U-004-301.10

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WELL 1433 FIELD INSTALLATION REPORT

09-30-92

DOE-FN/EPA
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ATTACHMENT II

[redacted]

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ATTACHMENT II

WELL 1433 FIELD INSTALLATION REPORT

CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR CONTROL AND ABATEMENT OF RADON-222 EMISSIONS . MONTHLY PROGRESS REPORT

Period Ending August 31, 1992

2.0 Operable Unit 2

Operable Unit 2, as defined in the Amended Consent Agreement, includes the Flyash Piles, other South Field disposal areas, lime sludge ponds, solid waste landfill, berms, liners, and soil within the operable unit boundary.

2.1 Field Investigation

2.1.1 Work Plan Addendum - Installation of Monitoring Well 1433

Scope:

The Work Plan Addendum provides for installation of Monitoring Well 1433 in the northwest area of the South Field, near Boring 1401. This is desirable to further characterize the fill/soil material by sampling any perched groundwater/leachate that may be present at that location and was not previously encountered.

Status:

Monitoring Well 1433 was installed on July 29, 1992. No groundwater was encountered. Well 1433 will be plugged and abandoned.

Issues/Corrective Actions:

Very little groundwater was encountered during the installation of Monitoring Well 1433. Development and sampling activities were not performed due to insufficient quantities of groundwater. Plans are being developed to plug and abandon Monitoring Well 1433.

VISUAL CLASSIFICATION OF SOILS

3755

PROJECT NUMBER: 602.20.03.04	PROJECT NAME: FEMP RI/FS		
BORING NUMBER: 1437	COORDINATES:		DATE: 7-29-92
ELEVATION:	GWL: Depth N/A	Date/Time N/A	DATE STARTED: 7-29-92
ENGINEER/GEOLOGIST: Ken Marion	Depth N/A	Date/Time N/A	DATE COMPLETED: 8-4-92
DRILLING METHODS: Hollow Stem Auger			PAGE 1 OF 4

DEPTH (ft.)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (6 in.)	RECOVERY (in.)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	WELL CONSTRUCTION	REMARKS
0.0	047016 0955 7-29-92	3	6	Medium dense dark brown (10YR, 4/3) clayey silt fill with root fragments, a little gravel, trace fly ash, moist	ML	N/A	N/A	Hnu = 2.0 ppm; BT = 100 cpm; α = 0 cpm
1.0	047017 0955 7-29-92	50	6	Medium dense dark brown (10YR, 4/3) clayey silt fill with root fragments, a little gravel, trace fly-ash and concrete at the bottom, moist	ML	N/A	N/A	Hnu = 2.0 ppm; BT = 100 cpm; α = 0 cpm
1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Note: Concrete down hole prevented the split spoon from driving past 1.0 ft
	047018 1000 7-29-92	5	6	Medium dense, dark brown (10YR, 4/3) clayey silt fill with root fragments, a little gravel and concrete, trace flyash, moist	ML	N/A	N/A	Hnu = 2.0 ppm; BT = 190 cpm; α = 0 cpm
	047019 1000 7-29-92	7	6	Same As Above	ML	N/A	N/A	Hnu = 2.0 ppm; BT = 210 cpm; α = 0 cpm
3.0	N/A	10	0	No Recovery	N/A	N/A	N/A	
	047020 1020 7-29-92	2	6	Stiff brown (10YR, 5/3) silty clay fill with some sand, gravel, and trace concrete, low plasticity, moist	CL	1.25	N/A	Hnu = 2.5 ppm; BT = 200 cpm; α = 0 cpm
	047021 1020 7-29-92	4	4	Same As Above	CL	1.25	N/A	Hnu = 2.5 ppm; BT = 140 cpm; α = 0 cpm
4.5	N/A	5	0	No Recovery	N/A	N/A	N/A	
	047022 1030 7-29-92	3	6	Stiff light olive brown (2.5Y, 5/3) silty clay fill with trace gravel, low plasticity, moist	CL	1.5	N/A	Hnu = 1.0 ppm; BT = 160 cpm; α = 0 cpm
				Black Asphalt	N/A	N/A	N/A	
	047023 1030 7-29-92	5	3	Stiff light olive brown (2.5Y, 5/3) Gravelly clay fill, low plasticity, moist	CL	1.5	N/A	Hnu = 1.0 ppm; BT = 160 cpm; α = 0 cpm
6.0	N/A	5	0	No Recovery	N/A	N/A	N/A	
Perched Water →	047024 1045 7-29-92	3	6	Medium stiff light olive brown (2.5Y, 5/3) clay fill with sand and gravel, trace asphalt, medium plasticity, wet	CL	.75	N/A	Hnu = 2.5 ppm; BT = 150 cpm; α = 0 cpm
	N/A	5	0	No Recovery	N/A	N/A	N/A	
7.5	N/A	4	0	No Recovery	N/A	N/A	N/A	

NOTES:

Drilling Contractor: Pennsylvania Drilling

Drilling Equipment: Acker Auger Rig

Driller: Craig Coulter, John Vandine

Note: Dry Hole

Samples Collected per ASTM Standard Penetration Test

Colors Identified using Munsell Color chart

N/A = Not Applicable

	Initial	Date
1st Key In	[illegible]	8-31-92
2nd Key In		
Hard Copy Verification		

Hnu S/N: A01343 — 1.0 ppm

BT S/N: 50746 — 100-160 cpm

α S/N: 50767 — 0 cpm

Background Levels

REVIEWED BY [illegible] DATE 8/27/92

7-9-92 22

ERNALD
RI/FS

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VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 602.2003.04	PROJECT NAME: FEMP RI/FS	
BORING NUMBER: 1433	COORDINATES:	DATE: 7-29-92
ELEVATION:	GWL: Depth N/A Date/Time N/A	DATE STARTED: 7-29-92
ENGINEER/GEOLOGIST: Ken Marion	Depth N/A Date/Time N/A	DATE COMPLETED: 8-4-92
DRILLING METHODS: Hollow Stem Auger		PAGE 2 OF 4

DEPTH (ft.)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (6 in.)	RECOVERY (%)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	WELL CONSTRUCTION	REMARKS
7.5	047025 1100 7-29-92	2	3	Medium stiff light olive brown (2.5Y, 5/3) clay fill with gravel, brick, asphalt and concrete fragments, high plasticity, very moist	CL	.5	N/A	Hnu = 1.5 ppm Bγ = 180 cpm α = 0 cpm
	N/A	4	0	No Recovery	N/A	N/A	N/A	
9.0	N/A	7	0	No Recovery	N/A	N/A	N/A	
9.5	047026 1115 7-29-92	3	6	Stiff dark brown (10YR, 4/3) clay fill with a little sand and gravel, high plasticity, very moist	CL	1.5	N/A	Hnu = 1.0 ppm Bγ = 120 cpm α = 0 cpm
	047027 1115 7-29-92	4	6	Very stiff yellowish brown (10YR, 5/6) silty clay with sand and gravel, non plastic, slightly moist	CL	3.5	N/A	Hnu = 1.0 ppm Bγ = 120 cpm α = 0 cpm
10.5	047028 1115 7-29-92	6	6	Hard yellowish brown (10YR, 5/6) silty clay with sand and gravel, non plastic, slightly moist	CL	4.5	N/A	Hnu = 1.0 ppm Bγ = 120 cpm α = 0 cpm
	047029 1130 7-29-92	6	6	Hard light olive brown (2.5Y, 5/3) silty clay with sand and gravel, low plasticity, slightly moist	CL	4.0	N/A	Hnu = 1.0 ppm Bγ = 120 cpm α = 0 cpm
	047030 1130 7-29-92	10	6	Same As Above	CL	4.0	N/A	Hnu = 1.0 ppm Bγ = 120 cpm α = 0 cpm
12.0	N/A	12	0	No Recovery	N/A	N/A	N/A	
12.5	047031 1130 7-29-92	7	6	Hard light olive brown (2.5Y, 5/3) silty clay with sand and gravel, low plasticity, and trace gray (5Y, 6/1) mottling, slightly moist	CL	>4.5	N/A	Hnu = 1.0 ppm Bγ = 120 cpm α = 0 cpm
				Bottom of Bore Hole				

Bottom of Fill

NOTES:

Drilling Contractor _____

Drilling Equipment _____

Driller: _____

SEE Page 1

	Initial	Date
1st Key In	[illegible]	8-31-92
2nd Key In		
Hard Copy Verification		

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8-4-92
~~8-3-92~~ K.M. 8-3-92

FERNALD RI/FS
INSTALLATION DIAGRAM
MONITORING WELL NO.
1433

Stickups

INSTALLATION DATE: ~~7-31-92~~

HEIGHT K.M. 8-3-92
TOP OF PROTECTIVE WELL COVER: ~~N/A~~ FT 2.5 ft.
TOP OF ~~PVC~~ K.M. 8-4-92 316 Stainless Steel 2.0 FT

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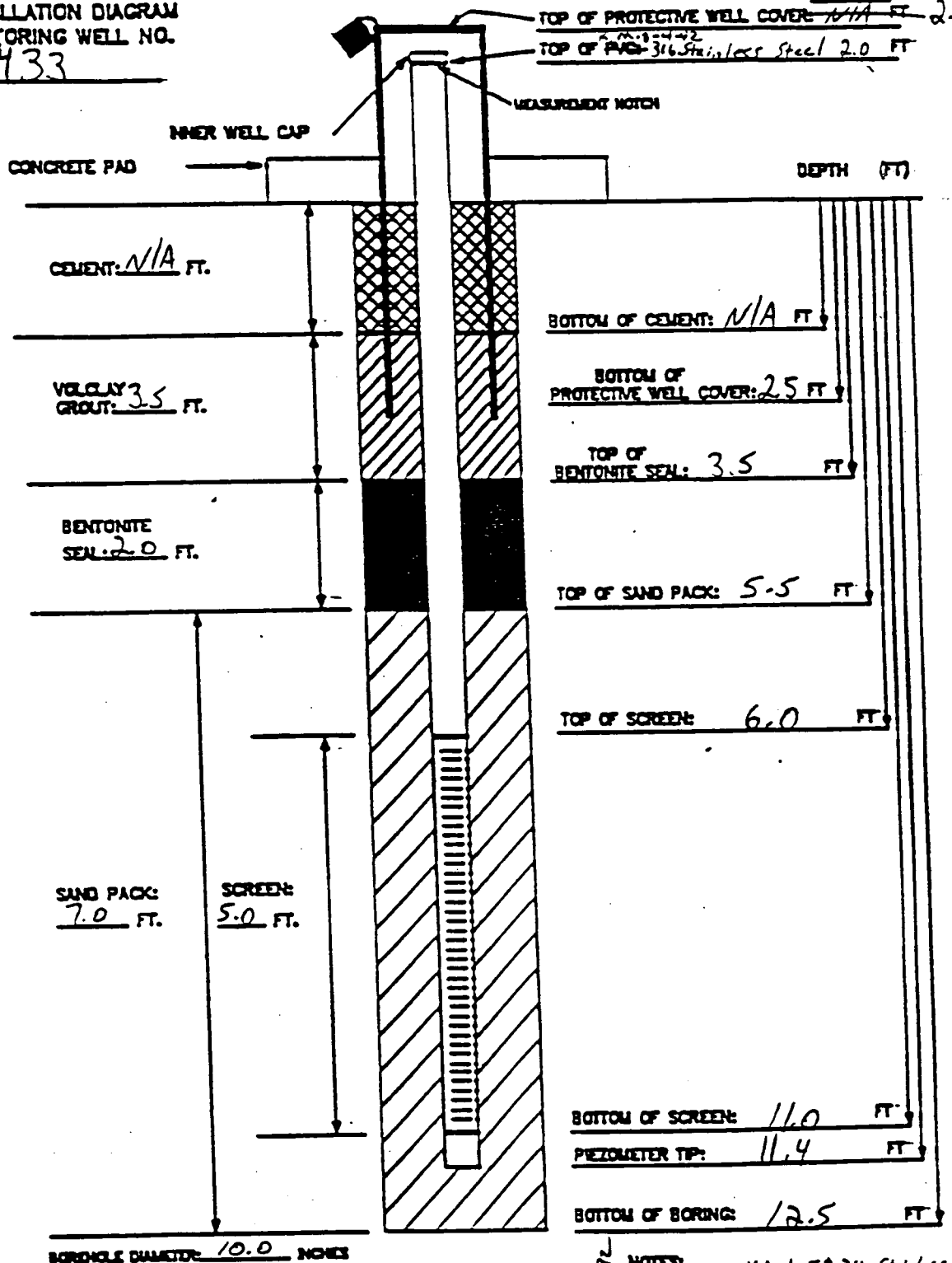

BOREHOLE DIAMETER: 10.0 INCHES

MATERIALS USED:
SAND TYPE AND QUANTITY: 5-80 lb. bags of 10/20 SAND
BENTONITE PELLETS (5-GALLON BUCKETS): 1 Bucket
BAGS OF VOLCLAY GROUT: 1-50 lb. bag
AMOUNT OF CEMENT: N/A
AMOUNT OF WATER USED: 30 gallons
OTHER: Two Soil/Fill drums were generated
pipe sections: 4" Sump, 5 ft. stainless steel screen, 8 ft. stainless steel riser

K.M. 8-3-92
NOTES: 4 inch ID 316 Stainless Steel
1) RISER PIPE IS 8-INCH SCHEDULE 40 PVC PIPE, FLUSH-THREADED JOINTS.
2) SCREEN IS 8-INCH I.D. SCHEDULE 40 PVC PIPE WITH 0.020-INCH SLOTS.
3) LOWER END OF SCREEN IS CAPPED WITH AN END CAP OR THREADED SUMP.
4) WATER DEPTH/DATE: Dry Hole/8-4-92

4 inch ID 40/60 pack 0.020 inch s.

TASK: 602.20.03.04
GEOLOGIST/ENGINEER: Ken Marion

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FERNALD RI/FS

Date			
Hold			
	1st Rev.	2nd Rev.	Final Copy Verification

PIEZOMETER INSTALLATION SHEET

PROJECT NAME FEMP RI/FS
PROJECT NO. 602.20.03.04
BORING NO. 1433
PIEZOMETER NO. 1433

FIELD ENG./GEO. Ken Marion DATE 7-29-92
CHECKED BY C. Brien DATE 9/08/92
DATE OF INSTALLATION ~~7-29-92~~ 8-4-92 K.M. 8-4-92

BOREHOLE DRILLING

DRILLING METHOD Hollow Stem Auger
DRILLING FLUID (S) USED:
FLUID N/A FROM N/A TO N/A
FLUID N/A FROM N/A TO N/A

TYPE OF BIT Bull Dog
CASING SIZE (S) USED:
SIZE N/A FROM N/A TO N/A
SIZE N/A FROM N/A TO N/A

PIEZOMETER DESCRIPTION

TYPE Monitoring Well
DIAMETER OF PERFORATED SECTION 4.0 in ID
PERFORATION TYPE:
SLOTS ☑ HOLES ☐ SCREEN ☐
AVERAGE SIZE OF PERFORATIONS 0.008 in
TOTAL PERFORATED AREA 5.0 ft

RISER PIPE MATERIAL 316 Stainless Steel
RISER PIPE DIAMETERS:
O.D. 4 3/8 in I.D. 4.0 in. ID
LENGTH OF PIPE SECTIONS 5 ft. screen, 8 ft. riser
JOINING METHOD Screw type - flush joint threaded

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH ~~N/A~~ 5.0 ft K.M. 8-4-92
PROTECTIVE PIPE O.D. 10 3/4 in. ~~N/A~~ K.M. 8-4-92

OTHER PROTECTION ~~N/A~~ K.M. 8-4-92 protective Hinged cover with installed padlock

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft.)		ELEVATION (ft)	
TOP OF RISER PIPE	2.0			
GROUND SURFACE	0.0			
BOTTOM OF PROTECTIVE PIPE	K.M. 8-4-92 ~~N/A~~ 2.5			
BOREHOLE FILL MATERIALS:				
GROUT ~~/SLURRY~~ C.M. 7-29-92	TOP 0.0	BOTTOM 3.5	TOP	BOTTOM
BENTONITE	TOP 3.5	BOTTOM 5.5	TOP	BOTTOM
SAND	TOP 5.5	BOTTOM 12.5	TOP	BOTTOM
GRAVEL	TOP N/A	BOTTOM N/A	TOP	BOTTOM
PERFORATED SECTION	TOP 6.0	BOTTOM 11.0	TOP	BOTTOM
PIEZOMETER TIP	11.4			
BOTTOM OF BOREHOLE	12.5			
GWL AFTER INSTALLATION	N/A			

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION? YES ☐ NO ☑
WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER? YES ☐ NO ☑

REMARKS Dry Hole as of 8-4-92
A 40/60, 8 slot Channel Pack Screen was used

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