

**Water Right Conditions
Tracking Slip**

Groundwater/Hydrology Section

FILE ## G-17119

ROUTED TO: Water Rights

TOWNSHIP/

RANGE-SECTION: 1N/32E-28CA

CONDITIONS ATTACHED? Yes No

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: Mike Zwart

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date January 7, 2009

FROM: Ground Water/Hydrology Section Mike Zwart
Reviewer's Name

SUBJECT: Application G- 17119 Supersedes review of _____
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review ground water applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

A. GENERAL INFORMATION: Applicant's Name: Mary M. Koch, Joe Talbot County: Umatilla

A1. Applicant(s) seek(s) 6.25 cfs from one well(s) in the Umatilla Basin,
Birch Creek subbasin Quad Map: McKay Reservoir

A2. Proposed use: Irrigation, 500 acres Seasonality: March 1–October 31

A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid):

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	Proposed	1	CRB	6.25	1N/32E-28 NE-SW	2790' S, 2228' E fr NW cor S 28*
2						
3						
4						
5						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	1585				1000	0-60	0-60					

Use data from application for proposed wells.

A4. Comments: ***The applicant's map references the northwest corner, but the indicated distances are incorrect. I modified these distances to correspond to the map location of the well. The proposed well construction would allow up to 940 feet of open borehole. This large of an open interval would very likely allow commingling of multiple basalt aquifers within the well bore. Therefore, up-hole or down-hole flow will likely result if the proposed well is constructed in this manner. A well construction condition is proposed (see B3) to address this concern.**

A5. Provisions of the Umatilla Basin rules relative to the development, classification and/or management of ground water hydraulically connected to surface water are, or are not, activated by this application. (Not all basin rules contain such provisions.)

Comments: **The proposed well is within five miles of the city of Pilot Rock's basalt wells. However, the city does not yet have an approved Division 86 plan.**

A6. Well(s) # _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
 Name of administrative area: _____
 Comments: _____

B. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

- B1. Based upon available data, I have determined that ground water* for the proposed use:
- is over appropriated, is not over appropriated, or cannot be determined to be over appropriated during any period of the proposed use. * This finding is limited to the ground water portion of the over-appropriation determination as prescribed in OAR 690-310-130;
 - will not or will likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the ground water portion of the injury determination as prescribed in OAR 690-310-130;
 - will not or will likely to be available within the capacity of the ground water resource; or
 - will, if properly conditioned, avoid injury to existing ground water rights or to the ground water resource:
 - The permit should contain condition #(s) 7N (February 15 to March 15); 7K (as modified below).;
 - The permit should be conditioned as indicated in item 2 below.
 - The permit should contain special condition(s) as indicated in item 3 below;
- B2.
- Condition to allow ground water production from no deeper than _____ ft. below land surface;
 - Condition to allow ground water production from no shallower than _____ ft. below land surface;
 - Condition to allow ground water production only from the basalt ground water reservoir;
 - Well reconstruction is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with and approved by the Ground Water Section.

- B3. Ground water availability remarks: Currently measured basalt wells in the area are displaying reasonably stable water levels. Synoptic water levels at UMAT 332 during the late 1990s and early 2000s were not accurate as a result of a poor airline at the well. What is of greater concern with this application is that the proposal will likely result in substantial interference with a prior water right unless it is properly conditioned. The proposed well is only about 1900 feet from UMAT 331, which is authorized under Permit G-471. The proposed language below is recommended to ensure that the proposed well does not develop any water-bearing zones developed by UMAT 331, thereby minimizing the potential for substantial interference with this and other nearby senior rights.

The well shall be continuously cased and continuously sealed to a minimum depth of 675 feet below land surface. The well may not be completed in such a manner that it allows ground water to be developed from _____. If during well construction, it becomes apparent that the well can be constructed to eliminate interference with nearby shallow wells or hydraulically connected streams in a manner other than specified in this permit, the permittee can contact the Department Hydrogeologist for this permit or the Ground Water/Hydrology Section Manager to request approval of such construction. The request shall be in writing, and shall include a rough well log and a proposed construction design for approval by the Department. The request can be approved only if it is received and reviewed prior to placement of any permanent casing and sealing material. If the well is constructed first and then the request made, requested modification will not be approved. If approved, the new well depth and construction specifications will be incorporated into any certificate issued for this permit.

The permittee shall notify the Ground Water Hydrology Section of the Department in Salem or the Watermaster in Pendleton at least five (5) business days prior to beginning construction of the well. The Department may require samples of the materials penetrated during well construction to be collected. When required, the samples shall be collected at ten-foot intervals and at each change in lithology and shall be stored and properly labeled in containers provided by the Department. The Department may collect additional data, such as geophysical or video logs, at the well prior to installation of pumping equipment. The Department shall bear the cost of any such additional data collection.

The well shall be cased and sealed in such a manner to develop a single basalt aquifer.

Dedicated Measuring Tube. The well shall be equipped with and measured through a dedicated measuring tube pursuant to figure 200-5 in OAR 690-200. This requirement does not apply to flowing wells and wells without pumps.

C. GROUND WATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Basalt of the Columbia River Basalt Group	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: Basalt aquifers are typically confined in this area. Some nearby wells are flowing artesian.

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Birch Creek	1500±	1380	5600	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: The well construction condition will minimize the possibility of hydraulic connection with nearby stream reaches.

Water Availability Basin the well(s) are located within: 220 BIRCH CR> UMATILLA R- AT MOUTH

C3a. **690-09-040 (4):** Evaluation of stream impacts for each well that has been determined or assumed to be hydraulically connected and less than 1 mile from a surface water source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% natural flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: _____ Logid: _____

D2. **THE WELL does not meet current well construction standards based upon:**

- a. review of the well log;
- b. field inspection by _____;
- c. report of CWRE _____;
- d. other: (specify) _____

D3. **THE WELL construction deficiency:**

- a. constitutes a health threat under Division 200 rules;
- b. commingles water from more than one ground water reservoir;
- c. permits the loss of artesian head;
- d. permits the de-watering of one or more ground water reservoirs;
- e. other: (specify) _____

D4. **THE WELL construction deficiency is described as follows:** _____

D5. **THE WELL** a. was, or was not constructed according to the standards in effect at the time of original construction or most recent modification.

b. I don't know if it met standards at the time of construction.

D6. **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. Well construction deficiency has been corrected by the following actions: _____

_____, 200_____
(Enforcement Section Signature)

D8. **Route to Water Rights Section (attach well reconstruction logs to this page).**

BIRCH CR> UMATILLA R- AT MOUTH
UMATILLA BASIN

Water Availability as of 1/5/2009

Watershed ID #: 220

Exceedance Level: 80%

Date: 1/5/2009

Time: 8:34 PM

Water Availability Calculation

Consumptive Uses and Storages

Instream Requirements

Reservations

Water Rights

Watershed Characteristics

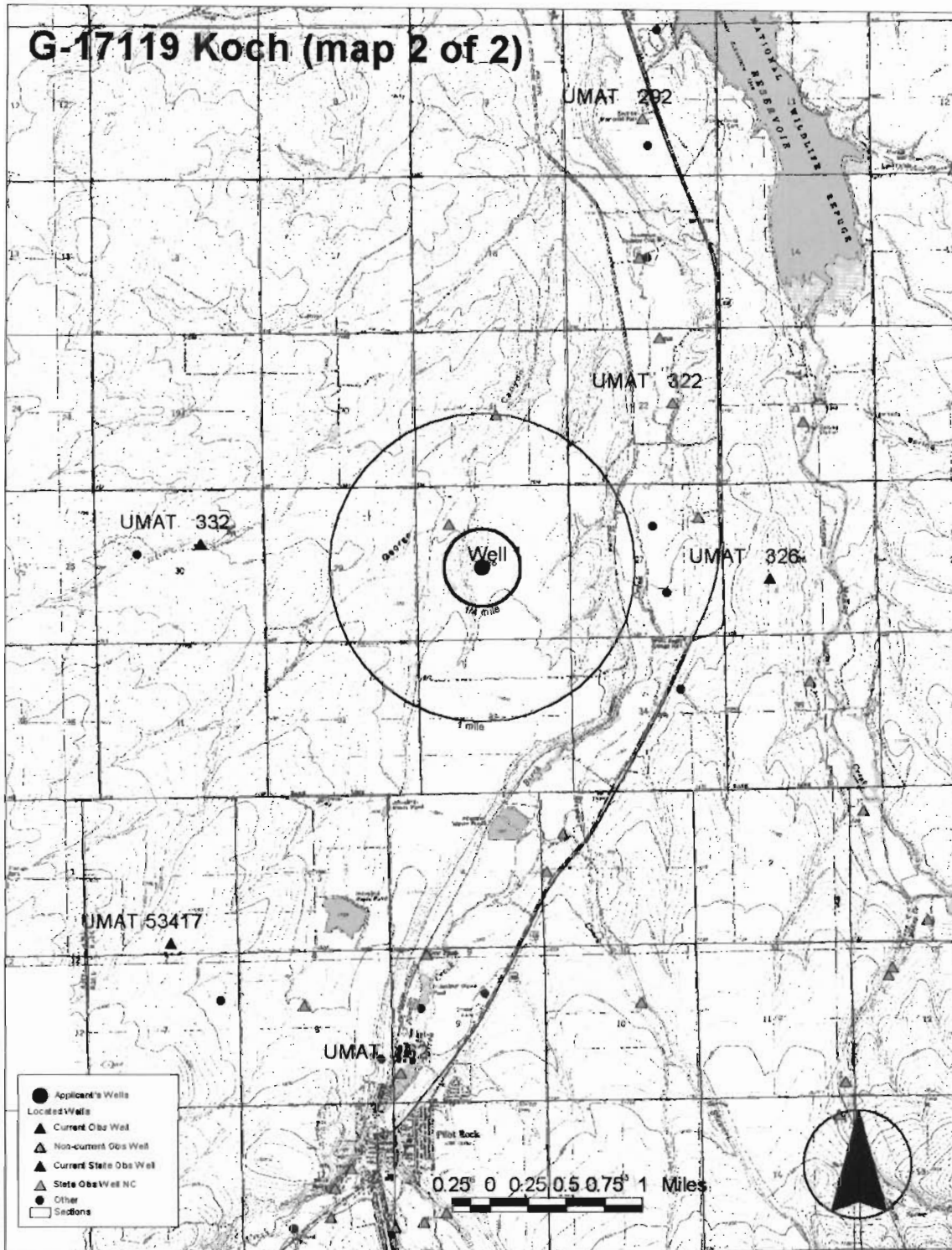
Water Availability Calculation

Monthly Streamflows in Cubic Feet per Second

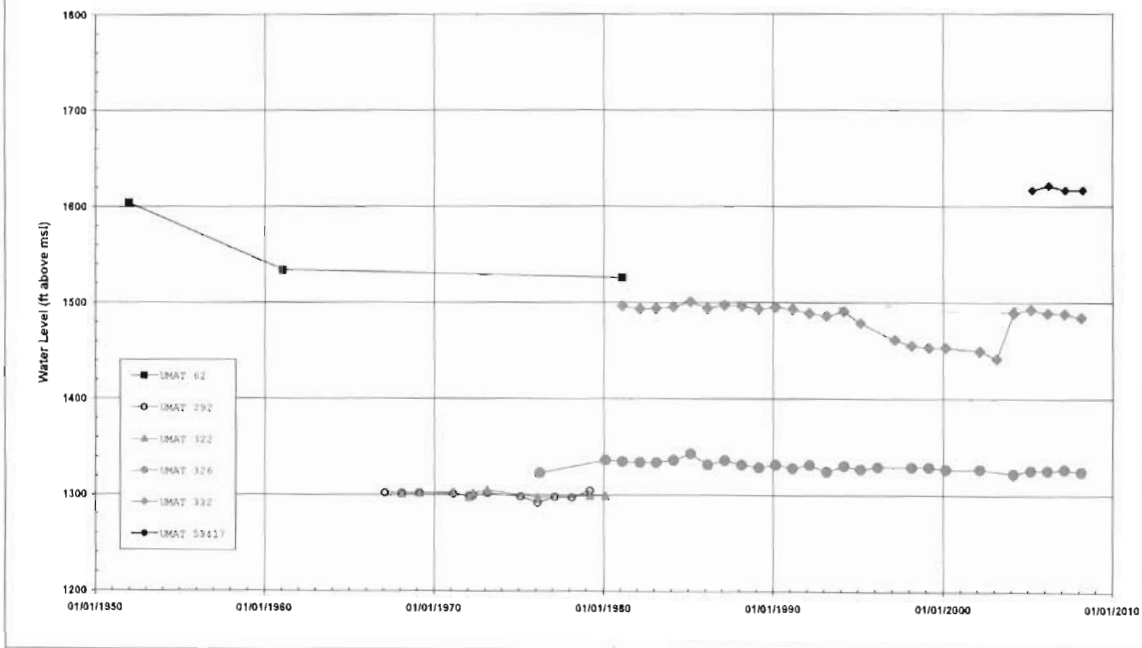
Storage at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirement	Net Water Available
Jan	23.40	0.66	22.70	0.00	20.00	2.74
Feb	39.40	0.93	38.50	0.00	30.00	8.47
Mar	52.20	4.95	47.30	0.00	30.00	17.30
Apr	97.00	19.70	77.30	0.00	30.00	47.30
May	64.60	47.60	17.00	0.00	30.00	-13.00
Jun	32.60	38.20	-5.57	0.00	20.00	-25.60
Jul	10.60	12.70	-2.14	0.00	12.00	-14.10
Aug	4.40	5.19	-0.79	0.00	8.00	-8.79
Sep	2.30	2.75	-0.45	0.00	8.00	-8.45
Oct	1.10	1.42	-0.32	0.00	8.00	-8.32
Nov	5.70	0.27	5.43	0.00	8.00	-2.57
Dec	19.20	0.48	18.70	0.00	20.00	-1.28
Storage Acre-Feet at 50%	39,200.00	8,170.00	31,200.00	0.00	13,500.00	20,400.00

G-17119 Koch (map 2 of 2)



G 17119 NEARBY WATER LEVELS



G 556
Rec'd 1-29-57

WATER WELL REPORT
STATE OF OREGON

UMAT
331

State Well No. W/32-28D(1)
State Permit No.

(1) OWNER:
Name Edwin Hoeft
Address Route 2 Box 108 Pendleton, Oregon

(2) LOCATION OF WELL:
County Umatilla Owner's number, if any—
1/4 Section T. 1 N. R. 32 E. W.M.
Bearing and distance from section or subdivision corner 1710 ft.
S45° 55' E From The N.W. corner of Sec. 28

TYPE OF WORK (check):
New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
Domestic Industrial Municipal
Investigation Test Well Other

(5) TYPE OF WELL:
Rotary Driven
Cable Jetted
Dug Bored

(6) CASING INSTALLED:
Threaded Welded
12" Diam. from 0 ft. to 20 ft. Gage 3/8 wall
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:
Perforated? Yes No
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:
Well screen installed Yes No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

CONSTRUCTION:
Was well gravel packed? Yes No Size of gravel:
Gravel placed from ft. to ft.
Was a surface seal provided? Yes No To what depth? 20 ft.
Material used in seal— cement
Did any strata contain unusable water? Yes No
Type of water? Depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level flowing ft. below land surface Date 11/20/56
Artesian pressure lbs. per square inch Date
Log Accepted by:
[Signed] _____ Date _____, 19____
(Owner)

(11) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? Driller
Yield: 600 gal./min. with 200 ft. drawdown after 6 hrs.
" 500 " 123 " "
" 400 " 54 " "

Batter test gal./min. with ft. drawdown after hrs.
Artesian flow 30 g.p.m. Date 11/20/56
Temperature of water 66 Was a chemical analysis made? Yes No

(12) WELL LOG:
Diameter of well 254" or 12" 329' of 10"
Depth drilled 583 ft. Depth of completed well 583 ft.

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Sandy soil & silt	0	12
Sand & gravel (surface water)	12	14
Broken brown basalt	14	18
Hard grey basalt	18	24
Broken brown basalt	24	54
Brown basalt	54	60
Black basalt	60	81
Grey basalt	81	100
Broken brown basalt	100	110
Red brown basalt (water bearing)	110	120
Brown basalt	120	132
Grey basalt	132	173
Red brown basalt	173	182
Black basalt	182	250
Grey basalt	260	340
Broken rock & mud	340	350
Grey basalt	350	365
Hard brown basalt	365	370
Black basalt	370	394
Brown basalt & clay	394	405
Black basalt	405	440
Grey basalt	440	445
Brown basalt	445	460
Grey basalt	460	513
Brown basalt (water bearing)	513	525
Black basalt	525	540
Grey basalt	540	552
Black basalt	552	560
Grey basalt	560	572

Work started 8/8/56 19____ Completed 11/20/56 19____
(13) BUMP:
Broken red & brown basalt (water bearing) 572 575
Hard brown basalt (water bearing) 575 583
Manufacturer's Name
Type: H.P.

Well Driller's Statement:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME D. K. Smith
(Person, firm, or corporation) (Type or print)
Address 1013 N. Clinton
Driller's well number
[Signed] D. K. Smith
(Well Driller)
License No. 204 Date 11/24 19____

