



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 GEOLOGICAL SURVEY PROGRAM
**CLOSED LOOP HEAT PUMP
 CERTIFICATION REPORT**

FOR OFFICE USE ONLY

REF NO.	DATE RECEIVED
CR NO.	CHECK NO.

ROUTE / /	APPROVED	DATE	ENTERED	STATE CERT NO.	REVENUE NO.
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OWNER INFORMATION

NAME				TELEPHONE NUMBER WITH AREA CODE	
MAILING ADDRESS		CITY	STATE	ZIP CODE	
PHYSICAL ADDRESS OF WELL SITE (IF DIFFERENT THAN MAILING ADDRESS)			CITY	VARIANCE NUMBER (If issued)	

PRE-NOTIFICATION AND HVAC COMPANY INFORMATION

Pre-notification made for installation of grout plugs Yes No

HVAC company installing fluid Yes No

HVAC company connecting loops Yes No

Contractual agreement was made with the HVAC company to install the system Yes No

If yes to any of the above, please provide name of HVAC company below:

LOCATION INFORMATION

Lat. _____ ° _____ ' _____ " Drill Area _____ (Office use only)

Long. _____ ° _____ ' _____ " County _____

_____ ¼ _____ ¼ _____ ¼

Section _____ Township _____ N Range _____ E W

CLOSED LOOP MATERIAL INFORMATION

PROPOSED TYPE OF HEAT TRANSFER FLUID <input type="checkbox"/> Methanol <input type="checkbox"/> Ethanol <input type="checkbox"/> Glycol <input type="checkbox"/> Water <input type="checkbox"/> Other _____	HEAT PUMP RATING _____ Tons	DIAMETER OF PIPE _____ In.
TOTAL AMOUNT OF PIPE _____ Ft.	PIPE MATERIAL <input type="checkbox"/> Polybutylene <input type="checkbox"/> Polyethylene <input type="checkbox"/> Copper	
HOW WAS LOOP MATERIAL CONNECTED <input type="checkbox"/> Thermal <input type="checkbox"/> Other _____	PERMANENT CASING INSTALLED <input type="checkbox"/> Yes <input type="checkbox"/> No	
	FILL MATERIAL CHLORINATED <input type="checkbox"/> Yes <input type="checkbox"/> No	

HEAT PUMP WELL INFORMATION

NUMBER OF HOLES DRILLED	DIAMETER OF BOREHOLES _____ In.	DEPTH OF BOREHOLES _____ Ft.
GROUT TYPE <input type="checkbox"/> Bentonite slurry <input type="checkbox"/> Non slurry bentonite <input type="checkbox"/> Thermal grout slurry <input type="checkbox"/> Other _____	METHOD OF INSTALLATION <input type="checkbox"/> Gravity <input type="checkbox"/> Pump thru tremie <input type="checkbox"/> Gravity thru tremie	ARE ALL WELLS CONSTRUCTED THE SAME <input type="checkbox"/> Yes <input type="checkbox"/> No, attach differences in construction
POSITION OF GROUT SEAL <input type="checkbox"/> Full length <input type="checkbox"/> Series of 5 Ft. plugs	NUMBER SACKS PER HOLE (Excluding oil and gas plug)	LBS PER SACK
		STATIC WATER LEVEL

CASING INFORMATION

LENGTH _____ Ft.	DIAMETER OF CASING _____ In.	MATERIAL <input type="checkbox"/> Steel <input type="checkbox"/> Plastic	Weight (Lb.), SDR#, SCH#
CASING DRIVEN <input type="checkbox"/> Yes <input type="checkbox"/> No	DIAMETER OF DRILL HOLE _____ In.	PACKER USED ON PVC CASING <input type="checkbox"/> None <input type="checkbox"/> Rubber boot <input type="checkbox"/> Coupling <input type="checkbox"/> Inverted bell	
GROUT MATERIAL Cement _____ Bentonite _____ <input type="checkbox"/> Type I <input type="checkbox"/> Chips <input type="checkbox"/> Granular <input type="checkbox"/> Type III <input type="checkbox"/> Pellets <input type="checkbox"/> Slurry		Number of sacks used _____ Lbs. per sack _____	
METHOD OF INSTALLATION <input type="checkbox"/> Gravity <input type="checkbox"/> Open hole <input type="checkbox"/> Pressure <input type="checkbox"/> Tremie		DRILLING SUSPENDED <input type="checkbox"/> Yes _____ Hrs <input type="checkbox"/> No	

PLUG INFORMATION

Bentonite plugs hydrated after emplacement
 Yes
 No

Depth to top and bottom of near surface plug as measured from original ground surface

Top _____ Ft.
Bottom _____ Ft.

List depth to top of each plug

1. _____ Ft.
2. _____ Ft.
3. _____ Ft.
4. _____ Ft.
5. _____ Ft.

DEPTH

FROM	TO	FORMATION DESCRIPTION
TOTAL DEPTH		
DATE WELL DRILLING WAS COMPLETED		

OIL OR GAS INFORMATION

Oil/gas encountered Yes No

Well terminates in an oil/gas zone Yes No

Depth oil/gas zone encountered Top _____ Bottom _____

Depth of plug Top _____ Bottom _____

Amount of grout used for cement plug _____ Sacks

I hereby certify the heat pump herein described was constructed in accordance with department of natural resources requirements. (All fields must be completed but only one signature is required)

PRIMARY CONTRACTOR (IF DIFFERENT THAN WELL INSTALLATION CONTRACTOR)	PERMIT NUMBER	DATE
WELL INSTALLATION CONTRACTOR	PERMIT NUMBER	DATE
WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	PERMIT NUMBER	DATE