Run Date: 01/15/2010

AZ DEPARTMENT OF WATER RESOURCES

WELL REGISTRY REPORT - WELLS55

Location D 14.0 14.0 35 A D C

Well Reg.No 55 - 216837

AMA TUCSON AMA

Registered Name DAVIS-MONTHAN AIR FORCE
5285 E MADERA STREET
DMAFB AZ 85707

File Type NEW WELLS (INTENTS OR APPLICATIONS)
Application/Issue Date 11/05/2007

Owner OWNER
Driller No. 621
Driller Name AZCA DRILLING & PUMP, INC.
Driller Phone 928-923-9118
County PIMA

Well Type NON-EXEMPT
SubBasin UPPER SANTA CRUZ
Watershed SANTA CRUZ RIVER
Registered Water Uses DOMESTIC
Registered Well Uses WATER PRODUCTION
Discharge Method NO DISCHARGE METHOD LISTED
Power NO POWER CODE LISTED

Intended Capacity GPM 55,034.00

Well Depth	821.00	**Case Diam**	6.00	**Tested Cap**	0.00
Pump Cap.	0.00	**Case Depth**	740.00	**CRT**	
Draw Down	0.00	**Water Level**	0.00	**Log**	X
		Acres Irrig	0.00	**Finish**	PLASTIC OR PVC

Contamination Site: YES - DMAFB WITH LUST

Comments Pump installed.

Places Of Use

D 14 0 14 0 35 A D C

Current Action

2/21/2008 750 WELL LOG RECEIVED
Action Comment: MO

Action History

2/4/2008 755 WELL CONSTRUCTION COMPLETED
Action Comment: MO

11/26/2007 550 DRILLING AUTHORITY ISSUED
Action Comment: DH

11/26/2007 410 AMA APPLICATION/NOI REVIEW COMPLETE
Action Comment: DH

11/20/2007 867 APP/NOI REVIEW BY HYDRO/WQARF COMPLETE
Action Comment: SAP

11/6/2007 321 APP/NOI SENT TO WATER QUALITY FOR REVIEW
Action Comment: dh

11/6/2007 322 APP/NOI SENT TO AMA FOR REVIEW
Action Comment: dh

11/5/2007 310 APP RCVD FOR A WELL PERMIT FOR A REPLACEMENT WELL
Action Comment: dh

ARIZONA DEPARTMENT OF WATER RESOURCES
3550 N. Central Avenue, Phoenix, Arizona 85012
Telephone (602) 771-8500
Fax (602) 771-8691

January 15, 2010

Janice K. Brewer
Governor

Herbert R. Guenther
Director

DAVIS-MONTHAN AIR FORCE
5285 E MADERA STREET
DMAFB, AZ 85707 - 4927

Registration No. 55-216837
File No. D(14-14) 35 ADC

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to Drill a well that you recently filed with this Department pursuant to A.R.S. § 45-596. This is to inform you that the Department has approved the NOI and has mailed or otherwise provided a drilling card authorizing the drilling of the well to the well driller identified in the NOI. The driller may not begin drilling until he has received the drilling card, which must be displayed on the drill rig during drilling.

Well drilling activities must be completed within one year after the date the NOI was filed with the Department. If drilling is not completed within one year, you must file a new NOI before proceeding with further drilling. If in the course of drilling the well, it is determined that the well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the well must be properly abandoned and a Well Abandonment Completion Report must be filed as required by A.A.C. R12-15-816(F).

If you change drillers, you must notify the Department of the new driller's identity. Please ensure that the new driller is licensed by the Department to drill the type of well you require. A new driller may not begin drilling until he receives a new drilling card from the Department. If you are drilling a new or replacement well and it is necessary to change the location of the proposed well, you may not proceed with drilling until you file an amended NOI with the Department and the Department issues an amended drilling card to the driller. If county approval was required for the original well site plan (this applies to domestic wells on parcels that are five acres or less), you must submit a new well site plan with the new well location to your local county health authority for approval prior to filing the amended NOI with the Department.

A.R.S. § 45-600 requires the registered well owner to complete and file a Pump Installation Completion Report form (DWR form 55-56) within 30 days after the installation of pumping equipment. A form is enclosed for your use. Also enclosed is a well owner's guide that provides useful information and advice concerning your upcoming well construction project. A.R.S.§ 45-600 also requires the driller to file a complete and accurate Well Drillers Report and Well Log (DWR form 55-55) within 30 days after completion of drilling. That form was mailed to your driller with the drilling card. You should insist and ensure that all of the required forms are accurately completed and timely filed with the Department.

Please be advised that A.R.S. § 45-593(C) requires the person to whom a well is registered to notify the Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. Any change in well information or a request to change well driller must be filed on a Request to Change Well Information form (DWR form 55-71A) that may be downloaded from the ADWR Internet website at <http://www.water.az.gov/adwr/content/forms/default.htm#NOI>.

Sincerely,

Michael Ball
NOI Unit
Water Management Support Section

Enclosures

ENTERED FEB 29 2008 MO

RECEIVED FEB 21 2008 WATER MGMT

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

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(14-14)35ADC
WELL REGISTRATION NUMBER: 55-216837
PERMIT NUMBER (IF ISSUED):

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm — Mail To:

NAME	DWR LICENSE NUMBER
AZCA DRILLING & PUMP LLC	621 A GEN
ADDRESS	TELEPHONE NUMBER
50078 S. PARKER-POSTON RD	928-923-9118
CITY / STATE / ZIP	FAX
EHRENBERG, AZ. 85334	928-923-9118

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: U.S. AIR FORCE
MAILING ADDRESS: 5285 S. MADERA ST.
CITY / STATE / ZIP CODE: TUCSON, AZ. 85707-4927
CONTACT PERSON NAME AND TITLE: JOHN R. MAISCH.
TELEPHONE NUMBER: 520-228-4774
FAX:
WELL NAME (e.g., MW-1, PZ-3, Lot 25 Well, Smith Well, etc.): WELL #2

Location of Well

WELL LOCATION ADDRESS (IF ANY): BLDG. 4300, CRAYCROFT-YUCCA

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
14S	14E	35	NE ¼	SE ¼	SW ¼

LATITUDE			LONGITUDE		
32 ° Degrees	10 ' Minutes	24.0" N Seconds	110 ° Degrees	52 ' Minutes	31.4" W Seconds

METHOD OF LATITUDE/LONGITUDE (CHECK ONE): ☑ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade
LAND SURFACE ELEVATION AT WELL: Feet Above Sea Level
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	ASSESSOR'S PARCEL ID NUMBER BOOK	MAP	PARCEL

SECTION 3. WELL CONSTRUCTION DETAILS

Drill Method (CHECK ALL THAT APPLY)
- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☑ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☐ Other *(please specify)*:

Method of Well Development (CHECK ALL THAT APPLY)
- ☑ Airlift
- ☐ Bail
- ☐ Surge Block
- ☑ Surge Pump
- ☐ Other *(please specify)*:

Condition of Well (CHECK ONE)
- ☐ Capped
- ☑ Pump Installed

Method of Sealing at Reduction Points (CHECK ONE)
- ☑ None
- ☐ Packed
- ☐ Swedged
- ☐ Welded
- ☐ Other *(please specify)*:

Construction Dates
DATE WELL CONSTRUCTION STARTED: 10-15-07
DATE WELL CONSTRUCTION COMPLETED: FEB 4, 2008

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: Larry Kedall
DATE: FEB 13, 2008

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 216837

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

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
810 Feet Below Land Surface	740 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL Feet Below Land Surface	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION ☐ Valve ☐ Other:

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)

Installed Casing

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

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (T) NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE GROUT	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK SAND	FILTER PACK GRAVEL	FILTER PACK SIZE
	SEE ATTACHED											

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 216837

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE		Description	Check (T) every interval where water was encountered (if known)
FROM (feet)	TO (feet)	Describe material, grain size, color, etc.	
		SEE ATTACHED	

MILITARY WATER WELL COMPLETION SUMMARY REPORT

TO
DIRECTOR
US Army Topographic Engineer Center
ATTN: CETEC-TC-H
Ft. Belvoir, VA 22060-5546
(703) 355-2921

FROM *(List Unit and complete mailing address to include Street and 9-digit ZIP Code)*
823 RED HORSE (DOPWD)
633 Independence Rd
Hurlburt Field, FL 32544

PHONE NUMBER *(Include Area Code)*
(850) 881-2243

1. PROJECT TITLE OR WELL NUMBER
Davis Monthan AFB / Well #2

2. DATE OF REPORT
November 19, 2007

3. USE

X	a. Military water supply
	b. Construction
	c. Humanitarian
	d. Other *(Specify)*

4. LOCATION
a. Country: USA
b. Map name/edition
c. Series/sheet number
d. Coordinates
e. Scale

5. TOP OF HOLE ELEVATION

6. TOTAL HOLE DEPTH
740 Feet

7. STATIC WATER LEVEL

a. Number feet 340 Feet	X	b. Below Grade	
c. Above Grade		d. Date Measured	

8. TYPE OF DRILLING MACHINE

	a. 600-ft WDS		b. ITWD
	c. CF-15-S	X	d. Other *(Specify)* Schraam T685W

9. DRILLING METHOD

X	a. Direct Rotary		b. Reverse Rotary
	c. Air Rotary		d. Other *(Specify)*

10. HOLE AND CASING DIAMETER *(Change inches to feet)*

a. Hole	b. Casing
14 inches = 1.16 feet	10 inches = .83 feet
____ inches = ____ feet	____ inches = ____ feet
____ inches = ____ feet	____ inches = ____ feet
____ inches = ____ feet	____ inches = ____ feet

11. COMPLETION KIT USED

	a. Yes	X	b. No		
(1) If Yes,		1,500 ft		600 feet Standard	

(1) If No, specify type of completion materials

X	a. Steel		b. PVC		c. Other

12. SCREENS

	a. Completion Kit		b. PVC	X	c. Stainless Steel

e. Set between 440 - 740 feet Slot .030
____ - ____ feet Slot ____
____ - ____ feet Slot ____

13. GRAVEL PACK X a. Yes b. No

If Yes, complete (1) thru (4)
(1) Source Global Drill Supply (2) Gradation Number 5
(3) Volume Used 328 Bags (4) Depth to top of pack 435 Ft

14. SANITARY SEAL
a. Grout Volume 185 Bags
b. Depth 0 - ____ feet

15. WELL DEVELOPMENT
a. Method Air
b. Date 14 Nov - 16 Nov
c. Duration 72 hours

16. PUMP

	a. Standard		b. 600 feet
	c. 1500 feet	X	d. Nonstandard Electric

(1) Type Submersible (2) Manufacturer Franklin Electric
(3) Model Number 2791069004 (4) Horsepower 150
(5) Power Source 3-Phase 460V (7) Drop-pipe Diameter 6 in.
(7) Drop-pipe Material Threaded galv. steel
e. Hand-Pump type
f. Depth of Pump Installation *(list in feet)* 412 ft

17. PUMPING TEST X a. Yes b. No
(1) If Yes, 412 feet X Below Grade Above Grade
(a) Test Date 17 November 2007
(b) Well Yield 300 GPM or ____ LPM

18. WELL-HEAD COMPLETION
X a. Standard b. Nonstandard *(Specify)*
c. Height above ground *(list in feet)* 3 ft

19. WELL DISINFECTION
a. Super Chlorination
X b. Other *(Specify)* Bleach solution

c. Nearest source of possible contamination
(1) Type Sewer line
(2) Distance 25 ft
(3) Direction North

20. GEOGRAPHIC DATA AVAILABLE a. Yes X b. No
c. If Yes, (1) WDRT (2) Local
(3) Water-Resource Overlays
(4) Other *(Specify)*

d. Down-hole Log X Yes No
e. Attached Yes No

DD Form 2680, OCT 93

21. OVERBURDEN MATERIALS			
X	a. Unconsolidated		b. Sandstone
	c. Limestone		d. Igneous
	e. Other *(Specify)*		

22. AQUIFER MATERIALS			
X	a. Sand and Gravel		b. Sandstone
	c. Limestone		d. Igneous

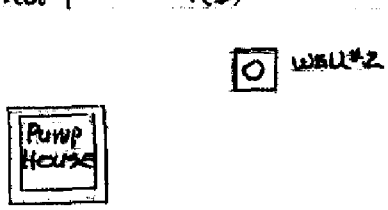
23. MARKER BEDS *(Describe)*

Clay	at	0	feet
Granular Sand / Clay	at	20	feet
	at		feet
	at		feet

24. WATER QUALITY

a. Tested		(1) Yes	X	(2) No	(3) Date		
X	b. Fresh		c. Brackish		d. Saline		

25. SKETCH OF LOCATION

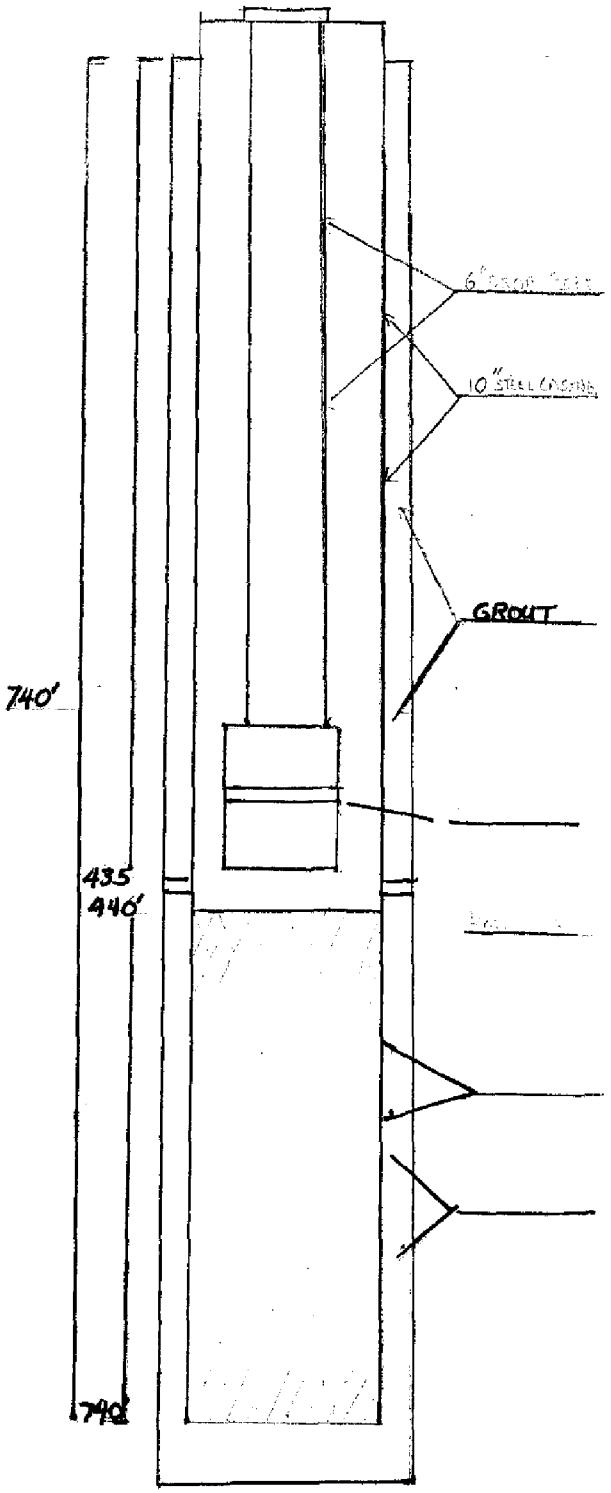


26. REMARKS

27a. SUBMITTED BY *(Type or print name)*

Nathan R. Laidlaw

28. SKETCH OF WELL AND PUMP



27b. GRADE/RANK	27c. UNIT	29. SIGNATURE OF PROJECT OFFICIAL	30. DATE OF SIGNATURE
E-5 / SSgt	823 RED HORSE		

DD Form 2680, OCT 93 (BACK)

Davis Monthan AFB Well #2

55-216837

Date	Time	# Steel	Depth	Comments
				Comment
10/15/07	12:46	0	0	Set up site, mixing mud, PH:6, added 6 cups of Soda Ash, Added 15.5 bags of Quick Gel, Viscosity: 64 Added 2K gallons of water
	13:16	0	0	Viscosity: 115
	13:40	0	0	Added 500 gallons of water, 1 cup of Soda Ash
	14:20	1	0	Added stabilizer and bit Viscosity:38, PH:9
	14:25	1	0	Added 1 bag of Quick Gel
	14:30	1	0	Viscosity:45
	14:46	1	0	Viscosity: 40, Added .5 bag of Quick Gel
	14:56	1	0	Viscosity: 43
10/16/07	6:30	1	0	Day shift arrives, set up site, Viscosity: 38
	7:48	1	0	PH: 8, added 2 cups of Soda Ash, Viscosity: 42, continue mixing
	8:19	1	0	Added 2 cups of polymer
	8:26	1	3	Begin drilling, Viscosity:96
	8:35	1	5	Re-leveled rig, added 2 bags of Quick Gel, Viscosity:68
	9:28	2	7	Tripped in collar #1
	9:30	2		Begin drilling, Viscosity:59, PH:9
	10:00	2	8	Tweaked rig level, inserted table slips
	10:17	2	8.5	Gardner Denver mud pump leaking oil, shut down to fix
	10:37	2		Pump fixed
	10:41	2		Resumed drilling
	10:45	2		Added 300 gallons of water, Viscosity:52
	11:00	2		Added 1 bag of Quick Gel, Viscosity:56
	11:15	2	10	Sample: Clay
	11:35	2		Added 1 bag of Quick Gel, Viscosity:46
	11:45	2		Viscosity:66, leveled rig off of table and drill steel

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	12:00	2		Viscosity: 65, PH:9
	12:15	2		Viscosity: 59
	12:35	2		Viscosity: 57, PH:9
	13:30	2	20	Penetration rate=8m30s/ft, sample:clay with hint of quartz Added 1 bag of Quick Gel, Viscosity:50
	13:35	2		Viscosity:70
	13:50	2		Viscosity: 68
	14:20	2		Viscosity: 65
	14:42	2	26	Stick complete, circulating mud
	14:50	2		Viscosity: 70, PH:9
	15:00	3	27	Tripped in collar #2
	15:22	3	30	Sample: conglomorate/clay, Viscosity: 72
	15:55	3		Viscosity: 64, PH:9
	16:15	3		Viscosity: 73
	16:40	3	40	Sample: clay and quartz, sand content: 2% Desanding operations started on mud system
	17:15	3	47	Stick complete, mud circulating
	17:20	3		Shut down for maintenance, changed mud recirculating valve mud mixing valve leaking, changed hydraulic fitting
	17:30	3		Added 300 gallons of water, Viscosity: 44, PH:9 Added 1 bag of Quick Gel, Fueled rig and pump
	18:15	3		Viscosity: 48, added 1 bag of Quick Gel
	18:39	3		Viscosity: 64
	19:00	3		Night shift arrives
	20:00	4		Tripped in collar #3, sand content 2%
	20:20	4	50	Sample: clay
	20:34	4	60	Sample: clay
	20:40	4		Viscosity: 65, PH: 7.5, added 1 cup of Soda Ash

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	21:14	4		PH: 8.5
	21:22	5	67	Tripped in collar #4, sand content 1.5%
	21:37	5	70	Sample: clay with little sand
	21:40	5		Viscosity: 56, PH: 8.5
	22:15	5	80	Sample: sand with little clay
	22:20	5		Sand content 1.75%, turned on desander
	23:00	6	87	Tripped in drill steel #1
	23:07	6		Penetration rate= 4m24s/ft, sand content .5%
	23:28	6	90	Sample: clay
10/17/07	0:04	6		Viscosity: 67, PH:8
	0:10	6		Penetration rate= 5m45s/ft
	0:14	6	100	Sample: granular sand and clay
	0:20	6		Shaker screens tearing/falling off
	0:56	6		Sand content 1.25%
	1:20	6		Stopped drilling for maintenance and mud mixing
	1:40	6		Added 300 gallons of water, 2 cups Soda Ash, .5 cup easy mud
	1:57	6		Clean mud tank; Viscosity: 99, PH: 10 Dirty mud tank; Viscosity: 92, PH: 9
	2:05	7	107	Tripped in drill steel #2, checked rig level, resumed drilling
	2:19	7	110	Sample: clay and sand
	2:20	7		Viscosity: 45, PH: 10, sand content 1%
	3:14	7	120	Sample: clay with little sand
	4:32	8	127	Tripped in drill steel #3
	4:52	8		Penetration rate= 5m2s/ft, sand content .5%
	5:00	8	130	Sample: clay with sand and gravel Viscosity: 50, PH:9
	5:34	8	140	Sample: clay with light sand

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	5:50	8		Sand content 3%, desander running, Viscosity: 55, PH:9
	6:00	9	147	Tripped in drill steel #4
	6:25	9	150	Sample: conclomorate, clay, sand and quartz
	6:30	9		Added 500 gallons of water
	6:35	9		Added 1 cup of Soda Ash
	6:45	9		Day shift arrives
	6:55	9	152	Shut down for maintenance, shale shaker is broken, moved bottom screen to top, replaced mud mixing fittings, cleaned job site
	11:00	9		Viscosity: 38, added 1 bag of Quick Gel
	11:28	9		PH:8, Added 2 cups of Soda Ash
	11:32	9	154	Penetration rate=13m40s/ft, Viscosity: 48, added 1 bag of Quick Gel
	12:03	9		Viscosity: 57, PH: 9
	12:23	9	159	Penetration rate=5m46s/ft, Viscosity: 53, added 1 bag of Quick Gel
	12:40	9		Stopped to fix shaker
	13:12	9	160	Sample: clay and quartz, Viscosity: 74
	13:50	9	167	Stick complete, circulating mud, changing fittings on mixing valve
	14:20	10	167	Tripped in drill steel #5
	15:07	10	170	Sample: clay and quartz, added .5 cup Condet, Viscosity: 84, PH: 8.5
	15:41	10	177	Penetration rate=6m12s/ft
	15:53	10	180	Sample: quartz, sand, gravel,
	16:11	10	184	Engaged desander
	16:26	10	187	Stick complete, circulating mud
	16:47	11	187	Tripped in drill steel #6, Viscosity: 76
	16:58	11	190	Sample: clay and quartz sand, penetration rate= 5m50s/ft
	17:51	11	200	Sample: clay and quartz sand
	18:14	11	207	Stick complete, circulating mud, added 500 gallons water to mud tank
	18:30	12	207	Tripped in drill steel #7, main mud valve sticking, grease required

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	18:37	12	209	Formation changing, mud is streaking (water), Viscosity dropped 30 Viscosity: 40
	18:46	12	210	Sample: multicolored sand/gravel (aquafer) Slowed drilling penetration rate to bring mud up, added 2 bags Quick Gel
	19:00	12		Viscosity: 44, PH 8.5, night shift started, added 1 bag of Quick Gel
	19:23	12		Viscosity: 60
	19:37	12		Penetration rate=6m36s/ft
	19:41	12		Viscosity: 53
	19:45	12		Sand content .25%
	19:57	12	220	Sample: clay and sand
	20:03	12	221	Hitting harder formation, rotation slowed, PH:8.5
	20:52	12		Viscosity: 65, PH: 8.5, sand content .75%
	21:13	12		Checked alignment, still level
	21:20	12		Greased circulation pump
	21:38	12		Cleaned hole X3, hitting hard material
	21:41	12		Stopped drilling to load Lazy Susan (training), found seal coming out of lift cylander near ladder
	22:25	12		Cylander fixed
	22:30	12		Viscosity: 65, PH: 8.5, sand content .80%
	22:47	13	227	Tripped in drill steel #8, resumed drilling
	22:50	13		Greased circulation pump
	23:02	13		Added 1/2 cup of Con Det
	23:30	13		Viscosity: 80, PH: 9, sand content 1%
	23:34	13	230	Sample: medium sand, little clay
10/18/07	0:28	13		Viscosity: 72, PH:9, sand content 2%
	1:07	13		Rig level check still good
	1:12	13	240	Sample: medium sand little clay

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	1:19	13		Viscosity: 56, PH: 9, sand content 1%
	1:52	14	247	Tripped in drill steel #9, rig level checked, rotation 75
	2:01	14	250	Sample: medium sand, moderate clay
	2:04	14		Viscosity: 118, PH: 8.5, sand content .75%
	2:11	14		Added 300 gallons of water, 1 cup of Soda Ash
	2:13	14		Greased circulation pump
	2:17	14		Stopped drilling to mix mud and service rig
	2:35	14		Resumed drilling operations, Viscosity: 51, added 1.5 bags Quick Gel
	2:40	14		Sand content 1%, PH: 8.5
	2:45	14		Penetration rate=2m50s/ft
	3:05	14	260	Sample: med sand, little clay
	3:16	14		Viscosity: 49, PH: 9, sand content 1.5%
	3:32	14		Top head develops hydraulic leak at fitting, stopped drilling ops
	4:01	14		Leak fixed, added .5 bag of Quick Gel, fixed leak on clean tank fitting Rotation at 75
	4:11	14		Viscosity: 125, PH: 9, sand content 1%, greased circulation pump
	4:15	15	267	Tripped in drill steel #10
	4:21	15	270	Sample: medium sand, light clay
	4:40	15	276	Top head blows hydraulic fitting (O-ring, 2nd time)
	5:36	15		Resumed drilling operations, rotation at 75
	5:45	15		Viscosity: 72, PH: 9, sand content 2%
	5:48	15	280	Sample: medium sand, clay
	6:16	15		Viscosity: 74, PH: 9, sand content 2%
	6:19	16	287	Tripped in drill steel #11
	6:39	16	290	Sample: medium sand, little clay
	6:43	16		Viscosity: 90, PH: 9, sand content .5%

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	6:53	16		Added 300 gallons of water
	7:00	16	292	Shut down for maintenance on rig
	7:30	16	287	Tripped out steel #11
		15	267	Tripped out steel #10
		14	247	Tripped out steel #9
		13	227	Tripped out steel #8
	7:50	12	227	Shut down for shaker maintenance
	15:13	12		Circulating, started desander, fabricated shaker screens, cleaning mud
	15:49	13	227	Tripped in drill steel #8
	16:01	14	247	Tripped in drill steel #9
	16:02	14		Viscosity: 42, PH: 8, added 1.5 bags of Quick Gel, added 2 cups Soda Ash, sand content .5%
	16:15	15	267	Tripped in drill steel #10, Viscosity: 40, added 2 bags of Quick Gel Resumed drilling operations, rotation at 78
	16:54	15	270	Sample: sand with little clay, penetration rate= 6m57s/ft
	17:15	15		Viscosity: 48
	17:20	15		Added 1 bag of Quick Gel
	17:35	15		Viscosity: 62
	18:00	15	287	Stick complete, circulating mud
	18:12	16	287	Tripped in drill steel #11
	18:25	16	290	Sample: medium sand, little clay
	19:00	16		Night shift begins, rotation at 75
	19:04	16		Added 500 gallons of water and two bags of Quick Gel
	19:15	16		Viscosity 51
	19:29	16	300	Sample: medium to fine sand
	19:35	16		Viscosity: 41, PH: 9, sand content .75% Added two bags of Quick Gel
	19:58	16		Viscosity: 57.5, PH: 9, sand content 1.5%
	20:09	17	307	Tripped in drill steel #12

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	20:20	17	310	Sample: medium sand, light clay
	20:36	17		Viscosity: 62, PH: 9, sand content 1%
	20:42	17	320	Sample: medium sand, light clay, rig level is good
	21:20	18	327	Tripped in drill steel #13, stopped to clean lower screen, losing mud
	22:07	18		Viscosity: 41, PH: 9, sand content 2%
	22:30	18		Resumed drilling operations
	22:53	18	330	Sample: medium and fine sands
	23:23	18		Viscosity: 41, sand content .75%, added one bag of Quick Gel
	23:40	18	340	Sample: medium sand
	23:58	18		Viscosity: 57, PH: 9, sand content 2.5%, turned on desander
10/19/07	0:24	19	347	Tripped in drill steel #14, turned off desander, rotation at 75
	0:34	19		Greased mud pump
	0:35	19	350	Sample: medium sand, light clay
	0:43	19		Viscosity: 54, PH: 9, sand content .75%
	1:02	19	360	Sample: medium sand, light clay
	1:30	19	367	Stopped drilling, seal on left side of mud pump needs repaired
	4:25	20	367	Triped in drill steel #15, pump fixed, resumed drilling operations
	4:29	20		Viscosity: 56, rotation at 75, rig is level
	4:49	20	370	Sample: medium sand, light clay
	4:58	20		Viscosity: 48, PH:9, sand content 2%, turned on desander
	5:19	20		Viscosity: 59, PH: 9, sand content .75%, turned of desander
	5:31	20	380	Sample: medium sand, little clay
	6:00	20		Viscosity: 49, PH: 9, sand content 2%, turned on desander
	6:01	21	387	Tripped in drill steel #16
	6:10	21	390	Sample: medium sand
	6:36	21	400	Sample: medium sand, viscosity: 53.5, PH: 9, sand content 2% turned on desander

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	6:45	21	407	Day shift arrives, stick complete, circulating mud
	7:00	21		Viscosity: 60, PH: 9, sand content .75%
	8:28	22	407	Tripped in drill steel #17
	8:39	22	410	Sample: unconsolidated formation, sand and clay, Lazy Susan is broke operations delay 5min for repairs
	8:45	22		Viscosity: 61
	9:00	22	419	Hit harder material, slowed drilling
	9:15	22	420	Sample: course sand, fine gravel
	9:19	22	421	Broke through harder material
	9:31	22		Viscosity: 78
	9:32	22	427	Stick complete, circulating mud, added 200 gallons of water
	9:56	23	427	Tripped in drill steel #18, rotation at 78
	10:03	23	430	Sample: unconsolidated clay, sand
	10:20	23		Viscosity: 42, added on bag of Quick Gel
	10:34	23	440	Sample: unconsolidated sand, clay
	10:51	23		Viscosity: 54, PH: 8, sand content 1.5%, added 2 cups of Soda Ash
	11:00	23	447	Stick complete, circulating mud
	11:13	23		Viscosity: 60, PH: 9, sand content 1%
	11:31	24	447	Tripped in drill steel #19, viscosity: 70, sand content 1%
	12:05	24	450	Sample: unconsolidated sand, clay
	12:17	24		PH:8, sand content .75%, added 2 cups of Soda Ash
	12:36	24	455	Hit hard material, viscosity: 48, PH:9, sand content 1%, slowed RPM
	12:54	24	460	Sample: unconsolidated sand, viscosity: 53, sand content 1%
	13:20	24	467	Stick complete, circulating mud
	13:23	24		Viscosity: 62, PH: 9, sand content 1%
	13:47	25	467	Tripped in drill steel #20, rotation at 78

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	13:56	25		Viscosity: 52
	14:20	25		Viscosity: 59, PH: 9, sand content 1.5%
	14:23	25	470	Sample, unconsolidated sand
	14:43	25		Viscosity: 58, PH:9, sand content .5%
	15:52	25		Added 300 gallons of water, one bag of Quick Gel, PH:9.5, sand content .5%
	16:13	25		Viscosity: 46
	16:40	25	480	Sample: unconsolidated sand, viscosity: 46, PH: 9, sand content .5%
	17:00	25	487	Stick complete, circulating mud, fueling everything
	17:14	26	487	Tripped in drill steel #21, rotation at 78
	17:18	26		Viscosity: 48, PH: 9, sand content 1%
	17:38	26	490	Sample: unconsolidated sand, fine gravel
	17:39	26		Viscosity: 48, PH: 9, sand content .75%
	18:08	26		Viscosity: 49, PH: 9, sand content .75%
	19:00	26	500	Sample: medium grade sand, fine gravel Night shift begins, viscosity: 49, PH: 9, sand content 1%
	19:28	27	507	Tripped in drill steel #22, viscosity: 51, PH:9, sand content 2.5%
	19:32	27		Viscosity: 51, PH:9, sand content 1.5%
	19:40	27	510	Sample: sand and gravel
	20:13	27		Viscosity: 55, PH: 9, sand content 2%, desander started
	20:23	27	520	Sample: sand and gravel
	20:37	27		Viscosity: 72, PH: 9, sand content .75%, desander stopped
	21:04	28	527	Tripped in drill steel # 23
	21:08	28		Added 500 gallons water, one bag of E-Z mud, one cup of Soda Ash
	21:32	28	530	Sample: sand with little clay Viscosity: 50, PH: 9, sand content 1.5%
	21:58	28	540	Sample: clay and sand mixed Viscosity: 49, PH: 9, sand content 2.5%, desander started

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	23:01	28	545	Shaker assembly broken, drilling operations stopped Recirculating mud and cleaning hole
10/20/07	1:30	28		Moved steel up and down 5 times, keeping hole open
	3:00	28		Moved steel up and down 4 times, keeping hole open
	4:20	28		Moved steel up and down 4 times, keeping hole open
	5:44	28		Moved steel up and down 4 times keeping hole open
	6:04	27	527	Tripped out drill steel #23
		26	507	Tripped out drill steel #22
		25	487	Tripped out drill steel #21
		24	467	Tripped out drill steel #20
		23	447	Tripped out drill steel #19
		22	427	Tripped out drill steel #18
		21	407	Tripped out drill steel #17
		20	387	Tripped out drill steel #16
		19	367	Tripped out drill steel #15
		18	347	Tripped out drill steel #14
		17	327	Tripped out drill steel #13
		16	307	Tripped out drill steel #12
		15	287	Tripped out drill steel #11
		14	267	Tripped out drill steel #10
		13	247	Tripped out drill steel #9
		12	227	Tripped out drill steel #8
		11	207	Tripped out drill steel #7
		10	187	Tripped out drill steel #6
		9	167	Tripped out drill steel #5
		8	147	Tripped out drill steel #4
		7	127	Tripped out drill steel #3
		6	107	Tripped out drill steel #2
		5	87	Tripped out drill steel #1
		4	67	Tripped out collar #4
		3	47	Tripped out collar #3
		2	27	Tripped out collar #2
		1	7	Tripped out collar #1
10/25/07	6:30	0		Operations halted waiting on parts for shaker screen Mixing mud
	14:53	1	0	Tripped in sub and bit
		2	7	Tripped in collar #1
		3	27	Tripped in collar #2
		4	47	Tripped in collar #3
		5	67	Tripped in collar #4
		6	87	Tripped in drill steel #1
		7	107	Tripped in drill steel #2
		8	127	Tripped in drill steel #3
		9	147	Tripped in drill steel #4
		10	167	Tripped in drill steel #5

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
		11	187	Tripped in drill steel #6
		12	207	Tripped in drill steel #7
		13	227	Tripped in drill steel #8
		14	247	Tripped in drill steel #9
		15	267	Tripped in drill steel #10
		16	287	Tripped in drill steel #11
		17	307	Tripped in drill steel #12
		18	327	Tripped in drill steel #13
		19	347	Tripped in drill steel #14
	16:09	19	367	Shaker screens broke again operations shut down
		19	347	Tripped out drill steel #14
		18	327	Tripped out drill steel #13
		17	307	Tripped out drill steel #12
		16	287	Tripped out drill steel #11
		15	267	Tripped out drill steel #10
		14	247	Tripped out drill steel #9
		13	227	Tripped out drill steel #8
		12	207	Tripped out drill steel #7
		10	187	Tripped out drill steel #6
		9	167	Tripped out drill steel #5
		8	147	Tripped out drill steel #4
		7	127	Tripped out drill steel #3
		6	107	Tripped out drill steel #2
		5	87	Tripped out drill steel #1
		4	67	Tripped out collar #4
		3	47	Tripped out collar #3
		2	27	Tripped out collar #2
		1	7	Tripped out collar #1
10/26/07	12:32	1	0	Tripped in sub and bit, mixing mud
		2	7	Tripped in collar #1
		3	27	Tripped in collar #2
		4	47	Tripped in collar #3
		5	67	Tripped in collar #4
		6	87	Tripped in drill steel #1
		7	107	Tripped in drill steel #2
		8	127	Tripped in drill steel #3
		9	147	Tripped in drill steel #4
		10	167	Tripped in drill steel #5
		11	187	Tripped in drill steel #6
		12	207	Tripped in drill steel #7
		13	227	Tripped in drill steel #8
		14	247	Tripped in drill steel #9
		15	267	Tripped in drill steel #10
		16	287	Tripped in drill steel #11
		17	307	Tripped in drill steel #12
		18	327	Tripped in drill steel #13
		19	347	Tripped in drill steel #14
		20	367	Tripped in drill steel #15
		21	387	Tripped in drill steel #16
		22	407	Tripped in drill steel #17
		23	447	Tripped in drill steel #18

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
		24	467	Tripped in drill steel #19
		25	487	Tripped in drill steel #20
		26	507	Tripped in drill steel #21
		27	527	Tripped in drill steel #22
		28	547	Tripped in drill steel #23
		29	567	Tripped in drill steel #24
	15:18	29	567	Added 200 gallons of water, viscosity: 76, PH: 9, sand content 1%
	15:42	29		Begin drilling operations
	16:22	29		Viscosity: 76, PH: 9.5, sand content .5%
	16:23	29	570	Sample: clay and sand, rig shut down for bad pump, rig fixed
	17:10	29		Added 200 gallons of water
	17:36	29	580	Sample: clay and sand, viscosity: 50, PH: 9, sand content 1.5%
	19:00	29	587	Night shift begins
	19:02	30	587	Tripped in drill steel #25
	19:15	30	590	Sample: clay and medium sand, rig still level
	19:22	30		Rig shuts down but refires
	19:27	30		Rig shuts down, oil sensor bypassed, keep watching oil level
	19:40	30		Drilling operations resume
	19:57	30		Viscosity: 56, PH: 9, sand content 2.5%, desander started
	20:05	30	600	Sample: medium sand, light clay, desander off, rotation at 75
	20:27	31	607	Tripped in drill steel #26
	20:44	31	610	Sample: medium sand and clay, rotation at 75
	20:49	31		Viscosity; 61, PH: 9, sand content 3% desander started
	21:04	31	620	Sample: medium sand, light clay, rig level, rotation at 75
	21:29	32	627	Tripped in drill steel #27, viscosity: 76, PH: 9, sand content 2% desander on, rig level
	21:40	32	630	Sample: sand, light clay
	22:00	32	640	Sample: sand, light clay
	22:15	32	647	Stopped to weld fitting on circulation pump, added 700 gallons of water 1 cup of Soda Ash, and two bags of Quick Gel

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
10/27/07	0:26	33	647	Tripped in drill steel #28, completed welding on circulation pump
	0:51	33		Viscosity: 58, resumed drilling operations
	1:00	33		Viscosity: 58, PH: 9, sand content .75%
	1:03	33	650	Sample: sand, light clay, rig level
	1:17	33	660	Sample: sand, light clay
	1:33	33	667	Viscosity: 59, PH:8, sand content 3%, desander started
	1:41	34	667	Tripped in drill steel #29
	1:59	34	670	Sample: sand, light clay
	2:11	34		Viscosity: 62, PH: 8, sand content 1.75%
	2:25	34	680	Sample: sand, gravel mix
	2:47	35	687	Tripped in drill steel #30
	2:54	35	690	Sample: sand, gravel mix
	3:02	35		Viscosity: 80, PH: 8, sand content 3.5%, desander started
	3:45	35		Shut down to fix leak in top head
	4:20	35	700	Resumed drilling, sample: sand, gravel mix
	5:00	36	707	Tripped in drill steel #31, added 700 gallons of water, three bags of Quick Gel, viscosity: 51
	5:24	36	710	Sample: sand, gravel mix
	5:29	36		Viscosity: 50, PH: 9, sand content .75%, desander stopped
	5:35	36	720	Sample: sand, gravel mix
	5:53	37	727	Tripped in drill steel #32
	5:58	37	730	Sample: sand, gravel mix
	6:11	37		Viscosity: 59, PH: 9, sand content 3.5%, started desander
	6:20	37	740	Sample: sand, gravel mix
	6:21	38	747	Tripped in drill steel #33
	6:37	38		Viscosity: 57, PH: 8.5, sand content 2.5%

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	6:43	38	750	Sample: sand, shells, gravel mix
	6:50	38	760	Sample: sand, gravel mix, greased entire rig
	7:03	39	767	Tripped in drill steel #34
	7:10	39	770	Sample: fine sand, gravel
	7:19	39	780	Sample: sand, gravel, light clay
	7:20	39		Viscosity: 71, PH:8, sand content 2.5%, started desander
	7:37	40	787	Tripped in drill steel #35
	7:44	40	790	Sample: sand, shells, gravel mix
	7:52	40	800	Sample: sand, shells, gravel mix
	8:04	40	810	Sample: sand, light clay mix End of pilot hole drilling reached terminal depth of 810 feet Tripped all steel out of hole. Set up to widen hole beginning 28th Oct
10/28/07	13:00	1	0	Tripped in stabilizer and hole opener Mixed new mud with two cups of polymer, Viscosity: 30, PH: 9.5 Sand content .25%
	13:50	1		Added 1 bag of Quick Gel (polymer not working) Viscosity: 32
	14:22	1		Added 1 bag of Quick Gel, Viscosity: 33, PH: 8.5, sand content .5% added 1 cup of Soda Ash
	15:10	1	21	First stick complete
	15:13	2	21	Tripped in collar #1
	15:51	2		Viscosity: 40, added one bag of Quick Gel
	16:16	2		Viscosity: 43
	16:33	2		Added 300 gallons of water, one bag of Quick Gel
	17:05	2		Viscosity 40, added one bag of Quick Gel
	17:08	3	41	Tripped in collar #2
	17:30	3		Viscosity: 43, PH:9 sand content 1%, added one bag of Quick Gel
	17:53	3		Viscosity: 50, PH:9, sand content 1%
	18:17	3		Viscosity: 56, PH:9, sand content 1%

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	19:00	3		Night shift begins, rotation at 75
	19:22	4	61	Tripped in collar #3
	19:26	4		Rotation at 75, rig level
	19:29	4		Viscosity: 53, PH:9, sand content 3.5%, started desander
	19:43	4		Viscosity: 52, PH:9, sand content 2%
	20:05	4		Added 700 gallons of water, two bags of Quick Gel
	20:13	5	81	Tripped in collar #4
	20:18	5		Greased rig, pumps
	20:28	5		Viscosity: 58, PH:8.5, sand content 2%, rotation at 75
	20:51	6	101	Tripped in drill steel #1
	21:06	6		Viscosity: 62, PH: 8.5, sand content 2%
	21:23	6		Rig level
	21:46	7	121	Tripped in drill steel #2
	22:41	7		Rig died, hooked up additional batteries, possible alternator
	23:05	7		Viscosity: 52, PH: 9, sand content 1.5%
	23:07	8	141	Tripped in drill steel #3
10/29/07	0:12	8		Rotation at 78
	0:50	8		Added 500 gallons of water, two bags of Quick Gel
	1:03	9	161	Tripped in drill steel #4
	1:13	9		Leak in 6" hose for mud pump
	1:33	9		Viscosity: 52, PH: 9, sand content 1.5%
	2:15	10	181	Tripped in drill steel #5
	2:25	10		Viscosity: 52, PH: 9, sand content 1.5%
	3:19	10		Viscosity: 52, PH: 9, sand content 1%
	3:57	11	201	Tripped in drill steel #6
	4:10	11		Viscosity: 52, PH: 9, sand content 1.75%

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	7:20	11		PH: 7, added 3 cups of Soda Ash, shut down for maintenance
	9:15	11		Viscosity: 94, added 5 bags of Quick Trol, PH: 8, added 2 cups Soda Ash
	9:50	12	221	Tripped in drill steel #7
	10:03	12		Viscosity: 96, PH: 9, sand content 2%, started desander, rebuilt alternator, operations shut down
	17:00	12		Resumed operations
	17:38	12		Added 200 gallons of water, one bag of Quick Gel, 2 cups of Soda Ash
	18:00	12		Viscosity: 55, PH:9, sand content 1.75%
	18:05	13	241	Tripped in drill steel #8
	19:00	13		Night shift begins, viscosity: 55, PH: 9, sand content 3%, started desander
	19:23	13		Drilling operations stopped, repaired o-ring in top head
	19:43	14	261	Resumed operations, tripped in drill steel #9
	20:08	14		Viscosity: 54, PH: 7.5, sand content 1.75%, added 1 cup Soda Ash
	20:34	15	281	Tripped in drill steel #10
	20:55	15		Viscosity: 71, PH: 9, sand content 2%, started desander
	22:31	15		Added 600 gallons of water, one bag of Quick Gel, one cup Soda Ash
	23:16	16	301	Tripped in drill steel #11
	23:30	16		Viscosity: 55, PH:8, sand content 2.5%, added one cup Soda Ash started desander
10/30/07	0:38	16		Viscosity: 67, PH: 9, sand content 1.5%
	1:52	17	321	Tripped in drill steel #12
	1:55	17		Viscosity: 47, PH:8, sand content .75%, added one cup Soda Ash Added one bag of EZ mud
	4:15	17		Viscosity: 41, PH:8, sand content 1.5%, added 1 bag of EZ mud, added one cup Soda Ash
	5:08	18	341	Tripped in drill steel #13, replaced lower shaker screen 6" mud hose leaking again
	5:30	18		Added 600 gallons water, one bag of Quick Gel

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	6:19	18		Added 2 bags Quick Gel, .5 cup EZ mud
	6:24	18		Viscosity: 100
	9:25	18		Viscosity: 47, PH: 8, sand content 1.75%, added one bag Quick Gel added one cup Soda Ash
	10:22	18	361	Stick complete, shaker broken again, begin tripping out drill steel
	11:22	11	221	Removed drill steel #13 through drill steel #7
11/1/07	12:00	11	221	Begin tripping in drill steel #7 through #13, shaker repaired
	12:50	13		Viscosity: 38, PH: 7.5, sand content 1%, added 1 bag Quick Gel added 2 bags Quick Trol, added 2 cups Soda Ash
	13:58	19	361	Tripped in drill steel #14, viscosity: 55, PH: 8, sand content 1% added 2 cups Soda Ash
	14:23	19		Viscosity: 48, added 1 bag Quick Gel
	15:53	19		Viscosity: 53, PH: 9, sand content 1.5%, added 200 gallons water, added 1 bag Quick Gel
	16:39	19		Viscosity: 58, PH:9, sand content 1.5%
	16:56	20	381	Tripped in drill steel #15
	17:20	20		Added 200 gallons water, 1 bag Quick Gel
	19:00	20		Night shift begins
	19:05	21	401	Tripped in drill steel #16, viscosity: 58, PH: 9, sand content 2.75% started desander
	19:36	21		Stopped to fix tophead leak
	20:40	21		Resumed operations, viscosity: 63, PH:9 sand content 2%
	22:02	22	421	Tripped in dril steel #17
	22:13	22		Added 500 gallons water, added 2 bags Quick Gel
	22:30	22		Viscosity: 50, PH:9, sand content 1.5%
	23:40	22		Viscosity: 49, PH:8.5, sand content 2.75%, started desander
11/2/07	0:41	22		Viscosity: 50, PH: 8.5, sand content 2%
	1:33	23	441	Tripped in drill steel #18, rotation at 80

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	2:30	23		Viscosity: 63, PH: 8.5, sand content 2%
	2:42	23		Operations stopped to fix hydraulic leak in top head
	3:10	23		Operations resumed, top head fixed
	3:31	23		Viscosity: 63, PH: 7.5, sand content 2%
	3:47	23		Operations stopped to fix same leak in top head
	7:00	23		Day shift starts
	7:30	23		Shut down for maintenance
	12:35	23		Viscosity: 52, PH:8, sand content 2%
	12:50	24	461	Tripped in drill steel #19
	14:43	25	481	Tripped in drill steel #20
	14:45	25		Viscosity: 42, PH: 7.5, sand content 2%, added 1 bag Quick Gel added 3 cups Soda Ash
	15:45	25		Added 200 gallons water, added 1 bag Quick Gel
	15:50	25		Viscosity: 50, PH: 9, sand content 1.5%
	16:40	25		Viscosity: 55, PH:9, sand content 1.5%
	17:27	26	501	Tripped in drill steel #21
	17:50	26		Added 200 gallons water, 1 bag Quick Gel
	18:05	26		Viscosity: 58, PH: 8.5, sand content 1%
	19:05	27	521	Night shift begins, tripped in drill steel #22
	19:20	27		Viscosity: 59, PH: 9, sand content 2.5%, started desander
	20:20	27		Viscosity: 63, PH: 9, sand content 3%, continued desanding
	21:10	28	541	Tripped in drill steel #23
	22:00	28		Viscosity; 96, PH: 9, sand content 2.5%, continued desanding
	22:40	29	561	Tripped in drill steel #24
	22:47	29		Added 500 gallons water, 3 bags Quick Gel
11/3/07	0:18	30	581	Tripped in drill steel #25
	1:34	30		Viscosity: 51, PH: 9, sand content 2.5%, continued desanding

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	2:07	31	601	Tripped in drill steel #26
	2:56	31		Viscosity: 63, PH:9, sand content 2%, continued desanding
	3:31	32	621	Tripped in drill steel #27
	4:35	32		Viscosity: 97, PH: 9, sand content 3%, continued desanding
	5:00	33	641	Tripped in drill steel #28
	5:45	33		Viscosity: 50, PH: 9, sand content 1.5%
	6:24	34	661	Tripped in drill steel #29, viscosity: 66, PH: 9, sand content 1.5%
	7:05	34		Day shift begins, added 200 gallons water, added 1 bag Quick Gel
	7:19	34		Viscosity: 42, added 1 bag of Quick Gel
	8:48	34		Viscosity: 80
	9:55	34		Viscosity: 72, PH: 9, sand content 2%, started desander
	10:15	35	681	Tripped in drill steel #30
	11:20	35		Viscosity: 50, PH: 8, sand content 1.5%, added 1 bag Quick Gel added 2 cups Soda Ash
	12:56	35		Viscosity: 67, PH: 8, sand content 2%, added 2 cups Soda Ash started desander
	13:00	36	701	Tripped in drill steel #31
	14:25	36		Added 200 gallons water, 1 bag Quick Gel, drilling is tough, need to trip steel out of hole
	14:33	36	701	Begin tripping all steel from hole
	18:35	0	0	Reamer bit seized up, needed to replace with spare bit
	19:00	0	0	Night shift begins, trips steel back into hole
	22:22	23		Viscosity: 48, PH: 8, sand content 2.5%, added 1 cup Soda Ash .5 bag Quick Gel
11/4/07	0:41	35	681	Tripped in drill steel #30, began drilling operations
	0:55	36	701	Tripped in drill steel #31
	1:05	37	721	Tripped in drill steel #32
	2:10	38	741	Tripped in drill steel #33

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	3:00	39	761	Tripped in drill steel #34
	3:13	39		Viscosity: 51, PH: 9, sand content 2%
	4:00	40	781	Tripped in drill steel #35
	4:36	41	801	Tripped in drill steel #36
	4:50	41		Viscosity: 63, PH: 9, sand content 2%
	5:45	41	821	Drilling completed, 821 feet total depth
				Casing Operations
11/7/07	7:28		0	Begin casing operations Setting 300' of stainless steel slotted screen, 500' of 10" galv casing
	8:25			Tophead cylander leak, 3 screens in place
	16:00			Resumed operations after repair to packing sleeve on main lift cylander
	22:35		740	Casing operations completed, 300' screen, 440' casing last 60' casing would not fit due to partial collapse of hole, final depth of well 740'
11/8/07	10:12			Tremie pipe installation, 1.5" pipe too large, requires 1" pipe
11/9/07	7:00			Tremie pipe installation, 1" pipe, sank to depth of 100'
	8:50			Filter pack installation begins, 360 bags #5 filter pack installed
	14:55			Filter pack complete
	15:15			8 Bags 3/8" betonite hole plug installed
	16:50			Grouting operations begin
	17:20			Grouting operations cease after 21 bags of grout, grout infiltrating screens
11/10/07	14:56			Added additional 60 bags of #5 filter pack
	16:20			2 Bags 3/8" hole plug installed
	16:50			Grouting resumes
	19:50			Grouting finished, grouted to top of casing
11/12/07	8:15			Developing operations begin
11/14/07	7:00			Developing operations finished
11/15/07	14:50			Pump and draw pipe installation begins

Davis Monthan AFB Well #2

Date	Time	# Steel	Depth	Comments
	21:00			20 sticks 6" draw pipe installed, pump sitting 412' into the well
	22:08			Pump is hooked to electric, 1 hour pump test to begin water is pumping between 200-250 gpm, still a bit cloudy
	23:01			Pump is shut down, resume testing in the morning
11/16/07	10:40			Test is resumed, still pumping 200-250 gpm, cloudy water
	18:30			Test is halted will continue in morning, still cloudy water, 200 gpm
11/17/07	8:00			Pump begins pumping 500 gpm, blows fittings apart, must fix flow meter, will resume in morning
11/18/07	9:00			Flow meter fixed, pumping resumed, 600 gpm intial with a drawdown to 200 gpm after 3 minutes, water still cloudy, will continue pumping through out day
	17:00			Pumping shut down

ARIZONA DEPARTMENT OF WATER RESOURC
Tucson Active Management Area
400 W. Congress, Suite 518 • Tucson, Arizona 85701
Telephone (520) 770-3800 • Fax (520) 628-6759

Janet Napolitano
Governor

Herbert R. Guenther
Director

February 8, 2008

Davis-Monthan Air Force Base
Michael R. Toriello
5285 E. Madera St
DMAFB AZ 85707-4927

Dear Mr. Triello:

This letter is to inform you that the Arizona Department of Water Resources (Department) has conducted a well site inspection to replace existing Non-Exempt Well No. 55-621582 with Non-Exempt Well 55-216837. The replacement well will be located west of Craycroft Road, east of Yuma Street and south of Nuggat on the NE¼ SE¼ NE¼ of Section 35, Township 14 South, Range14 East.

Per A.R.S. § 41-1009 the Department is required to provide a copy of the inspection report within 30 days after the inspection.

Enclosed is a copy of the Field Verification Report and a Notification of Inspection and Due Process Rights, which was completed during the site inspection.

The replacement well site is to be located approximately 75 feet south of existing Non-Exempt Well 55-621582.

If you have any questions or need further assistance, please feel free to contact me at (520) 770-3812.

Sincerely,

Linda Ingraham

Linda G. Ingraham
Water Resources Specialist

Enclosure

cc: File

Replaces 55-621582

Well Registration No: 55-216837 Application/Right No. ______ Permit/License No. ______

Regulated Person: DMS Marlene AFB Address: 5285 E Madera St DMAFB AZ 85707- Phone: 520-228-4724 4927

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street, Phoenix, Arizona 85004
NOTIFICATION OF INSPECTION AND DUE PROCESS RIGHTS

In compliance with A.R.S. § 41-1009, this document is being provided to you by the Arizona Department of Water Resources (ADWR) to inform you of your rights concerning this inspection of the following described property: D(14-14)35 ADC SW1/4 of SE1/4 of NE1/4 of Section 35, T14S R14E

on the following date(s): Tuesday, February 5, 2008

ADWR must present this document for your signature, or the signature of an authorized representative, indicating that you have been informed of your rights concerning this inspection and have read both sides of this document. If you decline to sign, or signature is unavailable, ADWR must note that fact on this document and the inspection will proceed.

1. **ADWR Inspector.** This inspection is being conducted by an inspector for ADWR who must present photo identification upon entry of the inspected property, and whose name and phone number are indicated below. The ADWR inspector will be available to answer questions regarding this inspection.
   Name: Wade Ingraham Phone: 520-770-3800
2. **Purpose of Inspection.** This inspection is being conducted by an ADWR inspector either for the purpose of ☐ issuing a permit/license, or ☒ determining compliance with permit/license requirements.
3. **Legal Authority.** This inspection is being conducted under the following legal authority: ARS 45-633
4. **Fees.** The following inspection fees apply and will be billed separately: N/A
5. **Ombudsmen.** Questions regarding due process rights described in paragraph 10 on the reverse should be directed to one of the following Ombudsmen:

Name (ADWR): Fiel Breedlove Phone: 602-771-8500

Name (Arizona): Patrick Shannahan Phone: 800-872-2879

(continued on reverse)

Signature. This signature below is made by either the regulated person or the regulated person's authorized representative who has been informed of inspection and due process rights relating to this inspection and who has read both sides of this Notification.

* Name (please print): Donald O'Malley

* Signature: Donald O'Malley Title:

Signature Declined. The regulated person or the regulated person's authorized representative indicated below was present during the inspection but declined to sign this Notification.

Name: Title:

Signature Unavailable. Neither the regulated person nor the regulated person's authorized representative was present during this inspection. The ADWR inspector contacted or attempted to contact the regulated person by the following method:

ARIZONA DEPARTMENT OF WATER RESOURCES

Agency Inspector: Wade Ingraham (SIGNATURE) Date: 2/5/08

☒ Photo identification presented.

☒ Copy provided prior to inspection to: Donald O'Malley Time: 3:30 pm

(Rev. 10/01/98)

ARIZONA DEPARTMENT OF WATER RESOURCES
Tucson Active Management Area
400 W. Congress, Suite 518 • Tucson, Arizona 85701
Telephone (520) 770-3800 • Fax (520) 628-6759

February 8, 2008

FIELD VERIFICATION REPORT
NEW OR REPLACEMENT WELL

File Number:	D	(14- 14)	35	A	D	C
	Quadrant	Tns & Rng	Section	160ac	40ac	10ac

Registration Number: 55-216837 Replaces: 55-621582

Type of Permit & Number: T : S-XXXXXX Hydro Test:

Location of Permit: SW¼ SE¼ NE¼ Section 35, T14S, R14E
10 Ac 40 Ac 160 Ac

Verified Location: **NE¼** SE¼ NE¼ Section 35, T14S, R14E
10 Ac 40 Ac 160 Ac

Latitude: N 32° 10' 23.9" (32.173305)

Longitude: W 110° 52' 31.4" (110.87538)

Latitude/Longitude Determined By: GPS:_X_ Topo:___ Map:___ Other:____

Well Site location verified with:
Name: Gary Hix 631-7113 & Don O'Malley - DMAFB

Date and time of inspection: Tuesday, February 5, 2008 @ 3pm

Driller on card? YES: X AZCA NO: ____

Comments: Well was drilled prior to well site location verification. Well was drilled by Red Horse drilling company. 10 acre quarter corrected to NE.

Replacement - Distance from the original well: 75 feet south of existing well 55-621582

Report filed by: (ADWR Employee Name): Linda Ingraham

ARIZONA DEPARTMENT OF WATER RESOURCES
WATER MANAGEMENT DIVISION

3550 North Central Avenue
Phoenix, Arizona 85012

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

WELL REGISTRATION NO: 55-216837 **Replaces:** 55-621582

AUTHORIZED DRILLER: AZCA DRILLING & PUMP, INC. **LICENSE NO:** 621

A PERMIT TO DRILL A NON-EXEMPT, WELL INSIDE THE TUCSON ACTIVE MANAGEMENT AREA HAS BEEN GRANTED TO:

WELL OWNER: Davis-Monthan Air Force Base 5285 E. Madera Street DMAFB, AZ 85707-4927

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

SW ¼ of the SE ¼ of the NE ¼ Section 35 Township 14 South Range 14 East

No. of well(s) in this project: 1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 4TH DAY OF NOVEMBER, 2008.

Sindra Faberitz-Whitney

WATER MANAGEMENT DIVISION

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

GREAT SEAL OF THE STATE OF ARIZONA
DITAT DEUS
1912

ARIZONA DEPARTMENT OF WATER RESOURCES
WATER MANAGEMENT DIVISION
3550 North Central Avenue, Phoenix, Arizona 85012
Telephone 602 771-8585
Fax 602 771-8688

Janet Napolitano
Governor

Herbert R. Guenther
Director

November 26, 2007

Davis-Monthan Air Force Base
Attn: Michael R. Toriello
5285 E. Madera Street
DMAFB, AZ 85707-4927

RE: Notice of Intention to Replace an Existing Non-Exempt Well
Registration No. 55-216837(Replacing Well No. 55-621582); File No. D(14-14)35ADC

Dear Mr. Toriello:

The above-referenced Notice of Intention to Replace an Existing Non-Exempt Well in the Same Location within an Active Management Area has been approved. A copy of the Notice is enclosed for your records. However, drilling of the well may not proceed until a site inspection has been completed and the drill card is released to the driller.

A copy of the drill card for the proposed well has been delivered to the Tucson Active Management Area office. The well owner or a representative of the driller must make an appointment with personnel of the Active Management Area office for a site inspection. Active Management Area personnel must be shown at the inspection site, the location of the proposed well and the well that is being replaced. After the location of the proposed well and well to be replaced has been verified, the drill card will be released and drilling may begin. It is suggested that arrangements for a site inspection be made at least 96 hours in advance of the time you intend to have drilling begin. The telephone number for the Tucson AMA is 520-770-3800.

In the event that the location of the proposed well changes, you must notify the Department of Water Resources of the change in writing. A drill card with the correct proposed well location must be in possession of the driller before drilling may commence. If the proposed new well is to be more than 660 feet from the well that it is replacing, then you may be required to obtain a well permit.

Within 30 days of completion of the well, the well driller is required to furnish this Department with a complete and accurate log of the well. In addition, the well owner is required to submit the enclosed Completion Report within 30 days of installation of pump equipment.

Pursuant to the provisions of A.R.S. § 45-604, any person withdrawing groundwater from a well is required to use a water measuring device to record rates of withdrawal in order to provide or allow the computation of an annual volume of pumpage from the well. The total volume of pumpage from the well which is being replaced and the completed new well shall be reported on your Annual Water Withdrawal and Use Report for calendar year 2007.

The Department has issued the authorization to drill this well pursuant to A.R.S. §§ 45-596 and 45-597 of the Groundwater Code. The legal nature of the water withdrawn from the well may be the subject of court action in the future as part of a determination of surface water rights in your area. If there are court proceedings that could affect your well, you will be notified and be given the opportunity to participate.

Please be aware that the withdrawals of the proposed well cannot exceed the maximum annual capacity of the original well you wish to replace. The maximum annual capacity of the original well is 887.15 acre-feet per year. In addition, if the original well will be used in conjunction with the proposed replacement well, the withdrawals from both wells cannot exceed the maximum annual capacity of the original well.

If the maximum annual capacity is exceeded in any calendar year, the well will no longer qualify as a replacement well in the same location, and will instead fall into the category of "new well." This means that you will not be able to pump the well again until you first submit an application for a non-exempt well permit, and obtain a determination from the Department that the well will not cause unreasonably increasing damage to other land and water users.

Under A.R.S. § 45-593, the person to whom a well is registered must notify this Department of any changes in ownership, status or physical characteristics to keep the Well Registry records current and accurate. For future changes, a Request to Change Well Information form is also enclosed.

If you have any questions, please contact Linda Ingraham at 520 770-3800.

Sincerely,

Vanessa Reyes

Vanessa Reyes
Water Resources Specialist

Enclosures

cc: Jeff Tannler, Tucson AMA
Linda Ingraham, Tucson AMA

From: Linda Ingraham
To: Haywood, Danita
Date: 11/21/07 11:42AM
Subject: DMAFB 55-216837 (replaces 55-621582)

The Tucson AMA has reviewed the above-referenced Notice of Intent to Replace an existing Non-Exempt well at approximately the same location in the AMA. The request for 6 acre-feet per annum has been corrected to 887.15 acre-feet per annum. We find no outstanding issues and recommend approval.

Registered pump capacity of original well is 550 gpm
550 x 60 x 24 x 365 divided 325851 = 887.15

11/21/07
LGI

CC: Tannler, Jeff

ARIZONA DEPARTMENT OF WATER RESOURCES
HYDROLOGY DIVISION – WATER QUALITY UNIT

MEMORANDUM

TO: Danita Haywood, Phoenix AMA
Linda Ingraham, Tucson AMA
FROM: Seandale Poe SP
Water Quality Unit
DATE: November 20, 2007
SUBJECT: **Notice of Intent to Replace a Well in an AMA**
Well 55-216837
Davis Monthan Air Force Base

Hydrology has reviewed the above referenced notice of intent to replace a well for water quality concerns and well construction for conformance to Arizona well construction standards.

Water Quality

1. The well is near an area of known groundwater contamination that is being remediated pursuant to an U.S. Environmental Protection Agency, Arizona Department of Environmental Quality (ADEQ), or Department of Defense program.

2. According to the ADEQ Groundwater Database, sample results from wells located within one mile of the proposed well exceed secondary maximum contaminant level (MCL) for Iron. The water quality results were from 1992; therefore, current aquifer conditions are unknown. No other water quality data are readily available.

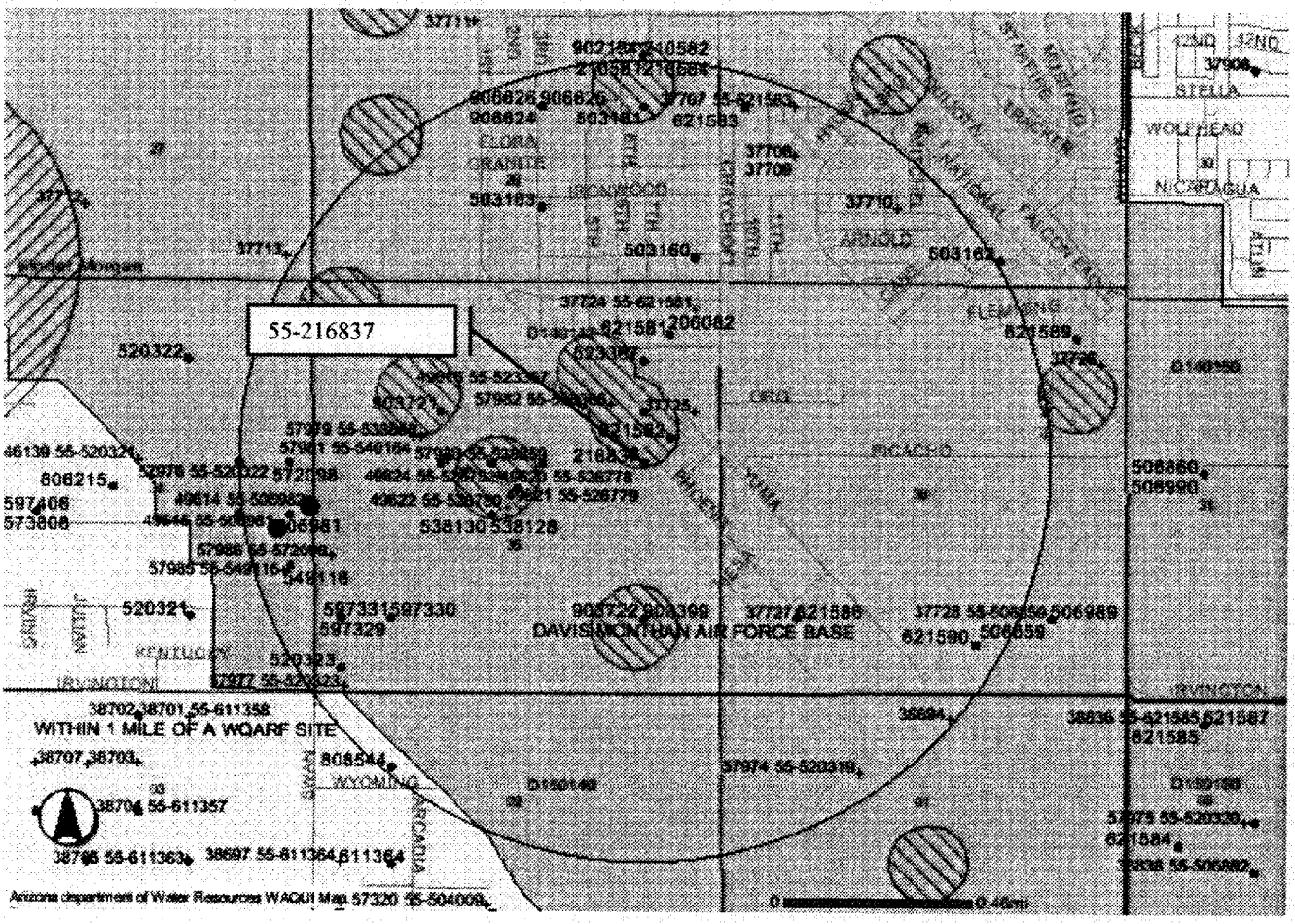
Well Construction Standards

3. The well will be drilled to 900 feet below the land surface and screened from 550 to 860 feet. The well will be completed in the middle alluvial unit. The wells meet minimum well construction standards. No special well construction requirements are necessary.

The Hydrology Water Quality Unit has no objections to approving this permit. If additional information is needed, please contact me at extension 1-8565.

Enclosure Water Quality map
Water Quality Table

55-216837 / Davis Monthan Air Force Base
NOI to Replace in an AMA, D(14-14)35SDC



Legend
- Highlighted Feature
- theBufferPolygons
- theBufferTarget
- ADEQ Wells
- Wells > HBGL
- Wells > Secondary MCL
- Wells > MCL
- No Exceedence
- REGISTERED WELLS
- Streets
- Sections
- Townships
- GWR LUST Buffer
- RCRA Site Buffer
- VRP Site Buffer
- Registry
- 1 Mi. WQARF Buffer
- WQARF Sites

Working Together

Arizona Department of Environmental Quality

Arizona Department of Water Resources

Map generated on 11/20/2007

Water Quality Sample Test Results for ADEQ Wells

Information provided is preliminary and subject to revision.

It may not represent the full extent of known water quality concerns.

55-216837 / Davis Monthan Air Force Base
NOI to Replace in an AMA, D(14-14)35ADC

ADEQ Wells

Rec	Results	Units	Detection Limits	Detection Limit Units	MCL	MCL Units	MCL2	MCL2 Units	Sample Date	Parameter Name	HBGL	HBGL Units	DEQ Well	Registry ID
10	310	ug/L		ug/L			300	ug/L	DEC 08 1958	IRON (AS FE)			37724	55-621581
12	360	ug/L		ug/L			300	ug/L	MAY 27 1992	IRON, TOTAL (AS FE)			49616	55-523367
26	1500	ug/L		ug/L			300	ug/L	MAY 26 1992	IRON, TOTAL (AS FE)			49620	55-526778
15	900	ug/L		ug/L			300	ug/L	MAY 20 1992	IRON, TOTAL (AS FE)			49621	55-526779
16	480	ug/L		ug/L			300	ug/L	MAY 20 1992	IRON, TOTAL (AS FE)			49621	55-526779
27	370	ug/L		ug/L			300	ug/L	MAY 20 1992	IRON, TOTAL (AS FE)			49622	55-526780
13	430	ug/L		ug/L			300	ug/L	MAY 20 1992	IRON, TOTAL (AS FE)			49623	55-526781
11	4200	ug/L		ug/L			300	ug/L	MAY 26 1992	IRON, TOTAL (AS FE)			49625	55-527227
14	6.3	SU		SU			6.5	SU	MAY 20 1992	PH (STANDARD UNITS)			49621	55-526779

ARIZONA DEPARTMENT OF WATER RESOURCE
Tucson Active Management Area
400 W. Congress, Suite 518 • Tucson, Arizona 85701
Telephone (520) 770-3800 • Fax (520) 628-6759

Janet Napolitano
Governor

Herbert R. Guenther
Director

November 13, 2007

Davis Monthan Air Force Base
Attn: Michael R. Toriello
5285 E. Madera St.
DMAFB AZ 85707-4927

RE: Notice of Intent to Replace an Existing Non-Exempt Well
Well Registration No. 55-216837, Replacing Well Registration No. 55-621582

Dear Mr. Toriello:

The Department of Water Resources has reviewed the above-referenced Notice of Intent to Replace a Non-Exempt Well in approximately the same location for administrative completeness. Pursuant to A.R.S. § 41-1074(B), the Department has determined the application is incomplete. The information described below must be submitted before the Department can continue its review and find the application complete:

1. Pursuant to A.R.S. § 45-595, new well construction shall be performed under the direct and personal supervision of a well driller who holds a well driller's license. Red Horse drilling company is not licensed in the state of Arizona.
2. The DWR license number 621 noted on the Notice of Intent to Replace form is for AZCA Drilling and Pump, Inc. AZCA is required to be on the premises as the driller.

Please address the issue described above within 60 days. Failure to address this matter within 60 days may result in the denial of the application. The Department's administrative completeness review timeframe for notice of intent to replace well registration no. 55-216837 is suspended until the issue is resolved.

If you have any questions about the information requested, please contact me at 770-3800.

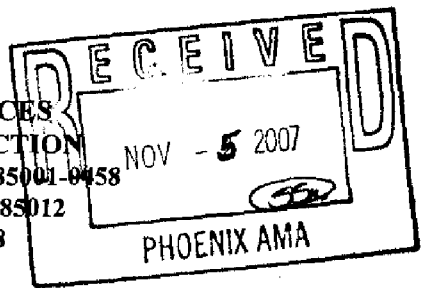
Sincerely,

Linda Ingraham
Water Resources Specialist

cc: Jeff Tannler, Tucson AMA
Vanessa Reyes, Water Management Support

Enclosure

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER MANAGEMENT SUPPORT SECTION
MAIL TO: P.O. BOX 458, PHOENIX, ARIZONA 85001-0458
3550 North Central Avenue, Phoenix, Arizona 85012
Phone (602) 771-8585 Fax (602) 771-8688



NOTICE OF INTENTION TO DEEPEN OR MODIFY AN EXISTING NON-EXEMPT WELL OR REPLACE AN EXISTING NON-EXEMPT WELL AT APPROXIMATELY THE SAME LOCATION IN AN ACTIVE MANAGEMENT AREA

PLEASE READ GENERAL INSTRUCTIONS AND CONDITIONS BEFORE COMPLETING.
Section 45-597, Arizona Revised Statutes provides: In an Active Management Area, prior to deepening an existing well or constructing a replacement well at approximately the same location, a person must file a Notice of Intention to Drill. A person must also file a Notice of Intention to Drill prior to modifying an existing well.

FOR DEPARTMENT USE ONLY
File No. D(14-14)35ADC
Filed 11/5/07 By SW
Input 11/6/07 By DH
DUPLICATE
Mailed _____ By _____
Registration 55- 216837
AMA/INA TUCSON

1. Applicant Davis-Monthan Air Force Base
   Mailing Address 5285 E. Madera Street
   DMAFB (City) AZ (State) 85707-4927 (Zip Code)
   Telephone Number 520-228-4774

2. Owner of the land of well site: US Air Force
   Mailing Address 5285 E. Madera Street
   DMAFB (City) AZ (State) 85707-4927 (Zip) 520-228-4774 (Telephone Number)

3. This Notice is filed by: Check one: ☑ Owner ☐ Lessee

4. Well location: SW ¼ (10 Acre) SE ¼ (40 Acre) NE ¼ (160 Acre) Section 35 Township 14.0S N/S Range 14.0E E/W

5. Position location of the well: Latitude -110 ° 52 ' 31.4 " N Longitude 32 ° 10 ' 24.0 " W

6. County: Pima

7. Design Pump Capacity 600 gpm Diameter 6 Inches Depth 900 Feet Type of casing STEEL

8. Estimate of total annual pumpage for the replacement well: 6 Acre-Feet Per Year

9. Maximum annual capacity of the original well (see instructions for details):
   Acre-Feet Per Year 6 Registered gallons per minute of original well 550.

10. Principal Use of Water: (be specific): DOMESTIC

11. Other Uses Intended (be specific): Industrial, Recreational, Fire Fighting

12. Construction Will Start: September (Month) 2007 (Year)

13. Estimated time to complete well: January 2007

Pursuant to A.R.S. § 45-596 (E), the well shall be completed within one year after the date this Notice is filed, unless the Director approves a longer period of time as described below.

At the time the drilling card for the well is issued, the Director may provide for and approve a completion period that is greater than one year but not to exceed five years from the date the Notice is filed if **both** of the following apply:

1. The proposed well is a non-exempt well within an Active Management Area and qualifies as a replacement well in approximately the same location.
2. The applicant has submitted evidence that demonstrates one of the following:
   a. This state or a political subdivision of this state has acquired or has begun a condemnation action to acquire the land on which the original well is located.
   b. The original well has been rendered inoperable due to flooding, subsidence or other extraordinary physical circumstances that are beyond the control of the owner.

14. Claim of Entitlement to withdraw water: Certificate 58- _____ Permit 59- _____

Irrigation District 57- _____ Service Area 56- 00058.0000 Recovery Well Permit 74- _____

15. Action Requested: ☐ Deepen ☑ Replace ☐ Modify

For a replacement well give distance from original well 75 feet (see instructions for details).

16. Existing Well Registration No. 55- 621582

17. Has the well to be replaced been physically abandoned? ☐ Yes ☑ No

18. If yes when: _____ If no, will it be? ☑ Yes ☐ No

19. Drilling Firm: Driller Name AZGA Drilling & Pump, Inc Telephone Number (850) 881-2243

Mailing Address _____

_____

City State Zip Code

DWR License Number: 021 ROC License Category: _____

20. **Attach a Well Construction Supplement, DWR form 55-90, and include a detailed construction diagram as indicated on the form.**

I state that this Notice is filed in compliance with Rules A.A.C. R12-15-809 and is complete and correct to the best of my knowledge and belief, and that I understand the conditions set forth in the general instructions and specific instructions for this application.

Michael R. Toriello — Base Civil Engineer — 10 Oct. 2007

Type or Print Name and Title **Signature [ ] Land Owner [ ] Lessee of well site** **Title** **Date**

ARIZONA DEPARTMENT OF WATER RESOURCES

WATER MANAGEMENT DIVISION
3550 North Central Avenue, Phoenix, Arizona 85012
Phone (602) 771-8585 Fax (602) 771-8688

WELL CONSTRUCTION SUPPLEMENT (form DWR 55-90)

Well Registration Number 55- 621582

1. **Well Location:**

   SW (10AC) ¼ of the SE (40AC) ¼ of the NE (160AC) ¼, Sec. 35, Township 14.0S Range 14.0E.

2. **Position Location of the Well:**

   Latitude -110 ° 52 ' 31.4 " **Longitude** 32 ° 10 ' 24.0 "

   Datum: ☐ **NAD 83** ☐ **NAD 27** ☐ **Other:** _____

3. **County** Pima.

4. **Date construction to start:** September 2007.

5. **Time period well will remain in use:** _____.

6. **Is pump equipment to be installed?** yes **If so, design pump capacity:** 600 **GPM.**

7. **Well construction plan:**

   a. **Drilling method (mud rotary, hollow-stem auger, etc.)** Mud and water.

   b. **Borehole diameters** 18+- **inches from** 0 **feet to** 40 **feet.**

      14 **inches from** 40 **feet to** 900 **feet.**

   c. **Casing materials** Steel.

   d. **Method of well development (bail, air lift, surge, etc.)** air lift.

   e. **Will surface or conductor casing extend above grade?** yes.

8. **Include a detailed construction diagram of the proposed well design. The diagram should verify consistency with minimum construction requirements specified in the Department's well construction rules found in Arizona Administrative Code (A.A.C.) R12-15-801 *et seq.* Specifically, the diagram should include borehole diameters; casing materials and diameters; perforation intervals; the expected water level; depth and thickness of the surface seal; proposed grouting materials; and the length that the surface or conductor casing will extend above grade, or vault details, if specified.**

   Pursuant to Arizona Revised Statutes (A.R.S.) § 45-594.B, all well construction, replacement, deepening and abandonment operations shall comply with the rules adopted pursuant to this section. Therefore, any existing well that is deepened or modified must be brought into compliance with minimum well construction standards specified above, if not already in compliance.

9. **Proposed materials and method of abandonment if well is to be abandoned after project is completed (Minimum requirements per A.A.C. R12-15-816):**

   Not Applicable

ARIZONA DEPARTMENT OF WATER RESOURCES

WATER MANAGEMENT DIVISION
3550 North Central Avenue, Phoenix, Arizona 85012
Phone (602) 771-8585 Fax (602) 771-8688

WELL CONSTRUCTION SUPPLEMENT (form DWR 55-90)

Well Registration Number 55- 621582 216837

1. **Well Location:**

   SW (10AC) ¼ of the SE (40AC) ¼ of the NE (160AC) ¼, Sec. 35, Township 14.0S Range 14.0E.

2. **Position Location of the Well:**

   Latitude -110 ° 52 ' 31.4 " **Longitude** 32 ° 10 ' 24.0 "

   Datum: ☐ NAD 83 ☐ NAD 27 ☐ **Other:** _____

3. **County** Pima.

4. **Date construction to start:** September 2007.

5. **Time period well will remain in use:** _____.

6. **Is pump equipment to be installed?** yes **If so, design pump capacity:** 600 **GPM.**

7. **Well construction plan:**

   a. **Drilling method (mud rotary, hollow-stem auger, etc.)** Mud and water.

   b. **Borehole diameters** 18+- **inches from** 0 **feet to** 40 **feet.**

      14 **inches from** 40 **feet to** 900 **feet.**

   c. **Casing materials** Steel.

   d. **Method of well development (bail, air lift, surge, etc.)** air lift.

   e. **Will surface or conductor casing extend above grade?** yes.

8. **Include a detailed construction diagram of the proposed well design. The diagram should verify consistency with minimum construction requirements specified in the Department's well construction rules found in Arizona Administrative Code (A.A.C.) R12-15-801 *et seq.* Specifically, the diagram should include borehole diameters; casing materials and diameters; perforation intervals; the expected water level; depth and thickness of the surface seal; proposed grouting materials; and the length that the surface or conductor casing will extend above grade, or vault details, if specified.**

   Pursuant to Arizona Revised Statutes (A.R.S.) § 45-594.B, all well construction, replacement, deepening and abandonment operations shall comply with the rules adopted pursuant to this section. Therefore, any existing well that is deepened or modified must be brought into compliance with minimum well construction standards specified above, if not already in compliance.

9. **Proposed materials and method of abandonment if well is to be abandoned after project is completed (Minimum requirements per A.A.C. R12-15-816):**

   Not Applicable

10. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous material, or petroleum storage area or tank? ☐ Yes ☑ No

11. Is this well to monitor existing contamination? ___ Yes ☑ No

Potential contamination? ___ Yes ☑ No If yes, please provide explanation: ___

12. Name of Consulting firm, if any: Tarwest ASCA

Address City State Zip

Contact Person: Larry Siddel Telephone Number: 520-631-8171

13. Drilling firm Red Horse

DWR License Number: 621 ROC License Category: ___

14. Special construction standards, if any, required pursuant to A.A.C. R12-15-821: ___

I (we), Michael Toriello (print name) hereby affirm that all information provided in this application is true and correct to the best of my/our knowledge and belief.

Signature of Applicant [signature] Date 1 Oct 2007

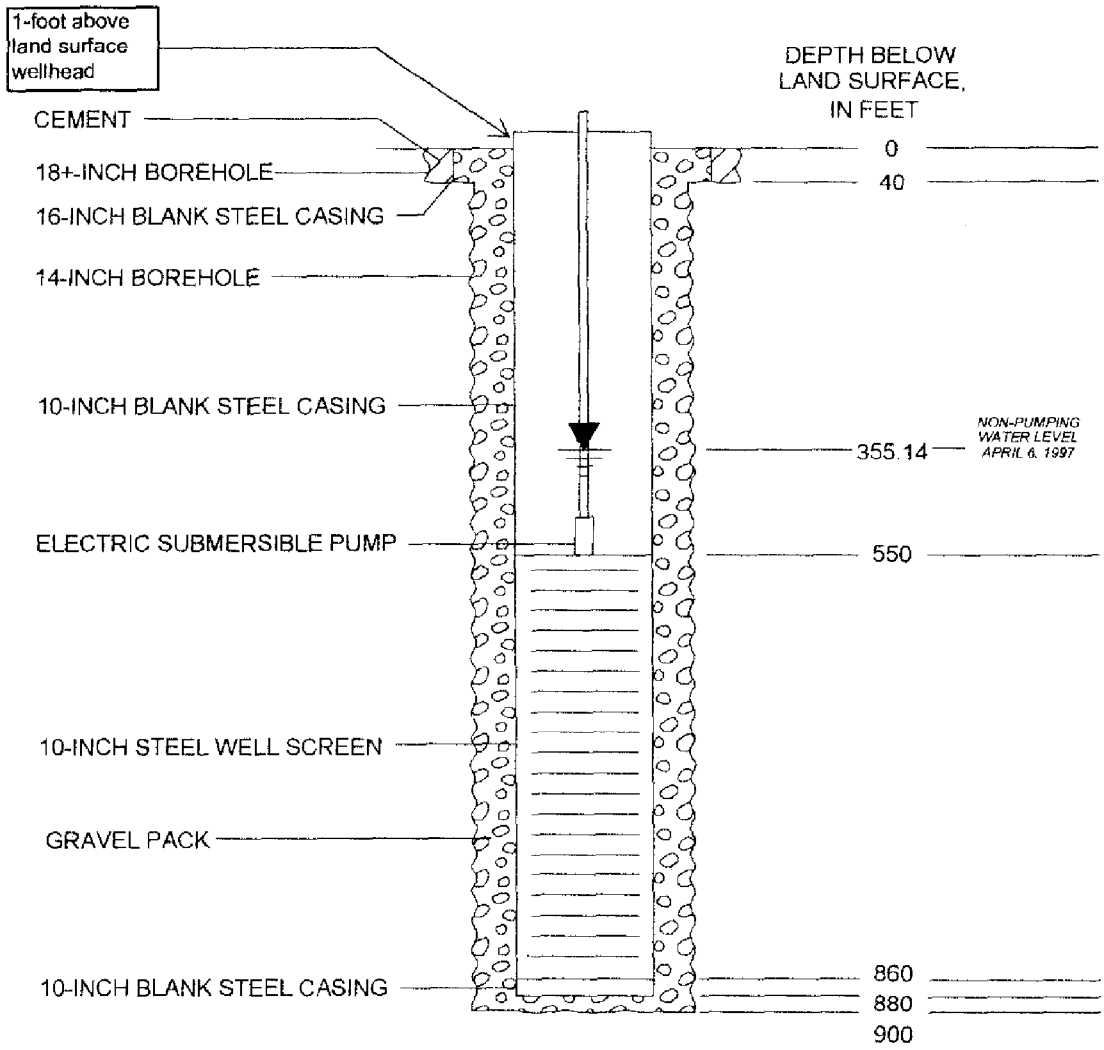


FIGURE 1 for DWR 55-90 section 8. SCHEMATIC DIAGRAM OF WELL CONSTRUCTION FOR PRODUCTION WELL #2B, DAVIS-MONTHAN AIR FORCE BASE

	ORDER #	P/N	DESCRIPTION	QTY	U/I	UNIT PRICE	TOTAL PRICE	Unit WGT	Ext. WGT
1			13-7/8"OD HOLE OPENER, 4-1/2" API-Regular Pin Up x 4-1/2" API-Regular Box down, medium fromation sealed bearing cutters, using new OFS bits.	2	EA	$ 6,575.00	$ 13,150.00	850.0	1,700.0
2			New 7 7/8 medium roller cone bit, sealed bearing	2	EA	$ 2,885.00	$ 5,770.00		
3							$ -		
4							$ -		
5			20 ft 5-rib MUD stablizer, 13-7/8"OD, back bored for Baker Float Valve, 3-1/2" API IF Up x 4-1/2" API Reg Down	2	EA	$ 3,995.00	$ 7,990.00		
6			10 ft 4 rib MUD stablizer 7 7/8", Back Bored for Baker Float Valve, 3-1/2" API IF Up x 4-1/2" API Reg Down	2	EA	$ 1,950.00	$ 3,900.00		
7			Baker float valve for 13-7/8"OD Stabilizer	2	EA	$ 340.00	$ 680.00		
8			Baker float valve for 7-7/8"OD Stabilizer	2	EA	$ 340.00	$ 680.00		
9							$ -		
10			10"PS x20'x .030 .304 SS screen FIP x MIP (Bottom screen will have a welded plate bottom)	300	FT	$ 122.70	$ 36,810.00		
11			10"x20' threaded column pipe with couplings, IN 20' sections, Priced by the foot - GALVANIZED	840	FT	$ 53.05	$ 44,562.00		
12			Chain Tong, C57-72-P	2	EA	$ 770.00	$ 1,540.00		
13			10" X 6" Split Cast Iron well seal	1	EA	$ 240.00	$ 240.00		
14			BAROID QUIK-GEL (50# BAG)	240	Bags	$ 7.64	$ 1,833.60		
15			BAROID EZ-MUD DP (14#), EZ MUD	30	EA	$ 86.50	$ 2,595.00		
16			Type II-V Portland Cement, 94-LB bag (no type III available)	210	EA	$ 11.35	$ 2,383.50		
17			Filter pack sized to screen (50-LB Bags, 1/2 cu ft)	280	EA	$ 4.97	$ 1,391.60		
18			3x4 shaker screen, 12 x 12 mesh	4	EA	$ 192.00	$ 768.00		
19			3x4 shaker screen, 20 X 20 MESH	4		$ 215.00	$ 860.00		
20			3x4 shaker screen, 40 x 40 mesh	4		$ 215.00	$ 860.00		
21			Pump capable of 600 gpm with a check valve, INCLUDING, pump panel, fuses, etc	1	EA	$ 24,475.00	$ 24,475.00		
22			6" galv T&C steel drop pipe (to match pump) in 20' sections	48	EA	$ 353.48	$ 16,967.04		
23			6" pipe elevators	2	EA	$ 495.00	$ 990.00		
24			1 1/2" galvanized trimie pipe, s/40, in 20-ft lengths, T&C	50	EA	$ 46.50	$ 2,325.00		
25			1-1/2" pipe elevators	2	EA	$ 267.40	$ 534.80		
26			10" Elevator, each	2	EA	$ 1,195.00	$ 2,390.00		
27			Desanding unit, skid mounted, with 6 x 5" diameter cones	1	EA	$ 7,450.00	$ 7,450.00		
28			Centrifugal Pump with Electric Motor, 4X5 (to feed desander)	1	EA	$ 3,650.00	$ 3,650.00		
29			Fluid End Rebuild for GD 7-1/2 X 10 Pump (FY-FXD)				$ -		
30			Liners, 7-1/2" for FY-FXD	2	EA	$ 330.00	$ 660.00		
31			7-1/2" Pistons, API-3	2	EA	$ 171.15	$ 342.30		
32			Liners, 6" for FY-FXD	2	EA	$ 499.50	$ 999.00		
33			Liner Packing	8	EA	$ 15.00	$ 120.00		
34			6" Pistons, API-3	2	EA	$ 162.97	$ 325.94		
35			Piston Rods, 10" Stroke, API-3 (FY-FXD)	2	EA	$ 108.00	$ 216.00		
36			Head gaskets, FY-FXD	6	EA	$ 14.00	$ 84.00		
37			Valve, GRAVEL, with rubber insert FY-FXD	8	EA	$ 116.60	$ 932.80		

38			Valve Seat, GRAVEL, FY-FXD	8	EA	$	89.70	$	717.60	
39			Valve Cover Gaskets, FY-FXD	16	EA	$	9.50	$	152.00	
40			Rod Packing, 1-lb box, FY-FXD	3	EA	$	27.45	$	82.35	
41			Valve Springs	16	EA	$	7.50	$	120.00	
42			Pump multiquip, centrifugal	1	EA	$	2,000.00	$	2,000.00	
43			48" Pipe wrench, Ridgid, Steel	2	EA	$	215.00	$	430.00	
44			Pump wire, #000, 3-STRAND + GROUND TWISTED (1.28"OD)	750	FT	$	25.00	$	18,750.00	
45			Splice kits for pump wire	4	EA	$	75.00	$	300.00	
46			Zip ties, 36" LONG x .315" WIDE - 50PC/PACK	6	EA	$	34.95	$	209.70	
47			SODA ASH DENSE #S180, SODA ASH	2	Bags	$	16.38	$	32.76	
48			BAROID BENSEAL (50# BAG), BENS	5	Bags	$	8.45	$	42.25	
49			BAROID QUIK-TROL (10/CASE) QUI	4	Box	$	138.25	$	553.00	
50			Aqua clear PFD	8	gal	$	51.44	$	411.52	
51			BAROID HOLEPLUG 3/8" (50#), HO	10	EA	$	8.25	$	82.50	
52			6010 Welding rod, 50# CAN, 3/16"OD ELECTRODE	1	Box	$	138.65	$	138.65	
53			7018 Welding Rod, 50# CAN, 3/16"OD ELECTRODE	1	Box	$	103.50	$	103.50	
54			PH/ION TEST PAPER (1-11), TEST	4	EA	$	8.50	$	34.00	
55			3700 PSI Pressure Washer	1	EA	$	1,875.00	$	1,875.00	
56			BAROID CONDET (5 GAL), CONDET	4	EA	$	48.50	$	194.00	
57			Electrical tape, industrial grade, black, 3/4" wide x 66 ft long	12	EA	$	2.85	$	34.20	
58			Baroid Barafos Thinner, 50lb bag	2	EA	$	71.42	$	142.84	
59			Cable Ties, 36" long, 10.75" max bundle dia, pack of 50	6	EA	$	45.90	$	275.40	
60			6" galv 90-deg elbow	4	EA	$	117.00	$	468.00	
61			6" galv 45-deg elbow	4	EA	$	144.00	$	576.00	
62			6" Galv Coupling	4	EA	$	61.50	$	246.00	
63			6" Camlock type F, male camlok x male NPT, aluminum	4	EA	$	62.15	$	248.60	
64			6" Camlock type B, female camlock x Male NPT, aluminum	4	EA	$	90.45	$	361.80	
65			6" camlock type A, Male Camlock x female NPT, aluminum	4	EA	$	49.20	$	196.80	
66			6" camlock type D, female camlock x female NPT, aluminum	4	EA	$	95.00	$	380.00	
67			6" galv steel King Nipples, 6" Male NPT x Hose Barb	12	EA	$	65.10	$	781.20	
68			6" Sch. 80 PVC 90-deg Elbow	4	EA	$	29.95	$	119.80	
69			6" Sch. 80 PVC 45-deg Elbow	4	EA	$	38.15	$	152.60	
70			6" Sch.80 pvc coupling	4	EA	$	24.78	$	99.12	
71			6" sch.80 PVC Pipe x 20-ft	5	EA	$	275.00	$	1,375.00	
72			4" Lay Flat Hose x 300-ft	2	EA	$	555.00	$	1,110.00	
73			6" Lay Flat Hose x 300-ft	2	EA	$	840.00	$	1,680.00	
74										
75										
								$	-	
								$	-	
			SUBTOTAL					$	222,951.77	
			Freight, flatbed truckload, to jobsite	8		$	2,500.00	$	20,000.00	
				Grand total				**$**	**242,951.77**	

Well # 2

WELL INFO

ORIGINAL WELL

Drilled	Depth	Casing
1961	403'	17" Steel threaded

Static Water Level	Original output	Present day GPM
364' in 1973	550 GPM	230 GPM

Pump

Peerless Turbine 600 GPM cap 210 HP

1800 RPM

PROJECTED WELL

Depth	Casing	Drop Pipe
850'- 950'	10" Steel	6" steel

Screens	Output
10" S.S. continuous slot	600-800 GPM

Pump		Total dynamic head
Submersible	480 3-phase	1200'

PROJECT GUIDELINES

Well #2 is a production well. This well will be used to fill an above ground storage tank. The tank supplies the fire department with water to help with fire suppression in emergencies. We will drill a 7 7/8" pilot hole to the desired depth. Upon completion of the pilot hole a 13 7/8" hole opener is used to ream the borehole to the desired circumference.

Screens will be set on the bottom 300' feet of casing. The remainder is 10" steel casing threaded and welded. Gravel pack is utilized for the first 310' of annulus surrounding the screens. A 2' bentonite separator consisting of hole plug, is set into place to separate the gravel pack from the cement grout. Type 111 Portland is used for the remaining annulus.

CONTACT INFORMATION

NAME	OFFICE	PHONE	EMAIL
John Maisch	355 CES/CEV	228-4774	john.maisch@dm.af.mil
Lt Levi Davis	355 CES/CECN	228-5175	levi.davis@dm.af.mil
Russ Carr	355 CES/CEDSM	228-2118	russell.carr@dm.af.mil
Chuck Griffiths	355 CES/CEOA	228-3815	charles.griffiths@dm.af.mil
Joe O'Malley	Utilities	228-4167	lonald.omalley@dm.af.mil
Lt Ken Cooper	355 CES/CEOE	228-4181	kenneth.cooper@dm.af.mil
Dennis Robinson	355CES/CECP	228-5203	dennis.robinson@dm.af.mil

PHOENIX AMA
CHECK DEPOSIT REQUEST

Submitted By:	**Sharon Ward**	**Date:**	**11/5/07**
Right Owner or Applicant:	**Davis Mothan Air Force Base**		
GFR or Permit No(s):	**55-216837 (Replacing 55-621582)**		

CHECK INFORMATION

Check Number: **1054**
Check Amount: **$150.00**
Name on Check: **Starla Davis**
Address: **5260 E. Granite Street**
City, ST, Zip: **DM AFB, AZ 85707-3009**
Telephone: **520-228-4774**

Code	Type of Fee:	Amount:	Check No.
55	Application for Well Permit **($150.00)**		
55	Well Permit Fee **($30.00)**		
58	Type I Conversion Request Flex Account Transfers **($100.00)**		
58	Notification of Change of Ownership of an Irrigation Grandfathered Right **($35.00)**		
60	Application to Substitute Irrigation Acres		
59	Applications for Permit to Withdraw **($50.00 or $150.00)**		
59	Withdrawal Permit Fee **($50.00)**		
59	Conveyance of Groundwater Withdrawal Application and/or Permit **($35.00)**		
Gen Fund	Legal Noticing Fees **(Various)**		
55	Notice of Intent for Non-Exempt Wells **($150.00)**	$150.00	1054

ARIZONA DEPARTMENT OF WATER RESOURCES
Tucson Active Management Area
400 W. Congress, Suite 518 • Tucson, Arizona 85701
Telephone (520) 770-3800 • Fax (520) 628-6759

October 16, 2007

U.S. Air Force
Attn: John R. Maisch
5285 E. Madera Street
Davis-Monthan AFB, Arizona 85707

Re: Notice of Intention to Replace an Existing Non-exempt Well at Approximately the Same Location in an Active Management Area - U.S. Air Force

Dear Mr. Maisch:

The Department received the above-referenced application on October 11, 2007. However, pursuant to R12-15-151, the Department cannot accept the application without payment of the application fee ($150).

I have enclosed the original application you submitted. Please change the name of the applicant under Question 1 to *Davis-Monthan Air Force Base* and re-submit the application, along with the fee payment to:

Arizona Department of Water Resources
Water Management Division, Attn: Danita Haywood
P.O.Box 458
Phoenix, Arizona 85001-0458

Payment may be made by cash, check, or by entry in an existing Department fee-credit account established pursuant to R12-15-152.

Sincerely,

Dawne Wilson
Water Resources Specialist

Enclosure

cc: Jeff Tannler, Tucson AMA

ARIZONA DEPARTMENT OF WATER RESOURC
Tucson Active Management Area
400 W. Congress, Suite 518 • Tucson, Arizona 85701
Telephone (520) 770-3800 • Fax (520) 628-6759

Janet Napolitano
Governor

Herbert R. Guenther
Director

February 8, 2008

Davis-Monthan Air Force Base
Michael R. Toriello
5285 E. Madera St
DMAFB AZ 85707-4927

Dear Mr. Triello:

This letter is to inform you that the Arizona Department of Water Resources (Department) has conducted a well site inspection to replace existing Non-Exempt Well No. 55-621582 with Non-Exempt Well 55-216837. The replacement well will be located west of Craycroft Road, east of Yuma Street and south of Nuggat on the NE¼ SE¼ NE¼ of Section 35, Township 14 South, Range14 East.

Per A.R.S. § 41-1009 the Department is required to provide a copy of the inspection report within 30 days after the inspection.

Enclosed is a copy of the Field Verification Report and a Notification of Inspection and Due Process Rights, which was completed during the site inspection.

The replacement well site is to be located approximately 75 feet south of existing Non-Exempt Well 55-621582.

If you have any questions or need further assistance, please feel free to contact me at (520) 770-3812.

Sincerely,

Linda Ingraham

Linda G. Ingraham
Water Resources Specialist

Enclosure

cc: File

Replaces 55-621582

Well Registration No: 55-216837 Application/Right No. _____ Permit/License No. _____

Regulated Person: Davis Monthan AFB Address: 5285 E Nadeau St DMAFB AZ 85707-

Phone: 520-228-4704 4927

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street, Phoenix, Arizona 85004
NOTIFICATION OF INSPECTION AND DUE PROCESS RIGHTS

In compliance with A.R.S. § 41-1009, this document is being provided to you by the Arizona Department of Water Resources (ADWR) to inform you of your rights concerning this inspection of the following described property:
D(14-14)35 ADC SW1/4 of SE1/4 of NE1/4 of Section 35, T14S R14E
on the following date(s): Tuesday February 5, 2008
ADWR must present this document for your signature, or the signature of an authorized representative, indicating that you have been informed of your rights concerning this inspection and have read both sides of this document. If you decline to sign, or signature is unavailable, ADWR must note that fact on this document and the inspection will proceed.

1. **ADWR Inspector.** This inspection is being conducted by an inspector for ADWR who must present photo identification upon entry of the inspected property, and whose name and phone number are indicated below. The ADWR inspector will be available to answer questions regarding this inspection.
   Name: Linda Ingraham Phone: 520-770-3800
2. **Purpose of Inspection.** This inspection is being conducted by an ADWR inspector either for the purpose of ☐ issuing a permit/license, or ☒ determining compliance with permit/license requirements.
3. **Legal Authority.** This inspection is being conducted under the following legal authority: _____
   ARS 45-633
4. **Fees.** The following inspection fees apply and will be billed separately: N/A
5. **Ombudsmen.** Questions regarding due process rights described in paragraph 10 on the reverse should be directed to one of the following Ombudsmen:
   Name (ADWR): Fred Breedlove Phone: 602-771-8500
   Name (Arizona): Patrick Shannahan Phone: 800-372-2379

(continued on reverse)

Signature. This signature below is made by either the regulated person or the regulated person's authorized representative who has been informed of inspection and due process rights relating to this inspection and who has read both sides of this Notification.

* Name (please print): Donald O'Malley
* Signature: Donald O'Malley Title:

Signature Declined. The regulated person or the regulated person's authorized representative indicated below was present during the inspection but declined to sign this Notification.

Name: Title:

Signature Unavailable. Neither the regulated person nor the regulated person's authorized representative was present during this inspection. The ADWR inspector contacted or attempted to contact the regulated person by the following method:

ARIZONA DEPARTMENT OF WATER RESOURCES

Agency Inspector: Linda Ingraham (SIGNATURE) Date: 2/5/08
☒ Photo identification presented.
☒ Copy provided prior to inspection to: Donald O'Malley Time: 3:20 pm

ARIZONA DEPARTMENT OF WATER RESOURCES
Tucson Active Management Area
400 W. Congress, Suite 518 • Tucson, Arizona 85701
Telephone (520) 770-3800 • Fax (520) 628-6759

February 8, 2008

FIELD VERIFICATION REPORT
NEW OR REPLACEMENT WELL

File Number:	D	(14- 14)	35	A	D	C
	Quadrant	Tns & Rng	Section	160ac	40ac	10ac

Registration Number: 55-216837 Replaces: 55-621582

Type of Permit & Number: T : S-XXXXXX Hydro Test:

Location of Permit: SW¼ SE¼ NE¼ Section 35, T14S, R14E
10 Ac 40 Ac 160 Ac

Verified Location: **NE¼** SE¼ NE¼ Section 35, T14S, R14E
10 Ac 40 Ac 160 Ac

Latitude: N 32° 10' 23.9" (32.173305)

Longitude: W 110° 52' 31.4" (110.87538)

Latitude/Longitude Determined By: GPS:_X_ Topo:___ Map:___ Other:____

Well Site location verified with:
Name: Gary Hix 631-7113 & Don O'Malley - DMAFB

Date and time of inspection: Tuesday, February 5, 2008 @ 3pm

Driller on card? YES: X AZCA NO: ____

Comments: Well was drilled prior to well site location verification. Well was drilled by Red Horse drilling company. 10 acre quarter corrected to NE.

Replacement - Distance from the original well: 75 feet south of existing well 55-621582

Report filed by: (ADWR Employee Name): Linda Ingraham

ARIZONA DEPARTMENT OF WATER RESOURCES
WATER MANAGEMENT DIVISION

3550 North Central Avenue
Phoenix, Arizona 85012

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

WELL REGISTRATION NO: 55-216837 **Replaces:** 55-621582

AUTHORIZED DRILLER: AZCA DRILLING & PUMP, INC. **LICENSE NO:** 621

A PERMIT TO DRILL A NON-EXEMPT, WELL INSIDE THE TUCSON ACTIVE MANAGEMENT AREA HAS BEEN GRANTED TO:

WELL OWNER: Davis-Monthan Air Force Base 5285 E. Madera Street DMAFB, AZ 85707-4927

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

SW ¼ of the SE ¼ of the NE ¼ Section 35 Township 14 South Range 14 East

No. of well(s) in this project: 1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 4TH DAY OF NOVEMBER, 2008.

Sindra Faleritz-Whitney

WATER MANAGEMENT DIVISION

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

GREAT SEAL OF THE STATE OF ARIZONA
DITAT DEUS
1912

ARIZONA DEPARTMENT OF WATER RESOURCES
WATER MANAGEMENT DIVISION
3550 North Central Avenue, Phoenix, Arizona 85012
Telephone 602 771-8585
Fax 602 771-8688

Janet Napolitano
Governor

Herbert R. Guenther
Director

November 26, 2007

Davis-Monthan Air Force Base
Attn: Michael R. Toriello
5285 E. Madera Street
DMAFB, AZ 85707-4927

RE: Notice of Intention to Replace an Existing Non-Exempt Well
Registration No. 55-216837(Replacing Well No. 55-621582); File No. D(14-14)35ADC

Dear Mr. Toriello:

The above-referenced Notice of Intention to Replace an Existing Non-Exempt Well in the Same Location within an Active Management Area has been approved. A copy of the Notice is enclosed for your records. However, drilling of the well may not proceed until a site inspection has been completed and the drill card is released to the driller.

A copy of the drill card for the proposed well has been delivered to the Tucson Active Management Area office. The well owner or a representative of the driller must make an appointment with personnel of the Active Management Area office for a site inspection. Active Management Area personnel must be shown at the inspection site, the location of the proposed well and the well that is being replaced. After the location of the proposed well and well to be replaced has been verified, the drill card will be released and drilling may begin. It is suggested that arrangements for a site inspection be made at least 96 hours in advance of the time you intend to have drilling begin. The telephone number for the Tucson AMA is 520-770-3800.

In the event that the location of the proposed well changes, you must notify the Department of Water Resources of the change in writing. A drill card with the correct proposed well location must be in possession of the driller before drilling may commence. If the proposed new well is to be more than 660 feet from the well that it is replacing, then you may be required to obtain a well permit.

Within 30 days of completion of the well, the well driller is required to furnish this Department with a complete and accurate log of the well. In addition, the well owner is required to submit the enclosed Completion Report within 30 days of installation of pump equipment.

Pursuant to the provisions of A.R.S. § 45-604, any person withdrawing groundwater from a well is required to use a water measuring device to record rates of withdrawal in order to provide or allow the computation of an annual volume of pumpage from the well. The total volume of pumpage from the well which is being replaced and the completed new well shall be reported on your Annual Water Withdrawal and Use Report for calendar year 2007.

The Department has issued the authorization to drill this well pursuant to A.R.S. §§ 45-596 and 45-597 of the Groundwater Code. The legal nature of the water withdrawn from the well may be the subject of court action in the future as part of a determination of surface water rights in your area. If there are court proceedings that could affect your well, you will be notified and be given the opportunity to participate.

Please be aware that the withdrawals of the proposed well cannot exceed the maximum annual capacity of the original well you wish to replace. The maximum annual capacity of the original well is 887.15 acre-feet per year. In addition, if the original well will be used in conjunction with the proposed replacement well, the withdrawals from both wells cannot exceed the maximum annual capacity of the original well.

If the maximum annual capacity is exceeded in any calendar year, the well will no longer qualify as a replacement well in the same location, and will instead fall into the category of "new well." This means that you will not be able to pump the well again until you first submit an application for a non-exempt well permit, and obtain a determination from the Department that the well will not cause unreasonably increasing damage to other land and water users.

Under A.R.S. § 45-593, the person to whom a well is registered must notify this Department of any changes in ownership, status or physical characteristics to keep the Well Registry records current and accurate. For <u>future</u> changes, a Request to Change Well Information form is also enclosed.

If you have any questions, please contact Linda Ingraham at 520 770-3800.

Sincerely,

Vanessa Reyes

Vanessa Reyes
Water Resources Specialist

Enclosures

cc: Jeff Tannler, Tucson AMA
Linda Ingraham, Tucson AMA

From: Linda Ingraham
To: Haywood, Danita
Date: 11/21/07 11:42AM
Subject: DMAFB 55-216837 (replaces 55-621582)

The Tucson AMA has reviewed the above-referenced Notice of Intent to Replace an existing Non-Exempt well at approximately the same location in the AMA. The request for 6 acre-feet per annum has been corrected to 887.15 acre-feet per annum. We find no outstanding issues and recommend approval.

Registered pump capacity of original well is 550 gpm
550 x 60 x 24 x 365 divided 325851 = 887.15

11/21/07
LGI

CC: Tannler, Jeff

ARIZONA DEPARTMENT OF WATER RESOURCES
HYDROLOGY DIVISION – WATER QUALITY UNIT

MEMORANDUM

TO: Danita Haywood, Phoenix AMA
Linda Ingraham, Tucson AMA
FROM: Seandale Poe SP
Water Quality Unit
DATE: November 20, 2007
SUBJECT: **Notice of Intent to Replace a Well in an AMA**
Well 55-216837
Davis Monthan Air Force Base

Hydrology has reviewed the above referenced notice of intent to replace a well for water quality concerns and well construction for conformance to Arizona well construction standards.

Water Quality

1. The well is near an area of known groundwater contamination that is being remediated pursuant to an U.S. Environmental Protection Agency, Arizona Department of Environmental Quality (ADEQ), or Department of Defense program.

2. According to the ADEQ Groundwater Database, sample results from wells located within one mile of the proposed well exceed secondary maximum contaminant level (MCL) for Iron. The water quality results were from 1992; therefore, current aquifer conditions are unknown. No other water quality data are readily available.

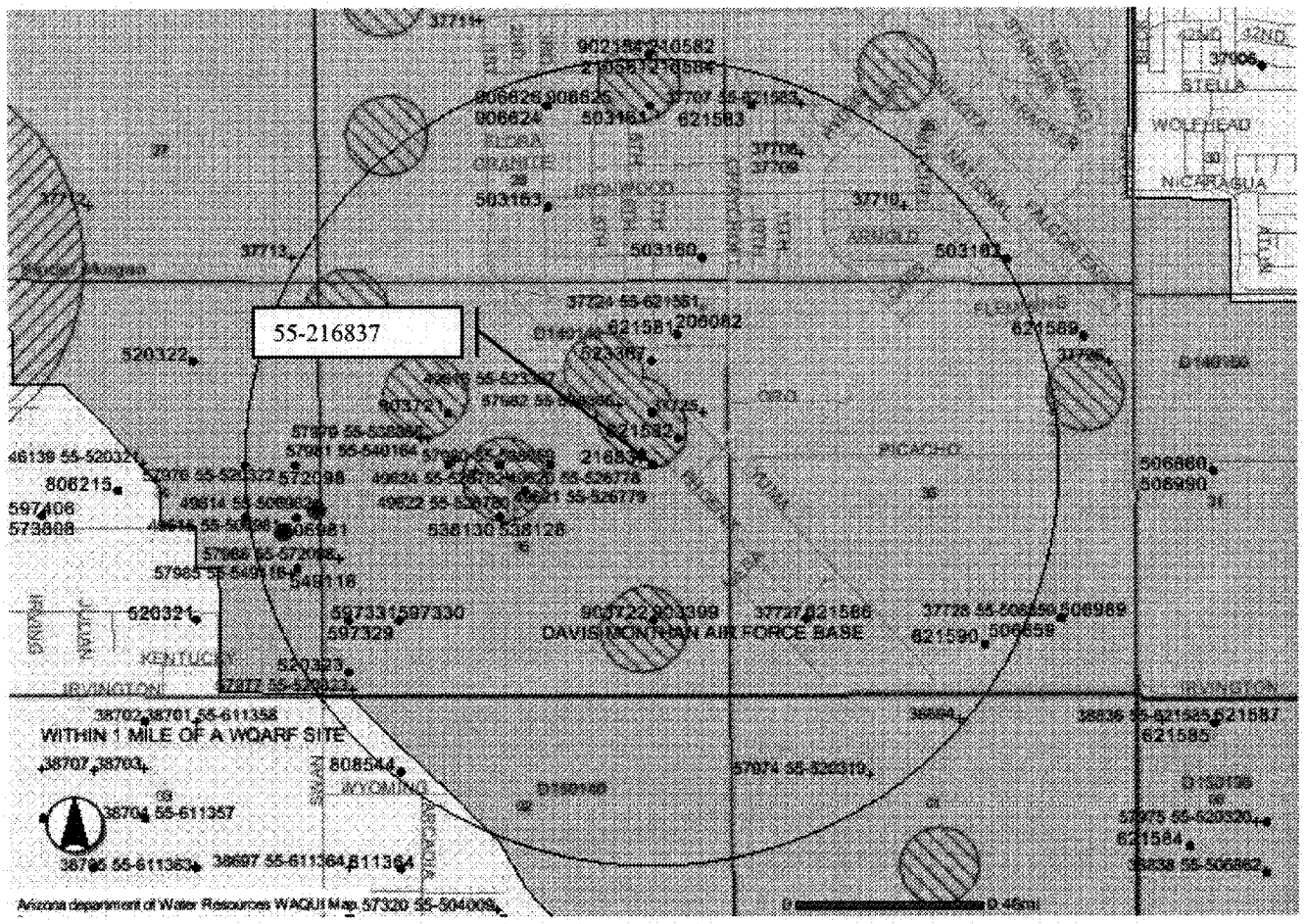
Well Construction Standards

3. The well will be drilled to 900 feet below the land surface and screened from 550 to 860 feet. The well will be completed in the middle alluvial unit. The wells meet minimum well construction standards. No special well construction requirements are necessary.

The Hydrology Water Quality Unit has no objections to approving this permit. If additional information is needed, please contact me at extension 1-8565.

Enclosure Water Quality map
Water Quality Table

55-216837 / Davis Monthan Air Force Base
NOI to Replace in an AMA, D(14-14)35SDC



Working Together

Arizona Department of Environmental Quality

Arizona Department of Water Resources

Map generated on 11/20/2007

Water Quality Sample Test Results for ADEQ Wells

Information provided is preliminary and subject to revision.

It may not represent the full extent of known water quality concerns.

Legend
- Highlighted Feature
- theBuffer/Polygons
- theBufferTarget
- ADEQ Wells
- Wells > HBGL
- Wells > Secondary MCL
- Wells > MCL
- No Exceedence
- REGISTERED WELLS
- Streets
- Sections
- Townships
- GWR LUST Buffer
- RCRA Site Buffer
- VRP Site Buffer
- Registry
- 1 Mi. WQARF Buffer
- WQARF Sites

Printed on recycled paper. Each ton of recycled paper saves 7,000 gallons of water.

55-216837 / Davis Monthan Air Force Base
NOI to Replace in an AMA, D(14-14)35ADC

ADEQ Wells

Rec	Results	Units	Detection Limits	Detection Limit Units	MCL	MCL Units	MCL2	MCL2 Units	Sample Date	Parameter Name	HBGL	HBGL Units	DEQ Well	Registry ID
10	310	ug/L		ug/L			300	ug/L	DEC 08 1958	IRON (AS FE)			37724	55-621581
12	360	ug/L		ug/L			300	ug/L	MAY 27 1992	IRON, TOTAL (AS FE)			49616	55-523367
26	1500	ug/L		ug/L			300	ug/L	MAY 26 1992	IRON, TOTAL (AS FE)			49620	55-526778
15	900	ug/L		ug/L			300	ug/L	MAY 20 1992	IRON, TOTAL (AS FE)			49621	55-526779
16	480	ug/L		ug/L			300	ug/L	MAY 20 1992	IRON, TOTAL (AS FE)			49621	55-526779
27	370	ug/L		ug/L			300	ug/L	MAY 20 1992	IRON, TOTAL (AS FE)			49622	55-526780
13	430	ug/L		ug/L			300	ug/L	MAY 20 1992	IRON, TOTAL (AS FE)			49623	55-526781
11	4200	ug/L		ug/L			300	ug/L	MAY 26 1992	IRON, TOTAL (AS FE)			49625	55-527227
14	6.3	SU		SU			6.5	SU	MAY 20 1992	PH (STANDARD UNITS)			49621	55-526779

11/7/2007

ARIZONA DEPARTMENT OF WATER RESOURCE
Tucson Active Management Area
400 W. Congress, Suite 518 • Tucson, Arizona 85701
Telephone (520) 770-3800 • Fax (520) 628-6759

Janet Napolitano
Governor

Herbert R. Guenther
Director

November 13, 2007

Davis Monthan Air Force Base
Attn: Michael R. Toriello
5285 E. Madera St.
DMAFB AZ 85707-4927

RE: Notice of Intent to Replace an Existing Non-Exempt Well
Well Registration No. 55-216837, Replacing Well Registration No. 55-621582

Dear Mr. Toriello:

The Department of Water Resources has reviewed the above-referenced Notice of Intent to Replace a Non-Exempt Well in approximately the same location for administrative completeness. Pursuant to A.R.S. § 41-1074(B), the Department has determined the application is incomplete. The information described below must be submitted before the Department can continue its review and find the application complete:

1. Pursuant to A.R.S. § 45-595, new well construction shall be performed under the direct and personal supervision of a well driller who holds a well driller's license. Red Horse drilling company is not licensed in the state of Arizona.
2. The DWR license number 621 noted on the Notice of Intent to Replace form is for AZCA Drilling and Pump, Inc. AZCA is required to be on the premises as the driller.

Please address the issue described above within 60 days. Failure to address this matter within 60 days may result in the denial of the application. The Department's administrative completeness review timeframe for notice of intent to replace well registration no. 55-216837 is suspended until the issue is resolved.

If you have any questions about the information requested, please contact me at 770-3800.

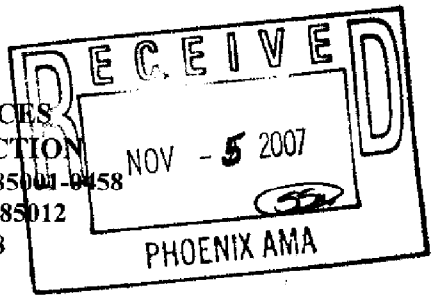
Sincerely,

Linda Ingraham
Water Resources Specialist

cc: Jeff Tannler, Tucson AMA
Vanessa Reyes, Water Management Support

Enclosure

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER MANAGEMENT SUPPORT SECTION
MAIL TO: P.O. BOX 458, PHOENIX, ARIZONA 85001-0458
3550 North Central Avenue, Phoenix, Arizona 85012
Phone (602) 771-8585 Fax (602) 771-8688



NOTICE OF INTENTION TO DEEPEN OR MODIFY AN EXISTING NON-EXEMPT WELL OR REPLACE AN EXISTING NON-EXEMPT WELL AT APPROXIMATELY THE SAME LOCATION IN AN ACTIVE MANAGEMENT AREA

PLEASE READ GENERAL INSTRUCTIONS AND CONDITIONS BEFORE COMPLETING.
Section 45-597, Arizona Revised Statutes provides: In an Active Management Area, prior to deepening an existing well or constructing a replacement well at approximately the same location, a person must file a Notice of Intention to Drill. A person must also file a Notice of Intention to Drill prior to modifying an existing well.

FOR DEPARTMENT USE ONLY
File No. D(14-14)35ADC
Filed 11/5/07 By
Input 11/6/07 By DH
DUPLICATE
Mailed _____ By _____
Registration 55- 216837
AMA/INA TUCSON

1. Applicant Davis-Monthan Air Force Base
   Mailing Address 5285 E. Madera Street
   DMAFB (City) AZ (State) 85707-4927 (Zip Code)
   Telephone Number 520-228-4774

2. Owner of the land of well site: US Air Force
   Mailing Address 5285 E. Madera Street
   DMAFB (City) AZ (State) 85707-4927 (Zip) 520-228-4774 (Telephone Number)

3. This Notice is filed by: Check one: ☑ Owner ☐ Lessee

4. Well location: SW (10 Acre) ¼ SE (40 Acre) ¼ NE (160 Acre) ¼ Section 35 Township 14.0S N/S Range 14.0E E/W

5. Position location of the well: Latitude -110 ° 52 ' 31.4 " N Longitude 32 ° 10 ' 24.0 " W

6. County: Pima

7. Design Pump Capacity 600 gpm Diameter 6 Inches Depth 900 Feet Type of casing STEEL

8. Estimate of total annual pumpage for the replacement well: 6 Acre-Feet Per Year

9. Maximum annual capacity of the original well (see instructions for details):
   Acre-Feet Per Year 6 Registered gallons per minute of original well 550.

10. Principal Use of Water: (be specific): DOMESTIC

11. Other Uses Intended (be specific): Industrial, Recreational, Fire Fighting

12. Construction Will Start: September (Month) 2007 (Year)

13. Estimated time to complete well: January 2007

Pursuant to A.R.S. § 45-596 (E), the well shall be completed within one year after the date this Notice is filed, unless the Director approves a longer period of time as described below.

At the time the drilling card for the well is issued, the Director may provide for and approve a completion period that is greater than one year but not to exceed five years from the date the Notice is filed if **both** of the following apply:

1. The proposed well is a non-exempt well within an Active Management Area and qualifies as a replacement well in approximately the same location.
2. The applicant has submitted evidence that demonstrates one of the following:
   a. This state or a political subdivision of this state has acquired or has begun a condemnation action to acquire the land on which the original well is located.
   b. The original well has been rendered inoperable due to flooding, subsidence or other extraordinary physical circumstances that are beyond the control of the owner.

14. Claim of Entitlement to withdraw water: Certificate 58- _____ Permit 59- _____

Irrigation District 57- _____ Service Area 56- 00058.0000 Recovery Well Permit 74- _____

15. Action Requested: ☐ Deepen ☑ Replace ☐ Modify

For a replacement well give distance from original well 75 feet (see instructions for details).

16. Existing Well Registration No. 55- 621582

17. Has the well to be replaced been physically abandoned? ☐ Yes ☑ No

18. If yes when: _____ If no, will it be? ☑ Yes ☐ No

19. Drilling Firm: Driller Name Red Horse Telephone Number (850) 881-2243

Mailing Address _____

_____

City State Zip Code

DWR License Number: 621 ROC License Category: A

20. **Attach a Well Construction Supplement, DWR form 55-90, and include a detailed construction diagram as indicated on the form.**

I state that this Notice is filed in compliance with Rules A.A.C. R12-15-809 and is complete and correct to the best of my knowledge and belief, and that I understand the conditions set forth in the general instructions and specific instructions for this application.

Michael R. Toriello Base Civil Engineer 10 Oct. 200

Type or Print Name and Title **Signature [ ] Land Owner [ ] Lessee of well site** **Title** **Date**

ARIZONA DEPARTMENT OF WATER RESOURCES

WATER MANAGEMENT DIVISION
3550 North Central Avenue, Phoenix, Arizona 85012
Phone (602) 771-8585 Fax (602) 771-8688

WELL CONSTRUCTION SUPPLEMENT (form DWR 55-90)

Well Registration Number 55- 621582

1. **Well Location:**

   SW (10AC) ¼ of the SE (40AC) ¼ of the NE (160AC) ¼, Sec. 35, Township 14.0S Range 14.0E.

2. **Position Location of the Well:**

   Latitude -110 ° 52 ' 31.4 " **Longitude** 32 ° 10 ' 24.0 "

   Datum: ☐ **NAD 83** ☐ **NAD 27** ☐ **Other:** _____

3. **County** Pima.

4. **Date construction to start:** September 2007.

5. **Time period well will remain in use:** _____.

6. **Is pump equipment to be installed?** yes **If so, design pump capacity:** 600 **GPM.**

7. **Well construction plan:**

   a. **Drilling method (mud rotary, hollow-stem auger, etc.)** Mud and water.

   b. **Borehole diameters** 18+- **inches from** 0 **feet to** 40 **feet.**

      14 **inches from** 40 **feet to** 900 **feet.**

   c. **Casing materials** Steel.

   d. **Method of well development (bail, air lift, surge, etc.)** air lift.

   e. **Will surface or conductor casing extend above grade?** yes.

8. **Include a detailed construction diagram of the proposed well design. The diagram should verify consistency with minimum construction requirements specified in the Department's well construction rules found in Arizona Administrative Code (A.A.C.) R12-15-801 *et seq.* Specifically, the diagram should include borehole diameters; casing materials and diameters; perforation intervals; the expected water level; depth and thickness of the surface seal; proposed grouting materials; and the length that the surface or conductor casing will extend above grade, or vault details, if specified.**

   Pursuant to Arizona Revised Statutes (A.R.S.) § 45-594.B, all well construction, replacement, deepening and abandonment operations shall comply with the rules adopted pursuant to this section. Therefore, any existing well that is deepened or modified must be brought into compliance with minimum well construction standards specified above, if not already in compliance.

9. **Proposed materials and method of abandonment if well is to be abandoned after project is completed (Minimum requirements per A.A.C. R12-15-816):**

   Not Applicable

10. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous material, or petroleum storage area or tank? [ ] Yes [✓] No

11. Is this well to monitor existing contamination? ____Yes [✓] No

Potential contamination?____Yes [✓] No If yes, please provide explanation:_____

_____

12. Name of Consulting firm, if any: Tarwest ASCA

_____

Address City State Zip

Contact Person: Larry Siddel Telephone Number: 520-631-8171

13. Drilling firm Red Horse (AZCA)

DWR License Number: 621 ROC License Category: _____

14. Special construction standards, if any, required pursuant to A.A.C. R12-15-821:_____

_____

I (we), Michael Toriello (print name) hereby affirm that all information provided in this application is true and correct to the best of my/our knowledge and belief.

Signature of Applicant _____ Date 1 Oct 2007

12. Construction Will Start: September (Month) 2007 (Year)

13. Estimated time to complete well: January 2007

Pursuant to A.R.S. § 45-596 (E), the well shall be completed within one year after the date this Notice is filed, unless the Director approves a longer period of time as described below.

At the time the drilling card for the well is issued, the Director may provide for and approve a completion period that is greater than one year but not to exceed five years from the date the Notice is filed if **both** of the following apply:

1. The proposed well is a non-exempt well within an Active Management Area and qualifies as a replacement well in approximately the same location.
2. The applicant has submitted evidence that demonstrates one of the following:
   a. This state or a political subdivision of this state has acquired or has begun a condemnation action to acquire the land on which the original well is located.
   b. The original well has been rendered inoperable due to flooding, subsidence or other extraordinary physical circumstances that are beyond the control of the owner.

14. Claim of Entitlement to withdraw water: Certificate 58- _____ Permit 59- _____

Irrigation District 57- _____ Service Area 56- 00058.0000 Recovery Well Permit 74- _____

15. Action Requested: ☐ Deepen ☑ Replace ☐ Modify

For a replacement well give distance from original well 75 feet (see instructions for details).

16. Existing Well Registration No. 55- 621582

17. Has the well to be replaced been physically abandoned? ☐ Yes ☑ No

18. If yes when: _____ If no, will it be? ☑ Yes ☐ No

19. Drilling Firm: Driller Name AZGA Drilling & Pump, Inc Telephone Number (850) 881-2243

Mailing Address _____

_____

City State Zip Code

DWR License Number: 621 ROC License Category: _____

20. **Attach a Well Construction Supplement, DWR form 55-90, and include a detailed construction diagram as indicated on the form.**

I state that this Notice is filed in compliance with Rules A.A.C. R12-15-809 and is complete and correct to the best of my knowledge and belief, and that I understand the conditions set forth in the general instructions and specific instructions for this application.

Michael R. Toriello Base Civil Engineer 10 Oct. 200[illegible]

Type or Print Name and Title **Signature [ ] Land Owner [ ] Lessee of well site** **Title** **Date**

ARIZONA DEPARTMENT OF WATER RESOURCES

WATER MANAGEMENT DIVISION
3550 North Central Avenue, Phoenix, Arizona 85012
Phone (602) 771-8585 Fax (602) 771-8688

WELL CONSTRUCTION SUPPLEMENT (form DWR 55-90)

Well Registration Number 55- 621582 216837

1. **Well Location:**

   SW ¼ (10AC) of the SE ¼ (40AC) of the NE ¼ (160AC), Sec. 35, Township 14.0S Range 14.0E.

2. **Position Location of the Well:**

   Latitude -110 ° 52 ' 31.4 " Longitude 32 ° 10 ' 24.0 "

   Datum: ☐ NAD 83 ☐ NAD 27 ☐ Other: _____

3. County Pima.

4. Date construction to start: September 2007.

5. Time period well will remain in use: _____.

6. Is pump equipment to be installed? yes If so, design pump capacity: 600 GPM.

7. Well construction plan:

   a. Drilling method (mud rotary, hollow-stem auger, etc.) Mud and water.

   b. Borehole diameters 18+- inches from 0 feet to 40 feet.

      14 inches from 40 feet to 900 feet.

   c. Casing materials Steel.

   d. Method of well development (bail, air lift, surge, etc.) air lift.

   e. Will surface or conductor casing extend above grade? yes.

8. Include a detailed construction diagram of the proposed well design. The diagram should verify consistency with minimum construction requirements specified in the Department's well construction rules found in Arizona Administrative Code (A.A.C.) R12-15-801 *et seq.* Specifically, the diagram should include borehole diameters; casing materials and diameters; perforation intervals; the expected water level; depth and thickness of the surface seal; proposed grouting materials; and the length that the surface or conductor casing will extend above grade, or vault details, if specified.

   Pursuant to Arizona Revised Statutes (A.R.S.) § 45-594.B, all well construction, replacement, deepening and abandonment operations shall comply with the rules adopted pursuant to this section. Therefore, any existing well that is deepened or modified must be brought into compliance with minimum well construction standards specified above, if not already in compliance.

9. Proposed materials and method of abandonment if well is to be abandoned after project is completed (Minimum requirements per A.A.C. R12-15-816):

   Not Applicable

10. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous material, or petroleum storage area or tank? [ ] Yes [✓] No

11. Is this well to monitor existing contamination? ___ Yes [✓] No

Potential contamination? ___ Yes [✓] No If yes, please provide explanation: _____

_____

12. Name of Consulting firm, if any: Tarwest ASCA

_____

Address City State Zip

Contact Person: Larry Siddel Telephone Number: 520-631-8171

13. Drilling firm Red Horse

DWR License Number: 621 ROC License Category: _____

14. Special construction standards, if any, required pursuant to A.A.C. R12-15-821: _____

_____

I (we), Michael Toriello (print name) hereby affirm that all information provided in this application is true and correct to the best of my/our knowledge and belief.

Signature of Applicant _____ Date 1 Oct 2007

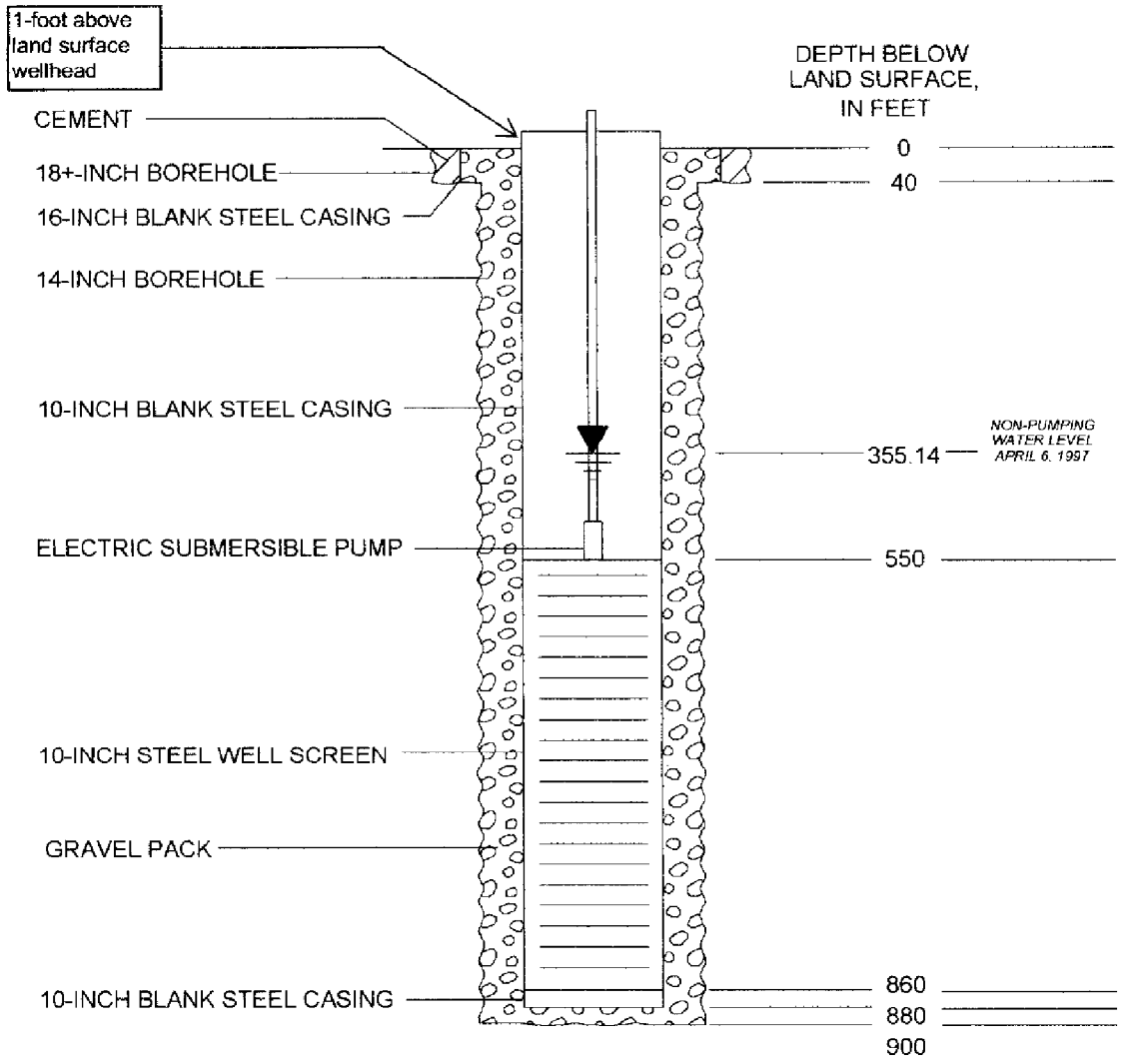


FIGURE 1 for DWR 55-90 section 8. SCHEMATIC DIAGRAM OF WELL CONSTRUCTION FOR PRODUCTION WELL #2B, DAVIS-MONTHAN AIR FORCE BASE

	ORDER #	P/N	DESCRIPTION	QTY	U/I	UNIT PRICE	TOTAL PRICE	Unit WGT	Ext. WGT
1			13-7/8"OD HOLE OPENER, 4-1/2" API-Regular Pin Up x 4-1/2" API-Regular Box down, medium fromation sealed bearing cutters, using new OFS bits.	2	EA	$ 6,575.00	$ 13,150.00	850.0	1,700.0
2			New 7 7/8 medium roller cone bit, sealed bearing	2	EA	$ 2,885.00	$ 5,770.00		
3							$ -		
4							$ -		
5			20 ft 5-rib MUD stablizer, 13-7/8"OD, back bored for Baker Float Valve, 3-1/2" API IF Up x 4-1/2" API Reg Down	2	EA	$ 3,995.00	$ 7,990.00		
6			10 ft 4 rib MUD stablizer 7 7/8", Back Bored for Baker Float Valve, 3-1/2" API IF Up x 4-1/2" API Reg Down	2	EA	$ 1,950.00	$ 3,900.00		
7			Baker float valve for 13-7/8"OD Stabilizer	2	EA	$ 340.00	$ 680.00		
8			Baker float valve for 7-7/8"OD Stabilizer	2	EA	$ 340.00	$ 680.00		
9							$ -		
10			10"PS x20'x .030 .304 SS screen FIP x MIP (Bottom screen will have a welded plate bottom)	300	FT	$ 122.70	$ 36,810.00		
11			10"x20' threaded column pipe with couplings, IN 20' sections, Priced by the foot - GALVANIZED	840	FT	$ 53.05	$ 44,562.00		
12			Chain Tong, C57-72-P	2	EA	$ 770.00	$ 1,540.00		
13			10" X 6" Split Cast Iron well seal	1	EA	$ 240.00	$ 240.00		
14			BAROID QUIK-GEL (50# BAG)	240	Bags	$ 7.64	$ 1,833.60		
15			BAROID EZ-MUD DP (14#), EZ MUD	30	EA	$ 86.50	$ 2,595.00		
16			Type II-V Portland Cement, 94-LB bag (no type III available)	210	EA	$ 11.35	$ 2,383.50		
17			Filter pack sized to screen (50-LB Bags, 1/2 cu ft)	280	EA	$ 4.97	$ 1,391.60		
18			3x4 shaker screen, 12 x 12 mesh	4	EA	$ 192.00	$ 768.00		
19			3x4 shaker screen, 20 X 20 MESH	4		$ 215.00	$ 860.00		
20			3x4 shaker screen, 40 x 40 mesh	4		$ 215.00	$ 860.00		
21			Pump capable of 600 gpm with a check valve, INCLUDING, pump panel, fuses, etc	1	EA	$ 24,475.00	$ 24,475.00		
22			6" galv T&C steel drop pipe (to match pump) in 20' sections	48	EA	$ 353.48	$ 16,967.04		
23			6" pipe elevators	2	EA	$ 495.00	$ 990.00		
24			1 1/2" galvanized trimie pipe, s/40, in 20-ft lengths, T&C	50	EA	$ 46.50	$ 2,325.00		
25			1-1/2" pipe elevators	2	EA	$ 267.40	$ 534.80		
26			10" Elevator, each	2	EA	$ 1,195.00	$ 2,390.00		
27			Desanding unit, skid mounted, with 6 x 5" diameter cones	1	EA	$ 7,450.00	$ 7,450.00		
28			Centrifugal Pump with Electric Motor, 4X5 (to feed desander)	1	EA	$ 3,650.00	$ 3,650.00		
29			Fluid End Rebuild for GD 7-1/2 X 10 Pump (FY-FXD)				$ -		
30			Liners, 7-1/2" for FY-FXD	2	EA	$ 330.00	$ 660.00		
31			7-1/2" Pistons, API-3	2	EA	$ 171.15	$ 342.30		
32			Liners, 6" for FY-FXD	2	EA	$ 499.50	$ 999.00		
33			Liner Packing	8	EA	$ 15.00	$ 120.00		
34			6" Pistons, API-3	2	EA	$ 162.97	$ 325.94		
35			Piston Rods, 10" Stroke, API-3 (FY-FXD)	2	EA	$ 108.00	$ 216.00		
36			Head gaskets, FY-FXD	6	EA	$ 14.00	$ 84.00		
37			Valve, GRAVEL, with rubber insert FY-FXD	8	EA	$ 116.60	$ 932.80		

38			Valve Seat, GRAVEL, FY-FXD	8	EA	$	89.70	$	717.60	
39			Valve Cover Gaskets, FY-FXD	16	EA	$	9.50	$	152.00	
40			Rod Packing, 1-lb box, FY-FXD	3	EA	$	27.45	$	82.35	
41			Valve Springs	16	EA	$	7.50	$	120.00	
42			Pump multiquip, centrifugal	1	EA	$	2,000.00	$	2,000.00	
43			48" Pipe wrench, Ridgid, Steel	2	EA	$	215.00	$	430.00	
44			Pump wire, #000, 3-STRAND + GROUND TWISTED (1.28"OD)	750	FT	$	25.00	$	18,750.00	
45			Splice kits for pump wire	4	EA	$	75.00	$	300.00	
46			Zip ties, 36" LONG x .315" WIDE - 50PC/PACK	6	EA	$	34.95	$	209.70	
47			SODA ASH DENSE #S180, SODA ASH	2	Bags	$	16.38	$	32.76	
48			BAROID BENSEAL (50# BAG), BENS	5	Bags	$	8.45	$	42.25	
49			BAROID QUIK-TROL (10/CASE) QUI	4	Box	$	138.25	$	553.00	
50			Aqua clear PFD	8	gal	$	51.44	$	411.52	
51			BAROID HOLEPLUG 3/8" (50#), HO	10	EA	$	8.25	$	82.50	
52			6010 Welding rod, 50# CAN, 3/16"OD ELECTRODE	1	Box	$	138.65	$	138.65	
53			7018 Welding Rod, 50# CAN, 3/16"OD ELECTRODE	1	Box	$	103.50	$	103.50	
54			PH/ION TEST PAPER (1-11), TEST	4	EA	$	8.50	$	34.00	
55			3700 PSI Pressure Washer	1	EA	$	1,875.00	$	1,875.00	
56			BAROID CONDET (5 GAL), CONDET	4	EA	$	48.50	$	194.00	
57			Electrical tape, industrial grade, black, 3/4" wide x 66 ft long	12	EA	$	2.85	$	34.20	
58			Baroid Barafos Thinner, 50lb bag	2	EA	$	71.42	$	142.84	
59			Cable Ties, 36" long, 10.75" max bundle dia, pack of 50	6	EA	$	45.90	$	275.40	
60			6" galv 90-deg elbow	4	EA	$	117.00	$	468.00	
61			6" galv 45-deg elbow	4	EA	$	144.00	$	576.00	
62			6" Galv Coupling	4	EA	$	61.50	$	246.00	
63			6" Camlock type F, male camlok x male NPT, aluminum	4	EA	$	62.15	$	248.60	
64			6" Camlock type B, female camlock x Male NPT, aluminum	4	EA	$	90.45	$	361.80	
65			6" camlock type A, Male Camlock x female NPT, aluminum	4	EA	$	49.20	$	196.80	
66			6" camlock type D, female camlock x female NPT, aluminum	4	EA	$	95.00	$	380.00	
67			6" galv steel King Nipples, 6" Male NPT x Hose Barb	12	EA	$	65.10	$	781.20	
68			6" Sch. 80 PVC 90-deg Elbow	4	EA	$	29.95	$	119.80	
69			6" Sch. 80 PVC 45-deg Elbow	4	EA	$	38.15	$	152.60	
70			6" Sch.80 pvc coupling	4	EA	$	24.78	$	99.12	
71			6" sch.80 PVC Pipe x 20-ft	5	EA	$	275.00	$	1,375.00	
72			4" Lay Flat Hose x 300-ft	2	EA	$	555.00	$	1,110.00	
73			6" Lay Flat Hose x 300-ft	2	EA	$	840.00	$	1,680.00	
74										
75										
								$	-	
								$	-	
			SUBTOTAL					$	222,951.77	
			Freight, flatbed truckload, to jobsite	8		$	2,500.00	$	20,000.00	
				Grand total				**$**	**242,951.77**	

Well # 2

WELL INFO

ORIGINAL WELL

Drilled	Depth	Casing
1961	403'	17" Steel threaded

Static Water Level	Original output	Present day GPM
364' in 1973	550 GPM	230 GPM

Pump

Peerless Turbine 600 GPM cap 210 HP

1800 RPM

PROJECTED WELL

Depth	Casing	Drop Pipe
850'- 950'	10" Steel	6" steel

Screens	Output
10" S.S. continuous slot	600-800 GPM

Pump	Total dynamic head
Submersible 480 3-phase	1200'

PROJECT GUIDELINES

Well #2 is a production well. This well will be used to fill an above ground storage tank. The tank supplies the fire department with water to help with fire suppression in emergencies. We will drill a 7 7/8" pilot hole to the desired depth. Upon completion of the pilot hole a 13 7/8" hole opener is used to ream the borehole to the desired circumference.

Screens will be set on the bottom 300' feet of casing. The remainder is 10" steel casing threaded and welded. Gravel pack is utilized for the first 310' of annulus surrounding the screens. A 2' bentonite separator consisting of hole plug, is set into place to separate the gravel pack from the cement grout. Type 111 Portland is used for the remaining annulus.

The casing terminates 16"s above the existing grade. Approximately 4"s above a 6' x 6' x 4" concrete pad. The pump control box is also connected to the pad.
We will spread the cuttings in the general area of the jobsite. This also holds true for the pump test, a ditch is close by to distribute the water. The pump test consists of a 24 hour test. Compiling data that reflects drawdown, gpm's, and recharge.

PERMIT

Farwest ASCA	Office	928-923-9118
Larry Siddel	Cell	520-631-8171

AZCADrilling@aol.com
License Number 621
Cost $2000
He wants to be there the first day, he'll stop in every now and then to check progress.
Upon completion, we will supply him with drilling logs.
The base will pull the permit and take care of any other aspect involved.

WATER SAMPLING/TESTING

John Maisch will test the water in-house. John needs to know ahead of time and also needs to know what kind of sampling jars we would like to use.

DRILLING LOG

The drilling log needs to reflect formation changes, viscosity test, sand content, chemical use, shift changes and other important information will be added as we progress. Drilling logs will be put into excel format at the close of each week. Upon hole completion the log book is turned into the base and also the contractor.

WELL DESIGN

Our engineering section will produce a well design from the information we provide. This is distributed to the base and contractor upon completion of the well.

CONTACT INFORMATION

NAME	OFFICE	PHONE	EMAIL
John Maisch	355 CES/CEV	228-4774	john.maisch@dm.af.mil
Lt Levi Davis	355 CES/CECN	228-5175	levi.davis@dm.af.mil
Russ Carr	355 CES/CEDSM	228-2118	russell.carr@dm.af.mil
Chuck Griffiths	355 CES/CEOA	228-3815	charles.griffiths@dm.af.mil
Joe O'Malley	Utilities	228-4167	lonald.omalley@dm.af.mil
Lt Ken Cooper	355 CES/CEOE	228-4181	kenneth.cooper@dm.af.mil
Dennis Robinson	355CES/CECP	228-5203	dennis.robinson@dm.af.mil

PHOENIX AMA
CHECK DEPOSIT REQUEST

Submitted By:	**Sharon Ward**	**Date:**	**11/5/07**
Right Owner or Applicant:	**Davis Mothan Air Force Base**		
GFR or Permit No(s):	**55-216837 (Replacing 55-621582)**		

CHECK INFORMATION

Check Number: **1054**
Check Amount: **$150.00**
Name on Check: **Starla Davis**
Address: **5260 E. Granite Street**
City, ST, Zip: **DM AFB, AZ 85707-3009**
Telephone: **520-228-4774**

Code	Type of Fee:	Amount:	Check No.
55	Application for Well Permit **($150.00)**		
55	Well Permit Fee **($30.00)**		
58	Type I Conversion Request Flex Account Transfers **($100.00)**		
58	Notification of Change of Ownership of an Irrigation Grandfathered Right **($35.00)**		
60	Application to Substitute Irrigation Acres		
59	Applications for Permit to Withdraw **($50.00 or $150.00)**		
59	Withdrawal Permit Fee **($50.00)**		
59	Conveyance of Groundwater Withdrawal Application and/or Permit **($35.00)**		
Gen Fund	Legal Noticing Fees **(Various)**		
55	Notice of Intent for Non-Exempt Wells **($150.00)**	$150.00	1054

ARIZONA DEPARTMENT OF WATER RESOURCES
Tucson Active Management Area
400 W. Congress, Suite 518 • Tucson, Arizona 85701
Telephone (520) 770-3800 • Fax (520) 628-6759

Janet Napolitano
Governor

Herbert R. Guenther
Director

October 16, 2007

U.S. Air Force
Attn: John R. Maisch
5285 E. Madera Street
Davis-Monthan AFB, Arizona 85707

Re: Notice of Intention to Replace an Existing Non-exempt Well at Approximately the Same Location in an Active Management Area - U.S. Air Force

Dear Mr. Maisch:

The Department received the above-referenced application on October 11, 2007. However, pursuant to R12-15-151, the Department cannot accept the application without payment of the application fee ($150).

I have enclosed the original application you submitted. Please change the name of the applicant under Question 1 to *Davis-Monthan Air Force Base* and re-submit the application, along with the fee payment to:

Arizona Department of Water Resources
Water Management Division, Attn: Danita Haywood
P.O.Box 458
Phoenix, Arizona 85001-0458

Payment may be made by cash, check, or by entry in an existing Department fee-credit account established pursuant to R12-15-152.

Sincerely,

Dawne Wilson
Water Resources Specialist

Enclosure

cc: Jeff Tannler, Tucson AMA