



Layne-Western Company, Inc.

WATER SUPPLY CONTRACTORS

705 SO. DUFF AVE.

AMES, IOWA 50010

Phone 515 232-3563

Name of Job City of Perry Date 09/21/87
 City or Village Perry State Iowa
 Well No.: 9R Drillers: Wade Stockton
 Well Location: _____ ft. (____) and _____ ft. (____) of the _____ corner of
 Section _____, Twp. _____ (____), Range _____ (____) County.
 Otherwise located as 6' north and 3' east of the north west corner of well No. 9 building

Work Began: 09/21/87 Work Completed: 09/21/87 Well Depth: 45.75
 All measurements made from existing ground level at time well was drilled.

Casing Record:

Amount	Dia.	Wt. or Thickness	Material		
<u>31.25</u>	<u>16"</u>	<u>.375</u>	<u>steel</u>	<u>with weld</u>	<u>joints from +2.5' to -28.75</u>
_____	_____	_____	_____	<u>with</u>	<u>joints from _____ to _____</u>

Screen Record: Type Roscoe Moss shutter screen

Amount	Dia.	Opening	Material		
<u>15'</u>	<u>16"</u>	<u>.080</u>	<u>stainless steel</u>	<u>with weld</u>	<u>joints from 28.75 to 43.75</u>
_____	_____	_____	_____	<u>with</u>	<u>joints from _____ to _____</u>

Type of Seal at Bottom stainless steel plate welded

Hole Record:

<u>54"</u>	<u>inch from</u>	<u>0</u>	<u>to</u>	<u>10'</u>
<u>48"</u>	<u>inch from</u>	<u>10'</u>	<u>to</u>	<u>45.75</u>

Gravel Pack Record:

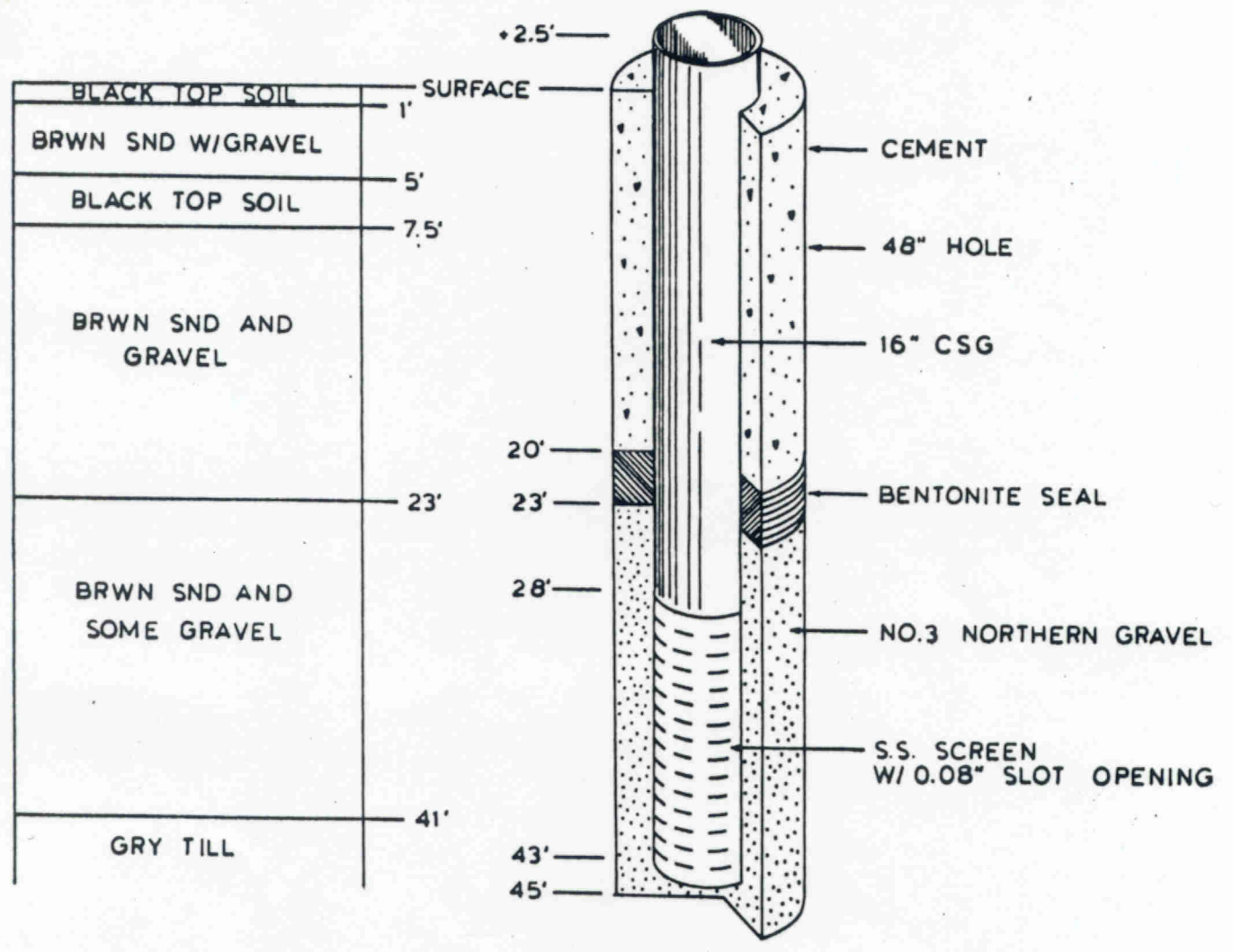
Amount	Size	Source	From	To
<u>16 ton</u>	<u>No. 3</u>	<u>Northern Gravel</u>	<u>23</u>	<u>45.75</u>

Cementing Record: from 20 to grade

Backfill Record: Bentonite seal from 20' to 23'

GEOLOGICAL LOG

CONSTRUCTION DETAIL





Layne-Western Company, Inc.

WATER SUPPLY CONTRACTORS

705 SO. DUFF AVE.

AMES, IOWA 50010

Phone 515 232-3563

Job..... City of Perry Well no. 9R Date Tested..... 09/23/87
 Location..... by well No. 9 building Tested By..... Wade Stockton
 Dia. of Well..... 48" x 16" Driver..... Int. 6 cyl.
 Depth of Well..... 45.75 x 43.75 Pump Used: Column and Shaft..... 5 x 2 x 1 3/16
 Length of Airline..... M-Scope Bowls.....
 Non-Pumping Level..... 9' Measurements from Manufacturer
 Orifice Size..... 6x5 level Serial No.....

Time	Pisometer Reading (in.)	G. P. M.	Air Gauge Reading (feet)	M-Scope Pumping Level	Drawdown	Disch. Pressure		Total Pumping Head	Remarks
						Lbs.	Feet		
1:15 PM	10.5	403		9'					
1:20	10.5	403		22	13				
1:25	10.5	403		25	16				
1:30	10.5	403		26	17				
1:35	10.5	403		26	17				
1:45	10.5	403		26	17				
2:00	10.5	403		26	17				
2:10	10.5	403		26	17				
2:20	10.5	403		26	17				
2:30	10.5	403		26	17				
2:45	10.5	403		26	17				
3:00	10.5	403		26	17				
3:15	10.5	403		26	17				
3:30	10.5	403		26.5	17.5				
3:45	10.5	403		26.5	17.5				
4:00	10.5	403		26.5	17.5				
4:30	10.5	403		26.5	17.5				
5:00	10.5	403		27	18				
6:00	10.5	403		27	18				
7:00	10.5	403		27	18				
8:00	10.5	403		27	18				
9:00	10.5	403		27	18				
9:30	10.5	403		27	18				
10:00	10.5	403		28	19				
10:30	10.5	403		28	19				



Layne-Western Company, Inc.

WATER SUPPLY CONTRACTORS

705 SO. DUFF AVE.

AMES, IOWA 50010

Phone 515 232-3563

Job..... City of Perry Well no. 9R Date Tested..... 09/23/87
 Location..... by well No. 9 building Tested By..... Wade Stockton
 Dia. of Well..... 48" x 46" Driver..... Int. 6 cyl.
 Depth of Well..... 45.75 x 43.75 Pump Used: Column and Shaft..... 5 x 2 x 1 3/16
 Length of Airline..... M-Scope Bowls.....
 Non-Pumping Level..... 9' Manufacturer.....
 Orifice Size..... 6x5 Serial No.....

Time	Pizometer Reading (in.)	G. P. M.	Air Gauge Reading (feet)	M-Scope Pumping Level	Drawdown	Disch. Pressure		Total Pumping Head	Remarks
						Lbs.	Feet		
11:00	10.5	403		28	19				
11:30	10.5	403		28	19				
12:00 AM	10.5	403		28	19				
1:00 AM	10.5	403		28	19				
2:00	10.5	403		28	19				
3:00	10.5	403		28	19				
4:00	10.5	403		28	19				
4:30	10.5	403		28	19				
5:00	10.5	403		28	19				
5:30	10.5	403		28	19				
6:30	10.5	403		28	19				
7:00	10.5	403		28	19				air gauge reading on
8:00	10.5	403		28	19				Well #18 (20)
9:00	10.5	403		28	19				"
10:00	10.5	403		28	19				"
11:00	10.5	403		28	19				"
12 NOON	10.5	403		28	19				"
1:00 PM	10.5	403		28	19				"
1:30	10.5	403		28	19				shut down test
RECOVERY TEST									
1:31				15					
1:32				14					
1:33				14					
1:38				13					
2:00				12					



Layne-Western Company, Inc.

WATER SUPPLY CONTRACTORS

705 SO. DUFF AVE.

AMES, IOWA 50010

Phone 515 232-3563

Job..... City of Perry Well no. 9R Date Tested.....

Location..... Tested By.....

Dia. of Well..... Driver.....

Depth of Well..... Pump Used: Column and Shaft.....

Length of Airline..... Bowls.....

Non-Pumping Level..... Manufacturer

Orifice Size..... Serial No.....

Time	Piezometer Reading (in.)	G. P. M.	Air Gauge Reading (feet)	Pumping Level	Drawdown	Disch. Pressure		Total Pumping Head	Remarks
						Lbs.	Feet		
CONTINUED	RECOVERY								
2:30				11.5					
3:15				11					
3:55				10.5					
4:30				10					
5:00				10					

UNIVERSITY OF IOWA - HYGIENIC LABORATORY

 Analytical Report for Sample Number 8760747

#286
#286 J

Iowa City Laboratory
 Oakdale Hall
 Iowa City, IA 52242
 (319) 335-4500

Des Moines Branch
 900 East Grand
 H.A. Wallace Building
 Des Moines, IA 50319
 (515) 281-5371

Date Received: 09/28/87

Date of Report: 10/22/87

Submitter: LAYNE WESTERN CO
 Address: 705 S. DUFF AVE
 City: AMES, IA 50010

#28614

Sample Location: PERRY
 Date Collected: 09/24/87

Sample Description: WATER, NEW WELL
 Client Reference:

Comments

#9 R. ORFACE PIPE
 REC'D NO METALS BOTTLE

--- Listing of Analyses Performed and Results ---

TEST	CONCENTRATION		METHOD USED	ANALYST
-----	-----	-----	-----	-----
pH VALUE (LAB)	7.3	pH UNITS	EPA 150.1	SMM
SPEC. CONDUCTANCE	720	uMHOS @ 25 C	EPA 120.1	SMM
PHEN. ALKALINITY	NONE	MG/L AS CaCO3	EPA 310.1	SMM
TOTAL ALKALINITY	267	MG/L AS CaCO3	EPA 310.1	SMM
TOTAL HARDNESS	382	MG/L AS CaCO3	EPA 130.2	SMM
TOTAL HARDNESS	22.4	GRAINS/GALLON	EPA 130.2	SMM
SILICA	25	MG/L	EPA 370.1	DC
TOTAL SOLIDS	416	MG/L @103 C	EPA 160.3	SMM
DISSOLVED SOLIDS	416	MG/L @180 C	EPA 160.1	SMM
CALCIUM	110	MG/L	EPA 215.2	DC
MAGNESIUM	28	MG/L	EPA 200.7	SR
MANGANESE	0.41	MG/L	EPA 200.7	SR
POTASSIUM	2.8	MG/L	EPA 258.1	DC
SODIUM	5.6	MG/L	EPA 200.7	SR
BICARBONATE	326	MG/L	S.M. 403	SMM
CARBONATE	NONE	MG/L	S.M. 403	SMM
CHLORIDE	8.0	MG/L	EPA 325.3	SMM
FLUORIDE	0.25	MG/L	USGS 14327	RLP
NO2+NO3 AS NITRATE	0.8	MG/L	EPA 353.2	JAG
SULFATE	88	MG/L	EPA 275.4	SMM

PPM - Parts/Million
 PPB - Parts/Billion
 < - Less than

MG/L - Milligrams/Liter
 uG/L - Micrograms/Liter
 > - Greater than

MG/KG - Milligrams/Kilogram
 uG/KG - Micrograms/Kilogram
 pCi/L - pico Curies/Liter

Date of Report
10/22/87

UNIVERSITY OF IOWA - HYGIENIC LABORATORY

Analytical Report for Sample Number 8760747

#28614

Page No.
02

TEST	CONCENTRATION		METHOD USED	ANALYST
LANGELIER INDEX	0.15	UNITS	S.M. 203	SMM
STABILITY INDEX	7.0	UNITS	S.M. 203	SMM
AQUAPOISE PH	7.15	UNITS	S.M. 203	SMM
SOLUBLE IRON	1.0	MG/L	EPA 200.7	SR
TOTAL IRON	1.0	MG/L	EPA 200.7	SR

Comments

CONSTRUCTED 09/21/87, DEPTH - 45 FEET.
SAMPLE WAS FREE OF TURBIDITY WHEN COLLECTED.
NO POLYPHOSPHATE IS BEING USED.
SAMPLE WAS PALE YELLOW AND
SLIGHTLY TURBID ON RECEIPT.
TRACE METALS CONTAINER NOT RECEIVED AS
OF 10/19/87.

Verified: MTF

Description: GROSS ALPHA & BETA

ALPHA INSTRUMENT : OLD SEARLE
BETA INSTRUMENT : OLD SEARLE
GROSS ALPHA : 4.3
ALPHA PRECISION, +/- : 0.2
GROSS BETA : < 6.8
BETA PRECISION, +/- : 1.0
NOTE : ALL VALUES REPORTED IN pCi/L

Analyst: DDR
Verified: MTF

PPM - Parts/Million MG/L - Milligrams/Liter MG/KG - Milligrams/Kilogram
PPB - Parts/Billion uG/L - Micrograms/Liter uG/KG - Micrograms/Kilogram
< - Less than > - Greater than pCi/L - pico Curies/Liter