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- 3. HQ Division:
- 4. Phase:
- 5. Program NO: 38
- 6. Survey Type: MONITORING WELL INVENTORY

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- 8. Authors:
- 9. ARLOC/Activity: 11933 WRAMC Location: WALTER REED AMC State: DC
- 10. Project Control Number: 38-EH-2169-00
- 11. Title: MONITORING WELL INVENTORY, WRAMC, 18-22 SEPTEMBER 2000
- 12. DSA:

-12



DEPARTMENT OF THEARMY. U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE 5158 BLACKHAWK ROAD ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO ATTENTION OF

MCHB-TS-EGW (40)

4 APR 2001

MEMORANDUM FOR Commander, Walter Reed Army Medical Center, Environmental Office, ATTN: MCWR-GEO (Mr. C. Flippo), 6900 Georgia Avenue, NW, Washington DC 20307-5001

SUBJECT: Monitoring Well Inventory No. 38-EH-2169-00, Walter Reed Army Medical Center, Washington D.C., 18-22 September 2000

Two copies of the subject report with Executive Summary are enclosed.

FOR THE COMMANDER:

Encl

JOHN W. BAUER, P.G. Program Manager Ground Water and Solid Waste

CF (w/encl): HQDA (DAIM-ED) DIR POPM-SA, ATTN: MCPO-SA (EXSUM ONLY) CDR, WRAMC, ATTN: PVNTMED SVC CDR, USAEC, ATTN: SFIM-AEC-EQ CDR, USAEC, ATTN: TECH INFO CTR CDR, CHPPM-N



U.S. Army Center for Health Promotion and Preventive Medicine







MONITORING WELL INVENTORY NO. 38-EH-2169-00 WALTER REED ARMY MEDICAL CENTER WASHINGTON D.C. 18 - 22 SEPTEMBER 2000





Distribution authorized to U.S. Government agencies only; protection of privileged information evaluating another command; Apr 01. Request for this document must be referred to Commander, Walter Reed Army Medical Center, Environmental Office, ATTN: MCWR-GEO (Mr. C. Flippo), 6900 Georgia Avenue, NW, Washington DC 20307-5001.

Readiness Thru Health



DEPARTMENT OF THE ARMY U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE 5158 BLACKHAWK ROAD ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO ATTENTION OF

4 APR 2001

EXECUTIVE SUMMARY MONITORING WELL INVENTORY NO. 38-EH-2169-00 WALTER REED ARMY MEDICAL CENTER WASHINGTON D.C. 18 - 22 SEPTEMBER 2000

1. PURPOSE. To document the physical condition of all ground-water monitoring wells located on Glen Haven Annex, Forest Glen Annex, and Main Post, Walter Reed Army Medical Center. To identify any actions that should be taken to maintain the physical integrity of the ground-water monitoring well system.

2. CONCLUSIONS.

2.1 Nineteen monitoring wells were not properly secured with locks.

2.2 Seven monitoring wells have damaged protective casings.

2.3 Accumulated sediment and/or debris were present in 13 monitoring wells. This could prevent ground-water samples from being representative of conditions in the water table aquifer.

3. RECOMMENDATIONS.

3.1 Install locking caps on identified monitoring wells.

3.2 Repair damaged protective casings on identified monitoring wells.

3.3 Remove accumulated sediment and/or debris from identified monitoring wells or, if the wells are no longer necessary, properly decommission them.

Readiness thru Health



REPLY TO ATTENTION OF

MCHB-TS-EGW

MONITORING WELL INVENTORY NO. 38-EH-2169-00 WALTER REED ARMY MEDICAL CENTER WASHINGTON D.C. 18 - 22 SEPTEMBER 2000

1. REFERENCES.

1.1 Memorandum, USACHPPM, MCHB-DC-EGW, 7 July 1998, Subject: Hydrogeologic Investigation No. 38-EH-8209-98, Walter Reed Army Medical Center, Bldg. 500 Area of the Forest Glen Annex, Silver Spring, Maryland, 11-14 May 1998.

1.2 Memorandum, USACHPPM, MCHB-DC-EGW, 26 January 2001, Subject: Ground-Water Consultation No. 38-EH-2190-00, Walter Reed Army Medical Center, Washington, DC, 18 September – 3 October 2000.

2. AUTHORITY. USAEHA Form 250, Request for USAEHA Field Service, Dr. Winston Williams, Walter Reed Army Medical Center (WRAMC) Environmental Office, 25 July 2000, Subject: Perform a ground-water monitoring well inventory at all the monitoring wells at WRAMC-Main Post, Forest Glen Annex and Glen Haven Annex.

3. PURPOSE. To document the physical condition of all ground-water monitoring wells located on Main Post, Forest Glen Annex, and Glen Haven Annex, WRAMC. To identify any actions that should be taken to maintain the physical integrity of the ground-water monitoring well system.

4. GENERAL.

4.1 Location. The WRAMC comprises three geographically separate areas: the Forest Glen Annex, Glen Haven Annex, and the Main Post (Figure 1). Forest Glen Annex has the largest number of monitoring wells inspected during this study and will be discussed in greatest detail. Forest Glen Annex is located in Montgomery County, approximately 1/2 mile north of Washington, D.C., near the town of Silver Spring, Maryland. Glen Haven Annex is located approximately 1.5 miles northeast of Forest Glen Annex, also in Montgomery County. The Main Post is located approximately 2 miles to the southeast of Forest Glen Annex in the District of Columbia (reference 1.1).

Readiness thru Health

4.2 <u>Project Personnel</u>. Mr. William Smithson, Supervisory Engineering Technician, and Mr. Robert deSocio, Engineering Technician, U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) conducted this monitoring well inventory.

5. BACKGROUND AND PREVIOUS INVESTIGATIONS. Reference 1.2 contains a complete discussion of the background and previous ground-water investigations at Main Post, Forest Glen Annex, and Glen Haven Annex, WRAMC.

6. PROCEDURES. The interior of each monitoring well was inspected using a small, "down-hole" video camera that was lowered to the bottom of each well. This camera recorded the condition of the well casing and screen, the presence of any foreign items, and the presence/absence of sediment at the bottom of each well. A video cassette of the monitoring well down-hole recordings is available upon request. The exterior of each monitoring well was visually inspected at the ground surface, with the integrity of the seal and protective casing carefully evaluated. A well inspection log was generated for each monitoring well at Main Post, Forest Glen Annex, and Glen Haven Annex, WRAMC. These completed logs are contained in Appendices A, B, and C.

7. FINDINGS AND DISCUSSION. Table 1 summarizes observations concerning the physical conditions of the monitoring wells.

7.1 <u>Well Security</u>. Seventeen of the monitoring wells throughout the WRAMC complex were not secured with a locking cap. Locking caps prevent unauthorized entry and inhibit acts of vandalism or terrorism.

7.2 <u>Debris or Sediment Build-Up</u>. Ten of the monitoring wells at the Forest Glen Annex and all three monitoring wells at the Glen Haven Annex had accumulations of sediment and/or debris in the bottom of the wells. This accumulation of sediment and/or debris may interfere with the flow of water into the well and the sediment may contain contamination that is not representative of the ground water. All four monitoring wells at the Rumbaugh Parking Garage, Main Post were free of debris and sediment.

7.3 <u>Protective Casing</u>. Five monitoring wells at the Forest Glen Annex and two monitoring wells at Glen Haven Annex have damaged protective casings. These damaged protective casings may allow unauthorized entry to the wells, surface water infiltration, and debris accumulation.

8. CONCLUSIONS.

8.1 Nineteen monitoring wells were not properly secured with locks.

8.2 Seven monitoring wells have damaged protective casings.

9. RECOMMENDATIONS.

9.1 Install locking caps on identified monitoring wells.

9.2 Repair damaged protective casings on identified monitoring wells.

9.3 Remove accumulated sediment and/or debris from identified monitoring wells or, if the wells are no longer necessary, properly decommission them.

Wayne a. Fox

WILLIAM SMITHSON Section Chief Engineering Services

APPROVED:

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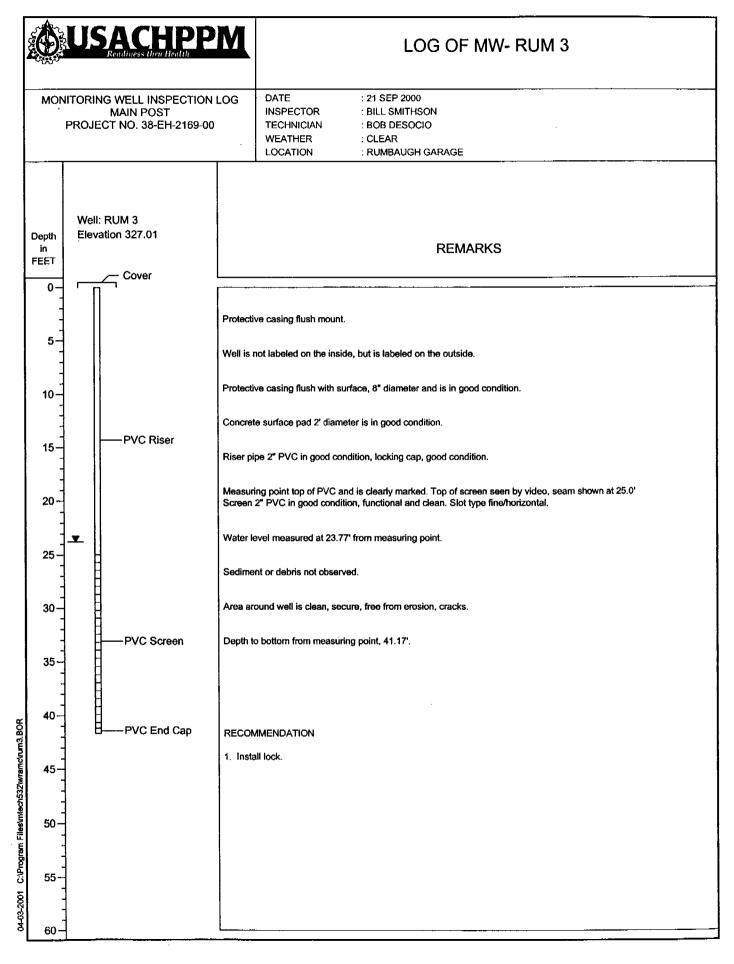
JOHN W. BAUER, P.G. Program Manager Ground Water and Solid Waste

APPENDIX A

MAP AND MONITORING WELL INSPECTION LOGS FOR MAIN POST, WRAMC

£	b.	US	SACHPP Readiness three Health	LOG OF MW- RUM 1
N	MONITORING WELL INSPECTION LOG MAIN POST PROJECT NO. 38-EH-2169-00			LOG DATE : 21 SEP 2000 INSPECTOR : BILL SMITHSON TECHNICIAN : BOB DESOCIO WEATHER : CLEAR LOCATION : RUMBAUGH GARAGE
Dep in FEE		Well: RUM 1 Elevation 328.83		REMARKS
	5			Protective casing flush mount. Well is not labeled on the inside, but is labeled on the outside.
1	- 0 - - -			Measuring point is clearly marked. Protective casing 0.15' below flush with surface, 8" diameter and is in good condition.
1	- 			Concrete surface pad 2' diameter is in good condition. Riser pipe 2" PVC in good condition, locking cap, good condition.
	20			Measuring point top of PVC. Top of screen seen by video, seam shown at 31.75'. Screen 2" PVC in good condition, clean and functional. Slot type fine/horizontal.
	25	.	PVC Riser	Sediment or debris not observed Water level measured at 25.35' from measuring point.
				Area around well is clean, secure, free from erosion, cracks.
	40 1			Depth to bottom from measuring point, 50.40'.
04-03-2001 C.\Program Files/Intech532\wramctum1.BOR	45		PVC Screen	RECOMMENDATION 1. Install lock.
am Files/mtech5	50 50		PVC End Cap	
2001 C:\Progra	55			
8 8	- - 60-			

A-3

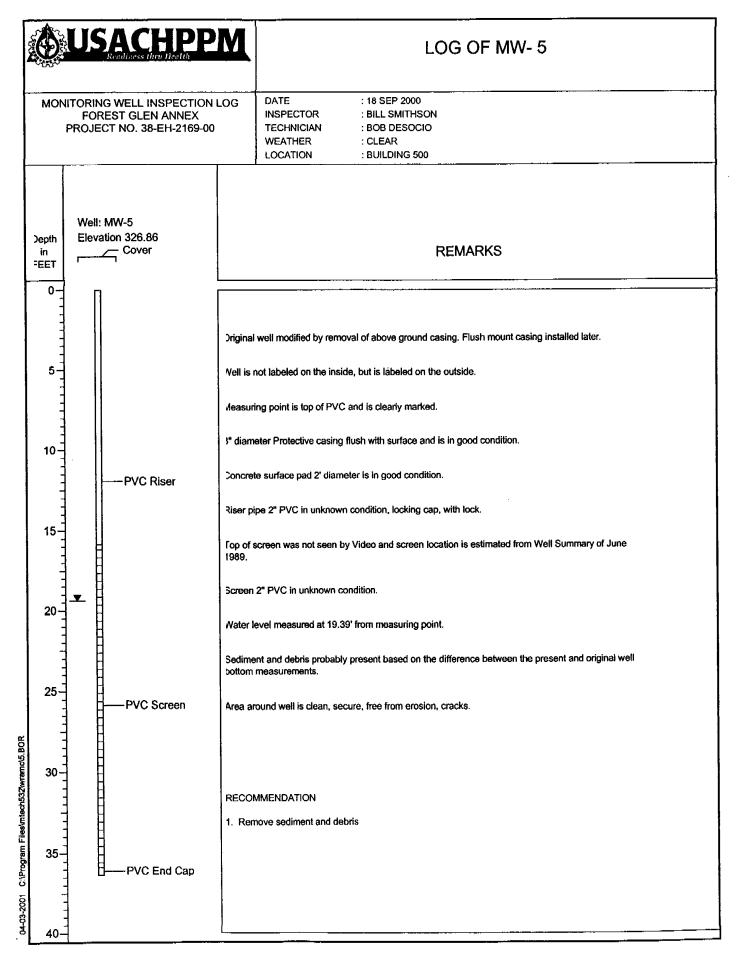


APPENDIX B

MAP AND MONITORING WELL INSPECTION LOGS FOR FOREST GLEN ANNEX , WRAMC

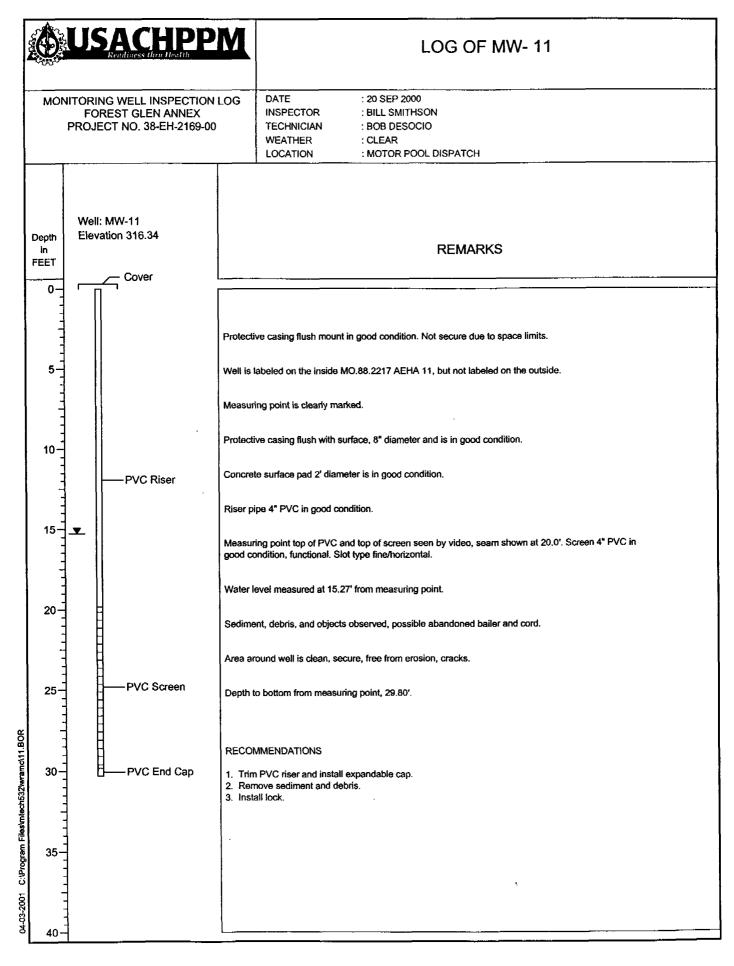
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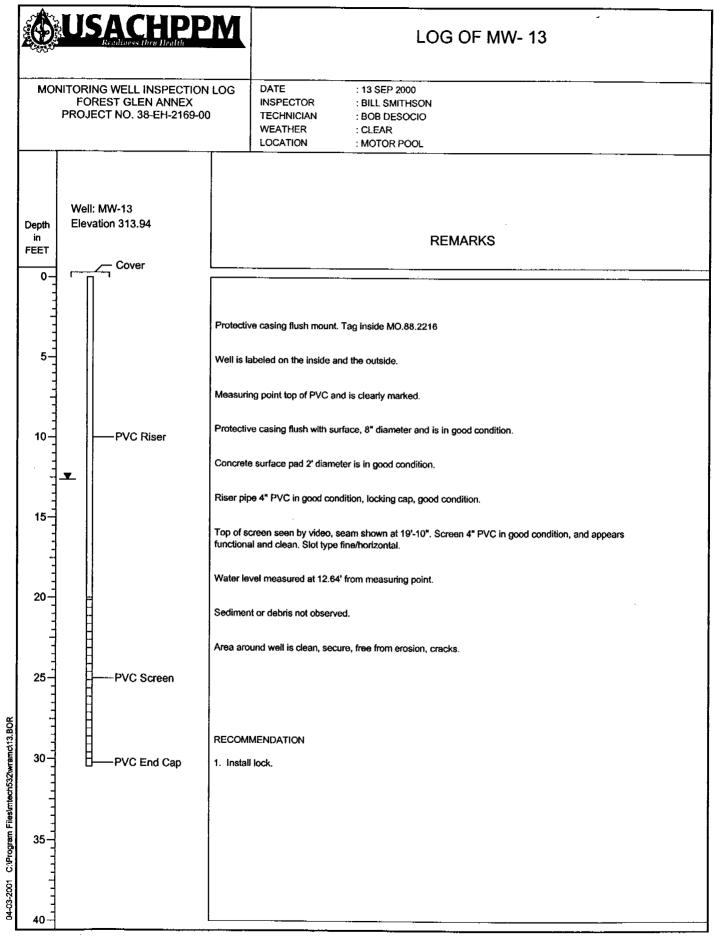
٢	USACHPP Readliness thru Health	LOG OF MW- 1
MON	VITORING WELL INSPECTION FOREST GLEN ANNEX PROJECT NO. 38-EH-2169-00	LOG DATE : 18 SEP 2000 INSPECTOR : BILL SMITHSON TECHNICIAN : BOB DESOCIO WEATHER : CLEAR LOCATION : BUILDING 500
Depth in FEET	Well: MW-1 Elevation 325.75	REMARKS
0-	PVC Riser	Driginal well modified by removal of above ground casing. Flush mount casing installed later.
5-		Well is not labeled on the inside, but is labeled on the outside. Vleasuring point is top of PVC and is clearly marked
10-		^o rotective casing flush with surface, 8" diameter and is damaged. Concrete surface pad 2' diameter is in good condition
- 15-	PVC Screen	Riser pipe 2" PVC in good condition locking cap, good condition.
20-		ine/horizontal. Screen appears clean and functional. Water level measured at 20.14' from measuring joint. No sediment or debris observed. Area around well clean, secure, free from erosion, cracks.
	PVC End Cap	Depth to bottom from measuring point, 24.95'.
25-	U PVC End Cap	RECOMMENDATION
-00		 Install lock. Repair damaged casing
0011014888814 UR2601413 1007-57-56		
- 40 –		

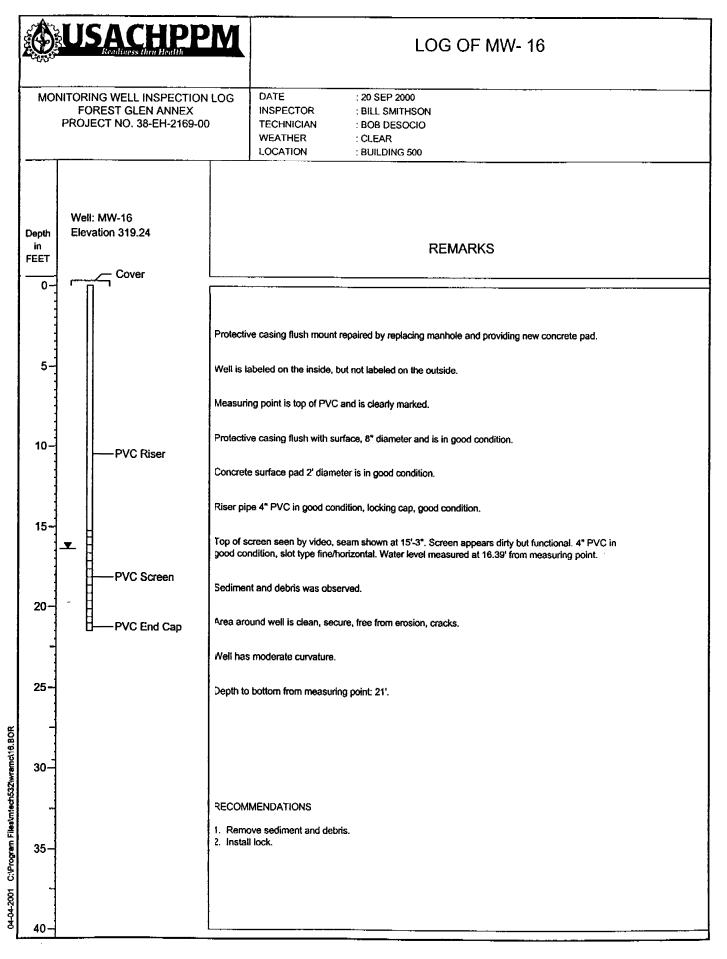


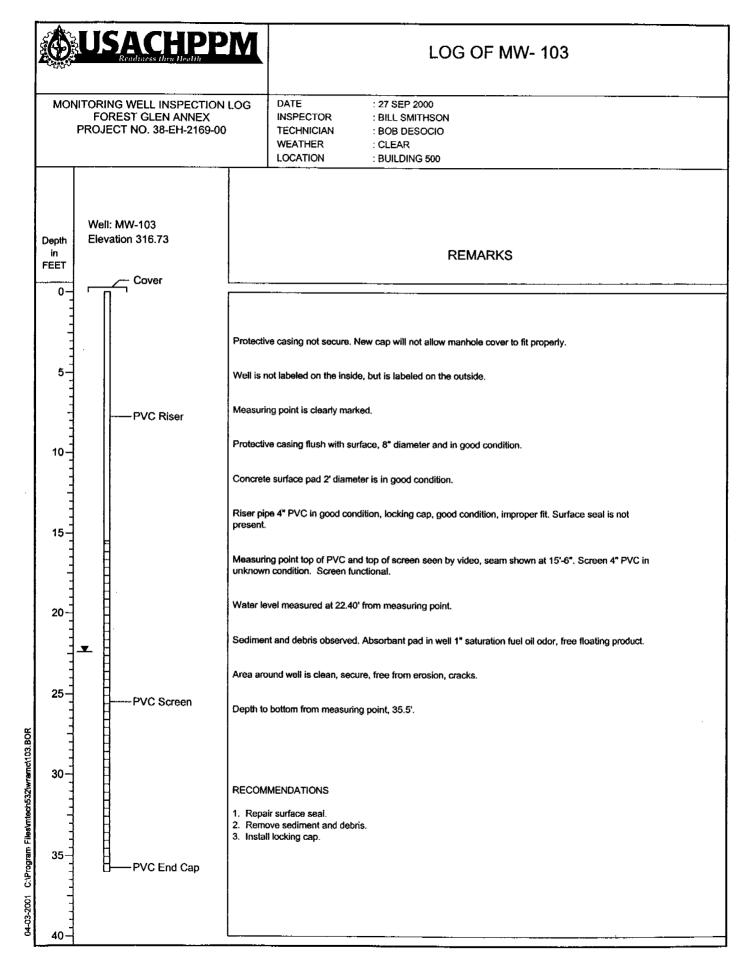
٢	U	SACHPP Readiness thru Health	LOG OF MW- 9
	F	RING WELL INSPECTION OREST GLEN ANNEX JECT NO. 38-EH-2169-00	INSPECTOR : BILL SMITHSON
Depth in FEET	Well: MW-9 Elevation 316.68		REMARKS
0 		PVC Riser	Original well modified by removal of above ground casing. Flush mount casing installed later. Well is labeled on the inside, but not labeled on the outside. Measuring point top of PVC and is clearly marked. Protective casing flush with surface, 8" diameter and is in good condition Concrete surface pad 2' diameter is in good condition.
15		PVC Screen	Riser pipe 2" PVC in good condition, locking cap, good condition. Top of screen seen by video, seam shown at 11'-3" and 2" PVC in good condition, slot type fine/horizontal. Water level measured at 13.45' from the measuring point. Sediment or debris were not observed.
25-			Area around well is clean, secure, free from erosion, cracks. Depth to bottom from measuring point, 21'-3".
30			RECOMMENDATION 1. Install lock.

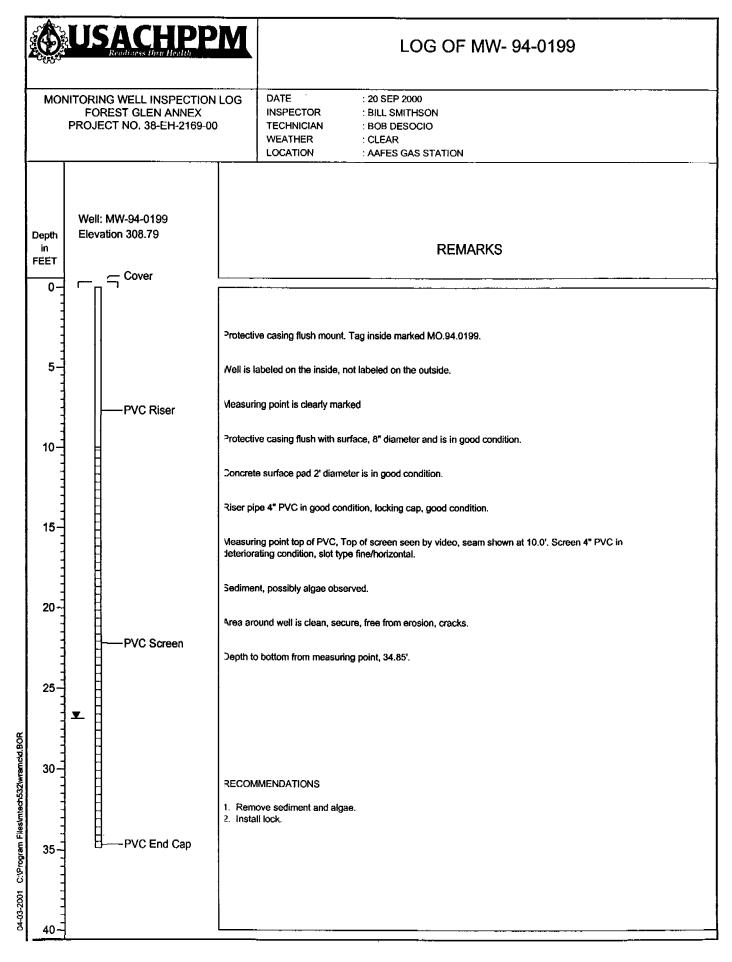
B-7







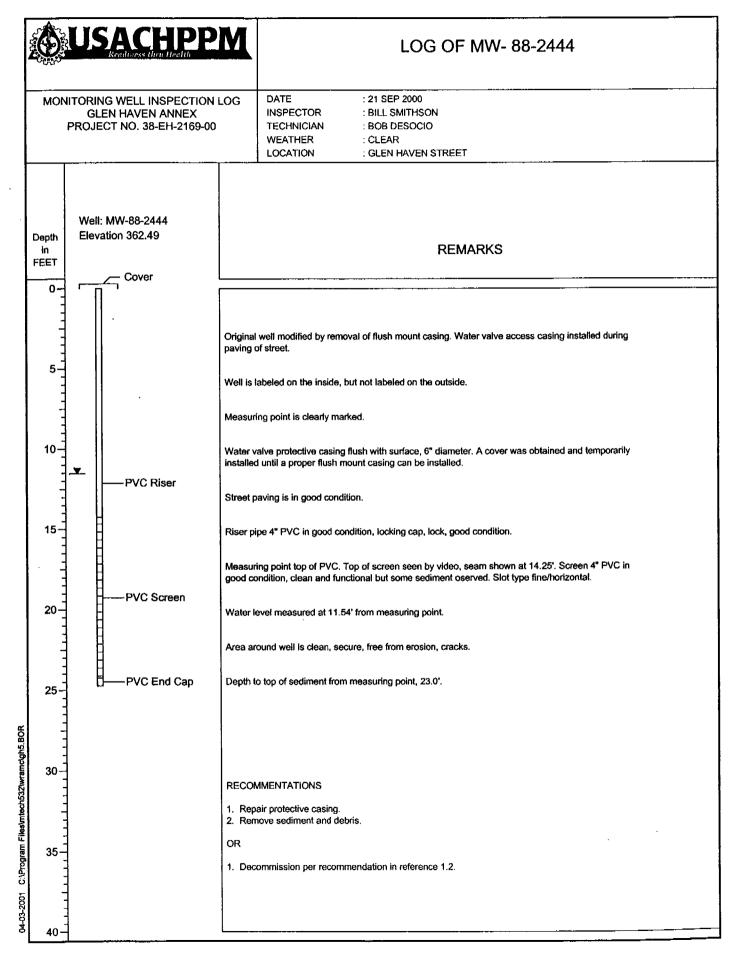




٢	USACHPPM Realitions that Health	LOG OF MW- B	
MO	NITORING WELL INSPECTION LOG FOREST GLEN ANNEX PROJECT NO. 38-EH-2169-00	DATE : 20 SEP 2000 INSPECTOR : BILL SMITHSON TECHNICIAN : BOB DESOCIO WEATHER : CLEAR LOCATION : AAFES GAS STATION	
Depth in FEET		REMARKS	
5_	Vapor monitoring well tube		
	Protective casing flush with surface 12" diame Concrete surface pad 3' diameter is in good c		
	Riser pipe 4" PVC in good condition, locking o		
10-	Area around well is clean, secure, free from e	rosion. cracks	
15-			
20-			
25-			
32Wramcb.BOR			
00 00 00 00 00 00 00 00 00 00 00 00 00			
1007-60-40 -			

APPENDIX C

MAP AND MONITORING WELL INSPECTION LOGS FOR GLEN HAVEN ANNEX , WRAMC



٢	US	SACHPP Readiness three Health	LOG OF MW- 88-2446
MON	GL	NG WELL INSPECTION LEN HAVEN ANNEX ECT NO. 38-EH-2169-00	INSPECTOR : BILL SMITHSON
Depth in FEET	Well: MW-88-2446 Elevation 366.32		REMARKS
5-			Protective casing flush mount. Well is not labeled on the inside, or the outside. Measuring point top of PVC and is clearly marked.
10-	.	PVC Riser	Protective casing flush with surface, 8" diameter and is not secure. Concrete surface pad 2' diameter is in good condition. Riser pipe 4" PVC broken off approx. 2" below the surface in the casing. Locking cap, lock, good condition.
15-			Top of screen seen by video, seam shown at 17.0'. Screen 4" PVC in good condition, clean and functional. Slot type fine/horizontal. Water level measured at 13.80' from measuring point.
20-		PVC Screen	Sediment observed. Area around well is clean, secure, free from erosion, cracks.
25- 20- 25-		PVC End Cap	
- iles/mtech532/wramc			RECOMMENDATIONS 1. Repair broken PVC riser. 2. Remove sediment. OR
04-03-2001 C:Program Filesomiscrb322Wramcgni/ BOR			1. Decommission well per recommendation in reference 1.2.