WATER WELL RECORD (WWC-5)

Constructed

KOLAR DOC ID 1810566 WELL ID 047MW052

✓ Original Record ☐ Correction ☐ Change in Well Use

LOCATION OF WATER WELL

Latitude	38.934102	Longitude	-95.035047	Section	12	Township	13	Range	21 ✓E ☐W	Fraction	NE ¼ NW ¼ SW ¼
Datum	WGS84	Elevation	924	County	Johnson						

WATER WELL OWNER

Name	
Business	Sunflower Redevelopment
Address	10345 W. 103rd St. De Soto Kans 66019
Well location ☐ at owner's address	Sunflower Army Ammunition Plant - SWMU 47 De Soto, Kansas

WELL WATER USE

Environmental Remediation / Monitoring Mc

COMPLETION

Depth of completed well: 88 ft.

Depth(s) groundwater encountered:

(1) 85 ft.; (2) _____ ft.;

(3) _____ ft.; (4) ☐ dry well

Static water level in well: 85.26 ft.

✓ measured below land surface on (mm/dd/yy): 10/28/2024

☐ measured above land surface on (mm/dd/yy): _____

Estimated yield: _____ gpm

Water level was: _____ ft. after _____ hours pumping _____ gpm

Pump installed? ☐ Yes ✓ No

Water well disinfected? ☐ Yes ☐ No

Date disinfected (mm/dd/yy): _____

Aquifer, if known:

NEAREST SOURCE OF POTENTIAL CONTAMINATION

Source: _____

Distance from well: _____ Direction from well: _____

Source description: _____

Source: _____

Distance from well: _____ Direction from well: _____

Source description: _____

☐ No potential source of contamination within 100 feet.

PERMIT & ID NUMBERS (AS REQUIRED)

DWR Application No.: _____

KDHE / EPA Project Code: C404671050

Site Name: SWMU 47

KDHE UIC Class V Form Completed: ☐ Yes ✓ No

County Permit: ☐ Yes ✓ No Permit ID: _____

Lease Name & Well #: _____

# of boreholes: _____ # of dewatering wells: _____

CONSTRUCTION

Borehole interval: from Attac to Attac ft.

from _____ to _____ ft.

Borehole diameter: Attac in.

_____ in.

Casing height above land surface: 30 in.

If casing height is less than 12 in. has a variance been approved?* ☐ Yes ✓ No

*variance not required for monitoring or environmental remediation wells

Casing type: ThermalPlastic

Blank casing interval: 0 ft. to 78 ft.

Blank casing diameter: 2 in.

Casing joints: Threaded

Weight: _____ lbs/ft.

Wall thickness or gauge no.: 40

Blank casing interval: _____ ft. to _____ ft.

Blank casing diameter: _____ in.

Casing joints: _____

Weight: _____ lbs/ft.

Wall thickness or gauge no.: _____

Grout interval: 2 ft. to 63 ft.

Grout material: Bentonite

Grout interval: _____ ft. to _____ ft.

Grout material: _____

Screen / perforation material: PVC

Screen / perforation openings: Mill slot

Screen / perforation intervals:

From 78 ft. to 88 ft.

Slot size .01 unit inches

From _____ ft. to _____ ft.

Slot size _____ unit _____

Gravel pack intervals:

Gravel pack not used: ☐ Gravel size _____ in

From 63 ft. to 88 ft.

Gravel pack not used: ☐ Gravel size _____ in

From _____ ft. to _____ ft.

LITHOLOGIC LOG

FROM	TO	LITHOLOGY INTERVALS
0	88	other,See Attached

COMMENTS

CONTRACTOR'S OR LANDOWNERS CERTIFICATION

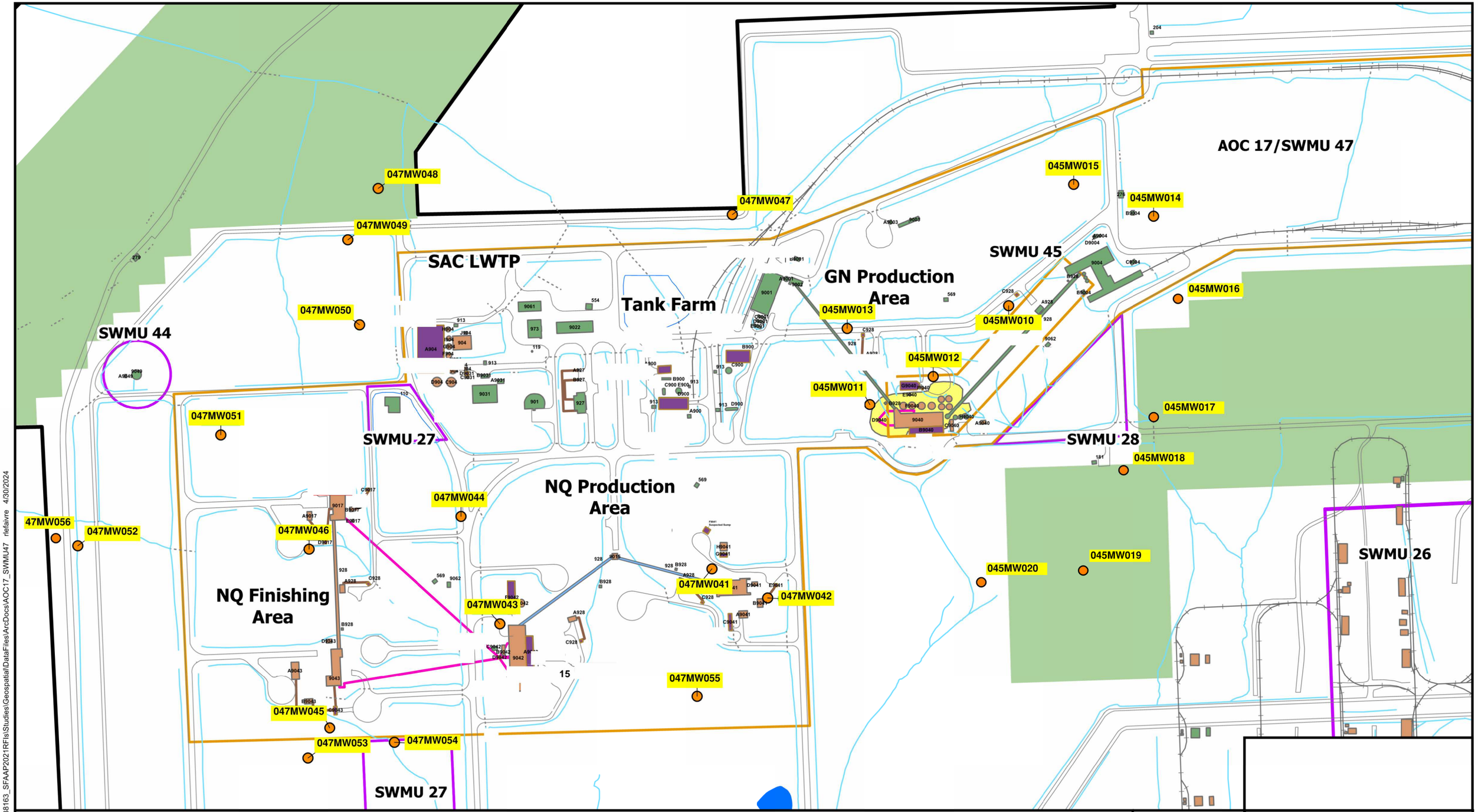
This water well was constructed ✓ reconstructed ☐ pursuant to the stated water well contractor's license and was completed on 10/28/2024. I certify that this record is true to the best of my knowledge and belief. This water well record was completed on 01/12/2025 under the business name of Razek Environmental, LLC, Kansas Water Well Contractor's License No. 759 under the authority of the designated person as defined in K.A.R. 28-30-2(j) and signed and certified by the electronic signature of the designated person at its submittal: Anthony Poulter.

Send one copy to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

Form	WWC5.2 - Water Well Record
Doc ID	1810566
Well Owner	Sunflower Redevelopment
Contractor	Razek Environmental, LLC

Bore Holes

From	To	Diameter
0	22	10.625
22	25	10
25	88	6



Legend

- Monitoring Well

BURNS McDONNELL

Monitoring Well Locations

AOC 17 / SWMUs 45 & 47 RFI Work Plan
Former Sunflower Army Ammunition Plant
De Soto, Kansas

Issued: 4/30/2024

Source: Burns & McDonnell Engineering

Path: Z:\Clients\ENS\USCOE\138163_SFAAP2021RFI\Studies\Geospatial\DataFiles\ArcDocs\AOC17_SWMU47 rlefaivre 4/30/2024

HTW DRILLING LOG

HOLE NO. 047MW052

1. COMPANY NAME: Burns & McDonnell	2. DRILLING SUBCONTRACTOR: RAZEK ENV., Inc.	SHEET 1 OF 11 SHEETS
3. PROJECT: SFAAP	4. LOCATION: SWMU 47	
5. NAME OF DRILLER: T. Poulter	6. MANUFACTURER'S DESIGNATION OF DRILL: GeoProbe 7822 DT	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2-inch MacroCore Sampler; 10-5/8-inch HSA; 10-inch AR Bit (Surface Casing)	8. HOLE LOCATION: E: 2155600.0230 N: 232610.5930	
	9. SURFACE ELEVATION: 924.05 ft amsl	
	10. DATE STARTED: 5/17/24	11. DATE COMPLETED: 5/21/24
12. OVERBURDEN THICKNESS: 22.0 ft	15. DEPTH GROUNDWATER ENCOUNTERED: 19.0 ft bgs	
13. DEPTH DRILLED INTO ROCK: 65.0 ft	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 5/20/24 67.95 ft btoc	
14. TOTAL DEPTH OF HOLE: 87.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 7/30/24 85.26 ft btoc	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA			NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
NA						NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		047MW052	A17BMPZ30	S. Woodland

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	0	SILT, trace clay, MH, dark grayish brown (10YR 4/2), moist, stiff consistency, high plasticity.	BZ = 0.0 PID LEL = 0 O_2 = 20.9 0.0	NA	NA	Recovery	DP @ 0833 HSA @ 0905
	1		0.0				
	2	Clay, with silt, CH, very dark grayish brown (10YR 3/2), moist, soft consistency, high plasticity. trace silt, grayish brown (10YR 5/2), very stiff consistency, trace oxidation reddish brown (5YR 5/3).	0.0			4/5	
	3		0.0				
	4		0.0				

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 2 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay, trace silt, CH, grayish brown (10YR 5/2), moist, very stiff consistency, high plasticity, trace oxidation reddish brown (5YR 5/3).	BZ = 0.0 PID LEL = 0 O_2 = 20.9 0.0	NA	NA	Recovery	0836 0917
	6		0.0			5/5	
	7	Clay, CH, gray (10YR 6/2), damp, very stiff consistency, high plasticity, trace oxidation reddish brown (5YR 5/3).	0.0				
	8		0.0				
	9	moist	0.0				
	10		BZ = 0.0 LEL = 0 O_2 = 20.9 0.0				0821 0933
	11	Clay trace silt to very fine sand, CH, yellowish brown (10YR 5/4), damp, very stiff consistency, high plasticity, trace oxidation reddish brown (5YR 5/3).	0.0				
	12		0.0			5/5	
	13		0.0				

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 3 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay trace silt to very fine sand, CH, yellowish brown (10YR 5/4), damp, very stiff consistency, high plasticity, trace oxidation reddish brown (5YR 5/3).	BZ = 0.0 PID LEL = 0 O_2 = 20.9	NA	NA	Recovery	
	14	moist, increase sand percentage	0.0			5/5	
	15		BZ = 0.0 LEL = 0 O_2 = 20.9 0.0				0849 0941
	16	SAND, trace silt, light yellowish brown (2.5Y 6/3), damp, very fine to fine sand, dense, poorly graded, trace oxidation reddish brown (5YR 5/3).	0.0				
	17		0.0				
	18		0.0			5/5	
	19	wet, fine to medium sand, very dense	0.0				
	20		BZ = 0.0 LEL = 0 O_2 = 20.9				DP Refusal @ 20.0 ft 0954
	21					NA	0901 Begin HSA Drilling Log Form Cuttings

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 4 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	22	SAND, trace silt, light yellowish brown (2.5Y 6/3), wet, fine to medium sand, very dense, poorly graded, trace oxidation reddish brown (5YR 5/3).	BZ = 0.0 PID LEL = 0 O_2 = 20.9	NA	NA	Recovery NA	HSA Refusal @ 22.0 ft 5/17/24 - 1032 Begin Air Rotatory to Install Surface Casing 1128 Stop Air Rotatory Drill @ 25.0 ft bgs. Set 8" SCH. 40 Surface Casing at 22.5 ft bgs. Grout in Surface Casing. 5/17/24 End
	23	LIMESTONE, gray					
	24						5/20/24 - 0833 Begin AR Drilling @ 23.0 ft bgs
	25	SANDSTONE, brown, fine to medium grain					Log Form Cuttings
	26						
	27						
	28		BZ = 0.0 LEL = 0 O_2 = 20.9				0846
	29						

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 5 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		SANDSTONE, brown, fine to medium grain	BZ = 0.0 PID LEL = 0 O_2 = 20.9	NA	NA	Recovery	
						NA	
	31						
	32						
	33		BZ = 0.0 LEL = 0 O_2 = 20.9				0855
	34						
	35	LIMESTONE, gray, fresh					
	36						
	37						
	38		BZ = 0.0 LEL = 0 O_2 = 20.9				0909

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 6 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	40	LIMESTONE, gray, fresh	BZ = 0.0 PID LEL = 0 O_2 = 20.9	NA	NA	Recovery NA	
	41						
	42						
	43		BZ = 0.0 LEL = 0 O_2 = 20.9				0909
	44						
	45						
	46						
	47						0944

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 7 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		LIMESTONE, gray, fresh	BZ = 0.0 PID LEL = 0 O_2 = 20.9	NA	NA	Recovery	0949
						NA	
	49						
	50						
	51						
	52						
							0958
	53		BZ = 0.0 LEL = 0 O_2 = 20.9				1004
	54						
	55						
	56	SHALE, black, fresh					

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 8 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	58	SHALE, black, fresh	BZ = 0.0 PID LEL = 0 O_2 = 20.9	NA	NA	Recovery NA	
	59						
	60						
	61						
	62	LIMESTONE, gray fresh					
	63		BZ = 0.0 LEL = 0 O_2 = 20.9				1031 1033
	64						
	65						

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 9 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	67	LIMESTONE, gray fresh	BZ = 0.0 PID LEL = 0 O_2 = 20.9	NA	NA	Recovery NA	
	68		BZ = 0.0 LEL = 0 O_2 = 20.9				1047 1054
	69						
	70	SHALE, gray fresh					
	71						
	72						
	73		BZ = 0.0 LEL = 0 O_2 = 20.9				1103 1106
	74						

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 10 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	76	SHALE, gray fresh	BZ = 0.0 PID LEL = 0 O_2 = 20.9	NA	NA	Recovery NA	
	77						
	78						1115
			BZ = 0.0 LEL = 0 O_2 = 20.9				1117
	79						
	80						
	81						
	82						
	83						1132
			BZ = 0.0 LEL = 0 O_2 = 20.9				1136

HTW DRILLING LOG

HOLE NO. 047MW052

PROJECT SFAAP - SWMU 47 | INSPECTOR S. Woodland | SHEET 11 OF 11 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	85	LIMESTONE	BZ = 0.0 PID LEL = 0 O_2 = 20.9	NA	NA	Recovery NA	
	86						
	87						5/20/24 - 1153
		AR Stop @ 87.0 ft					5/20/24 - 1305 Re-ream Borehole Muck up to 74 ft bgs Construct Temporary Piezometer 5/21/24 - 0930 Tremie Grout From Top of Primary Seal to Ground Surface Install 8 Batches of Slurry Grout. 1 Batch 12 gallons of water 7-lbs of Cetco-Super Gel-X Grout 1 -92 lb bag of Type II Portland Cement
	88						
	89						
	90						
	91						
	92						