

C1 41957

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

COUNTY NUMBER

ST/CO USE ONLY DATE Received MM DD YY 05 24 16

DATE WELL COMPLETED MM DD YY 5 5 2016

Depth of Well 22 320' 26 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" 5/25/16 H0-15-0246

OWNER Harriot Karinna E Gipsy WELL SITE ADDRESS 14776 Philadelphia Rd. TOWN Colneley SUBDIVISION Wood Point Colneley SECTION LOT 3

WELL LOG Table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes entries for topsoil, silty fine sands, micaceous brown weathered rock, bed rock, and gneiss.

GROUTING RECORD Form with fields for YES/NO, TYPE OF GROUTING MATERIAL (CEMENT, BENTONITE CLAY), NO. OF BAGS, NO. OF POUNDS, GALLONS OF WATER, DEPTH OF GROUT SEAL.

CASING RECORD Form with fields for MAIN CASING TYPE, Nominal diameter, Total depth, and OTHER CASING (if used).

SCREEN RECORD Form with fields for screen type or open hole, SLOT SIZE, DIAMETER OF SCREEN, and DEPTH (nearest ft.).

PUMPING TEST Form with fields for HOURS PUMPED, PUMPING RATE, METHOD USED TO MEASURE PUMPING RATE, WATER LEVEL (before and when pumping), TYPE OF PUMP USED.

PUMP INSTALLED Form with fields for DRILLER INSTALLED PUMP, TYPE OF PUMP INSTALLED, CAPACITY: GALLONS PER MINUTE, PUMP HORSE POWER, PUMP COLUMN LENGTH, CASING HEIGHT.

NUMBER OF UNSUCCESSFUL WELLS: 0 WELL HYDROFRACTURED: YES (Y) NO (N)

CIRCLE APPROPRIATE LETTER: A (Abandoned), E (Electric Log), P (Test Well Converted)

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT...

DRILLERS LIC. NO. 1 MWD 572 DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION) LIC. NO. 1 MDE-D

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

Table with columns: E A C H S R E E N, 1 2 3, 8 9 11 15 17 21 23 24 26 30 32 36 38 39 41 45 47 51. Includes SLOT SIZE and DIAMETER OF SCREEN.

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q 70 72 74 75 76 TELESCOPE CASING LOG INDICATOR OTHER DATA

LATITUDE 3 9.243472 LONGITUDE 7 7.028051 (DEFAULT COORD. WGS 84)

Pursuant to §10-624 of the State Govt. Article of the Maryland Code personal info. requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info. may result in this form not being processed.

C 1 41258 SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

1 2 3 6
(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

ST/CO USE ONLY DATE Received MM DD YY 03 24 16

DATE WELL COMPLETED MM DD YY 5 6 2016

Depth of Well 22 320' 26 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" DK 5/25/16 SC 140 - 15 - 0246

28 29 30 31 32 33 34 35 36 37

OWNER Harriot

WELL SITE ADDRESS 14950 Philadelphia Rd first name Karina E Gregory TOWN Glennely

SUBDIVISION Wood Point Glennely SECTION _____ LOT 3

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET		check if water bearing
	FROM	TO	
<u>top soil</u>	<u>0'</u>	<u>1'</u>	
<u>Silt, trace fine sands, trace mica, brown</u>	<u>1'</u>	<u>50'</u>	
<u>weathered rock</u>	<u>50'</u>	<u>60'</u>	
<u>Bed Rock Gneiss</u>	<u>60'</u>	<u>320'</u>	

Installed 1.85 x 320' closed loop V-Bend

GROUTING RECORD yes no

WELL HAS BEEN GROUTED (Circle Appropriate Box)

TYPE OF GROUTING MATERIAL (Circle one)
CEMENT BENTONITE CLAY

NO. OF BAGS 18 NO. OF POUNDS 900

GALLONS OF WATER 342

DEPTH OF GROUT SEAL (to nearest foot)
from 0' ft. to 320' ft.
(enter 0 if from surface)

CASING RECORD

casing types insert appropriate code below

<input checked="" type="checkbox"/> ST STEEL	<input type="checkbox"/> CO CONCRETE
<input type="checkbox"/> PL PLASTIC	<input type="checkbox"/> OT OTHER

MAIN CASING TYPE Nominal diameter top (main) casing (nearest inch) Total depth of main casing (nearest foot)

<u>60</u>	<u>61</u>	<u>63</u>	<u>64</u>	<u>66</u>	<u>70</u>
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OTHER CASING (if used)

E A C H C A S I N G	diameter inch		depth (feet) from to	

SCREEN RECORD

screen type or open hole insert appropriate code below

<input checked="" type="checkbox"/> ST STEEL	<input type="checkbox"/> BR BRASS BRONZE	<input type="checkbox"/> HO OPEN HOLE
<input type="checkbox"/> PL PLASTIC	<input type="checkbox"/> OT OTHER	

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED yes no

CIRCLE APPROPRIATE LETTER

A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED

E ELECTRIC LOG OBTAINED

P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO. 1 MWD 572

DRILLERS SIGNATURE [Signature]

(MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. 1 D

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

C 2 DEPTH (nearest ft.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

SLOT SIZE 1 _____ 2 _____ 3 _____

DIAMETER OF SCREEN (NEAREST INCH)
58 from 60 to _____

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

TELESCOPE CASING LOG INDICATOR OTHER DATA

70	72	74	75	76
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C 3

PUMPING TEST

HOURS PUMPED (nearest hour) N/A

PUMPING RATE (gal. per min.) N/A

METHOD USED TO MEASURE PUMPING RATE N/A

WATER LEVEL (distance from land surface)

BEFORE PUMPING 70' ft.

WHEN PUMPING N/A ft.

TYPE OF PUMP USED (for test)

A air P piston T turbine

C centrifugal R rotary O other (describe below)

J jet S submersible

PUMP INSTALLED

DRILLER INSTALLED PUMP (CIRCLE) (YES OR NO) YES NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. 29

CAPACITY: GALLONS PER MINUTE (to nearest gallon) 31 _____ 35 _____

PUMP HORSE POWER 37 _____ 41 _____

PUMP COLUMN LENGTH (nearest ft.) 43 _____ 47 _____

CASING HEIGHT (circle appropriate box and enter casing height)

+ above } LAND SURFACE

- below } -3 (nearest foot)

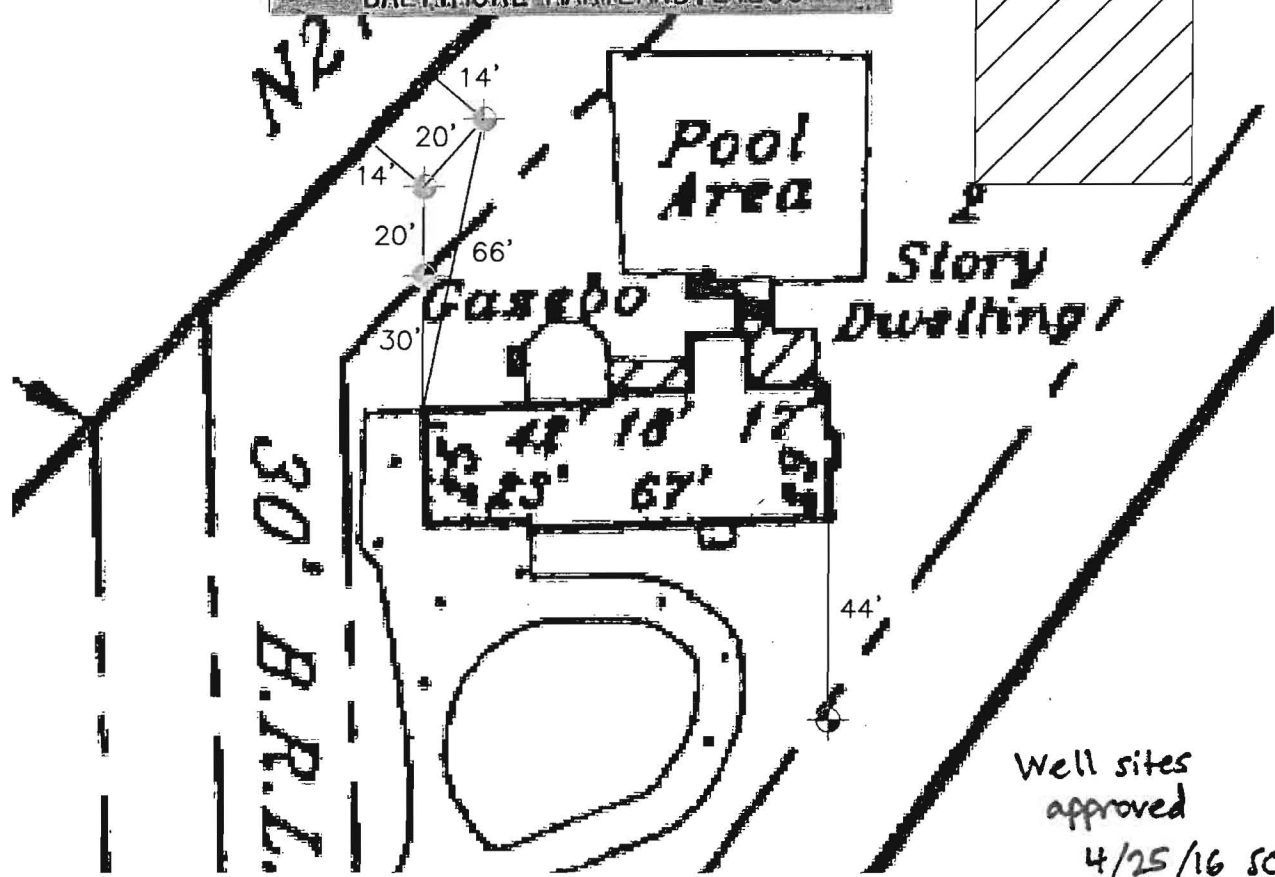
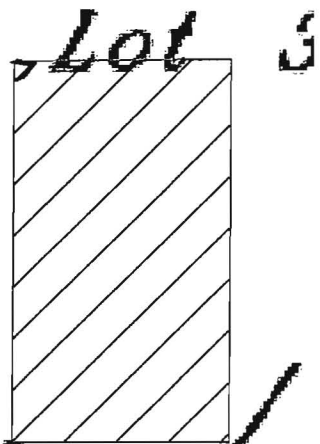
LATITUDE 39.243524

LONGITUDE 77.628072

(DEFAULT COORD. WGS 84)




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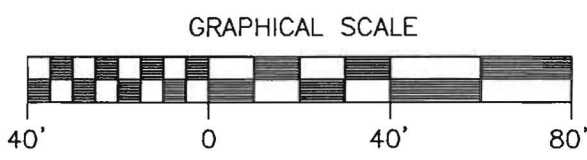
DO NOT REMOVE THIS TAG
 DEPARTMENT OF THE ENVIRONMENT
 WELL PERMIT NUMBER
 HO-15-0246
 INFORMATION-GIVE NUMBER AND WRITE
 1800 WASHINGTON BLVD
 BALTIMORE, MARYLAND, 21230



Well sites approved
 4/25/16 SC

L E G E N D

-  PROPOSED GEOTHERMAL WELL LOCATION
-  APPROXIMATE DOMESTIC WELL LOCATION
-  APPROXIMATE DRAINAGE FIELD LOCATION



Connelly Geothermal
 Partnering with Mother Earth

260 Interstate Court (301) 696-8820
 Frederick, Maryland 21704 (301) 696-0327 fax

HARRIOT RESIDENCE
 14930 TRIDELPHIA ROAD, GLENELG, MARYLAND

PROPOSED GEOTHERMAL WELL LOCATION PLAN		Scale: AS SHOWN	Fig. 1
Date: APR. 2016	Drawn By: J.A.	Checked By: E.S.	

P:\Geothermal\2016 Projects\Waterloo\Harrriot Residence\Documents\Proposed Geothermal Well Location Plan - Harrriot Residence.dwg

B 1	SEQUENCE NO. (MDE USE ONLY) 46364	STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL 558088-1 please type	STATE PERMIT NUMBER Ho - 15 - 0246 70 fill in this form completely 79
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OWNER INFORMATION

Date Received (APA) 04/21/16
8 MM DD YY 13

15 Last Name Harriot Owner Karina + Gregory First Name Gregory 34

36 Street or RFD 14930 Triadelphia Road 55

57 Town Glenelg 70 State MD 72 Zip 21737 76

B 3 LOCATION OF WELL

8 COUNTY Howard 21

23 SUBDIVISION Woodpoint Glenelg 42

SECTION 44 46 LOT 3 48 50

52 NEAREST TOWN Glenelg 71

DRILLER INFORMATION

Driller's Name Simuel A. Connelly M W D 572 76 License No. 81

Firm Name Connelly + Associates Inc

Address 210 Interstate Ct, Frederick, MD 21704

Signature Simuel A. Connelly Date 4/21/16

B 4 SOURCES OF DRILLING WATER

1. Private 11 STREET ADDRESS 14930 Triadelphia Rd 30

2. _____

3. _____

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

NORTH
 WEST
 EAST
 SOUTH

34 150 37 DISTANCE FROM ROAD FT

ENTER FT OR MI 38 39

TAX MAP: 27 BLK: 4 PARCEL 39

B 2 WELL INFORMATION

1 APPROX. PUMPING RATE (GAL. PER MIN.) 8 12

2 AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 14 20

USE FOR WATER (CIRCLE APPROPRIATE BOX)

D DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION

F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)

I INDUSTRIAL, COMMERCIAL, DEWATERING

P PUBLIC WATER SUPPLY WELL

T TEST, OBSERVATION, MONITORING

O OPEN LOOP GEOTHERMAL

C CLOSED LOOP GEOTHERMAL 3 bores

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard (13) COUNTY NAME COUNTY NO.

STATE SIGNATURE _____ INSERT S →

DATE ISSUED 4/25/16 41

43 MM DD YY 48 CO SIGNATURE S.A. Connelly EXP. DATE 4/25/17

APPROXIMATE DEPTH OF WELL 320 FEET 24 28

APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST

METHOD OF DRILLING (circle one)

BORED (or Augered) JETTED Jetted & DRIVEN

30 AIR-ROTARY AIR-PERCussion ROTARY (Hydraulic Rotary)

37 CABLE REVERSE-ROTARY DRIVE-POINT

other _____

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

N THIS WELL WILL NOT REPLACE AN EXISTING WELL

Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED

39 S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS

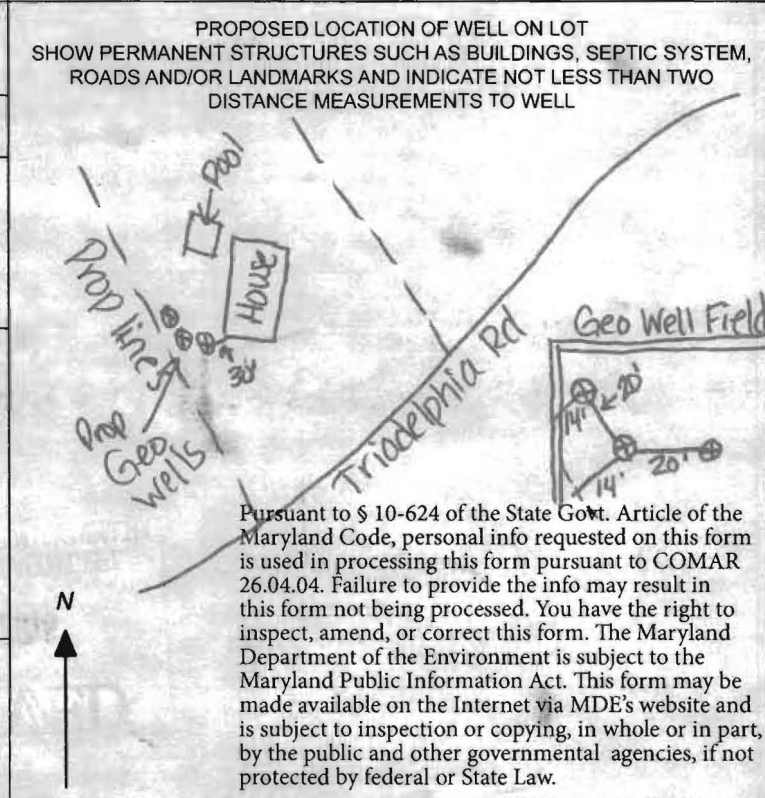
D THIS WELL WILL DEEPEAN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 _____ 52

Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROX. PERMIT NUMBER _____ G _____

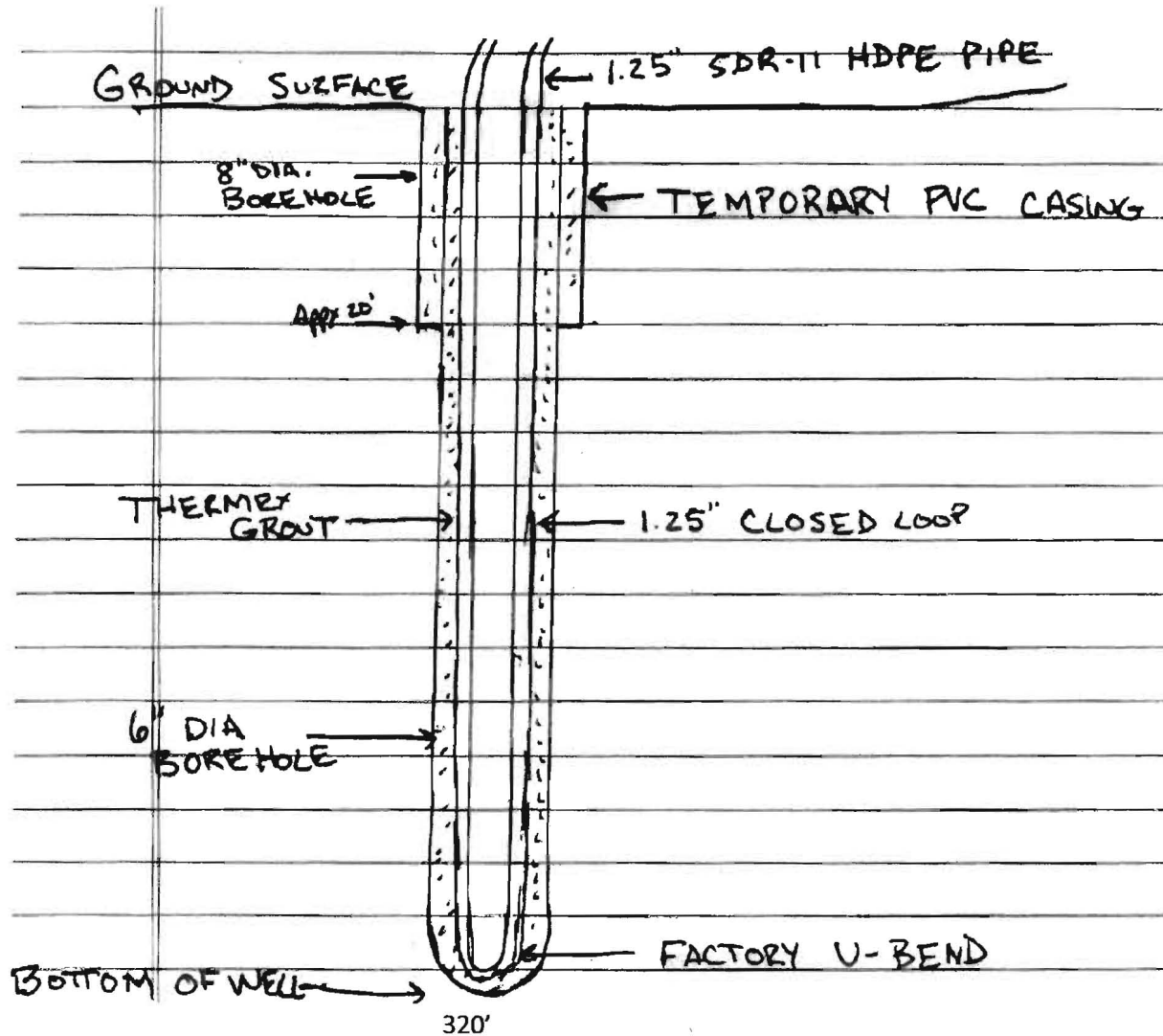
PERMIT No. Ho - 15 - 0246
70 71 72 73 74 75 76 77 78 79



SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED-

Geothermal Closed Loop – 14930 Triadelphia Road, Glenelg, MD



Grout information for this property is as follows:

Thermex grout mixture of 50 lb. grout to 19 gallons water, placed in the well using the tremie method, from bottom to top.