61572

WELL INFORMATION - ROCK WELLS

Layne®-Western

a division of Layne Christensen Company
— PROFESSIONAL SERVICES FOR WATER SYSTEMS —
721 West Illinois Avenue • Aurora, Illinois 60506-2892 • Phone 630/897-6941
229 West Indiana Avenue • Beecher, Illinois 60401 • Phone 708/946-2244

Name Of Job: Coralville Well No. 12 Date: 7-28-04

City: Coralville State: Iowa

Well No: 12 Drillers: Stanley Alwardt

Well Location: Water Plant ft. ( ) and ft. ( ) of the corner of

( ) 1/4 of Section ,Twp. ( ), Range ( ) County

Otherwise located as: East of Water Plant.

Work Began: 9-17-03 Work Completed: 10-28-03

Casing Record:

Amount	Dia.	Wt. or Thickness	Material					
103	26"	.375"	CS	with		joints from	GL	to 103
867	20"	.50"	CS	with		joints from	GL	to 867
252	13.375"	.38"	CS	with		joints from	867	to 1119
				with		joints from		to

Hole Record:

30	inch from	GL	to	103	
25	inch from	103	to	873	
18	inch from	873	to	1123	
12	inch from	1123	to	1744	
	inch from		to	1744	bottom of hole

Cementing Record: 1234 sacks

Well Test Data: Static Level 231 ; pumping level 433 after 12 hours pumping at 1000 g.p.m.

Length of test 24 hrs. See Well Test Data Sheet Dated 12-1-03

Remarks:

Layne Job No. 169109 Well Permit No.:

SEE OTHER SIDE

072904

WELL LOG

61572

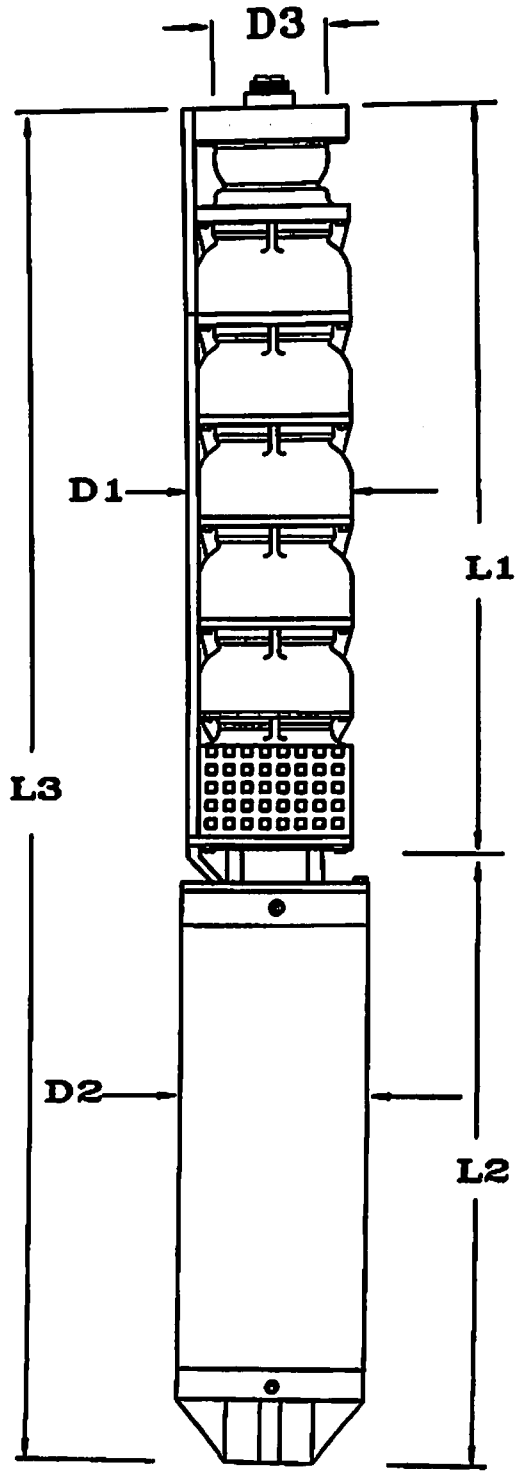
Feet		Feet	Description
GL	to	105	Clay
105	to	120	Limestone
120	to	140	White limestone
140	to	150	Limestone
150	to	155	Tan limestone
155	to	295	Limestone
295	to	305	Limestone and shale
305	to	315	White limestone
315	to	355	Gray limestone
355	to	430	White limestone
430	to	435	Shale
435	to	570	Green shale
570	to	615	Gray limestone
615	to	715	Brown limestone and shale
715	to	820	Limestone
820	to	900	Brown hard limestone
900	to	1015	White limestone
1015	to	1080	Gray limestone with shale
1080	to	1130	Good limestone
1130	to	1165	Limestone
1165	to	1170	Limestone shale, sand
1170	to	1250	Sand and limestone
1250	to	1285	Sand
1285	to	1370	Sand and chert
1370	to	1415	Sand
1415	to	1500	Sand with limestone
1500	to	1505	Fine white sand
1505	to	1610	Sand
1610	to	1670	Sand with limestone
1670	to	1740	Limestone

072904

FLOWSERVE

61572

Well No. 12



PUMP DATA

PUMP MODEL:	12ELL
NO. STAGES:	3
CAPACITY (USGPM):	800
TDH (FEET WATER):	680

MOTOR DATA

MOTOR MODEL:	MI10-880-2
MOTOR HP:	200
MOTOR RPM:	3450
F.L. MOTOR EFFICIENCY:	89.5
F.L. AMPS:	265
F.L. KW:	149
VOLTAGE:	480
PHASE:	3
HERTZ:	60
CABLE SIZE REQUIRIED (AWG):	-----

LENGTH

PUMP LENGTH (IN) = L1	48.75
MOTOR LENGTH (IN) = L2	71.38
OVERALL LENGTH (IN) = L3	110.13

DIAMETER

PUMP DIAMETER (IN) = D1	12.25
MOTOR DIAMETER (IN) = D2	9.055

DISCHARGE

DISCHARGE SIZE NPT (IN) = D3	8

WEIGHT

NET WEIGHT – PUMP & MOTOR (LBS)	1200

N061765

08/04/(

61572

Hygienic Laboratory

The University of Iowa

Date of report: 12-30-2003

CORALVILLE WATER PLANT
1512 7TH STREET
BOX 5127
CORALVILLE IA 52241

Sample Number	**200312674**
Date Received	12-02-2003
Project	
Date Collected	12-02-2003 09:30
Collection Site	jordon well site
Collection Town	Coralville
Description	water
Reference	
Collector	KOOSMANN LARY
Phone	(319) 325-3029
Purchase Order	

Comments	*Upon receipt at the UHL sample meets standard acceptance criteria.*

Results of Analyses

Total Coliform and E. coli by MMO-MUG

Analyte	Concentration MPN/100mL	Quantitation Limit
Total Coliform	Absent	1
E.coli	Absent	1

Date Analyzed: 12-02-2003
Method: SM18 9223
Analyst: R,M,L
Verified: CR

GC/MS Volatiles - Trihalomethanes

Analyte	Concentration ug/L	Quantitation Limit
Chloroform	<0.5	0.5
Bromodichloromethane	<0.5	0.5
Chlorodibromomethane	<0.5	0.5
Bromoform	<0.5	0.5
Total Trihalomethanes	<2.0	2.0

Date Analyzed: 12-02-2003
Method: EPA 524.2
Analyst: LL
Verified: JN

Nitrate as Nitrogen

Analyte	Concentration mg/L	Quantitation Limit
Nitrate Nitrogen as N	<0.10	0.10

Date Analyzed: 12-03-2003
Method: EPA 300.0
Analyst: LDA
Verified: LF

Multiple-Tube Fermentation Fecal Colifor

Analyte	Concentration MPN/100mL	Quantitation Limit
Fecal Coliform	Absent	1

Date Analyzed: 12-02-2003
Method: SM18 9221E
Analyst: R,M,L
Verified: CR

Continued on next page...

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Hygienic Laboratory

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The University of Iowa

Sample Number 200312674

Total Magnesium

Analyte	Concentration mg/L	Quantitation Limit
Total Magnesium	69	0.10

Date Analyzed: 12-11-2003
Method: EPA 200.7
Analyst: DC
Verified: TAB

Total Sodium

Analyte	Concentration mg/L	Quantitation Limit
Total Sodium	160	0.50

Date Analyzed: 12-11-2003
Method: EPA 200.7
Analyst: DC
Verified: TAB

Manual Fluoride by ISE

Analyte	Concentration mg/L	Quantitation Limit
Fluoride	0.27	0.10

Date Analyzed: 12-08-2003
Method: EPA 340.2
Analyst: JF
Verified: LF

Total Lead

Analyte	Concentration mg/L	Quantitation Limit
Total Lead	<0.001	0.001

Date Analyzed: 12-12-2003
Method: EPA 200.8
Analyst: SB
Verified: LF

Total Copper

Analyte	Concentration mg/L	Quantitation Limit
Total Copper	<0.01	0.01

Date Analyzed: 12-11-2003
Method: EPA 200.7
Analyst: DC
Verified: TAB

Radiochemistry

Analyte	Concentration pCi/L	Uncertainty +/-	Method	Analyst/ Verifier	Date Analyzed
Gross Alpha	10.2	1.8	EERF 00-02	MM/NK	12-13-2003
Comments	*The United States Environmental Protection Agency has designated a maximum contaminant level of 15 pCi/L for Gross Alpha (excluding uranium) in public drinking water supplies. Effective since July 9, 1976.*				

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Sample Number 200312674

Radiochemistry

Analyte	Concentration pCi/L	Uncertainty +/-	Method	Analyst/ Verifier	Date Analyzed
Radium-226	4.0	0.6	EPA 904.0,903.0	SM/NK	12-29-2003
Radium-228	2.0	0.8	EPA 904.0,903.0	SM/NK	12-29-2003
Combined Radiums	6.0		EPA 904.0,903.0	SM/NK	12-29-2003
Comments	*The United States Environmental Protection Agency has designated a maximum contaminant level of 5 pCi/L for combined Radium 226 and Radium 228 in public drinking water supplies. Effective since July 9, 1976. For any Radium 226 and or 228 result less than our detection limit a value of zero is to be assumed for the purposes of combining the results.*				

Description of units used within this report

mg/L - Milligrams per Liter
ug/L - Micrograms per Liter
pCi/L - PicoCuries per Liter
MPN/100mL - Most Probable Number per 100 Milliliters
Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, NELAP, NVLAP, USEPA, and other credentials available upon request.

If you have any questions please call Sherri Marine at 800/421-IOWA (4692) or 319/335-4500. Thank you.

End of Report

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Hygienic Laboratory

The University of Iowa

Date of report: 02-01-2006

KEVIN CALLAHAN
CORALVILLE WATER PLANT
1512 7TH STREET
BOX 5127
CORALVILLE IA 52241

Sample Number	**200650667**
Date Received	01-13-2006
Project	
Date Collected	01-10-2006 10:21
Collection Site	well #12
Collection Town	Coralville
Description	water
Reference	
Collector	BAACK CRAIG
Phone	(319) 248-1770
Purchase Order	

Comments	*Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Silica as SiO2

Analyte	Concentration mg/L	Quantitation Limit mg/L
Silica as SiO2	9.0	1.0

Date Analyzed: 01-17-2006
Method: SM 4500-SI D
Analyst: MP
Verified: TAB

Nitrate as Nitrogen

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate Nitrogen as N	<1.0	1.0

Comments	*Samples exceeded EPA recommended holding time when received at the laboratory.*

Date Analyzed: 01-13-2006
Method: EPA 300.0
Analyst: LDA
Verified: LF

Laboratory pH

Analyte	Concentration pH Units	Quantitation Limit pH Units
Laboratory pH	7.8	

Date Analyzed: 01-13-2006
Method: EPA 150.1
Analyst: MP
Verified: TAB

Specific Conductance

Analyte	Concentration umhos/cm	Quantitation Limit umhos/cm
Specific Conductance	1500	1.0

Date Analyzed: 01-13-2006
Method: SM 2510B
Analyst: MP
Verified: TAB

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The University of Iowa

Total Alkalinity

Analyte	Concentration mg/L as CaCO3	Quantitation Limit mg/L as CaCO3
Total Alkalinity	240	1.0

Date Analyzed: 01-13-2006
Method: SM 2320B
Analyst: MP
Verified: TAB

Total Hardness

Analyte	Concentration mg/L as CaCO3	Quantitation Limit mg/L as CaCO3
Total Hardness	430	5.0

Date Analyzed: 01-20-2006
Method: SM18 2340 B
Analyst: DC
Verified: TAB

Total Dissolved Solids

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Dissolved Solids	1060	1
Comments	*Dried at 180 degrees C.*	

Date Analyzed: 01-17-2006
Method: EPA 160.1
Analyst: LD
Verified: TAB

Total Calcium

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Calcium	95	1.0

Date Analyzed: 01-17-2006
Method: EPA 200.7
Analyst: DC
Verified: LF

Total Magnesium

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Magnesium	48	0.10

Date Analyzed: 01-17-2006
Method: EPA 200.7
Analyst: DC
Verified: LF

Total Potassium

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Potassium	15	1.0

Date Analyzed: 01-17-2006
Method: EPA 200.7
Analyst: DC
Verified: LF

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The University of Iowa

Sample Number 200650667

Total Sodium

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Sodium	170	0.50

Date Analyzed: 01-17-2006 Analyst: DC
Method: EPA 200.7 Verified: LF

Bicarbonate Alkalinity as CaCO3

Analyte	Concentration mg/L	Quantitation Limit mg/L
Bicarbonate	240	

Date Analyzed: 01-13-2006 Analyst: MP
Method: SM 2320B Verified: TAB

Carbonate Alkalinity as CaCO3

Analyte	Concentration mg/L	Quantitation Limit mg/L
Carbonate	None	

Date Analyzed: 01-13-2006 Analyst: MP
Method: SM 2320B Verified: TAB

Chloride

Analyte	Concentration mg/L	Quantitation Limit mg/L
Chloride	38	1.0

Date Analyzed: 01-13-2006 Analyst: LDA
Method: EPA 300.0 Verified: LF

Manual Fluoride by ISE (SDWA)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Fluoride	1.43	0.10

Date Analyzed: 01-13-2006 Analyst: JF
Method: SM 4500-F C Verified: TAB

Sulfate

Analyte	Concentration mg/L	Quantitation Limit mg/L
Sulfate	510	1.0

Date Analyzed: 01-17-2006 Analyst: LDA
Method: EPA 300.0 Verified: LF

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Sample Number 200650667

Total Barium

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Barium	<0.05	0.05

Date Analyzed: 01-17-2006 Analyst: DC
Method: EPA 200.7 Verified: LF

Total Chromium

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Chromium	<0.01	0.01

Date Analyzed: 01-17-2006 Analyst: DC
Method: EPA 200.7 Verified: LF

Total Cadmium

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Cadmium	<0.001	0.001

Date Analyzed: 01-18-2006 Analyst: SB
Method: EPA 200.8 Verified: DS

Total Thallium

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Thallium	<0.001	0.001

Date Analyzed: 01-18-2006 Analyst: SB
Method: EPA 200.8 Verified: DS

Total Antimony

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Antimony	<0.005	0.005

Date Analyzed: 01-18-2006 Analyst: SB
Method: EPA 200.8 Verified: DS

Total Arsenic

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Arsenic	<0.001	0.001

Date Analyzed: 01-19-2006 Analyst: SB
Method: EPA 200.8 Verified: TAB

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Total Selenium

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Selenium	<0.01	0.01

Date Analyzed: 01-19-2006
Method: EPA 200.8
Analyst: SB
Verified: TAB

Total Iron

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Iron	2.2	0.02

Date Analyzed: 01-17-2006
Method: EPA 200.7
Analyst: DC
Verified: LF

Total Manganese

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Manganese	0.05	0.02

Date Analyzed: 01-17-2006
Method: EPA 200.7
Analyst: DC
Verified: LF

Total Mercury

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Mercury	<0.0002	0.0002

Date Analyzed: 01-31-2006
Method: EPA 245.2
Analyst: PJM
Verified: SB

Description of units used within this report

mg/L - Milligrams per Liter
umhos/cm - Micromhos per Centimeter
Quant Limit - Lowest concentration reliably measured
pH Units - pH Units
mg/L as CaCO3 - Milligrams per Liter as Calcium Carbonate

Iowa Laboratory Certification No. 027. AIHA, NELAP, USEPA, NVLAP #101288-0 and other credentials available upon request.

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