

AQUILA A-4 STRAT TEST
SW SW 23-27N-17W (910)



PERMIT TO DRILL

This constitutes the permission and authority from the
OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: AQUILA STORAGE & TRANSPORTATION
(OPERATOR)

to drill a well to be known as

A-4 STRATIGRAPHIC TEST
(WELL NAME)

located 825.0' FWL & 495.0' PSL

Section 23 Township 27N Range 17W, MOHAVE County, Arizona.

The N/A of said
Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled
in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 17 day of APRIL, 19 2002.

OIL AND GAS CONSERVATION COMMISSION

By SL Raring
~~EXECUTIVE DIRECTOR~~

OIL & GAS ADMINISTRATOR

PERMIT 00910

RECEIPT NO. 3114

A.P.I. NO. 02-015-20031

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

APPLICATION TO DRILL

RE-ENTER OLD WELL

NAME OF COMPANY OR OPERATOR		
Aquila Storage & Transportation		
1100 Walnut Suite 3300 Kansas City, Mo. 64108 (713) 338-7470		
Drilling Contractor		
Unit Drilling Company		
Address 24 Greenway Plaza, Suite 501 Houston, Texas 77046-2406		
DESCRIPTION OF WELL AND LEASE		
Federal, State or Indian Lease Number, or if fee lease, name of lessor <u>Aquila</u>	Well number <u>A-4</u>	Elevation (ground) <u>2762' ASL</u>
Nearest distance from proposed location to property or lease line: <u>495</u> feet	Distance from proposed location to nearest drilling, completed or applied-for well on the same lease: <u>N/A</u> feet	
Number of acres in lease <u>N/A</u>	Number of wells on lease, including this well, completed in or drilling to this reservoir: <u>1 well</u>	
If lease purchased with one or more wells drilled, from whom purchased. Name Address <u>N/A</u>		
Well location (give footage from section lines) <u>825 0' FWL & 495' FSL</u>	Section - Township - Range or Block and Survey <u>23, T27N, R17W</u>	Dedication per A.A.C. R12-7-104(A)(3) <u>N/A</u>
Field and reservoir (if wildcat, so state) <u>Wildcat</u>	County <u>Mojave</u>	
Distance in miles and direction from nearest town or post office <u>23 Miles - Dolan Springs</u>		
Proposed depth: <u>10,000</u>	Rotary or cable tools <u>Rotary</u>	Approximate date work will start <u>April 5, 2002</u>
Bond status <u>Cash</u>	Organization Report	Filing Fee of \$25.00
Amount <u>\$10,000</u>	On file Or attached <u>xx</u>	Attached <u>xx</u>
Remarks <u>Stratigraphic Test Well</u> <u>API# 02-015-20031</u>		
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the: <u>Project Manager</u> of the <u>Aquila, Inc.</u> (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.		
		Signature <u>[Signature]</u>
		Date <u>4/11/2002</u>
<small>Mail completed form to: Oil and Gas Program Administrator Arizona Geological Survey 416 W. Congress, #100 Tucson, AZ 85701-1315</small>		
Permit Number: <u>910</u>	STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Application to Drill or Re-enter File Two Copies	
Approval Date: <u>4-17-02</u>		
Approved By: <u>SL Rainz</u>		
NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.		Form No. 3

- Operator shall outline on the plat the acreage dedicated to the well in compliance with A.A.C. R12-7-107.
- A registered surveyor shall show on the plat the location of the well and certify this information in the space provided.
- ALL DISTANCES SHOWN ON THE PLAT MUST BE FROM THE OUTER BOUNDARIES OF THE SECTION.
- Is the operator the only owner in the dedicated acreage outlined on the plat below? YES NO
- If the answer to question four is no, have the interests of all owners been consolidated by communization agreement or otherwise? YES NO If answer is yes, give type of consolidation
- If the answer to question four is no, list all the owners and their respective interests below:

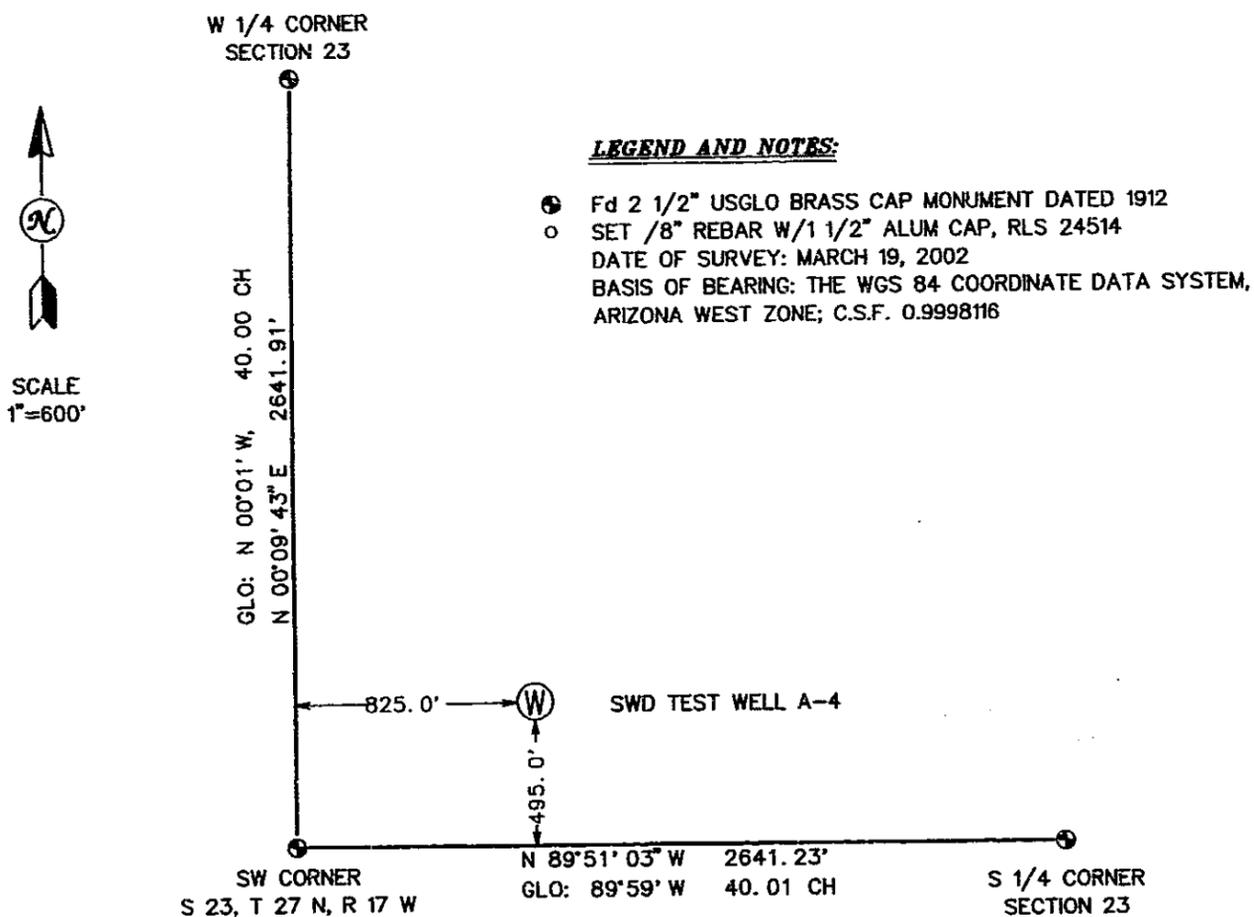
Owner Aquila Storage & Transportation	Land Description Cane Springs Ranch
<div style="text-align: center; font-size: 24px; font-weight: bold;">225'</div> <div style="text-align: center; font-size: 24px; font-weight: bold;">495'</div> <div style="text-align: center; font-weight: bold;">See Attached Certified Plat</div>	<p style="text-align: center; font-weight: bold;">CERTIFICATION</p> <p>I hereby certify that the information above is true and complete to the best of my knowledge and belief.</p> <p>Robert G. Mason Name Project Manager Position Aquila Stor. & Trans Company 04/01/2002 Date</p> <p>I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.</p> <p>See Attached Certified Plat Date Surveyed _____ Registered Land Surveyor _____ Certificate No. _____</p>

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths Drive Pipe	Sacks Cement	Type
30"						None	
20"	106.5	J-55 Butt	Surf	1000'	1000' to Surf	1035 & 335	12.09 & 14.8#/G
13 3/8"	54.5	J-55 STC	Surf	2500'	2500' to Surf	1025 & 360	12.09 & 14.8#/G
9 5/8"	43.5	J-55 LTC	Surf	5800'	6000' to Surf	1070 & 550	13.1 & 15.8#/G

MAP

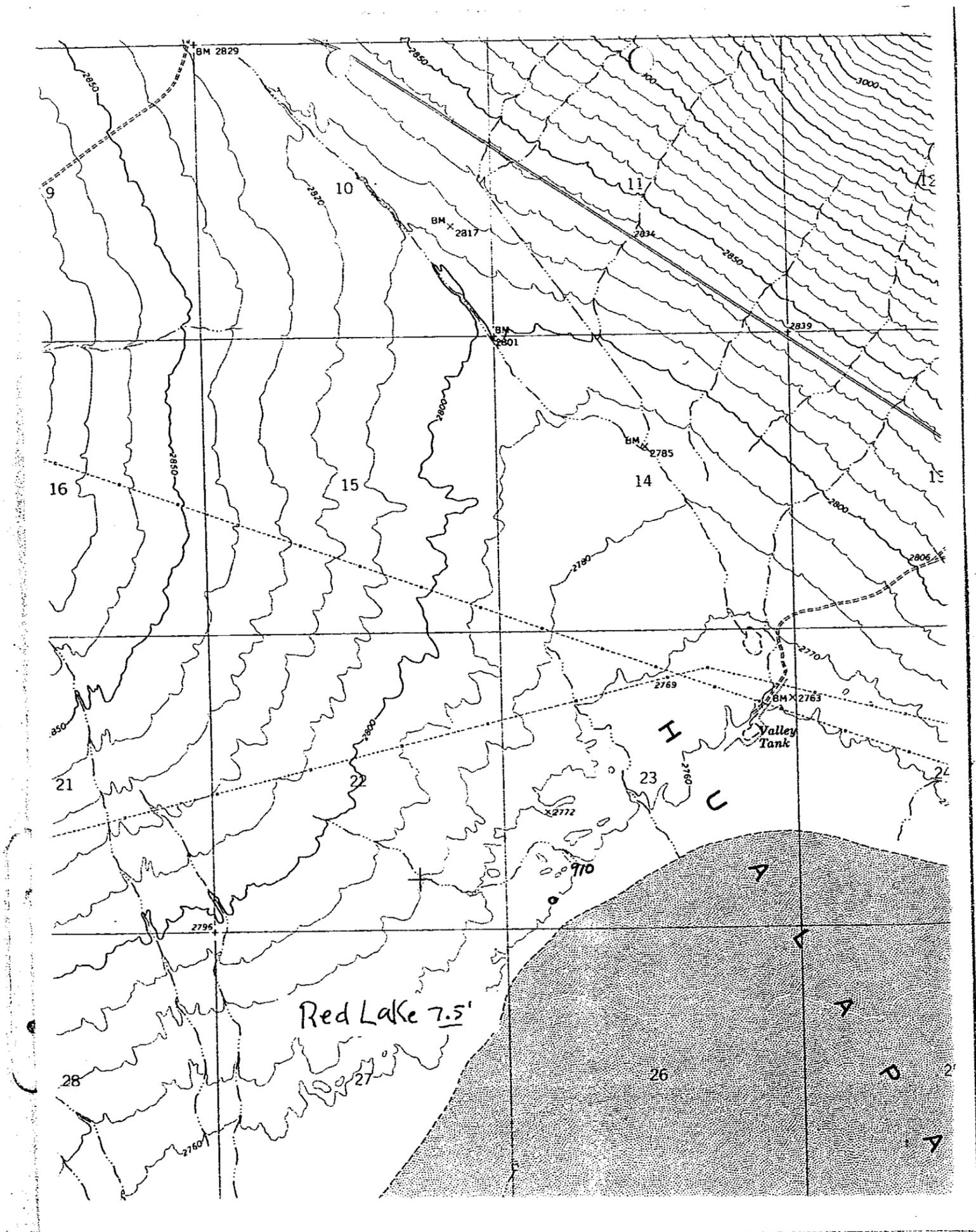
PROPOSED WELL SITE LOCATION FOR SWD TEST WELL A-4 SITUATE IN THE SE 1/4 SW 1/4 SW 1/4 SECTION 23. TOWNSHIP 27 NORTH, RANGE 17 WEST OF THE GILA AND SALT RIVER MERIDIAN, MOHAVE COUNTY, ARIZONA
 MOHAVE COUNTY, ARIZONA



Thomas R. Christopher

WELL SITE ELEVATION: 2672 FEET ABOVE MEAN SEA LEVEL
 WELL SITE IS APPROXIMATELY 23 MILES NORTHEAST OF DOLAN SPRINGS, ARIZONA

910



Mason, Robert

From: Al Owings [aowings@winstarmail.com]
Sent: Tuesday, April 02, 2002 11:46 AM
To: Robert Mason
Subject: Cement Programs

20" Conductor

1000' of 20" 106.5'#, J-55 Butt
Lead Cement: 1035 sacks of Halliburton Premium Plus with 1% ECONOLITE, + 6%
gel (12.09 lb/gal)
Tail Cement: 335 sacks of Halliburton Premium Plus w/5% salt (14.8 lb/gal)

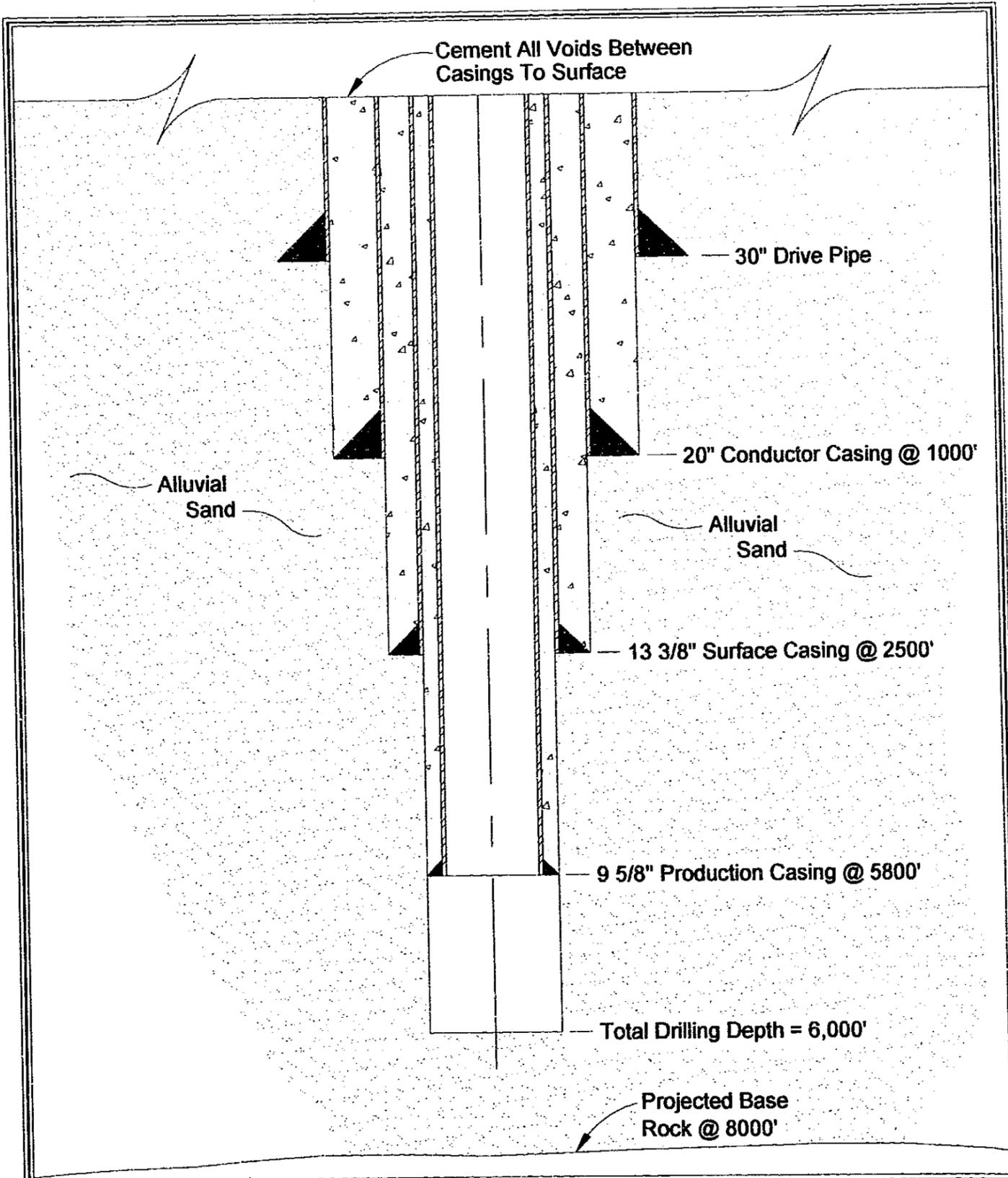
13-3/8" Surface

2500' of 13-3/8" 54.5#, J-55 STC
Lead Cement: 1025 sacks of Halliburton Premium Plus w/1% ECONOLITE, + 6%
gel (12.09 lb/gal)
Tail cement: 360 sacks of Halliburton Premium Plus w/5% salt (14.8 lb/gal)

9-5/8" Production

6000' of 9-5/8" 43.5#, J-55 LTC
Lead cement: 1070 sacks of Halliburton Light Premium (13.1 lb/gal)
Tail cement: 550 sacks of Halliburton Premium (15/8 lb/gal)

Cement on all casing strings calculated to surface.



910



Aquila

RED LAKE GAS STORAGE

SALT WATER DISPOSAL TEST WELL PROFILE

**DRILLING PROGRAM SUMMARY
RED LAKE SWD TEST WELL**

Hole Section	Bit Size	Casing Size	Cement Vol.	Top of Cement	Calc. Excess
Conductor	26"	20"	2950 CF	Surface	95%
Surface	17.5"	13-3/8"	2960 CF	Surface	50 %
Intermediate	12.25"	9-5/8"	2420 CF	Surface	30 %

**TESTING PROGRAM SUMMARY
RED LAKE SWD TEST WELL**

Surface – 1000"

Gamma Ray/Induction/Dipole Sonic

Gamma Ray curve indicates formation type (sand/shale), Induction curve indicates fluid content (fresh water/salt water), Dipole Sonic indicates shear stress of rock.

No cores in this section.

Water samples will be taken and analyzed for dissolved solids and chlorides.

1000' – 2500'

Gamma Ray/SP/Induction/Density/Dipole Sonic

Density curve identifies rock components (quartz, dolomite, limestone, etc), SP (spontaneous potential) indicates porosity. Other curves same as above.

Full bore cores will be taken in this section at the 2000' to 2500' interval in 30 feet intervals at selected depths.

Water samples will be taken and analyzed for dissolved solids and chlorides.

Pressure surveys will be conducted in this interval to determine head differential.

2500 – 6000' (TD)

Gamma Ray/SP/Induction/Density/Dipole Sonic

Curves same as above

Water samples will be taken and analyzed for dissolved solids and chlorides.

Pressure surveys will be conducted in this interval to determine head differential

Full bore cores will be taken in this section in 30 feet intervals at selected depths.

Sidewall cores will be taken in this section at intervals determined by well logs.

Check shot surveys will be conducted over the entire interval. This is a VSP type curve indicating a seismic profile that can be used to correlate surface seismic with subsurface travel time. This will allow the subsurface mapping of the valley in the area of the storage project.

Drilling cuttings will be examined over the entire interval to correlate with the well logs and help determine the location of sidewall cores.

POST DRILLING PROGRAM

Abandon well as specified by the Arizona Oil & Gas Commission according to the rules and regulations of the State of Arizona.

Return well site to natural conditions as specified by the Arizona Oil & Gas Commission.

The well may or may not be permanently abandoned and may be used in the future as an observation well or a brine disposal well as specified by the Arizona Oil & Gas Commission.

RECEIPT Date April 17 ²⁰⁰² ₁₉ No. **3113**

Received From Aquila

Address 1100 Walnut Ste 3300, Kansas City, MO 64106

Ten thousand and ⁰⁰/₁₀₀ Dollars \$10,000.00

For Cash Performance Bond - Permit 910

ACCOUNT		HOW PAID	
AMT. OF ACCOUNT		CASH	
AMT. PAID		CHECK	<u>10,000 00</u>
BALANCE DUE		MONEY ORDER	

By SL Rainz

8K306 Rediform

RECEIPT FOR CASH PERFORMANCE BOND

910

RECEIPT Date April 17 2002 No. 3114
 Received From Arcadis G&M
 Address 630 Plaza Dr Ste 200, Highlands Ranch CO 80129
Twenty five and 00/100 Dollars \$ 25.00
 For Aguila Strut Test Application Fee
Permit # 910

ACCOUNT		HOW PAID	
AMT. OF ACCOUNT		CASH	
AMT. PAID		CHECK	<u>25.00</u>
BALANCE DUE		MONEY ORDER	

By SL Raring

8K806 Radiprm

ARCADIS G&M 21749
 630 Plaza Drive, Suite 200
 Highlands Ranch, Colorado 80129
 Tel (720) 344-3500 Fax (720) 344-3535

DATE 4-16-02

PAY TO THE ORDER OF State of Arizona Oil & Gas Conservation Commission \$ 25.00
Twenty Five and 00/100 DOLLARS

NOT VALID OVER \$500

WELLS FARGO BANK GRAND JUNCTION, N.A.
 GRAND JUNCTION, CO 81501
 82-917-1021

2002 M. Hooper

⑈0021749⑈ ⑆102100918⑆ 801 2800923⑈

ARCADIS G&M

630 Plaza Drive, Suite 200
 Highlands Ranch, Colorado 80129
 Tel (720) 344-3500 Fax (720) 344-3535

ITEM DESCRIPTION	VENDOR NO	VOUCHER NO	AMOUNT	PROJECT	ACCOUNT
registration fee		53160	25.00	AZ000928.0001 Task 5	

ORGANIZATION REPORT

Full Name of the Company, Organization, or Individual
Aquila Technology, Inc.

Mailing Address and Phone Number
1100 Walnut, Suite 3300, Kansas City, MO 64106

Plan of Organization (State whether organization is a corporation joint stock association, firm or partnership, or individual)
Corporation

Purpose of Organization (State type of business in which engaged)
Owner and licensor of software program

If a reorganization, give name and address of previous organization
N/A

If a foreign corporation give (1) State where incorporated	(2) Name and mailing address of state agent	(3) Date of permit to do business in state
Delaware	CT Corporation System 3225 N. Central Avenue Phoenix, AZ 85012	
Principal Officers or Partners (if partnership) NAME	TITLE	MAILING ADDRESS
Robert K. Green	Chairman of the Board & CEO	20 W. 9th Street Kansas City, MO 64105
Edward K. Mills	President	20 W. 9th Street Kansas City, MO 64105
Jeffrey D. Ayers	Secretary	20 W. 9th Street Kansas City, MO 64105
Sara L. Henning	Assistant Secretary	20 W. 9th Street Kansas City, MO 64105
Thomas P. Marko	Assistant Secretary	20 W. 9th Street Kansas City, MO 64105
Daniel J. Streek	Treasurer	20 W. 9th Street Kansas City, MO 64105
Joseph L. Gocke	Assistant Treasurer	20 W. 9th Street Kansas City, MO 64105
C. Amy Tucker	Assistant Treasurer	20 W. 9th Street Kansas City, MO 64105

DIRECTORS NAME	MAILING ADDRESS
Edward K. Mills	20 W. 9th Street, Kansas City, MO 64105
Robert K. Green	20 W. 9th Street, Kansas City, MO 64105

CERTIFICATE I, the undersigned, under the penalty of perjury state that I am the Assistant Secretary of the Aquila Technology, Inc. (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Sara L. Henning
 Signature Sara L. Henning, Assistant Secretary

04/11/2002
 Date

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Organization Report
 File One Copy
 Form No. 1

Mail completed form to
 Oil and Gas Program Administrator
 Arizona Geological Survey
 416 W Congress., #100
 Tucson, AZ 85701



Jane Dee Hull
Governor

State of Arizona
Arizona Geological Survey

416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500



Larry D. Fellows
Director and State Geologist

April 17, 2002

Mr. Ron Walker
County Manager
P. O. Box 7000
Kingman, AZ 86402-7000

Re: Aquila Storage & Transportation #A-4 Strat Test
SW SW Sec. 23, T. 27 N., R. 17 W.
State Permit #910

Dear Mr. Walker:

I have enclosed a copy of an approved drilling application for your information. It is a policy of the Arizona Oil and Gas Conservation Commission to inform county government about proposed exploration and stratigraphic drilling. The referenced well is a stratigraphic test. It is being drilled for the sole purpose of obtaining subsurface geological information.

The Commission issues a "Permit to Drill" under A.R.S. § 27-513. The Commission approves an application after a well is determined to be in compliance with statutes (A.R.S. § 27-516) and rules (12 A.A.C. 7), which were promulgated to safeguard the public health and safety and protect surface and subsurface resources.

Sincerely,

Steven L. Rauzi
Oil and Gas Administrator

Enclosure

c J. Dale Nations, Chairman, Oil and Gas Conservation Commission
Larry D. Fellows, Director and State Geologist



Jane Dee Hull
Governor

State of Arizona
Arizona Geological Survey

416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500



Larry D. Fellows
Director and State Geologist

April 17, 2002

Mr. Robert G. Mason
Aquila Storage & Transportation
1100 Walnut Suite 3300
Kansas City MO 64106

Re: Aquila Storage & Transportation #A-4 Strat Test
SW SW Sec. 23, T. 27 N., R. 17 W.
State Permit #910

Dear Mr. Mason:

I have attached an approved copy of your application to drill, permit to drill #910; performance bond receipt #3113, and filing fee receipt #3114. Post a copy of the permit to drill in a conspicuous place at the well site during drilling operations.

This permit is issued on the condition that you conduct operations in compliance with all applicable rules and that you notify me at least 24 hours before you:

- 1) move in the drilling rig and commence drilling operations;
- 2) run and cement surface casing; and
- 3) nipple up and test the BOPE before drilling out of the surface casing.

A sign at the well site is required under rule R12-7-106. Drill samples are required under rule R12-7-121(B). I have enclosed a copy of these rules for your information and several of our sundry notice form 25 for your use.

Sincerely,

Steven L. Rauzi
Oil & Gas Administrator

Enclosures



Jane Dee Hull
Governor

State of Arizona
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500



Larry D. Fellows
Director and State Geologist

MEMORANDUM TO FILE

DATE: April 17, 2002

FROM: Steven L. Rauzi
Oil and Gas Administrator

SUBJECT: Known and reasonably estimated freshwater aquifers in vicinity of
Aquila's proposed stratigraphic test located in:

SW SW Sec. 23, T. 27 N., R. 17 W., Mohave County, Permit to Drill #910

An inquiry of Rick Herther, Basic Data Section, Arizona Department of Water Resources, indicated that only one water well is registered in Sections 14, 15, 22, and 23 of T. 27 N., R. 17 W. The well is listed as a stock well owned by Carson Water Company in NW NE NE 23. T. 27 N., R. 17 W. No information on depth, yield, or water quality.

Aquila's proposal to set 20" casing from the surface to 1000' and 13 3/8" casing from the surface to 2500' will be sufficient to protect all reasonably estimated aquifers in the vicinity of the proposed well.