

4516

**CATEGORICAL EXCLUSION DETERMINATION
FMPC REMEDIAL INVESTIGATION/FEASIBILITY
STUDY OFFSITE WELLS NEPA DOC. NO. 114**

05/04/88

**DOE/DOE
NEPA DOC 114
9
CAT EX**

FMPC		COGNIZANT PROJECT ENGINEER D. J. Carr	
NEPA DOCUMENTATION		PROJECT LOCATION Adjacent Properties to FMPC	
PROJECT/PROGRAM TITLE FMPC Remedial Investigation/Feasibility Study - Offsite Wells		PROJECT COST \$1,200,000.00	
PROJECT/PROGRAM NUMBER		CONSTRUCTION START DATE 4/88	
NEPA DOCUMENT NUMBER 000114		NEPA SUBMITTAL DATE APR 25 1988	
PROJECT EXECUTIVE SUMMARY			
<p>In accordance with the Federal Facilities Compliance Agreement (FFCA), the FMPC is performing a sitewide Remedial Investigation/Feasibility Study. A major part of this study is centered on the performance of a detailed hydrogeological investigation of the FMPC and surrounding environs. As part of this groundwater investigation, a series of groundwater monitoring wells are being installed on property adjacent to the FMPC. These wells will be installed utilizing casing advancement techniques in strict accordance with EPA protocols. Wells will be constructed utilizing stainless steel casings and screens, and volclay grouts. The installed wells will range in depth from 21 to 61 meters. Water quality samples will be withdrawn from the wells periodically (no less than quarterly) and submitted for chemical and radiological analyses. The ground surface at the monitoring wells sites will be graded appropriately to preclude surface water infiltration.</p>			
PROJECT JUSTIFICATION			
<p>A sitewide RI/FS is being performed in accordance with the CERCLA section of the Federal Facilities Compliance Agreement for the FMPC. A critical part of this investigation is the completion of a comprehensive groundwater investigation, a series of monitoring wells must be installed on properties adjacent to the FMPC to assess regional groundwater flow gradients and water quality. These wells must be installed to fulfill the scope of the RI/FS and satisfy regulatory requirements.</p> <p>The cumulative impacts of this project have been assessed and it has been determined that this action does not have adverse environmental impacts. Other options have not been precluded by this action.</p>			
EXISTING NEPA DOCUMENTATION/DATE SUBMITTED			
XX NONE	N.C.	ADM.	E.A.
THIS NEPA DOCUMENT			
APR 25 1988	ADM.	E.A.	E.L.S.
DOE APPROVAL REQUESTED	COGNIZANT PROJECT ENGINEER/DATE <i>Dennis J. Carr</i> 4-25-88		
DOE/FMPC <u>XX</u>	SITE NEPA COORDINATOR/DATE <i>Dennis Carr for S. Van Ooteghem</i> 4-25-88		
DOE/ORO _____	SITE NEPA MANAGER/DATE <i>Joseph E. [unclear]</i> 4/26/88		
DOE/HQ _____	SITE USE OFFICER/DATE <i>Ray [unclear]</i> 5/4/88		
	ADDITIONAL DOE APPROVAL(IF NEEDED) DATE		

X-1055
001
5407.2

FMPC NEPA DOCUMENTATION		COGNIZANT PROJECT ENGINEER D. J. Carr
		PROJECT LOCATION Adjacent Properties to FMPC
PROJECT/PROGRAM TITLE FMPC Remedial Investigation/Feasibility Study - Offsite Wells		PROJECT COST \$1,200,000.00
PROJECT/PROGRAM NUMBER	NEPA DOCUMENT NUMBER 000114	CONSTRUCTION START DATE 4/88
		NEPA SUBMITTAL DATE APR 25 1988

1.0 PURPOSE AND NEED

A sitewide Remedial Investigation/Feasibility Study (RI/FS) is being performed at the FMPC in conformance with the provisions of the CERCLA section of the Federal Facilities Compliance Agreement (FFCA). The scope of the RI/FS includes the completion of a detailed groundwater investigation of the FMPC and adjacent areas. To facilitate this groundwater study, a series of monitoring wells must be installed on properties adjacent to the FMPC property to assess regional groundwater flow and water quality.

2.0 DESCRIPTION OF PROPOSED ACTION

To fulfill the scope of work of the RI/FS, a comprehensive groundwater investigation is being performed of the FMPC and adjacent areas. To complete this groundwater investigation, a series of groundwater monitoring wells ((approximately twenty (20))) are proposed to be installed on properties adjacent to the FMPC. The wells will be constructed with ten (10) centimeter diameter 316 stainless steel casing and screens and range in depth from twenty-one (21) to sixty-one (61) meters. The wells will be installed utilizing casing advancement techniques (i.e., cable tool) to minimize the potential for downward migration of contaminants to lower water bearing zones. The wells will be installed in strict conformance with established EPA protocols. The casings will be grouted at the surface with volclay grout to preclude the infiltration of surface waters. A protective cover and locking cap will be installed at each well location for well security. The water from the development of the wells will be collected, transported to the FMPC and processed through the general sump.

This project will be conducted in conformance with DOE, OSHA, and FMPC regulations governing health and safety. Required permits will be obtained as necessary.

3.0 ALTERNATIVES CONSIDERED

3.1 No Action

In the event this alternative is implemented, an inadequate database would be available to support the ongoing RI/FS. This inadequate database would bias the results of the RI/FS and potentially represent a violation of the provisions of the FFCA.

3.2 Install Wells With Rotary Drilling Technique

This alternative involves installing the necessary monitoring wells utilizing standard rotary techniques. Rotary techniques

FMPC NEPA DOCUMENTATION		COGNIZANT PROJECT ENGINEER D. J. Carr
		PROJECT LOCATION Adjacent Properties to FMPC
PROJECT/PROGRAM TITLE FMPC Remedial Investigation/Feasibility Study - Offsite Wells		PROJECT COST \$1,200,000.00
PROJECT/PROGRAM NUMBER	NEPA DOCUMENT NUMBER 000114	CONSTRUCTION START DATE 4/88
		NEPA SUBMITTAL DATE APR 25 1988

involve the use of drilling muds or other materials as a lubricant during drilling operations. While this method can fulfill regulatory requirements, the technique is conducive to the downward migration of contaminants and can significantly disturb interrupted geologic formations.

3.3 Proposed Action - Install Wells Utilizing Casing Advancement Technique

This alternative involves installation of the necessary wells utilizing the cable tool technique. The cable tool method employs a casing advancement technique where a temporary 25 centimeter diameter steel casing is advanced downward in front of the tooling. Cable tool techniques thus minimize the potential for downward migration of contaminants from upper water bearing zones to lower aquifers. The cable tool technique also minimizes the potential for disturbances to geologic formations since it does not require the use of drilling muds or other materials.

This option is proposed for implementation at the FMPC. This option fulfills regulatory requirement, while greatly reducing the potential for the downward migration of contaminants from upper water bearing zones to lower quifers.

4.0 Potential Environmental Impacts of the Proposed Action

The installation of the groundwater monitoring wells on properties adjacent to the FMPC is necessary to fulfill regulatory requirements and to complete the ongoing RI/FS. Well installation and sampling activities will be in accordance with established US EPA, OSHA and DOE-ALARA protocols and procedures. The potential environmental impacts associated with the implementation of the proposed action are minimal. Utilizing the cable tool technique for well installation effectively eliminates the potential for downward migration of contaminants. Installation of the wells is proposed to be initiated in March, 1988 and be completed in June, 1988. Approximately 1-1/2 man/years of effort will be expended in the installation of these monitoring wells. During the installation, approximately 25 cubic meters of soil will be excavated. The 25 cubic meters of soil will be tested for contamination and uncontaminated soil will be used as backfill at the FMPC. During the well development, approximately 70,000 gallons of water will be collected, transported to the FMPC and processed through the general sump. During the purging process, prior to the sampling of the wells, approximately 40,000 gallons of water will be collected and handled in the same manner. Discharge to local stream or rivers will not occur.

FMPC NEPA DOCUMENTATION		COGNIZANT PROJECT ENGINEER D. J. Carr
		PROJECT LOCATION Adjacent Properties to FMPC
PROJECT/PROGRAM TITLE FMPC Remedial Investigation/Feasibility Study - Offsite Wells		PROJECT COST \$1,200,000.00
PROJECT/PROGRAM NUMBER	NEPA DOCUMENT NUMBER 000114	CONSTRUCTION START DATE 4/88
		NEPA SUBMITTAL DATE APR 25 1988

Well installation and sampling activities will be in accordance with established USEPA, OSHA and DOE-ALARA protocols and procedures to effectively minimize the potential for spills and worker exposures.

The installation and sampling of the wells will not cause a measureable impact on FMPC production processes or support operations.

5.0 CONCLUSION

The installation of groundwater monitoring wells on properties adjacent to the FMPC is necessary to fulfill regulatory requirements and to complete the ongoing RI/FS. These wells are proposed to be installed utilizing casing advancement techniques (cable tool) to effectively minimize the potential for the downward migration of radionuclides and hazardous chemicals.

Installation and sampling activities shall be conducted in strict accordance with established USEPA, OSHA, DOE-ALARA, and FMPC protocols.

Installing twenty new wells in support of the ongoing RI/FS represents an action which may be taken during the course of an ongoing EIS, as defined by the Council on Environmental Quality (40 CFR 1506.1). As such this action:

1. Does not have net adverse environmental impacts. Installing the twenty new wells in support of the RI/FS will provide the necessary data required to support the ongoing RI/FS at the FMPC. This action will also fulfill regulatory requirements. During the drilling and sampling processes, every attempt has been made to prevent ground and water contamination, however that potential represents a relatively minor negative impact. The positive impacts of this action will be offset by the small increase in construction rubble and soil generated by this action.
2. Does not preclude the choice of reasonable alternatives to the action being undertaken. Should changes in programmatic priorities for the FMPC occur, these wells can be closed if required.

6.0 CUMULATIVE IMPACTS

It has been determined that installation of the RI/FS wells at the FMPC to support FMPC remediation activities will not result in net negative environmental impacts. Other reasonable alternatives are not precluded by this action.

FMPC NEPA DOCUMENTATION ATTACHMENT		COGNIZANT PROJECT ENGINEER D. J. Carr
		PROJECT LOCATION Adjacent Properties to FMPC
PROJECT/PROGRAM TITLE FMPC Remedial Investigation/Feasibility Study - Offsite Wells		PROJECT COST \$1,200,000.00
PROJECT/PROGRAM NUMBER	THIS NEPA DOCUMENT	CONSTRUCTION START DATE 4/88
	000114	NEPA SUBMITTAL DATE APR 25 1988

1.0 Will any of the following be encountered, handled, stored, used, or disposed of during the construction of the proposed program or project?

Radioactive materials (identify) Y N U

Hazardous materials (identify) Y N U

Toxic materials (identify) Y N U

Mixed hazardous and radioactive materials (identify) Y N U

PCB's (identify source) Y N U

Asbestos (identify source) Y N U

Organic chemicals (identify) Y N U

Heavy metals (identify) Y N U

2.0 Will program activities involve discharges to any one of the following systems during the construction of the proposed project?

Low level waste disposal (describe) Y N U

Process waste stream Y N U

Sanitary waste stream Y N U

Storm sewer Y N U

3.0 Will any of the following be encountered, handled, stored, used, or disposed of during operation of, or following the proposed program changes?

Radioactive materials (identify) Y N U

Hazardous materials (identify) Y N U

Toxic materials (identify) Y N U

Mixed hazardous and radioactive materials (identify) Y N U

PCB's (identify source) Y N U

- Asbestos (identify source) Y N U
- Organic chemicals (identify) Y N U
- Heavy metals (identify) Y N U
- 4.0 Will program activities involve discharges to any one of the following systems during operation of, or following the proposed program changes?
- Low level waste disposal (describe) Y N U
- Process waste stream Y N U
- Sanitary waste stream Y N U
- Storm sewer Y N U
- 5.0 Are uncontrolled emissions, discharges, or spills possible during:
- The construction phase of this project? Y N U
- The operational phase, upon completion of the project? Y N U

6.0 Will the project involve any of the following:

Need for aboveground storage during construction? Y N U

Need for underground storage during construction? Y N U

Need for aboveground storage during operations? Y N U

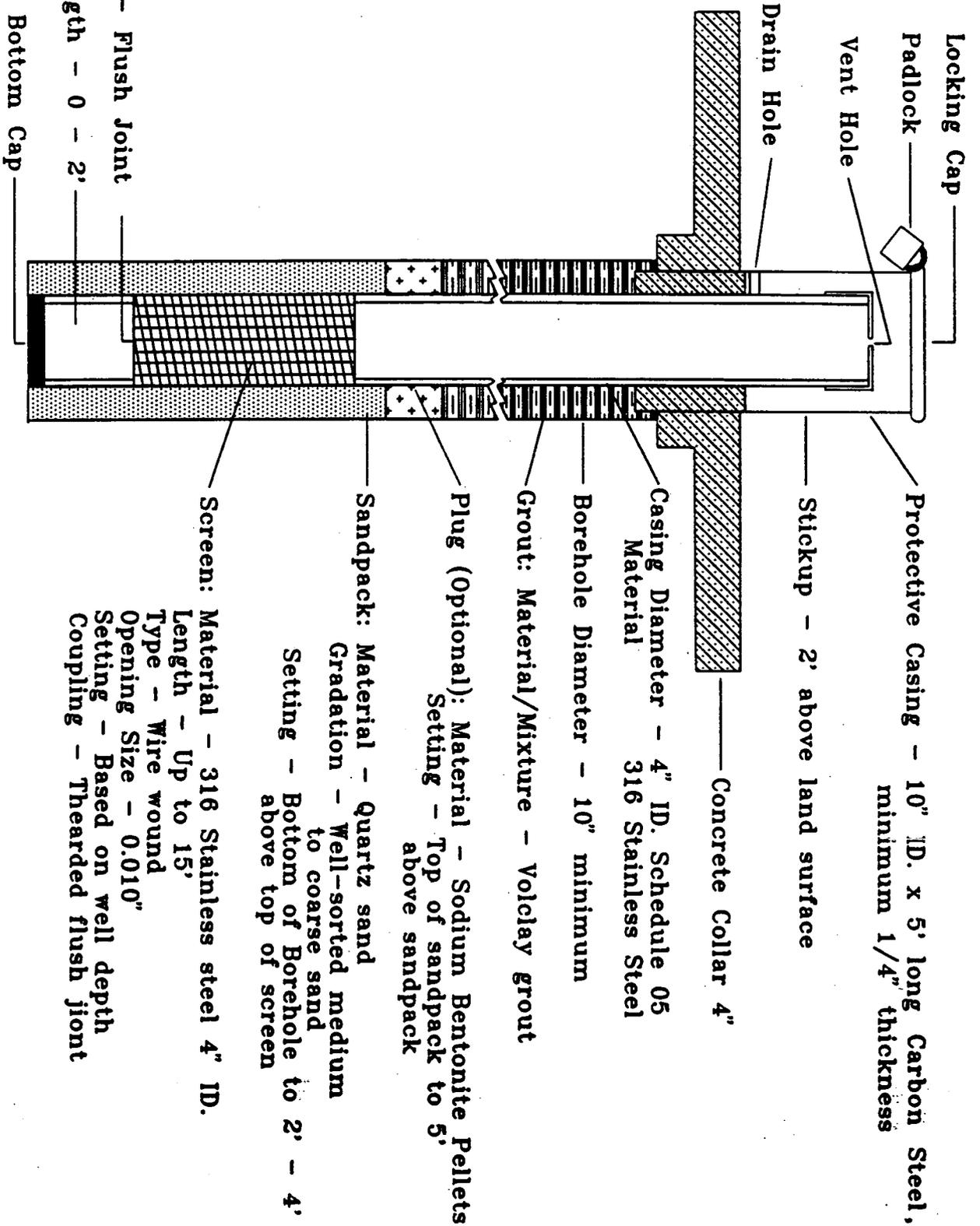
Need for underground storage during operations? Y N U

7.0 Is the project located in close proximity to a natural stream or within the floodplain of a natural stream? Y N U

8.0 Are controlled emissions or discharges planned during:

The construction phase of this project? Y N U

The operational phase, upon completion of this project? Y N U



- Locking Cap
- Padlock
- Vent Hole
- Drain Hole
- Protective Casing - 10" ID. x 5' long Carbon Steel, minimum 1/4" thickness
- Stickup - 2' above land surface
- Concrete Collar 4"
- Casing Diameter - 4" ID. Schedule 05 316 Stainless Steel
- Borehole Diameter - 10" minimum
- Grout: Material/Mixture - Volclay grout
- Plug (Optional): Material - Sodium Bentonite Pellets
Setting - Top of sandpack to 5' above sandpack
- Sandpack: Material - Quartz sand
Gradation - Well-sorted medium to coarse sand
Setting - Bottom of Borehole to 2' - 4' above top of screen
- Screen: Material - 316 Stainless steel 4" ID.
Length - Up to 15'
Type - Wire wound
Opening Size - 0.010"
Setting - Based on well depth
Coupling - ThearDED flush joint
- Coupling - Flush Joint
- Sump Length - 0 - 2'
- Bottom Cap

FIGURE 3
TYPICAL MONITORING WELL CONSTRUCTION SPECIFICATIONS