City State Zip Telephone Number
- Location: NW 1/4 NE 1/4 NE 1/4 of Section 06 Township 22S Range 22E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 585946 (Required) 6a. Latitude 31 33 16 "
- Permit No. _____ (If issued) 6b. Longitude 110 08 29 "

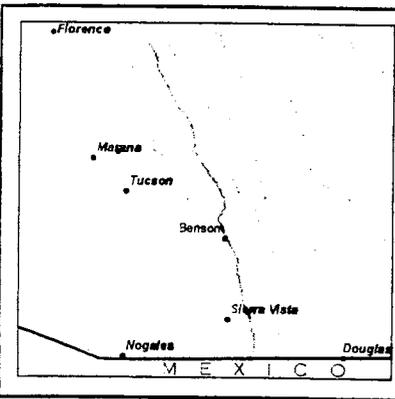
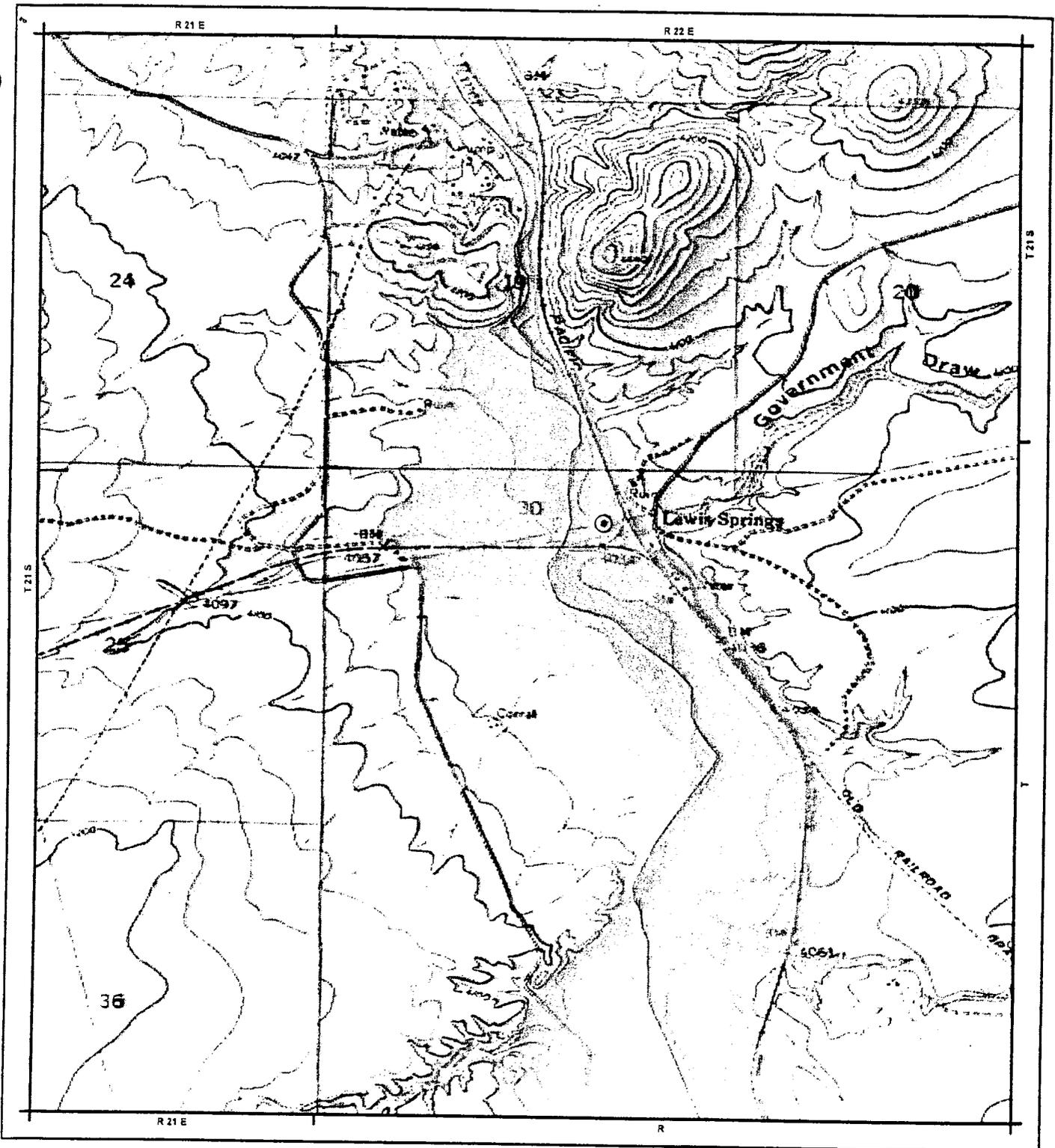
DESCRIPTION OF WELL

- Total Depth of Hole 20 ft
- Type of Casing(s): Surface Seal _____ Well Galv. steel
- Diameter and length of casing(s) 1.5 inches from 4.7' to 19' inches from _____ to _____
- Method of sealing at reduction points _____
- Perforated from 19' to 20' from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 1 feet. Diameter _____ inches. Type drilled pipe
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering _____ Jet/Driven _____
Sonic _____ Hand Dug _____ Other: r (Check One) Geoprobe
- Date started 05 Month 26 Day 2000 Year
- Date completed 05 Month 26 Day 2000 Year
- Depth to water 14.4 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of galv. casing at 4.7 ft above land surface
- If flowing well, state method of flow regulation: _____
- Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 55



● Borehole Location
 LRE San Pedro River Subflow 2009

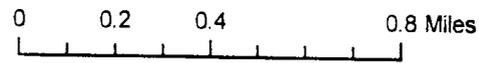


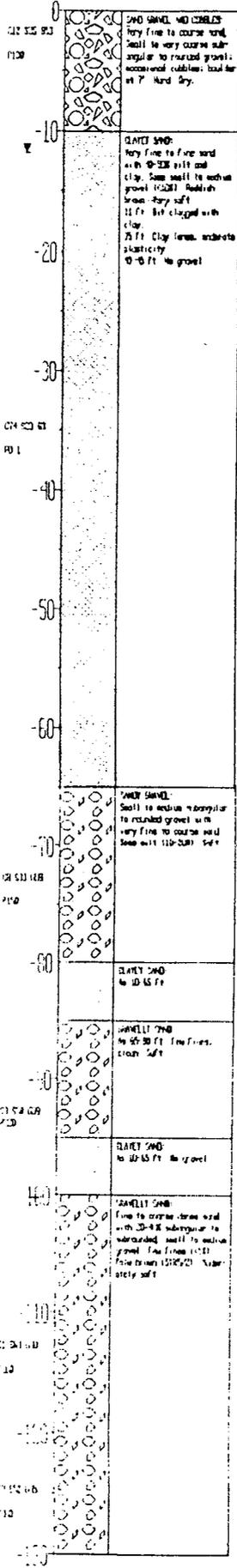
EXHIBIT SRP030
LOCATION OF LEWIS
SPRING BOREHOLE LS-B



6955LW01
 FEBRUARY 2011

LOG LS-B 027 009 6

SRP 30

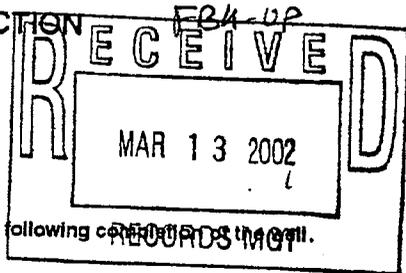


Log # 75

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

(D-20-21)10AAC



WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 620-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Western Region
Address: 345 Middlefield Rd Menlo Park CA 94025 (650) 853-8300
Street City State Zip Telephone Number
- Location: SW 1/4 NE 1/4 NE 1/4 of Section 10 Township 20 S Range 21 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 528929 (Required) 6a. Latitude 31 42 . 48
- Permit No. _____ (If issued) 6b. Longitude 110 10 . 59

DESCRIPTION OF WELL

- Total Depth of Hole 49 ft
- Type of Casing(s): Surface Seal PVC Well PVC
- Diameter and length of casing(s) 2 inches from -2.08 to 392 inches from -1.75 to 39
- Method of sealing at reduction points _____
- Perforated from 39 to 44 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 feet. Diameter _____ inches. Type 0.020" slotted PVC
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
- Date started 05 17 2001
Month Day Year
- Date completed 05 17 2001
Month Day Year
- Depth to water 33.5 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from measure point on the inner PVC casing at 1.75 ft above land surface.
- If flowing well, state method of flow regulation: _____
- Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

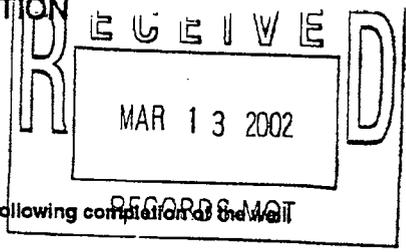
Log # 79

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION

P.O. Box 458 Phoenix, Arizona 85001-0458
Phone (602) 417-2470 Fax (602) 417-2422

(D-19-21) 9C3C

SUM-UP



WELL DRILLER REPORT

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

- Owner's Name: US Geological Survey
Address: 520 N. Park Ave. Tucson AZ 85719 (520) 670-6671
Street City State Zip Telephone Number
- Drilling Firm: USGS - Western Region
Address: 345 Middlefield Rd Menlo Park CA 94025 (650) 853-8300
Street City State Zip Telephone Number
- Location: SW 1/4 NW 1/4 SW 1/4 of Section 09 Township 19 S Range 31 E
10 Acre 40 Acre 160 Acre
- Well Registration No. 55- 588940 (Required) 6a. Latitude 31 47.37 "
- Permit No. _____ (If issued) 6b. Longitude 110 12.49 "

DESCRIPTION OF WELL

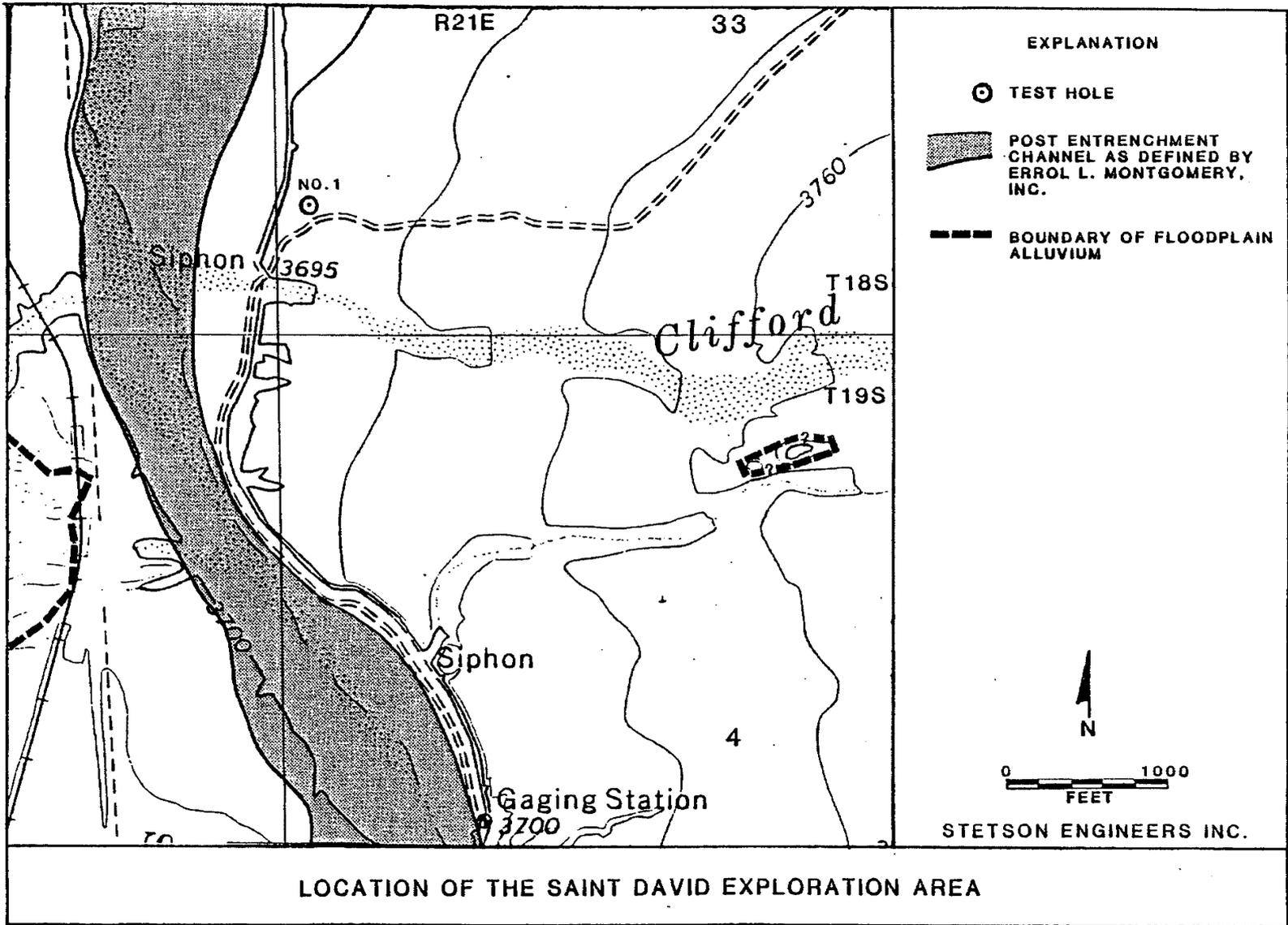
- Total Depth of Hole 37.5 ft
- Type of Casing(s): Surface Seal PVC Well PVC
- Diameter and length of casing(s) 6 inches from -6.95 to 0.4, 2 inches from -1.67 to 32.5
- Method of sealing at reduction points _____
- Perforated from 32.5 to 37.5 from _____ to _____ from _____ to _____
- Size of cuts _____ Number of cuts per foot _____
- If screen was installed: Length 5 feet. Diameter 2 inches. Type 0.020" slotted PVC
- Constructed by: Air Rotary _____ Mud Rotary _____ Reverse Rotary _____ Cable Tool _____ Boring/Augering Jet/Driven _____
Sonic _____ Hand Dug _____ Other: _____ (Check One)
- Date started 05 Month 18 Day 2001 Year
- Date completed 05 Month 19 Day 2001 Year
- Depth to water 23.4 ft. (If flowing well, so state).
- Describe point from which depth measurements were made, and give sea-level elevation if available Measured down from lip of inner PVC well casing at +6.67 ft above land surface.
- If flowing well, state method of flow regulation: _____
- Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

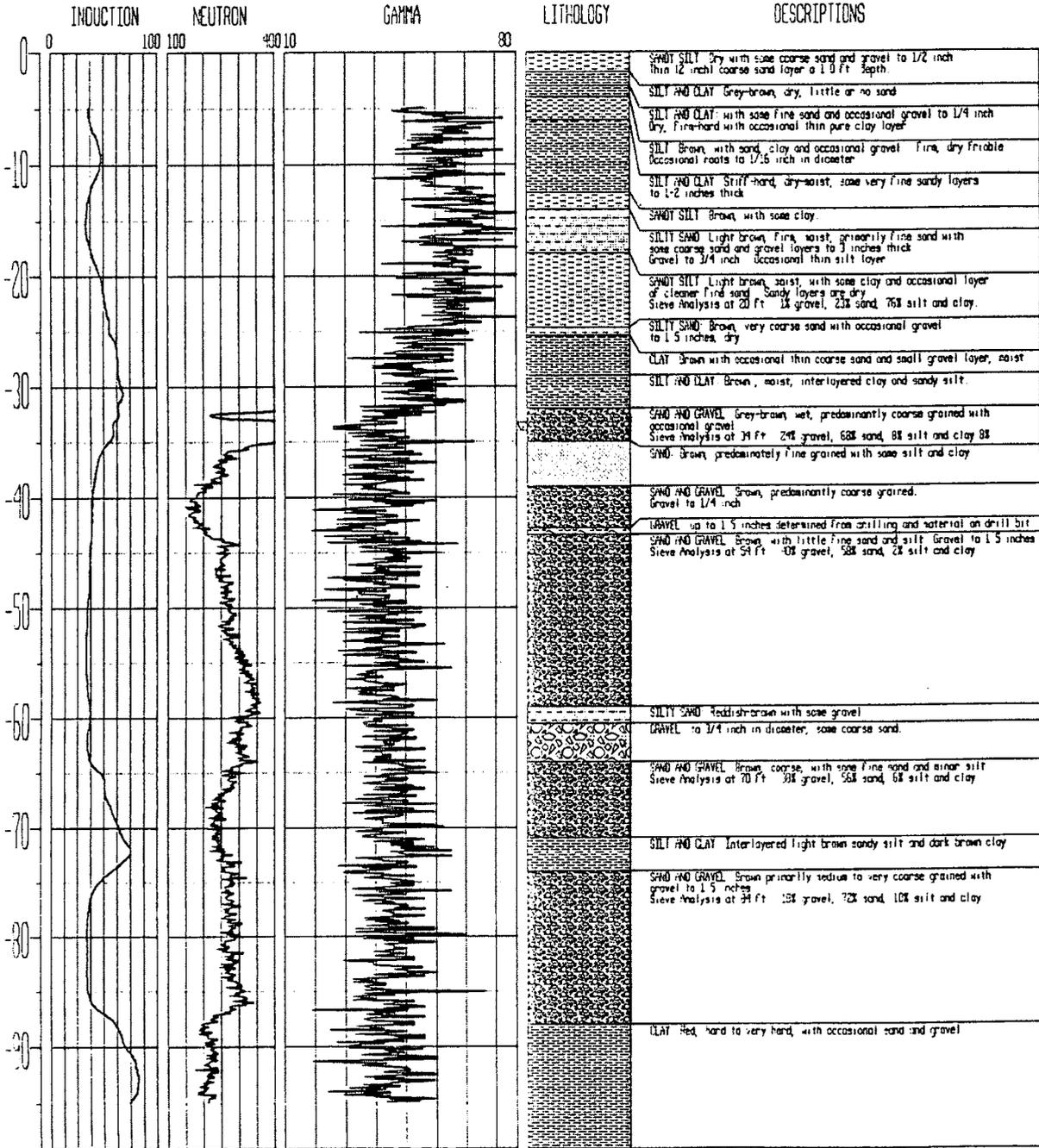
Registration No. _____
File No. _____
Received _____ By _____
Entered _____ By _____

ANSWERED MAR 13 2002

Log # 80



SAINT DAVID AREA
ELEV 3705



Log # 87

(D-18-21) 7 DAA?



ARIZONA DEPARTMENT OF WATER RESOURCES
Information Management Unit
P.O. Box 458, Phoenix, Arizona 85001-0458
(602) 771-8527 * (800) 352-8488
www.water.az.gov

Well Driller Report
and
Well Log

318-07
INPUT
m.o.

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 **

RECEIVED

FEB 14 2007

FILE NUMBER
D(18-21) 7 DAA
WELL REGISTRATION NUMBER
55-213889
PERMIT NUMBER (IF ISSUED)

Mail To:	SECTION 1. DRILLING AUTHORIZATION		INFO MGMT	
	Drilling Firm			
	NAME	DWR LICENSE NUMBER		
	BOART LONGYEAR COMPANY	83		
	ADDRESS	TELEPHONE NUMBER		
7773 WEST SELDON LANE	623-486-1881			
CITY/STATE/ZIP	FAX			
PEORIA, AZ 85345-7980	623-486-1885			

SECTION 2. REGISTRY INFORMATION					
Well Owner			Location of Well		
FULL NAME OF COMPANY, ORGANIZATION OR INDIVIDUAL			WELL LOCATION ADDRESS (IF ANY)		
QUENTIN MILLER			AAACHE POWDER ROAD		
MAILING ADDRESS			TOWNSHIP (N/S)	RANGE (E/W)	SECTION
1376 S LEE			18S	21E	07
CITY / STATE / ZIP			60 ACRE		40 ACRE
ST DAVID, AZ 85630			SE 1/4		NE 1/4
CONTACT PERSON NAME AND TITLE			10 ACRE		NE 1/4
SAME AS ABOVE			LATITUDE		LONGITUDE
ELECTRPHONE NUMBER			Degrees	Minutes	Seconds
520-400-1350			Degrees		Minutes
WELL NAME (e.g., MW-1, PZ-3, Lot 25 Well, Smith Well, etc.)			METHOD OF ELEVATION (CHECK ONE)		
EXB-18			<input checked="" type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input type="checkbox"/> *GPS: Survey-Grade <input type="checkbox"/> *GPS: Hand-Held		
			LAND SURFACE ELEVATION AT WELL		
			Feet Above Sea Level		
			METHOD OF LATITUDE / LONGITUDE (CHECK ONE)		
			<input checked="" type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input type="checkbox"/> *GPS: Survey-Grade <input type="checkbox"/> *GPS: Hand-Held		
			*IF GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (CHECK ONE)		
			<input type="checkbox"/> NAD-83 <input type="checkbox"/> Other (please specify):		
			COUNTY	ASSESSOR'S PARCEL ID NUMBER	
			Cochise	BOOK	MAP
				0	0

SECTION 3. WELL CONSTRUCTION DETAILS		
Drill Method	Method of Well Development	Method of Sealing at Reduction Points
CHECK ONE	CHECK ONE	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) Sonic	<input type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Back <input type="checkbox"/> Surge Pump <input type="checkbox"/> Other (please specify)	<input type="checkbox"/> None <input type="checkbox"/> Packed <input type="checkbox"/> Swedged <input type="checkbox"/> Welded <input type="checkbox"/> Other (please specify)
	Condition of Well	Construction Dates
	CHECK ONE	DATE WELL CONSTRUCTION STARTED
	<input type="checkbox"/> Capped <input type="checkbox"/> Pump Installed	1/8/07
		DATE WELL CONSTRUCTION COMPLETED
		1/9/07

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	SIGNATURE OF QUALIFYING PARTY	DATE
Boart Longyear	[Signature]	2-7-07

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55-213889

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

DEPTH OF BORING 108 Feet Below Land Surface	DEPTH OF COMPLETED WELL Feet Below Land Surface
--	--

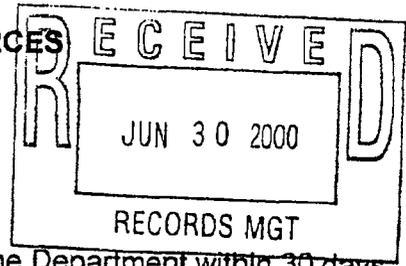
Water Level Information		DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
STATIC WATER LEVEL Feet Below Land Surface				<input type="checkbox"/> Valve <input type="checkbox"/> Other:

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	88	8														
88	108	6														

Installed Annular Material											FILTER PACK		
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (X)							IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE		SAND	GRAVEL	SIZE
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE	GROUT	CHIPS	PELLETS					
2	5		X										
5	108				X				BOREHOLE ABANDONED				

Log # 91

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. WATER DEVELOPMENT CORP. DBA WDC EXPLORATION
1202 EAST KENTUCKY AVENUE
WOODLAND, CA 95776-5906
2. Owner Name: Apache Nitrogen Products
Address: P03 700 Benson AZ 85602
City State Zip
3. Location: 10 N10 21 EW 7 1/4 NE 1/4 NE 1/4 NE
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55-579875 (Required)
5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 27 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 5 00
Month Day Year
15. Date completed 6 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 available _____
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

ANSWERED JUL 07 2000

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 579875
File No. D(18-21) 7 AAA
Received _____ By _____
Entered _____ By _____

LITHOLOGIC LOG FOR EXPLORATORY BORING EXB-7
ADWR Registration Number 55-579875

DEPTH INTERVAL (feet below land surface)	SOIL TYPE	GROUP SYMBOL(a)	DESCRIPTION OF MATERIALS
0-6	CLAYEY SILTY SAND	SM-SC	Pale yellowish brown (10 YR 6/2); fine to coarse, medium graded, subangular to subrounded sand; trace fine, rounded gravel; trace clay; strong HCl reaction; loose; soft; dry to damp.
6-11	SANDY GRAVEL	GW	Pale yellowish brown (10 YR 6/2); fine to 3/4", medium graded, subrounded to rounded gravel; fine to coarse, well graded, subangular to subrounded sand; minor silt/clay; strong
11-27	FAT CLAY (St. David Clay)	CH	Moderate brown (5 YR 4/4); fine, poorly graded sand; strong HCl reaction; medium plasticity; very stiff to hard; damp.

TOTAL DEPTH OF BOREHOLE = 27 FEET

ANSWERED JUL 07 2000



Log # 101

(D-17-20) 10 DCB

Well Driller Report and Well Log

JAN 20 2010

WELL REGISTRATION NUMBER *
55 - 911648

SECTION II - WELL CONSTRUCTION DESIGN (AS PERMITTED BY THE STATE)

Depth
DEPTH OF BORING MW-2 25 Feet Below Land Surface | DEPTH OF COMPLETED WELL 25 Feet Below Land Surface

Water Level Information
STATIC WATER LEVEL N/A Feet Below Land Surface | DATE MEASURED 1-7-2010 | TIME MEASURED pm | IF FLOWING WELL, METHOD OF FLOW REGULATION Valve Other: N/A

Borehole			Installed Casing														
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)					SLOT SIZE (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	25	10	0	10	4		X										
			10	25	4		X						X				.020

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	6			X								
6	8							X				
8	25									X		8/12

Log # 112



Arizona Department of Water Resources
 Information Management Unit
 P.O. Box 36020 • Phoenix, Arizona 85067-3589
 (602) 771-8627 • (800) 352-8488
 www.water.az.gov

MAR 18 2011

Well Driller Report
 and
 Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL.

PLEASE PRINT CLEARLY USING BLACK OR BLUE INK

FILE NUMBER
D(10-18)8 ACB
 WELL REGISTRATION NUMBER
55 - 912839
 PERMIT NUMBER (IF ISSUED)

SECTION I: DRILLING AUTHORIZATION

Drilling Firm	NAME	DWR LICENSE NUMBER
	GEOMECHANICS SOUTHWEST, INC.	498
	ADDRESS	TELEPHONE NUMBER
	5839 S. BELVEDERE AVE	520-252-0559
	CITY / STATE / ZIP	FAX
	TUCSON, AZ, 85706	

SECTION II: REGISTRY INFORMATION

Well Owner		Location of Well				
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL		WELL LOCATION ADDRESS (IF ANY)				
Salt River Project Agricultural Improv ATTN: Ruth Valencia		Along Reddington Rd in San Manuel				
MAILING ADDRESS		TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE
PO Box 52025		10S	18E	8	NE 1/4	SW 1/4
CITY / STATE / ZIP		LATITUDE			LONGITUDE	
Phoenix, AZ, 85072-2025				"N		"W
CONTACT PERSON NAME AND TITLE		METHOD OF LATITUDE/LONGITUDE (CHECK ONE)			GPS Hand-Held	
		USGS Quad Map			Conventional Survey	
TELEPHONE NUMBER		LAND SURFACE ELEVATION AT WELL			GPS Survey-Grade	
602 238-2830					Feet Above Sea Level	
WELL NAME (e.g., MW-1, PZ-1, or 25 Well, Smith Well, etc.)		METHOD OF ELEVATION (CHECK ONE)			GPS Hand-Held	
Spirit Hollow PZ Hybrid		USGS Quad Map			Conventional Survey	
		GPS Survey-Grade				
		*IF GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (CHECK ONE)				
		NAD-83 Other (please specify)				
		COUNTY	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT)			
		Pinal	BOOK	VAP	PARCEL	
			307	31	001	

SECTION III: WELL CONSTRUCTION DETAILS

Drilling Method CHECK ONE	Method of Well Development CHECK ONE	Method of Sealing at Reduction Points CHECK ONE			
			Air Rotary	Airlift <i>GSI did not develop</i>	<input checked="" type="checkbox"/> None
			Bored or Augered	Bail	Packed
Cable Tool	Surge Block	Swedged			
Dual Rotary	Surge Pump	Welded			
Mud Rotary	Other (please specify)	Other (please specify)			
Reverse Circulation					
Driven					
Jettled					
<input checked="" type="checkbox"/> Air Percussion / Odex Tubing	Condition of Well CHECK ONE	Construction Dates			
Other (please specify)	Capped <i>N/A</i>	DATE WELL CONSTRUCTION STARTED			
	Pump installed	<i>1/14/11</i>			
		DATE WELL CONSTRUCTION COMPLETED			
		<i>1/17/11</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.

SIGNATURE OF QUALIFYING PARTY

DATE

Sandra Monroe for Greg G. Jones

2-23-11

SYM

GSI Job# 12-11P

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 912839

SECTION A Well Construction Design Worksheet

Depth: 90' Feet Below Land Surface | DEPTH OF COMPLETED WELL: 90' Feet Below Land Surface

Water Level Information:
 STATIC WATER LEVEL: 57' Feet Below Land Surface | DATE MEASURED: 1-17-11 | TIME MEASURED: | IF FLOWING WELL, METHOD OF FLOW REGULATION: Valve Other:

Borehole			Installed Casing														
DEPTH FROM SURFACE		BOREHOLE DIAMETER (Inches)	DEPTH FROM SURFACE		OUTER (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	SLOT SIZE (Inches)	
0	90	5"	0	70	2		X										
			70	90	2		X							X			.010"

Installed Annular Material											FILTER PACK	
DEPTH FROM SURFACE		NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE			IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
FROM (feet)	TO (feet)					GROUT	CHIPS	PELLETS				
0	3			X								
3	5					X	X					
5	90								X			10x20

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

page 1 of 3

Well ID:	Spirit Hollow PZ Hybrid	Date:	1/14-17/2011
Location:	Spirit Hollow Preserve T10S R18E, Sec 8	Personnel:	R.Valencia/A.Bond
Along Reddington Road in San Manuel		(SRP); log interpreted by Steve Westwood	
ADWR well reg. #:	55-912839	Drilling Co.:	GSI
Land surface elevation:	2606'	Driller:	Mike, Jimmy & Oscar
TD:	90'	Rig/Method:	Air Hammer
Depth to water:	57' (After construction 1/17/11)	Drill fluid:	None
		Sample type:	Split Spoon (SS)

Time and Interval Sampled	Description
	[Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
	Meet at Black Farm - mobilize smaller CME track rig and water to Spirit hollow - set up to auger and split spoon sample.
9:28 0-5'	(SS) 5' dry soil, light brown, some sub-angular gravel, Blow Count: 4, 4, 4
9:38 10'	(SS) dry soil, light brown, fines and small gravel, sub rounded; Blow Count: 7, 10, 14
9:43 15'	(SS) poorly sorted san with gravel (5%) and angular cobble fragments (5%) - dry quartzite fragments, fine to med. grained sand dominant; Blow Count: 18, 13, 13
9:51 20'	(SS) dry gravelly sand, rounded to subrounded gravels (5%) and cobbles (5%), fine to medium grained sand dominant; Blow Count: 7, 9, 17
9:56 X	Hit refusal before 25' - rig shaking/bucking on stratigraphy; broke an auger tooth! Decision to advance with Air hammer.
10:45 X	Will back fill hole and move on Monday January 17, 2011 to a field fit location. It is necessary to bring in air hammer equipment form an offsite location.
N/R (AM)	1/17/2011 - restart effort to advance the piezometer from January 13, 2011 First 20' logged by A.Bond on 1/14/2011. Well stopped due to cobble layer that caused auger rejection. Log will begin at 25'. No time recorded in the field, Est. 0900-1500
25'	(GS) Broken pieces of cobble intermixed with poorly sorted sand and gravel

(subrounded) quartzite with mica, angular chips. Sample horizon dry

ACTIVITY AND GEOLOGIC DRILL HOLE LOG

Well ID: Spirit Hollow PZ Hybrid 55-912839 Date: 1/17/2011

Interval sampled (feet)	Description [Basic description includes rock type, color, grain size %'s (gravel, sand, silt, clay), cementation, gravel fraction (rounding, color, size, lithology %'s), acid reaction (weak, moderate, strong)]
N/R 30'	(GS) silty fines / caliche nodules, (former evaporite?), moist/cohesive. Clumps to form hard clay like nodules 1 to 3 cm in size. White to light brown. No visible water present
35'	(GS) silty fines / caliche nodules, (former evaporite), moist and cohesive. Light brown, clumps to form hard clay like nodules to 2 cm in size. No visible water present.
40'	(GS) silty fines / smaller nodules, (former evaporite), well sorted, cohesive. Light brown, when ground up fines show mica and gritty clay. No visible water present.
45'	(GS) silty fines / smaller nodules, (former evaporite), well sorted, cohesive. Light brown, cakes, when ground up fines show mica and gritty clay. No visible water present.
50'	(GS) silty fines / smaller nodules, (former evaporite), well sorted, cohesive. Light brown, cakes, when ground up fines show mica and gritty clay. No visible water present.
55'	(GS) silty fines / smaller nodules, (former evaporite), well sorted, cohesive. Light brown, cakes, when ground up fines show mica and gritty clay. No visible water present.
60'	(GS) silty fines / caliche nodules, (former evaporite), moist and cohesive. Light brown, clumps to form hard clay like nodules to 2 cm in size. No visible water present.
65'	(GS) silty fines / caliche nodules, (former evaporite), moist and cohesive. Light brown, clumps to form hard clay like nodules to 2 cm in size. No visible water present. increasing clay content cements the sample
70'	(GS) silty fines / caliche, (former evaporite), wet and cohesive. Light brown, clumps to form gritty clay. Water present may be from upper formation. Increasing clay content (20%) cements the sample
75'	(GS) silty fines / smaller nodules, (former evaporite), well sorted, cohesive. Light brown, cakes and crumbles; when ground up fines show mica and gritty clay. Wet. Minor fine grained sorted sands and mica in sample (5%)

Log # 114

(D-9-17) 25 DBB

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 909430

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

Depth	
DEPTH OF BORING 1013 Feet Below Land Surface	DEPTH OF COMPLETED WELL 1000 Feet Below Land Surface

Water Level Information			
STATIC WATER LEVEL +152 Feet Below Land Surface	DATE MEASURED 9-6-08	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION <input checked="" type="checkbox"/> Valve <input type="checkbox"/> Other:

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	133	22	0	133	16	✓					✓					
133	545	14 3/4	0	543	10 3/4	✓					✓					
545	1015	9 5/8	0	622	5.563	✓					✓					
			622	1000	5.563	✓							✓			1/16

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	560			✓								
560	579						✓			✓		#60 Sand
579	1013									✓		#8 Tacna

Log # 115

(D-9-17) 25 DBB

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 909431

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

Depth

DEPTH OF BORING
257

Feet Below Land Surface

DEPTH OF COMPLETED WELL

250

Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL

21.69

Feet Below Land Surface

DATE MEASURED

9-8-08

TIME MEASURED

IF FLOWING WELL, METHOD OF FLOW REGULATION

Valve Other:

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	257	9 5/8	0	200	5.563	✓											
			200	250	5.563	✓									✓		1/16

DEPTH FROM SURFACE		Installed Annular Material										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	173				✓									
173	178							✓						
178	257								✓			#60 Sand		
										✓		#8 Tacna		

Log # 116

(D-9-17) 25DBB

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 909432

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

Depth	
DEPTH OF BORING 111 Feet Below Land Surface	DEPTH OF COMPLETED WELL 110 Feet Below Land Surface

Water Level Information			
STATIC WATER LEVEL 28.4 Feet Below Land Surface	DATE MEASURED 9-6-08	TIME MEASURED	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 (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	WIPE WRAP	SHUTTER SCREEN	MILL'S KNIFE		SLOTTED	IF OTHER TYPE, DESCRIBE
0	111	9 5/8	0	28.5	5.563	✓					✓					
			28.5	90	5.563	✓							✓			1/16

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	23				✓							
23	26						✓					
26	111									✓		#8 Tacna

Log # 119



Arizona Department of Water Resources
 Information Management Unit
 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 MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL.
 PLEASE PRINT CLEARLY USING BLACK OR BLUE INK.

RECEIVED
 FEB - 1 2005
 Information Management

FILE NUMBER: 19-17-15 deb
 WELL REGISTRATION NUMBER: 55-557296
 PERMIT NUMBER (IF ISSUED):

SECTION 1: DRILLING AUTHORIZATION	
Drilling Firm	
NAME North American Drilling	DWR LICENSE NUMBER 216
ADDRESS 3232 W Virginia Ave	TELEPHONE NUMBER
CITY/STATE/ZIP Phoenix, AZ 85009	FAX

SECTION 2: REGISTRY INFORMATION	
Well Owner	Location of Well
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL BHP Copper, Inc.	WELL LOCATION ADDRESS (IF ANY)
MAILING ADDRESS 3005 VETERANS MEMORIAL BLVD.	TOWNSHIP (N/S) 9S
CITY/STATE/ZIP CODE SAN MARINO, AZ 85231	RANGE (E/W) 17E
CONTACT PERSON NAME AND TITLE JOHN KLINE, MANAGER	SECTION 15
HEALTH, SAFETY, ENVIRONMENT, AND COMMUNITY AFFAIRS	160 ACRE NW 1/4
TELEPHONE NUMBER 520-385-3122	40 ACRE SW 1/4
FAX 520-385-3810	10 ACRE SE 1/4
WELL NAME SMW-6	LATITUDE 32° 38' 47" N
	LONGITUDE 110° 35' 37" W
	METHOD OF LATITUDE / LONGITUDE (CHECK ONE) <input type="checkbox"/> GPS: Hand-Held
	<input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input type="checkbox"/> GPS: Survey-Grade
	LAND SURFACE ELEVATION AT WELL 2603.87 Feet Above Sea Level
	METHOD OF ELEVATION (CHECK ONE) <input type="checkbox"/> GPS: Hand-Held
	<input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input type="checkbox"/> GPS: Survey-Grade
	ASSESSOR'S PARCEL ID NUMBER
	COUNTY BOOK MAP PARCEL

SECTION 3: WELL CONSTRUCTION DETAILS		
Drill Method	Method of Well Development	Method of Sealing at Reduction Points
CHECK ALL THAT APPLY <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 ALL THAT APPLY <input checked="" type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Block <input type="checkbox"/> Surge Pump <input type="checkbox"/> Other (please specify): Condition of Well CHECK ONE <input type="checkbox"/> Capped <input checked="" type="checkbox"/> Pump Installed	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):
		Construction Dates
		DATE WELL CONSTRUCTION STARTED 8/1996
		DATE WELL CONSTRUCTION COMPLETED 9/7/1996

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.
 SIGNATURE OF QUALIFYING PARTY: *John Kline*
 DATE: 1/28/2005

ENTERED FEB - 2 2005

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55-557296

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

DEPTH OF BORING 247.9'	Feet Below Land Surface	DEPTH OF COMPLETED WELL 241.3'	Feet Below Land Surface
---------------------------	-------------------------	-----------------------------------	-------------------------

Water Level Information			
STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION <input type="checkbox"/> Valve <input type="checkbox"/> Other:
Feet Below Land Surface			

Borehole			Installed Casing													
DEPTH FROM SURFACE		BOREHOLE DIAMETER (Inches)	DEPTH FROM SURFACE		OUTER DIAMETER (Inches)	MATERIAL TYPE (✓)				PERFORATION TYPE (✓)					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
L.S.	128.6'	8.0"	+1.0'	19.0'	4.5	X										
128.6'	247.9'	6 7/8"	19.0'	180.7'	4.5		X									
			180.7'	241.3'	4.5		X					X				0.020

Installed Annular Material												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (✓)							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				
L.S.	37'		X						Portland Type IV			
37'	152'					X			Voided Grout			
152'	162'								Foundry Sand	X		#100
162'	247.9'								Colorado Silica Sand	X		#10-20

SECTION 5 - GEOLOGIC LOG OF WELL			
DEPTH FROM SURFACE		Description Describe material, grain size, color, etc.	Check (✓) every interval where water was encountered (if known)
FROM (feet)	TO (feet)		
0	10	SILTY SAND WITH GRAVEL - Brown, sand, fine to medium-grained, subangular; silt, nonplastic; gravel, medium-grained, subangular; loose, moist. At 5 feet, color of sand changes to light yellowish-brown.	
10	15	SANDY SILT WITH GRAVEL - Pale brown, sand, subangular; dry, moderate reaction to HCL.	
15	25	SILTY SAND, TRACE GRAVEL - Brown with multicolored grains, sand, medium to fine-grained; silt, nonplastic; moist, reacts to HCL. At 20 feet, color of sand changes to light yellowish-brown.	
25	30	GRAVELLY, SANDY SILT - Brown to light brown with multicolored grains, sand, medium to coarse-grained, subangular to rounded; gravel, medium-grained; dry, reacts to HCL. At 28 feet, coarse-grained gravel, cobbles.	
30	40	SILTY SAND, TRACE GRAVEL - Light brown to brown with multicolored grains, sand, fine to medium-grained, subangular to subrounded; silt, dry, reacts to HCL.	
40	50	GRAVELLY SAND WITH SILT - Brown with multicolored grains, sand, fine to medium-grained, subangular to subrounded; gravel, coarse-grained; moist, reacts to HCL, contains magnetite. At 42 feet, gravel stringer.	
50	55	SILTY SAND AND GRAVEL - Brown with multicolored grains, sand, subangular to subrounded; silt, nonplastic; gravel, subrounded to rounded; moist, reacts to HCL,	

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 557296

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE		Description Describe material, grain size, color, etc.	Check (✓) every interval where water was encountered (if known)
FROM (feet)	TO (feet)		
55	60	GRAVELLY, SANDY SILT - Brown with multicolored grains, silt, nonplastic; sand, fine-grained, subrounded to rounded; gravel, medium-grained; moist.	
60	69	GRAVELLY SAND, TRACE SILT - Brown with multicolored grains, sand, medium-grained, subangular to subrounded; gravel, subrounded to rounded, dry. At 63 feet, hard clay with fine-grained sand. At 69 feet, hard clay, medium-grained sand fraction increasing with depth.	
69	75	SILTY SAND, TRACE GRAVEL - Brown with multicolored grains, sand, medium-grained, subrounded; silt, nonplastic; moist, contains gravel fragments. At 71 feet, gravel and cobble fragments. At 73 feet, increase in silt fraction.	
75	105	SILTY, GRAVELLY SAND - Brown with multicolored grains, sand, coarse-grained, subangular to subrounded; gravel, fine-grained, subangular to subrounded; moist.	
105	115	GRAVELLY, SILTY SAND - Brown with multicolored grains, sand, fine to coarse-grained, subrounded to rounded; silt, nonplastic; gravel, medium-grained, subrounded to rounded; moist.	
115	125	SILTY SAND - Brown with multicolored grains, sand, medium-grained, subangular to subrounded; silt, nonplastic; moist.	
125	130	SILTY, GRAVELLY SAND - Brown with multicolored grains, sand, fine to coarse-grained, subrounded to rounded;	

SECTION 5. GEOLOGIC LOG OF WELL			Description Describe material, grain size, color, etc.	Check (✓) every interval where water was encountered (if known)
DEPTH FROM SURFACE				
FROM (feet)	TO (feet)			
			gravel, fine to medium-grained, subrounded to rounded;	
			Silt, nonplastic, moist.	
130	145		SILTY SAND, TENCE GRAVEL - Brown with multicolored grains, sand, medium-grained, subangular to subrounded; silt, nonplastic; moist.	
145	155		SILTY GRAVELLY SAND - Same as at 124-130 feet, decreasing gravel fraction and increasing silt fraction. At 155 feet, interbedded, fine-grained sand/silt lenses.	
160	185		SILTY SAND - Brown with multicolored grains, sand, subrounded to rounded; silt, nonplastic; moist.	
185	190		SANDY SILT - Brown with multicolored grains, silt, nonplastic, sand, fine to coarse-grained, subangular to subrounded; moist. At 195 feet, saturated	
190	205		SILTY SAND - Brown with multicolored grains, sand, fine to medium-grained, subangular to subrounded; silt, nonplastic; saturated. At 210 feet; silty sand with gravel. At 215 feet; gravelly, silty sand.	
225	250		GRAVELLY, SILTY SAND - Multicolored grains, sand, medium to coarse-grained, subangular to subrounded; silt, nonplastic; gravel, medium to coarse-grained, subangular; saturated	

Log # 124



Arizona Department of Water Resources
 Information Management Unit
 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 MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL.
 PLEASE PRINT CLEARLY USING BLACK OR BLUE INK.

MAR 14 2005

FILE NUMBER
 1(9-17) 9ac6
 WELL REGISTRATION NUMBER
 55-124620
 PERMIT NUMBER (IF ISSUED)

SECTION 1. DRILLING AUTHORIZATION	
Drilling Firm Information Management	
NAME <i>unknown</i>	DWR LICENSE NUMBER
ADDRESS	TELEPHONE NUMBER
CITY / STATE / ZIP	FAX

SECTION 2. REGISTRY INFORMATION	
Well Owner	Location of Well
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL <i>BHP Copper Inc.</i>	WELL LOCATION ADDRESS (IF ANY)
MAILING ADDRESS <i>200 South Veterans Memorial Blvd.</i>	TOWNSHIP (N/S) <i>9S</i>
CITY / STATE / ZIP CODE <i>San Manuel AZ 85131</i>	RANGE (E/W) <i>17E</i>
CONTACT PERSON NAME AND TITLE <i>John Kline, Manager</i>	SECTION <i>9</i>
HEALTH, SAFETY, ENVIRONMENT AND COMMUNITY AFFAIRS TELEPHONE NUMBER <i>520-385-3122</i>	160 ACRE <i>NE 1/4</i>
FAX <i>520-385-3810</i>	40 ACRE <i>SW 1/4</i>
WELL NAME <i>P-10</i>	10 ACRE <i>NW 1/4</i>
	METHOD OF LATITUDE / LONGITUDE (CHECK ONE) <input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input checked="" type="checkbox"/> GPS: Survey-Grade <input type="checkbox"/> GPS: Hand-Held
	LAND SURFACE ELEVATION AT WELL <i>2,449.52</i> Feet Above Sea Level
	METHOD OF ELEVATION (CHECK ONE) <input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input checked="" type="checkbox"/> GPS: Survey-Grade <input type="checkbox"/> GPS: Hand-Held
	ASSESSOR'S PARCEL ID NUMBER COUNTY BOOK MAP PARCEL

SECTION 3. WELL CONSTRUCTION DETAILS		
Drill Method	Method of Well Development	Method of Sealing at Reduction Points
CHECK ALL THAT APPLY <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): <i>unknown</i>	CHECK ALL THAT APPLY <input type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Block <input type="checkbox"/> Surge Pump <input checked="" type="checkbox"/> Other (please specify): <i>unknown</i>	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>unknown</i>
	Condition of Well CHECK ONE <input type="checkbox"/> Capped <input checked="" type="checkbox"/> Pump Installed	Construction Dates DATE WELL CONSTRUCTION STARTED DATE WELL CONSTRUCTION COMPLETED <i>8/19/03</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.
 SIGNATURE OF QUALIFYING PARTY: *John Kline* DATE: *3-11-05*

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55-6024620

SECTION 5. GEOLOGIC LOG OF WELL								
DEPTH FROM SURFACE		Description						Check (✓) every interval where water was encountered (if known)
FROM (feet)	TO (feet)	Describe material, grain size, color, etc.						
		CLAY	SILT	FINE SAND	MED SAND	COARSE SAND	GRAVEL	
170	170	-	5	5	20	70	-	
170	180	-	5	5	60	30	-	
180	190	-	5	5	30	60	-	
190	210	-	5	5	50	40	-	
210	230	-	5	5	35	50	5	
230	290	-	5	5	10	70	10	
290	340	-	5	5	80	10	-	
340	350	2	5	5	75	13	-	
350	450	-	5	5	70	20	-	
450	470	-	5	5	40	40	5	
470	580	-	5	5	60	25	5	
580	590	-	5	5	75	15	-	
590	660	-	5	5	50	40	-	
660	740	-	5	5	60	30	-	
740	920	-	5	5	50	40	-	
920	940	-	5	15	70	10	-	
940	1000	-	5	5	60	30	-	
1000	1010	-	5	25	50	10	-	
1010	1100	-	5	5	60	30	-	
1100	1110	5	5	5	50	35	-	
1110	1130	-	5	5	50	40	-	
1130	1140	-	5	5	80	10	-	
1140	1150	-	5	5	60	30	-	
1150	1160	-	5	5	20	60	10	

Log # 125

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 Charles Benaglio
Name
PO Box 151 Mammoth, Az 85818
Mailing Address
2. Driller Sergent Hauskins Beckwith
Name
3232 West Virginia Phoenix, Az 85009
Mailing Address
3. Location of well: Churn station, Highway 77, MW-1 WEST, MAMMOTH, AZ 85818
4. Permit No. 55-528576
(If issued)

DESCRIPTION OF WELL

5. Total depth of hole 75 ft.
6. Type of casing PVC
7. Diameter and length of casing 4 in. from 0 to 75, in from _____ to _____.
8. Method of sealing at reduction points Bentmate
9. Perforated from 75 to 65, from _____ to _____, from _____ to _____.
10. Size of cuts 0.02" Number of cuts per foot 410
11. If screen was installed: Length 10 ft. Diam 4 in. Type 4" PVC thread joint
12. Method of construction HSA
drilled, dug, driven, bored, jetted, etc
13. Date started 7 30 90
Month Day Year
14. Date completed 7 31 90
Month Day Year
15. Depth to water 71.65' 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. 55-528575

File No. D(8-17)18cda

Entered _____ By ENTERED FEB 06 1991

FEB 11 1991
FFB - 4 1991
OPERATIONS DIV.

U.S. TANK MANAGEMENT INC. - LOG OF WELL - FORM 101D

To be used for all type drilling & excavation zones where applicable.
 Note any groundwater encountered and any fluid rise in borehole under Formation Description.

JOB NAME: Benaglio Enterprises

JOB LOCATION: Cherrm Station, Mammoth, AZ

SEC. 18 T 85 -R 17E

MONITOR WELL # 1

SOIL BORE # _____

EXCAVATION ONLY _____

Depth (ft)		Formation Description	HNU Reading This Interval	Soil Sample		Soil Sample Results	Field Notes
From	To			Yes	No		
0'	5'	Coarse sand, some pebbles in matrix brown, moist	Ø*		✓		Drilling initiated 7-30-90 11:55 AM
5	10	"	Ø		✓		
10	15	"	4 ppm		✓		
15	20	"	1 ppm		✓		
20	25	medium size cobbles interspersed	2 ppm		✓		
25	30	sand with small cobbles in matrix	1 ppm		✓		
30	35	"	8 ppm		✓		
35	40	sand	20 ppm		✓		
40	45	sand with small cobbles	2 ppm		✓		
45	50	clay/sand	Ø (return to hot)		✓		difficult drilling
50	55	clay/sand	"		✓		add H ₂ O to aid drilling
55	60	clay/sand	20 ppm		✓		
60	65	clay**	20 ppm		✓		** Matrix influenced by addition of H ₂ O
65	70	water sand / small cobbles - groundwater encountered	Ø		✓		Slight odor of gas
70	75	water sand / small cobbles	Ø	✓*		80 ppm	HNU at return ~ 50 ppm

* WATER SAMPLE - headspace analysis with HNU
 * Ø - monitor returns, no evidence of hydrocarbons

FEB - 4 1991
 DIVISION DIV.

Log # 126

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

WELL DRILLER REPORT

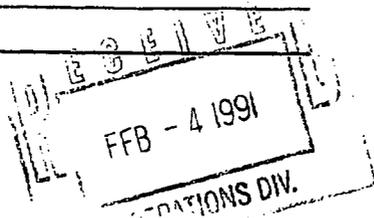
This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Charles Benaglio
Name
PO Box 151 Mammoth, Az 85818
Mailing Address
2. Driller Sergeant Hauskins Beckwith
Name
3232 West Virginia Phoenix, Az 85009
Mailing Address
3. Location of well: CHEVRON STATION, Highway 77, MW-1 WEST, MAMMOTH, AZ 85818
4. Permit No. 55-528576
(If issued)

DESCRIPTION OF WELL

5. Total depth of hole 75 ft.
6. Type of casing PVC
7. Diameter and length of casing 4 in. from 0 to 75, ___ in from ___ to ___.
8. Method of sealing at reduction points Bentonite
9. Perforated from 75 to 65, from ___ to ___, from ___ to ___.
10. Size of cuts 0.02" Number of cuts per foot 410
11. If screen was installed: Length 10 ft. Diam 4 in. Type 4" PVC thread joint
12. Method of construction HSA
drilled, dug, driven, bored, jetted, etc
13. Date started 7 30 90
Month Day Year
14. Date completed 7 31 90
Month Day Year
15. Depth to water 71.65' 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>55-528575</u>
File No.	<u>D(8-17)18cda</u>
Entered	By ENTERED FEB 06 1991



U.S. TANK MANAGEMENT INC. - LOG OF WELL - FORM 101D

to be used for all type drilling & excavation zones where applicable.
 Note any groundwater encountered and any fluid rise in borehole under Formation Description.

OB NAME: Benaglio Enterprises

JOB LOCATION: Chevron Station, Mammoth, AZ

SEC. 18 T 85 -R 17E

MONITOR WELL # 2

SOIL BORE # _____

EXCAVATION ONLY _____

Depth (ft) From To	Formation Description	HNU Reading This Interval	Soil Sample		Soil Sample Results	Field Notes
			Yes	No		
0 5'	coarse sand medium brown	Ø ^A		✓		Drilling initiated 7-31-90 8:30AM
5 10'	coarse sand/some pebbles in matrix	Ø		✓		
10 15	"	Ø		✓		
15 20	"	Ø		✓		
20 25	"	Ø		✓		
25 30	"	Ø		✓		
30 35	"	Ø		✓		
35 40	coarse sand/small cobbles in matrix	Ø		✓		
40 45	"	Ø		✓		
45 50	"	Ø		✓		
50 55	"	Ø		✓		
55 60	"	10 ppm		✓		slight smell of h.c.
60 65	"	20 ppm		✓		med. smell of h.c.
65 70	"	35 ppm		✓		"
70 75	water sand/small cobbles - ground water ^{AA} _{encountered}	Ø		✓		
75 78*	water sand/small cobbles	Ø	✓ ^{AA}		300 ppm ^{AA}	

LULU
 FEB - 4 1991
 OPERATIONS DIV

* TOTAL DEPTH DRILLED
 AA water sample - head space analysis
 (suspending small to water)
 A monitor returns - no evidence of hydrocarbons

AA well sound - top of drill stem to water
 70'6"

Log # 127

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 Charles Benaglio
Name
PO BOX 157 Mammoth, Az 85618
Mailing Address
2. Driller Sergeant Hankins Beckwith
Name
3232 West Virginia Phoenix, Az 85009
Mailing Address
3. Location of well: Chevron Station, Highway 77 MW-2 South Mammoth, Az 85618
4. Permit No. 55-52877
(If issued)

DESCRIPTION OF WELL

5. Total depth of hole 78 ft.
6. Type of casing PVC
7. Diameter and length of casing 4 in. from 0 to 78, in from _____ to _____.
8. Method of sealing at reduction points Bentonite
9. Perforated from 75 to 65, from _____ to _____, from _____ to _____.
10. Size of cuts 0.02" Number of cuts per foot 410
11. If screen was installed: Length 10 ft. Diam 4" in. Type 4" PVC threaded joint
12. Method of construction HSA
drilled, dug, driven, bored, jetted, etc
13. Date started 8 / 1 / 91
Month Day Year
14. Date completed 8 / 1 / 90
Month Day Year
15. Depth to water 70.83' 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. 55-528576

File No. D(8-17)18cda

Entered _____ By _____

ENTERED FEB 06 1991

RECEIVED
FEB - 4 1991

U.S. TANK MANAGEMENT INC. - LOG OF WELL - FORM 101D

to be used for all type drilling & excavation zones where applicable.
 Note any groundwater encountered and any fluid rise in borehole under Formation Description.

JOB NAME: Benaglio Enterprises JOB LOCATION: Chevron Station, Mammoth, AZ
 SEC. 18 T 85 -R 17E
 MONITOR WELL # 2 SOIL BORE # _____ EXCAVATION ONLY _____

Depth (ft) From	To	Formation Description	HNU Reading This Interval	Soil Sample Yes	Soil Sample No	Soil Sample Results	Field Notes
0	5'	coarse sand medium brown	Ø [▲]		✓		Drilling initiated 7-31-90 6:30AM
5	10'	coarse sand/some pebbles in matrix	Ø		✓		
10	15	"	Ø		✓		
15	20	"	Ø		✓		
20	25	"	Ø		✓		
25	30	"	Ø		✓		
30	35	"	Ø		✓		
35	40	coarse sand/small cobbles in matrix	Ø		✓		
40	45	"	Ø		✓		
45	50	"	Ø		✓		
50	55	"	Ø		✓		
55	60	"	10 ppm		✓		slight smell of h.c.
60	65	"	20 ppm		✓		med. smell of h.c.
65	70	"	35 ppm		✓		"
70	75	water sand/small cobbles - ground water	Ø		✓		
75	78*	water sand/smell cobbles	Ø	✓ ^{▲▲}		300ppm ^{▲▲}	

LULU
 FEB - 4 1991
 OPERATIONS DIV

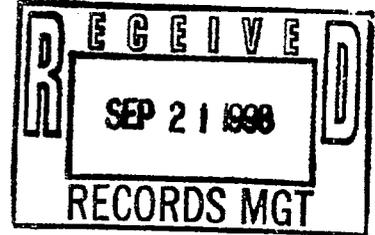
* TOTAL DEPTH DRILLED
 ▲▲ water sample - head space analysis
 (suspending small to water)
 ▲ monitor returns - no evidence of hydrocarbons
 ▲▲ well sound - top of drill stem to water
 70'6"

Log # 136

ARIZONA DEPARTMENT OF WATER RESOURCES
 500 North Third Street
 Phoenix, Arizona 85004
WELL DRILLER REPORT

D(6-16)7 ADC

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. HEBER MINING & EXPLORATION COMPANY
 22010 NORTH 21ST AVENUE
 PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
 Address: 300 E. University Blvd. #230 Tucson, AZ. 85703
 City State Zip

3. Location: 6 N(S) 16 (E)W 7 ¼ SW ¼ SE ¼ NE
 Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569971 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 40 ft. ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2 to 19', 2 in from 19' to 40'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 30' to 40', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started Aug. 27 1998
Month Day Year
- 15. Date completed Aug 27 1998
Month Day Year
- 16. Depth to water 35' while Drilling ft. (If flowing well, so state)

- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 40', filter pack to 20', bentonite seal to 18.5, then cement grouted to the surface with steel locking casing 2ft (4") above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569971
 File No. D(6-16)7 ADC
 Received _____ By _____
 Entered _____ By _____

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	4'	Brn. Dry Sandy SILT & CLAY, Uncemented
4'	10'	Brn. Sandy Gravelly SILT & CLAY, Uncemented
10'	22'	Brn. Sandy SILT & CLAY, Uncemented
22'	30'	Brn. Sandy SILT & CLAY, Uncemented
30'	40'	Brn. Wet Sandy SILT & Clay Uncemented
		Bottom of Boring @ 40'
		Groundwater @ 35' White
		Drilling

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.

COMPANY

Driller Name: HEBER MINING & EXPLORATION

22010 NORTH 21ST AVENUE

Street

PHOENIX, AZ 85027-0026

City

State

Zip

602-780-0023

Phone No.

Donald #269 9-11-98

Signature of Driller

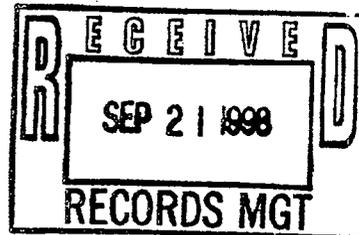
Date

Log # 137

D(6-16)7 ADD

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026
2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85705
City State Zip
3. Location: 6 N(S) 16 (E)W 7 $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55-569976 (Required)
5. Permit No. NA (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 20' ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 2 in. from +2' to 8.5', 2 in from 8.5' to 20'
9. Method of sealing at reduction points NA
10. Perforated from 10' to 20', from _____ to _____ from _____ to _____
11. Size of cuts .020 Number of cuts per foot 125
12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
14. Date started Aug 27 1998
Month Day Year
15. Date completed Aug 27 1998
Month Day Year
16. Depth to water 11' While Drilling ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
18. If flowing well, state method of flow regulation: NA
19. Remarks: Set casing to 20', filter pack to 8.5', bentonite seal to 7.5', then cement grouted to the surface with steel locking casing 2ft (+/-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569976
File No. D(6-16)7 ADD
Received _____ By _____
Entered _____ By _____

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	9'	Brn. dry sandy SILT & CLAY, Uncemented
9'	10'	Brn., Moist, sandy SILT & CLAY, Uncemented
10'	12'	Brn. sandy Gravelly SILT & CLAY, Uncemented
12'	20'	Brn. sandy SILT & CLAY, Uncemented
		Bottom of Boring @ 20ft.
		Groundwater @ 11ft. While Drilling

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.

COMPANY

Driller Name: HEBER MINING & EXPLORATION

22010 NORTH 21ST AVENUE

Street

PHOENIX, AZ 85027-0026 602-790-0023

City State Zip Phone No.

Donaldson #269 7-11-98

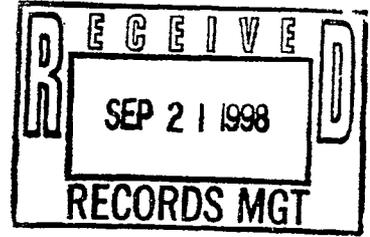
Signature of Driller

Date

Log # 149

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, Az. 85703
City State Zip

3. Location: 6 N(S) 16 (E)W 6 $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569970 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 53 ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2' to 19', 2 in from 19' to 53'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 43' to 53', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started Aug 31 1998
Month Day Year
- 15. Date completed Aug 31 1998
Month Day Year
- 16. Depth to water 43ft. While Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 53', filter pack to 39', bentonite seal to 19', then cement grouted to the surface with steel locking casing 2ft (4") above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

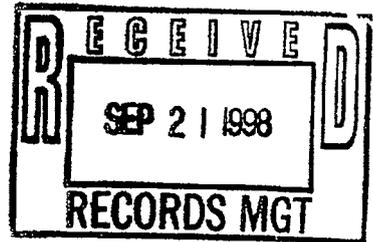
Registration No. 55-569970
File No. D(6-16)6 DCB
Received _____ By _____
Entered _____ By _____

ANSWERED SEP 21 1998

Log # 150

ARIZONA DEPARTMENT OF WATER RESOURCES D(6-16)7 AAB
 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. HEBER MINING & EXPLORATION COMPANY
 22010 NORTH 21ST AVENUE
 PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
 Address: 300 E. University Blvd. #230 Tucson, AZ. 85705
City State Zip

3. Location: 6 N(S) 16 (E)W 7 $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569980 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 30 ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2 to 8.5, 2 in from 8.5 to 30
- 9. Method of sealing at reduction points NA
- 10. Perforated from 20' to 30', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 8 26 1998
Month Day Year
- 15. Date completed 8 26 1998
Month Day Year
- 16. Depth to water 20' While Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 30', filter pack to 19.5', bentonite seal to 18', then cement grouted to the surface with steel locking casing 2ft (+/-) above grade.

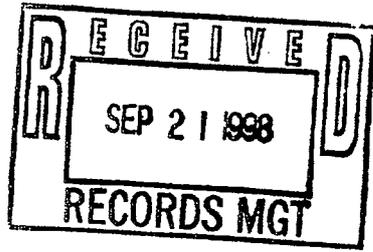
DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569980
 File No. D(6-16)7 AAB
 Received _____ By _____
 Entered _____ By _____

Log # 151

ARIZONA DEPARTMENT OF WATER RESOURCES D(6-16)7 AAC
 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. HEBER MINING & EXPLORATION COMPANY
 22010 NORTH 21ST AVENUE
 PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
 Address: 300 E. University Blvd. #230 Tucson, AZ. 85703
City State Zip

3. Location: 6 NS 16 EW 7 $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569981 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 27 ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2' to 8.5', 2 in from 8.5' to 27'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 17' to 27', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started Aug 28 1998
Month Day Year
- 15. Date completed Aug 28 1998
Month Day Year
- 16. Depth to water 18' while Drilling ft. (If flowing well, so state)

17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well

18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 27', filter pack to 16', bentonite seal to 14', then cement grouted to the surface with steel locking casing 2ft (+/-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569981
 File No. D(6-16)7 AAC
 Received _____ By _____
 Entered _____ By _____

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	7'	Brn. Dry Sandy SILT & CLAY Uncemented
7'	11'	Brn Dry Gravelly Sandy SILT & CLAY Uncemented
11'	13'	Brn Moist sandy SILT & CLAY Uncemented
13'	16'	Brn Moist sandy SILT & CLAY Uncemented
16'	22'	Brn. Wet sandy SILT & CLAY Uncemented
22'	27'	Brn. Cobbley Sandy SILT & CLAY Uncemented.
		Bottom of Boring @ 27'
		Groundwater @ 18' while Drilling

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: HEBER MINING & EXPLORATION

COMPANY

22010 NORTH 21ST AVENUE
Street

PHOENIX, AZ 85027-0026 602-720-0023
City State Zip Phone No.

Donald #269 7-11-98
Signature of Driller Date

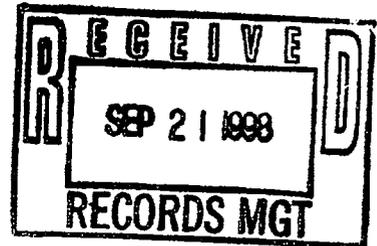
Log # 153

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

D(6-16)6 DCA

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85703
City State Zip

3. Location: 6 N(S) 16 (E)W 6 $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569985 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 22 ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 2 in. from +2 to 5', 2 in from 5' to 22'
9. Method of sealing at reduction points NA
10. Perforated from 12' to 22', from _____ to _____ from _____ to _____
11. Size of cuts .020 Number of cuts per foot 125
12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
14. Date started Aug 28 1998
Month Day Year
15. Date completed Aug 28 1998
Month Day Year
16. Depth to water 15' while drilling ft. (If flowing well, so state)

17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well

18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 22', filter pack to 10.5', bentonite seal to 9', then cement grouted to the surface with steel locking casing 2ft (4") above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-569985
File No. D(6-16)6 DCA
Received _____ By _____
Entered _____ By _____

Log # 154

ARIZONA DEPARTMENT OF WATER RESOURCES

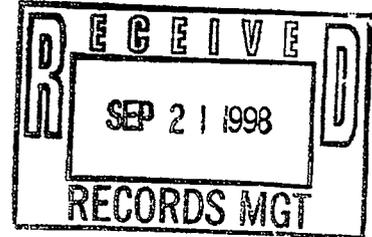
500 North Third Street

Phoenix, Arizona 85004

WELL DRILLER REPORT

D(6-16)7AAB

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85703
City State Zip

3. Location: 6 N(S) 16 (E)W 7 1/4 NW 1/4 NE 1/4 NE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569993 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 35' ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2 to 14', 2 in from 14' to 35'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 25' to 35', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 8 28 1998
Month Day Year
- 15. Date completed 8 28 1998
Month Day Year
- 16. Depth to water 20' While Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 35', filter pack to 24.25', bentonite seal to 22.75', then cement grouted to the surface with steel locking casing 2ft (4-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569993
File No. D(6-16)7AAB
Received _____ By _____
Entered _____ By _____

ANSWERED SEP 21 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	1	Brn Sandy SILT & CLAY Uncemented
1	5'	Brn dry coarse Gravelly sandy SILT & CLAY Uncemented
5'	11'	Brn silty clayey coarse GRAVEL Uncemented
11'	18'	Brn. Coarse Gravelly sandy SILT & CLAY Uncemented
18'	22'	Brn sandy silty clayey Coarse GRAVEL Uncemented
22'	33'	Brn Gravelly sandy SILT & CLAY Uncemented
33'	35'	Brn. silty clayey Coarse SAND Uncemented
		Bottom of Boring @ 35'
		Groundwater @ 29' While Drilling

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.

COMPANY

Driller Name: HEBER MINING & EXPLORATION

22010 NORTH 21ST AVENUE
Street

PHOENIX, AZ 85027-0026 602-780-0023
City State Zip Phone No.

[Signature] #269 7-11-98
Signature of Driller Date

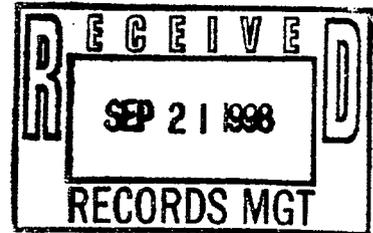
Log # 155

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

D(6-16)6BBC

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85705
City State Zip

3. Location: 6 N(S) 16 (E)W 6 $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569973 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 52 ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2 to 19', 2 in from 19' to 52'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 42' to 52', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started SEP 1 1998
Month Day Year
- 15. Date completed SEP 1 1998
Month Day Year
- 16. Depth to water 42.5' while Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 52', filter pack to 40', bentonite seal to 32', then cement grouted to the surface with steel locking casing 2ft (+) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569973
File No. D(6-16)6BBC
Received _____ By _____
Entered _____ By _____

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	20'	Bm. Dry Sandy SILT & CLAY, Uncemented
20'	32'	Bm. Gravelly silty clayey SAND, Uncemented
32'	40'	Bm. Coarse Gravelly silty clayey SAND, Uncemented
40'	45'	Bm. Gravelly silty clayey SAND Uncemented
45'	52'	Bm. SAND, SILT & CLAY Wet, Uncemented
		Bottom of Boring 52'
		Groundwater @ 42.5' while Drilling

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: HEBER MINING & EXPLORATION

COMPANY

22010 NORTH 21ST AVENUE
Street

PHOENIX, AZ 85027-0026 602-780-0023
City State Zip Phone No.

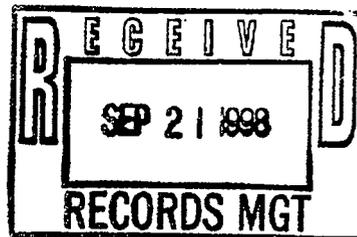
Donald #268 7-11-98
Signature of Driller Date

Log # 156

D(6-16)6 CAA

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd #230 Tucson, AZ 85703
City State Zip

3. Location: 6 N(S) 16 (E)W 6 $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-569979 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 25' ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2 to 8.5', 2 in from 8.5' to 25'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 15' to 25', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled by 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started Aug 31 1998
Month Day Year
- 15. Date completed Aug 31 1998
Month Day Year
- 16. Depth to water 16' While Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 25', filter pack to 15', bentonite seal to 14', then cement grouted to the surface with steel locking casing 2ft (4") above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-569979
File No. D(6-16)6 CAA
Received _____ By _____
Entered _____ By _____

ANSWERED SEP 21 1998

Log # 159

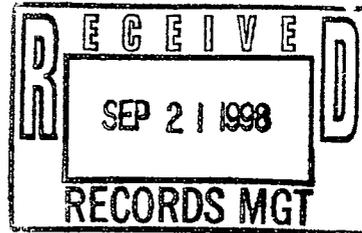
ARIZONA DEPARTMENT OF WATER RESOURCES

D(6-16)6 BDD

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. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: ARIZONA NATURE CONSERVANCY
Address: 300 E. University Blvd. #230 Tucson, AZ. 85703
City State Zip

3. Location: 6 N(S) 16 (E)W 6 1/4 SE 1/4 SE 1/4 NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-5699 89 (Required)

5. Permit No. NA (If issued)

DESCRIPTION OF WELL

- 6. Total depth of hole 25' ft.
- 7. Type of casing Steel & PVC
- 8. Diameter and length of casing 2 in. from +2' to 8.5', 2 in from 8.5' to 25'
- 9. Method of sealing at reduction points NA
- 10. Perforated from 15' to 25', from _____ to _____ from _____ to _____
- 11. Size of cuts .020 Number of cuts per foot 125
- 12. If screen was installed: Length 10 ft. Diam 2 in. Type PVC
- 13. Method of construction drilled w/ 4 1/4 in. I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
- 14. Date started 8 27 1998
Month Day Year
- 15. Date completed 8 27 1998
Month Day Year
- 16. Depth to water 20' While Drilling ft. (If flowing well, so state)
- 17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near the well
- 18. If flowing well, state method of flow regulation: NA

19. Remarks: Set casing to 25', filter pack to 14', bentonite seal to 13', then cement grouted to the surface with steel locking casing 2ft (4-) above grade.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-5699 89
File No. D(6-16)6 BDD
Received _____ By _____
Entered _____ By _____

