



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.
STATE CERT NO.	REVENUE NO.

ROUTE / /	APPROVED	DATE	ENTERED
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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	LOCATION INFORMATION
Pre-notification made for installation of grout plugs <input type="checkbox"/> Yes <input type="checkbox"/> No	Lat. _____ ° _____ ' _____ " Drill Area _____ (Office use only)
HVAC company installing fluid <input type="checkbox"/> Yes <input type="checkbox"/> No	Long. _____ ° _____ ' _____ " County _____
HVAC company connecting loops <input type="checkbox"/> Yes <input type="checkbox"/> No	_____ ¼ _____ ¼ _____ ¼
Contractual agreement was made with the HVAC company to install the system <input type="checkbox"/> Yes <input type="checkbox"/> No	Section _____ Township _____ N Range _____ <input type="checkbox"/> E <input type="checkbox"/> W
If yes to any of the above, please provide name of HVAC company below:	

CLOSED LOOP MATERIAL INFORMATION	HEAT PUMP WELL 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 _____ Tons	NUMBER OF HOLES DRILLED _____ DIAMETER OF BOREHOLES _____ In. DEPTH OF BOREHOLES _____ Ft.
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	GROUT TYPE <input type="checkbox"/> Bentonite slurry <input type="checkbox"/> Non slurry bentonite <input type="checkbox"/> Thermal grout slurry <input type="checkbox"/> Other _____
HOW WAS LOOP MATERIAL CONNECTED <input type="checkbox"/> Thermal <input type="checkbox"/> Other _____	METHOD OF INSTALLATION <input type="checkbox"/> Gravity <input type="checkbox"/> Pump thru tremie <input type="checkbox"/> Gravity thru tremie
PERMANENT CASING INSTALLED <input type="checkbox"/> Yes <input type="checkbox"/> No	ARE ALL WELLS CONSTRUCTED THE SAME <input type="checkbox"/> Yes <input type="checkbox"/> No, attach differences in construction
FILL MATERIAL CHLORINATED <input type="checkbox"/> Yes <input type="checkbox"/> No	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	PLUG INFORMATION	DEPTH	FORMATION DESCRIPTION
LENGTH _____ Ft. DIAMETER OF CASING _____ In. MATERIAL <input type="checkbox"/> Steel <input type="checkbox"/> Plastic Weight (Lb.), SDR#, SCH# _____	Bentonite plugs hydrated after emplacement <input type="checkbox"/> Yes <input type="checkbox"/> No	FROM _____ TO _____	
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	Depth to top and bottom of near surface plug as measured from original ground surface Top _____ Ft. Bottom _____ Ft.		
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		
OIL OR GAS INFORMATION			
Oil/gas encountered <input type="checkbox"/> Yes <input type="checkbox"/> No			
Well terminates in an oil/gas zone <input type="checkbox"/> Yes <input type="checkbox"/> 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)		TOTAL DEPTH _____	
PRIMARY CONTRACTOR (IF DIFFERENT THAN WELL INSTALLATION CONTRACTOR)		DATE WELL DRILLING WAS COMPLETED	
WELL INSTALLATION CONTRACTOR		PERMIT NUMBER _____ DATE _____	
WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)		PERMIT NUMBER _____ DATE _____	