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WEST PLAINS GEOPHYSICAL ORIENTATION SURVEY
WORK PLAN

Submitted to:

Utilities Division, Water Resources Program
Public Works Department
Spokane County, Washington

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APPROVAL SHEET

_____ _____

Mike Hermanson Date
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1.0 INTRODUCTION

The West Plains area is located west of the City of Spokane, at the boundary of WRIA 54 (Lower Spokane River Watershed), WRIA 56 (Hangman Creek Watershed) and WRIA 34 (Palouse River Watershed) and includes land within these three Water Resource Inventory Areas (WRIAs) (Figure 1). The study objective is to determine the feasibility of various geophysical methods to delineate the top of the basement rocks across the West Plains.

The project is funded by the Washington Department of Ecology (Ecology) as Grant No. G080030. Table 1 presents the project budget.

TABLE 1

Project Budget

Budget	Task
$1,700.00	Project Management
$28,100.00	Project Work Plan and Quality Assurance Project Plan
$57,100.00	Geophysical Orientation Survey
$40,000.00	Installation of Confirmation Borehole
$13,100.00	Orientation Survey Report
$140,000.00	Total Project Budget

This Work Plan presents details regarding the locations of each of the field trials and the geophysical methods to be employed at each of the sites. The Work Plan is intended to outline a systematic approach that will help ensure the geophysical data collected for Spokane County will achieve the project objective.

1.1 Project Background

The West Plains area is located west of the City of Spokane and includes the City of Airway Heights, the City of Medical Lake, the City of Four Lakes and Fairchild Air Force Base (Figure 1). A formal boundary for the West Plains does not exist. However, the West Plains is generally considered as the relatively low lying land that occurs west of the Spokane River and is surrounded by low lying hills and buttes that occur north of Cheney, east of Rearden and south of Four Mound Prairie. Two primary drainages, Deep Creek and Coulee Creek, flow in an easterly direction across the northern portion of the West Plains and discharge into the Spokane River.

The geology of West Plains is comprised of, from the youngest to the oldest units:

- Sand and gravel deposits that occur within palaeochannels
- Columbia River Basalt Group
- Crystalline basement rocks (such as granite and quartzite)

The crystalline basement rocks are exposed on a number of topographic highs such as Olson Hill (just north of Medical Lake), Booth Hill and Fancher Butte (west of Medical Lake) and McDowell Hill (south of Coulee Creek and north of Deep Creek). The crystalline basement rocks also underlie the basalts and the sand and gravel deposits. Recent geologic mapping by Washington State Department

of Natural Resources (DNR) and by Eastern Washington University (EWU) has improved the understanding of the distribution and occurrence of geologic units; however, the topography and nature of the subsurface contact between the basement rocks and overlying basalts and sediments are not well understood.

The primary aquifers in the West Plains area occur within the paleochannel deposits and within the Wanapum and Grande Ronde Basalt flows. The basement rocks, defined as metamorphic and intrusive igneous rocks, are low permeability units that provide poor yield to wells and are considered to be an aquitard (i.e., barrier to groundwater flow). Recharge to the West Plains aquifers is from precipitation (rain and snowmelt) and totals about 15 to 19 inches annually. The Washington State Department of Ecology (Ecology) has compiled groundwater level information for a number of wells located across the West Plains and has concluded that in some areas groundwater levels within the basalt aquifers are declining (Covert, 2007). Documented groundwater level declines between 2001 and 2003 range from about 15 feet in a Medical Lake well to about 120 feet in a Four Lakes well between 1997 and 2005 (TetraTech and GeoEngineers, 2007). Aquifer testing data also suggests that well interference occurs between some of West Plains municipal wells (Covert, 2007). The conceptual model for the West Plains hydrogeology suggests that the nature and topography of the top of basement controls groundwater flow and that the basalts are divided into small, compartmentalized aquifers.

1.2 Project Description

The purpose of this project is to evaluate several geophysical methods in order to select one or more methods that can be used to determine the depth to basement beneath unconsolidated sediment and to delineate the contact between the basalt and the crystalline basement rock. The geophysical methods (including equipment, field operations and processing) will need to consider cultural interference associated with development (e.g., roads, power lines and buried utilities), depth to the contact, and the geophysical attributes of the geologic contacts. Geophysics (primarily seismic reflection) has been used across the West Plains to delineate the configuration of the Deep Creek, Airport and Airway Heights palaeochannels (McCollum, 2009; Budinger, 2001; GeoEngineers, 2002; GeoEngineers, 2007). However, this investigation did not identify deeper reflectors that may be associated with the basalt – crystalline basement contact.

1.3 Project Schedule

Field activities are scheduled to begin in March of 2009 and to be finished in June of 2009. The table below summarizes the schedule of project activities.

TABLE 2

Project Schedule

Date	Monitoring Activities
March 2009	Submission of Quality Assurance Project Plan and Work Plan
March 2009	Begin geophysical field trials at select locations
April 2009	Complete geophysical field trials at select locations, process data from all field trials and prepare orientation survey draft report.
May 2009	Drill confirmation borehole, prepare orientation survey final report
June 2009	Submit final project deliverables

2.0 SITE SELECTION

Figure 1 shows the approximate location of the geophysical lines at the five proposed study areas. Additional information in the immediate vicinity of the lines, e.g. the approximate location of nearby wells, is included in Figures 2 through 6. Lithologic logs for wells associated with each of the lines are included in Appendix A and summarized in the following section that describes each of the sites.

The five lines, their general location, and order of priority as determined with Spokane County, are:

- Line 1: Craig Road and Highway 902 towards Hayford Road
- Line 2: Ventura Road
- Line 3: Craig Road
- Line 4: Wood Road
- Line 5: Meadow Lake Road

The actual location of the lines will be confirmed with Spokane County and Ecology once Spokane County has confirmed landowner permission to access the land.

The following section provides a brief description of the lines, the general geology and the objective of the geophysical investigation.

2.1 Line 1 - Craig Road and Highway 902 to Hayford Road

This line runs in a northeasterly direction from the Delegans well (166859), also known as the Airway Heights Park West well, through a significant exposure of granite that is located about 3,000 feet south of Thorpe Road (Figure 2). This line is approximately 5,500 feet long (Figure 2).

The Mayhan well (166590) is anticipated to be the closest residential well to this line, based on information available from Ecology's on-line well viewer. It was logged as basalt from 9 feet to 303 feet below ground surface.

The granite exposure located approximately three-quarters of the way along the line has been recently mapped by the Washington State Department of Natural Resources (DNR) as basement rock. However, there is no evidence of crystalline bedrock, at a depth of less than 300 feet, in the three wells closest to this outcrop. Below is a summary of the stratigraphy in the three wells.

Mayhan well (166590)

0 to 9 feet	overburden
9 to 105 feet	basalt
105 to 145 feet	scoria
145 to 260	basalt, medium hardness
260 to 303 feet	scoria

Delegans well (166859)

0 to 42 feet	gravel, sand and clay
42 to 301 feet	basalt

Medical Lake well (417068)

0 to 64 feet	gravel and sandy clay
64 to 805 feet	basalt
805 to 1301 feet	clay
1301 to 1404 feet	quartzite / granite

Geophysics will be conducted to determine if the basalt – clay – basement contact, noted in the Medical Lake well (417068) log, can be detected with geophysics, and to determine if the granite exposure located at the northeast end of the line is an basement outcrop or float.

It should be noted that the borehole control along this line is poor and that a monitoring well could be considered this line to improve our understanding of the stratigraphy in the area and provide additional control for geophysics. However, the contact between the basalt and granite may be located at considerable depth (greater than 800 feet) along the northeastern end of this line and a monitoring well penetrating the contact may be expensive to drill and install (i.e., up to $60,000 or more).

2.2 Line 2 - Ventura Road

Ventura Road is one block east of Rambo Road on the north side of Highway 2 (Figure 3). The Ventura Road line runs northwards through an open field, crosses Highway 2 and then along Venture Road. It is approximately 4,250 feet long. Several of the well logs north of Highway 2 and in the vicinity of Ventura Road indicate that the basalt – granite contact occurs at a depth between 90 and 543 feet (Figure 3). Below is a summary of the stratigraphy of two wells close to the line.

Harding well (170106)

0 to 5 feet	sand and clay
5 to 55 feet	basalt
55 to 182 feet	clay
182 to 205	granite

Audett well (173290)

0 to 9 feet	sand and clay
9 to 190 feet	basalt
190 to 260 feet	clay
260 to 543 feet	basalt
543 to 600 feet	granite

Geophysical data will be acquired along this line to attempt to produce a 2D profile of the basement high. Based on the well log data, the contact with basement rock is clay in the north that transitions to basalt near the center of the line. The Fairchild Air Force Base well (371438) did not encounter basement rock in the upper 439 feet, so the data obtained on this line will be used determine to what depth the top of bedrock can be detected.

2.3 Line 3 - Craig Road (Highway 902 to Four Lakes)

This line is approximately 5,600 feet long and runs south to north from near the Four Lakes well (468689) to White Road (Figure 4). The Four Lakes well (468689) located just north of Interstate 90,

logged the basalt-basement contact at a depth of 285 feet. Below is a summary of the stratigraphy in two wells close to the line.

The approximate location of the Keys well, based on information available from the Ecology's on-line well viewer, which was drilled to a depth of 225 feet, is shown on Figure 2.

Keys (170665) well

0 to 17 feet	gravel, sand and clay
17 to 225 feet	basalt

Southern Four Lakes well (468689)

1 to 178 feet	basalt
178 to 198 feet	clay and sand
198 to 234 feet	basalt
234 to 244 feet	clay
244 to 285 feet	basalt
285 to 300 feet	decomposed granite

Geophysics will be conducted at this location to attempt to map the top of the basement rock from the Four Lakes well (468689) north to White Road where it is expected to be 1,000 feet below the ground surface.

2.4 Line 4 - Wood Road (between Bowie and Euclid Roads)

The Wood Road line runs in a southeasterly direction from Bigler well (175566) to the Hutterian well (172973) located just north of Euclid Road (Figure 5). Line 4 is approximately 3,500 feet long. The two most northerly of the three Hutterian wells notes quartz sand 230 and 240 feet bgs. This may indicate a contact with granite since granite decomposes to a quartz-dominant sand. The Bigler well (175566) is located on the southeastern edge of McDowell Hill, a basement high. Below are the summaries of the stratigraphy in the Bigler and Hutterian wells.

Bigler well (175566)

0 to 30 feet	sand and gravel
30 to 320 feet	granite

Northern Hutterian well (172973)

1 to 230 feet	basalt
230 to 240 feet	fine quartz sand

Geophysics data will be obtained at this location to delineate the basalt - basement contact as it dips in an easterly direction from McDowell Hill.

2.5 Line 5 - Meadow Lake Road

Line 5 runs from west to east along Meadow Lake Road, a gravel road about 0.75 miles long located between Murphy Road and Hwy 904 (Figure 6). The line begins near the KimLee well (419003) and ends near the Harmon well (168343). The well logs (see Appendix A) indicate that basement rock occurs on the eastern (Schulter well) and western (Schroeder well) extent of the traverse and that basalt occurs in between The Schroeder well (173276) encountered granite at a depth of

248 feet while the Schluter well (175937) encountered granite at a depth of 392 feet. It should be noted that the locations of the wells shown on Figure 6 are approximate and are based on information available from Ecology's on-line well viewer. Below are the stratigraphy in the KimLee and Harmons Wells.

KimLee well (419003)

1 to 18 feet	clay
18 to 98 feet	basalt
98 to 105 feet	clay
105 to 120 feet	granite

Harmon well (168343)

3 to 23 feet	clay
23 to 110 feet	basalt
110 to 213 feet	clay
213 to 240 feet	basalt

The purpose of obtaining geophysical data on this line is to attempt to map the contacts that are indicated in the well logs and also to determine the presence of a fault.

3.0 GEOPHYSICAL METHODS

The selection of the geophysical methods to be used for the West Plains study was based on a literature search and a pilot test that was conducted in December of 2008. The following table summarizes the methods that were considered and their application. The important selection criteria for this study was focused on methods that would be most likely able to detect the contact between different rock types, e.g. basalt over granite and to determine the depth to the top of competent rock covered by unconsolidated overburden, e.g. sand and gravel over granite. Also of importance were the expected depth of subsurface penetration and the resolution of each method.

TABLE 3

Geophysical Methods and Applications

(Adapted from ASTM Guide D 6429-99 Standard Guide for Selecting Surface Geophysical Methods)

	Rock Layers	Depth to bedrock	Depth to water table	Fractures and fault zones	Voids and sinkholes	Soil and rock properties	Dam and lagoon leakage	Salt water intrusion	Utility location	Abandoned wells
Seismic refraction	S	P	P	S	C	S				
Seismic reflection	P	P	P	S	S					
Ground penetrating radar (GPR)	S	P	P	S	P		S	S	P	
Electrical resistivity imaging (ERI)	S	S	S	S	S	P	S	P		
Induced polarization (IP)			S	S	S			S		
Spontaneous potential (SP)							P			
Very low Frequency EM (VLF)		S	S	P						
Frequency domain EM		S	S	P	S	S	S	P	S	S
Time domain EM (TEM)	S	S	S	S				P	P	P
Gravity		P		S	P					
Magnetics				S						S

P. Denotes primary choice of method for application.
S. Denotes secondary choice of method for application.

The geophysical methods listed in Table 3 that are the most appropriate for the West Plains study area based on the stated criteria are: seismic refraction, seismic reflection, GPR, ERI, gravity, and TEM.

Seismic Methods

There is an increase in velocity with depth and a significant acoustic impedance contrast between basalt and granite suggesting seismic methods, reflection and/or refraction, are a good choice for most geologic conditions on the West Plains. The typical depth of penetration for the seismic refraction method is less than 100 feet unless explosives are used as the source. This limits it's applicability within the West Plains area, although refraction data, with some limitations, can be collected simultaneously with seismic reflection data and could be used to map the alluvial-bedrock contact at depths less than 100 feet. The typical depth of penetration for seismic reflection measurements ranges between 50 and 1,000 feet; measurement at depths beyond 1,000 feet often require seismic sources not common to hydrogeologic investigations.

GPR Method
The depth of GPR measurements in most soil and rock conditions is generally less than 30 feet, and may be less than 3 feet in mineralogical clays or materials containing conductive pore fluids. The depth limitation of GPR indicates that this method would only have applications for rapid reconnaissance mapping of the top of shallow bedrock such as in the vicinity of known bedrock or basalt outcrops.

ERI Method
Electrical resistivity is a secondary choice to map rock layers and the depth to bedrock. The depth of signal penetration and resolution of ERI measurements are primarily related to the electrode spacing. This method is a good choice to use in areas where the top of basement rock is in contact with unconsolidated sediments at depths less than 200 feet.

TEM Method
The TEM is a secondary choice to map rock layers and the depth to bedrock. The depth of measurements can be as shallow as 20 feet and as great as 3,000 feet. Measurements for depths greater than 500 feet require a large loop size. Horizontal resolution can be problematic because large loops often cross lateral discontinuities, such as dramatic increase in the depth to bedrock, which produces erroneous measurements. TEM could be a good choice for mapping depths to deeper rock layers and basement in most areas in the West Plains.

Gravity Method
Gravity measurements are primarily used to map regional geologic structure including the depth to bedrock. Vertical resolution is a function of the accuracy of density estimates for the geologic units. Lateral resolution is a function of station spacing. Because there is a large contrast in the density of unconsolidated sediments and granitic basement rocks, as well as good density estimates for the basalt and granite, gravity is a good choice for the West Plains area.

Test of Geophysical Methods
A pilot geophysical study was conducted by Golder in December 2008 as a component of the project. At the pilot site the depth to basement rock ranged from zero feet at an outcrop to greater than 220 feet below the ground surface at a well just 250 feet to the north. The site provided fairly representative conditions for evaluating the effectiveness of various geophysical methods including seismic refraction, seismic reflection, time-domain electromagnetics, electrical resistivity imaging, and gravity methods. However, the top of basement rock dips steeply to the north and is difficult to image. Seismic refraction, seismic reflection, electrical resistivity and gravity methods proved successful for mapping the depth and topography of the surface of the basement rock.

The following is a summary of the results from a pilot study that was conducted at the Abel property (line P1 on Figure 1).

- Seismic refraction successfully imaged the overburden-granite contact, but did not image the basalt-granite contact.
- Seismic reflection successfully imaged the overburden-granite contact, but did not image the basalt-granite contact with certainty.
- Electrical resistivity imaging successfully imaged the overburden-granite contact, but did not image the basalt-granite contact.

- TEM did not work well for detecting the basalt – granite; results are inconclusive. There appeared to be a sharp lateral variation in the electrical resistivity imaging data coincident with the locations of the time domain loops.
- Gravity successfully imaged the overburden-granite contact, but was not able to image the basalt-granite contact with certainty.

The geophysical methods selected as the most appropriate to investigate the West Plains area includes seismic refraction, seismic reflection, ERI, and gravity. Because the TEM results from the Pilot Test were inconclusive, it will be evaluated along with the previously listed methods.

3.1 Seismic Refraction

Seismic refraction, using sledgehammers and portable weight drop energy sources, is used for geologic investigations to map stratigraphy and the depth to bedrock where the top of bedrock is less than 150 feet. The method requires a seismic energy source to introduce seismic waves into the subsurface. The seismic waves penetrate the overburden, are refracted by the soil or rock and travel as head waves along interfaces with higher seismic velocity than the layer above. This interface can be stratigraphic contacts, such as silt to sand, alluvium over bedrock, or at the groundwater table. While the head waves are traveling along this interface, they continually produce seismic waves that travel to the ground surface where they are detected by geophones. Geophones convert the acoustic energy in the ground to an electric signal that is transmitted by the geophone cable to the seismograph. The seismograph records the arriving electric signals with respect to time and stores the first arrivals for future data processing. The seismic data is processed to determine the seismic velocity of the earth material through which the energy has traveled and to model the subsurface geology. This geophysical model depicts the earth in cross-section showing the velocity and thickness of the subsurface layers below the seismic line.

3.1.1 Seismic Refraction Survey Design

Seismic refraction data will be collected using a 24-channel Geometrics GEODE (or equivalent) seismograph. The 24 geophones will be spaced at 3 meter intervals. A 16-lb sledge hammer and a PEG-40 (or equivalent) elastic weight drop will be used as the seismic source. A minimum of seven shot points will be recorded for each spread, two that are a full spread length off the end geophone, two that are a half spread length off the end, two that are 3 meters off the end geophone, and one between geophone 12 and 13. Because imaging deep refractors is often impracticable due to the size of the seismic source required, only sites where basement rock is expected to be less than 100 feet below the ground surface will be surveyed using seismic refraction.

3.2 Seismic Reflection

Seismic reflection is a method commonly used to map stratigraphic or geologic contacts where the contacts are greater than 100 feet below the ground surface. This method involves using a seismic energy source to create a seismic wave, which travels into the subsurface. At interfaces that have an acoustic impedance contrast (related to velocity and density), a portion of these waves is reflected back to the ground surface, and a portion is transmitted through the interface to be reflected at the next interface or contact. Geophones on the ground surface record the reflected arrivals which are then recorded on a seismograph.

3.2.1 Seismic Reflection Survey Design

Seismic reflection data will be collected using a 96-channel Geometrics GEODE (or equivalent) seismograph. Geophones will be spaced at 3 meter intervals and a 16-lb sledge hammer and a PEG-40 (or equivalent) elastic weight drop will be used as the seismic source. Shot points will be recorded every two geophone intervals along the line. Because imaging shallow reflectors is impracticable due to the relatively high frequency energy source required, only sites where basement rock is expected to be greater than 75 feet below the ground surface will be surveyed using seismic reflection.

3.3 Electrical Resistivity Imaging

Electrical resistivity imaging is used to map changes in subsurface soil conductivity or resistivity. The resistivity values are used to interpret geologic features such as lithology, structure, fractures, and stratigraphy. In an electrical resistivity imaging survey, a direct current, at a specified voltage, is passed into the ground through current electrodes. Because of soil resistance the current produces a voltage, and the resulting voltage drop is measured across a pair of potential electrodes. There are several electrode configurations commonly used to map geologic features. The dipole-dipole array is used most commonly to map lateral changes, but is also effective when mapping vertical changes in geology. The measurements of voltage across the current and potential electrodes are used to compute electrical resistance. Electrical resistance is multiplied by the geometric factor associated with the particular electrode configuration to derive apparent resistivity values that represent bulk average resistivities for the volume of earth being sampled. Representative resistivity values for various geologic layers are interpreted from the apparent resistivity values. The resistance of the alluvium and/or soil is expected to be considerable greater than basalt, particularly if it is fractured and weathered to clay.

3.3.1 Electrical Resistivity Imaging Survey Design

Electrical resistivity imaging data will be collected using a 96-channel IRIS Syscal PRO system. Data will be collected using a dipole-dipole electrode configuration with an electrode spacing of 6 meters.

3.4 Gravity

Gravity is a method that measures small spatial differences in the gravitational pull of the Earth and is commonly used to map the depth and topography of basement rocks. If the bedrock and overburden have different densities, the gravity pull will change over bedrock topographic features. This instrument does not record the absolute value of the pull of gravity, but measures spatial differences in the gravity pull i.e. lateral density changes in the subsurface cause a change in the force of gravity at the surface. The anomalous gravitational field over a bedrock structure (depression or mound) depends on the amplitude of the depression, its width and depth, and the density contrast between the overburden and the bedrock. Significant bedrock topography with large density contrasts will produce large gravitational anomalies. Conversely, small amplitude structures at depth, even with large density contrasts, may produce only very small anomalies.

The gravity method involves measurement of the gravitational attraction exerted by the earth at a measurement station on the surface. Gravity data will be collected using a LaCoste and Romberg (or equivalent) gravimeter using a station spacing of 50 feet. Each station will consist of two consecutive measurements to ensure repeatability.

3.4.1 Gravity Survey Design

At the start of each day a measurement will be made at the gravity base station located at the downtown Spokane Post Office. The field crew will then drive to the survey line and establish a local base station. From this station, they will record gravity data at each station along the line. After approximately 50 measurements, or three hours, gravity measurements will again be taken at the local base station. This circuit will be repeated up to three times per day. After the last measurement of the local base station, the field crew will return to the gravity base station to record the final measurement of the survey day. The latitude, longitude and elevation of each gravity station will be recorded using a Real Time Kinematic GPS.

3.5 Time-Domain Electromagnetics

Time-domain electromagnetic surveying (TEM) is used to measure vertical changes in subsurface electrical properties by recording the decay rate of an induced electromagnetic signal as it propagates through the earth. Changes in the decay rate are used to model the electrical properties of the subsurface. This model is then used to infer the subsurface soil conditions and stratigraphy.

TEM surveying requires a transmitter, square loop transmitter coil, a receiving unit and receiver coil. The transmitter sends an electrical current through the transmitter coil, which is turned off after a very brief time producing an EM field. This EM field induces eddy currents in the ground, which in turn, produce a secondary magnetic field. As the eddy currents propagate downward and away from the transmitter coil, the secondary magnetic field loses strength (decays) at a rate proportional to the electrical conductivity of the subsurface. A receiver measures the decaying secondary magnetic field at different points in time (record length). One sequence of secondary magnetic field measurements at a particular location is called a sounding. In a homogenous earth, the secondary magnetic field will decay at a predictable rate. Deviations from this decay rate correspond to changes in subsurface electrical properties. The TEM method takes advantage of these properties by correlating both the magnetic field strength and measurement time with changes in the electrical properties of the subsurface.

During the TEM sounding, the transmitter and receiver are synchronized via a reference cable. The receiver instructs the transmitter to turn on and off at predetermined measurement intervals (time gates), and then measures the strength of the decaying secondary magnetic field at up to 30 time gates during the transmitter off period. The signal is enhanced by taking multiple sets of readings and averaging them during a user-determined measurement period (from 2 to 64 seconds in length). The total number of measurements available for averaging per measurement period is determined by the repetition frequency, with higher frequencies giving a larger sample set at the expense of a shorter record length.

The depth of penetration of the TDEM signal depends on the subsurface electrical properties and the area (size) and current strength of the transmitter antenna. In general, a larger antennae size and larger transmitter current strength are required to investigate greater depths. For a given antenna size (and current strength), a greater depth of investigation is achieved in areas underlain by relatively resistive material.

3.5.1 Time Domain Electromagnetics Survey Design

TEM soundings will be collected using a Zonge TEM system (or equivalent). Transmitter and receiver coil dimensions will be based on available geologic information along each of the proposed line locations. For areas such as Line 2 where bedrock is reported to be as shallow as 90 feet below

the ground surface, a 100 foot diameter coil will be used. For areas such as Line 1 where basalt is shallow and the basement is reported to be approximately 1,300 feet below the ground, a 1000 foot diameter coil will be used. The size of the coil will control the number of soundings performed along each line. The presence of cultural features such as roads, driveways, fencing, pipelines, and power lines restrict the use of TEM to areas of open agricultural fields.

4.0 MONITORING WELL INSTALLATION

One monitoring well installation is planned to augment the geophysical program. Specific plans for this well will be developed as soon preliminary geophysical results are available. These plans will include a specific location for the well, a target depth for drilling, and a target depth for a screened interval.

4.1 Goals of the Monitoring Well

The goals for drilling and installation of the monitoring well are as follows:

1. Provide information to support interpretation of the geophysical data.
2. Provide information on the nature and depth of geologic units down to the crystalline basement.
3. Construct a 2-inch diameter monitoring well across an aquifer zone that will provide useful groundwater level monitoring data.
4. Construct the monitoring well in accordance with Washington State well construction standards.

4.2 Potential Sites

The monitoring well will be installed along one of the geophysical lines to conform to the goals for the well.

Potential sites for the monitoring well include:

- Along Line 1 in the vicinity of the surface exposure of granite
- Along Line 3, between the two Four Lakes wells
- Along Line 4, southeast of the Bigler (175566) well

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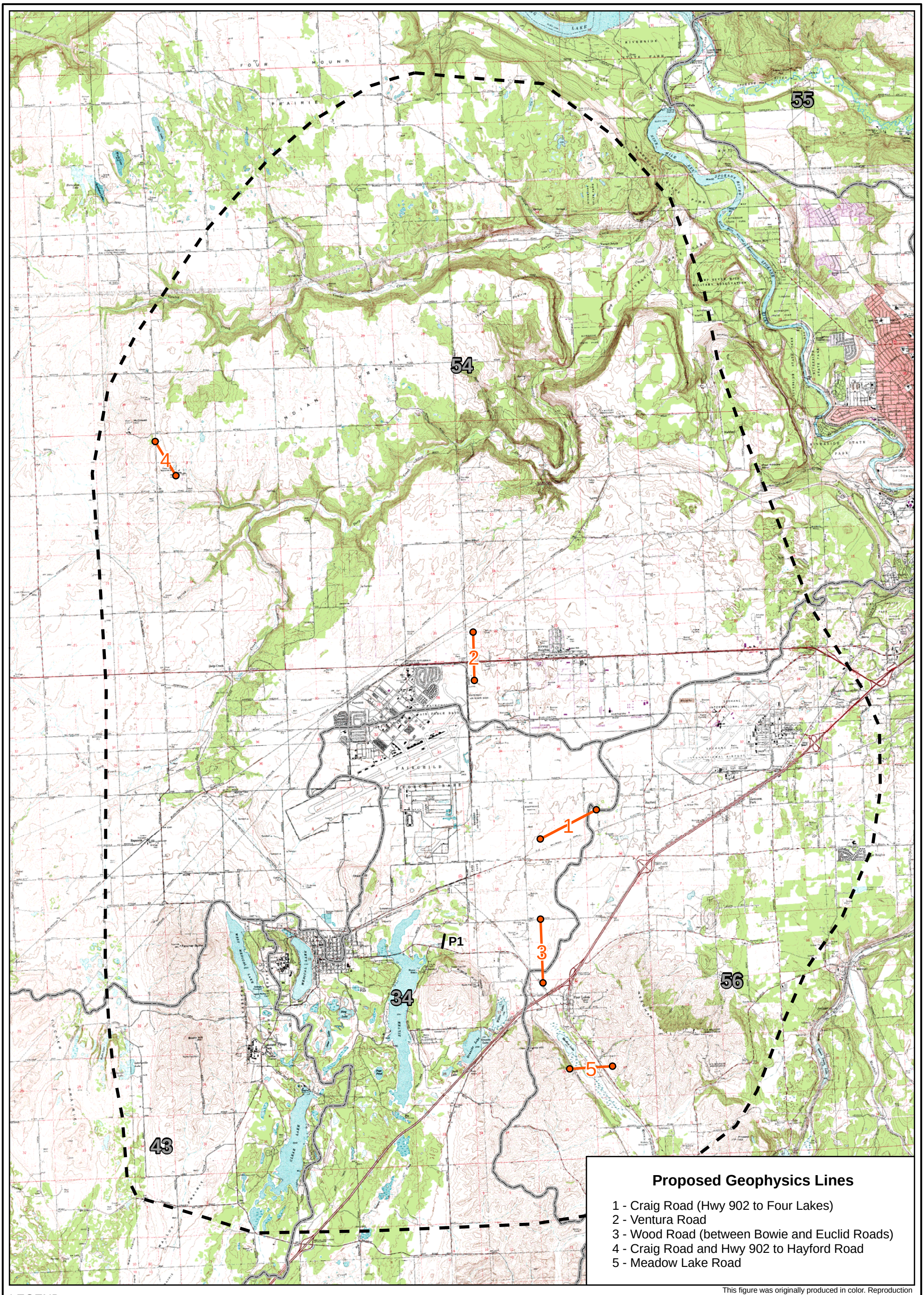
FIGURES



Proposed Geophysics Lines

1 - Craig Road (Hwy 902 to Four Lakes)
2 - Ventura Road
3 - Wood Road (between Bowie and Euclid Roads)
4 - Craig Road and Hwy 902 to Hayford Road
5 - Meadow Lake Road

LEGEND

- Proposed Geophysics Line
- West Plains Study Area
- WRIA Boundary

0 1.5
Scale in Miles

Map Projection:
Washington State Plane
North Zone NAD 1983

Source:
USGS (24k quadrangle map mosaic),
WA Dept. of Ecology (WRIA boundaries),
Golder Associates Inc. (study area, geophysics lines)

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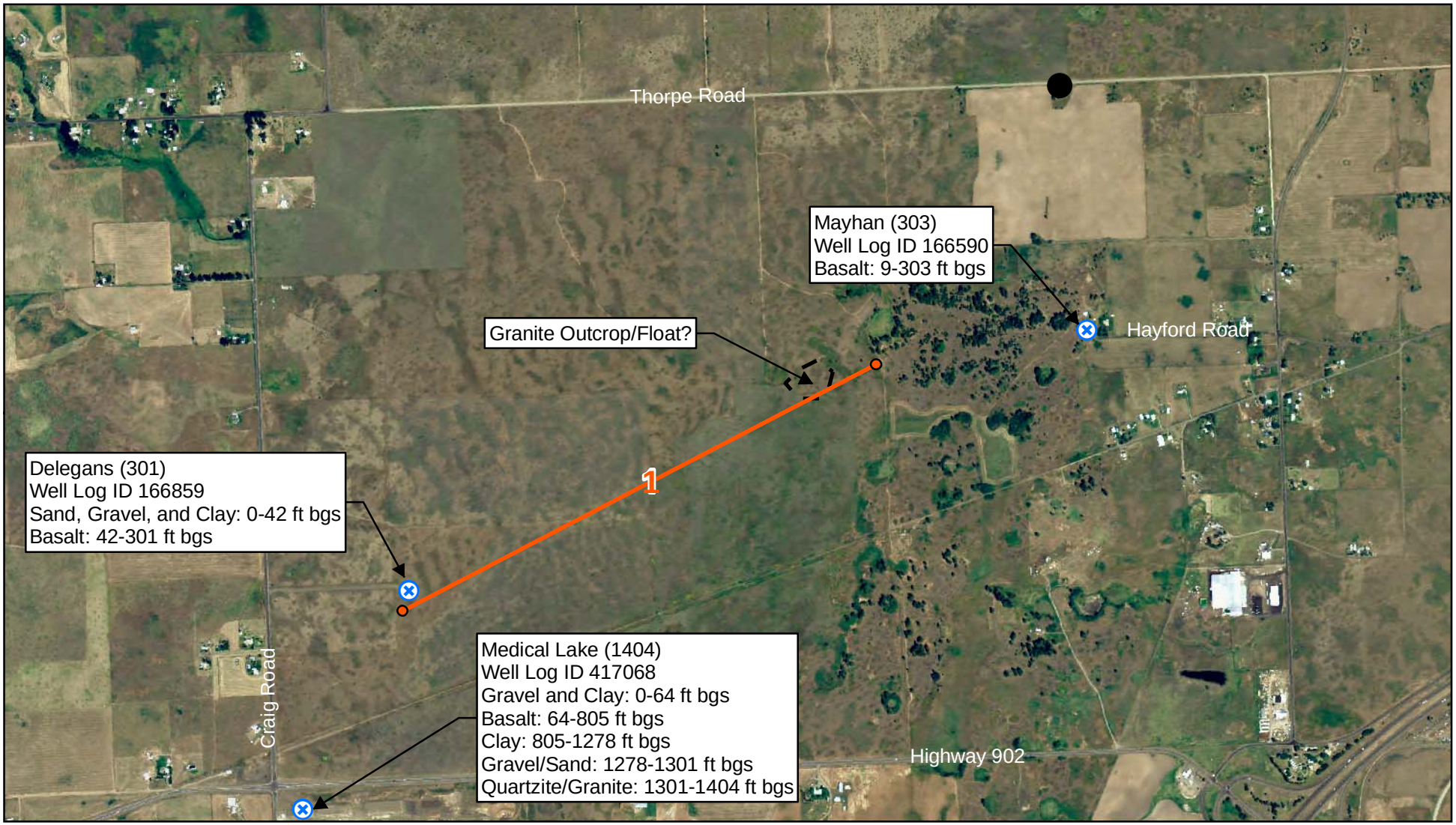
This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

FIGURE 1
STUDY AREA
SC/WEST PLAINS GEOPHYS SURVEY/WA

Golder Associates



LEGEND

- Existing Well (well depth in feet)
- Potential Monitoring Well Location
- Proposed Geophysics Line

Note: Location of Mayhan well is approximate and based on information from WA Dept. of Ecology's online Well Log Viewer.

0 1500

Scale in Feet

Map Projection:
Washington State Plane
North Zone NAD 1983

Source:
WA Dept. of Ecology (wells),
USDA (NAIP, 2m, 2005),
Golder Associates Inc. (geophysics lines, monitoring well)

N

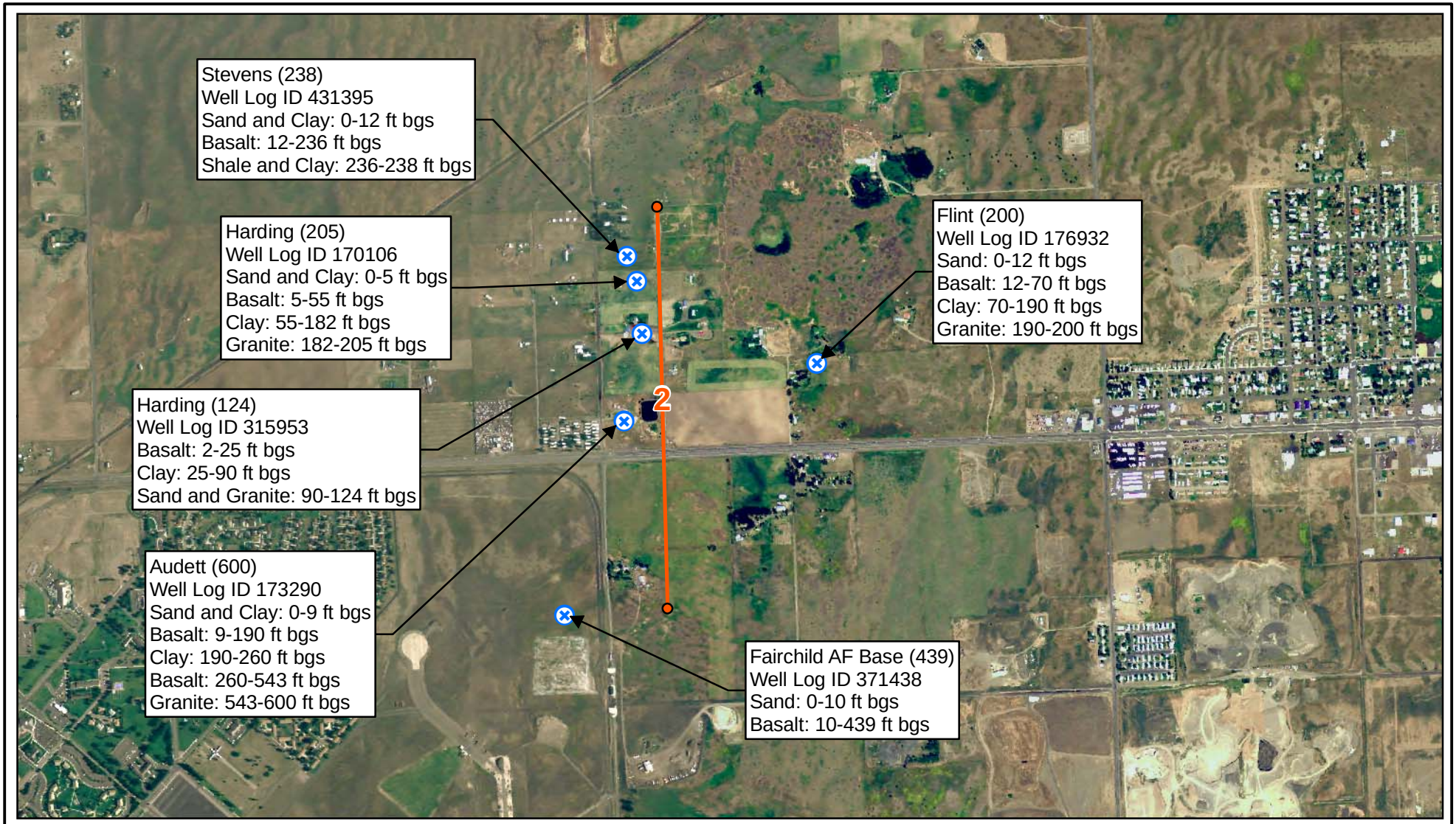
This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

FIGURE **2**

LINE 1:
CRAIG ROAD AND
HWY 902 TO HAYFORD ROAD

SC/WEST PLAINS GEOPHYS SURVEY/WA

Golder Associates



LEGEND

Existing Well (well depth in feet)

2 Proposed Geophysics Line

Note: Existing well locations are approximate and based on information from WA Dept. of Ecology's online Well Log Viewer.

0 1500

Scale in Feet

Map Projection:
Washington State Plane
North Zone NAD 1983

Source:
WA Dept. of Ecology (wells),
USDA (NAIP, 2m, 2005),
Golder Associates Inc. (geophysics lines)

N

This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

FIGURE **3**

LINE 2:

VENTURA ROAD

SC/WEST PLAINS GEOPHYS SURVEY/WA

Golder Associates

LEGEND

- Existing Well (well depth in feet)
- 3 Proposed Geophysics Line

Note: Location of Mayhan well is approximate and based on information from WA Dept. of Ecology's online Well Log Viewer.

0 1500

Scale in Feet

Map Projection:
Washington State Plane
North Zone NAD 1983
Source:
WA Dept. of Ecology (Wells),
USDA (NAIP, 2m, 2005)
Golder Associates Inc. (geophysics lines)

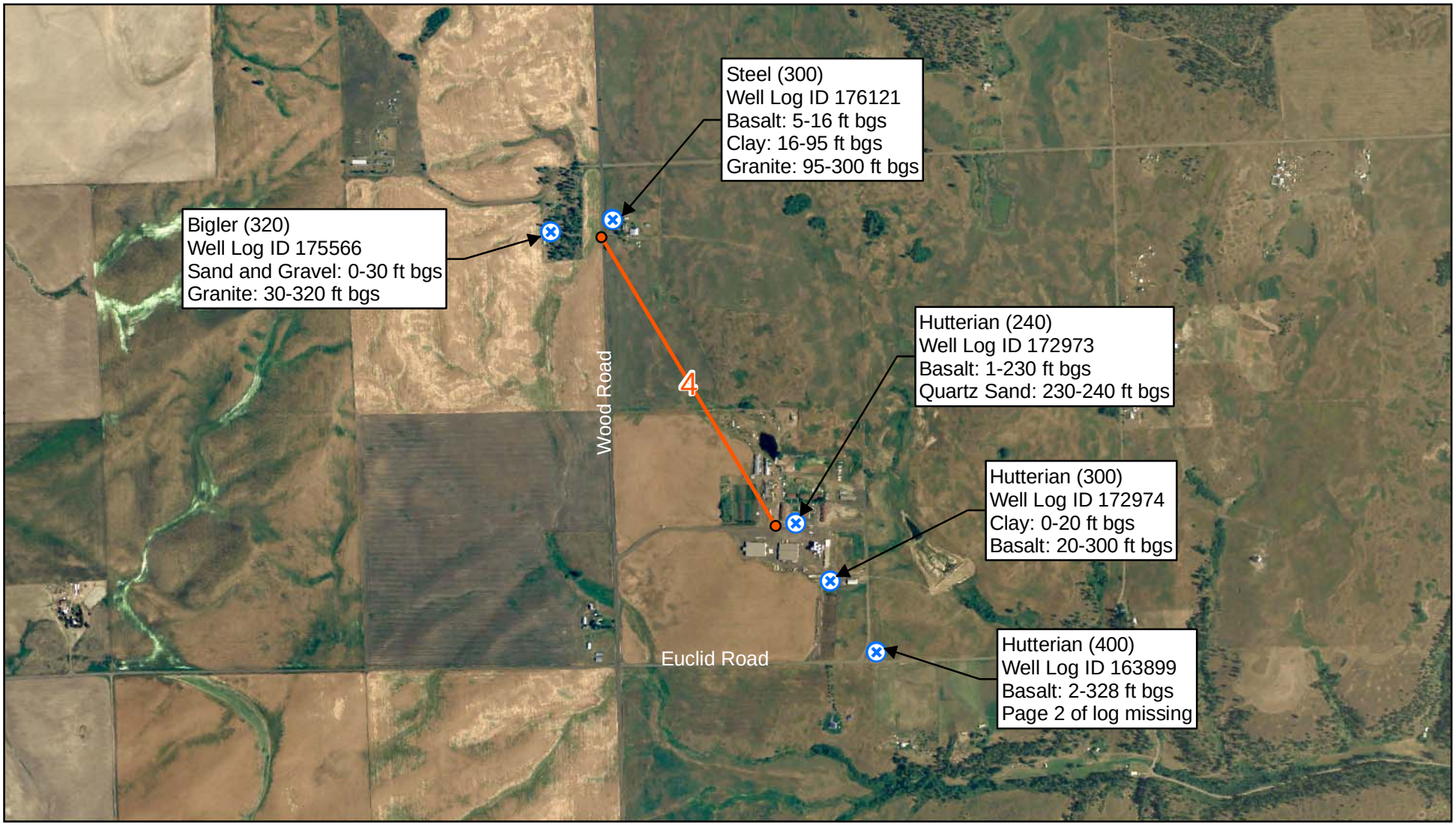
N

This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

FIGURE **4**

LINE 1:
CRAIG ROAD (HWY 902 TO FOUR LAKES)

SC/WEST PLAINS GEOPHYS SURVEY/WA



LEGEND

- Existing Well (well depth in feet)
- 4 Proposed Geophysics Line

Note: Existing well locations are approximate and based on information from WA Dept. of Ecology's online Well Log Viewer.

0 1500

Scale in Feet

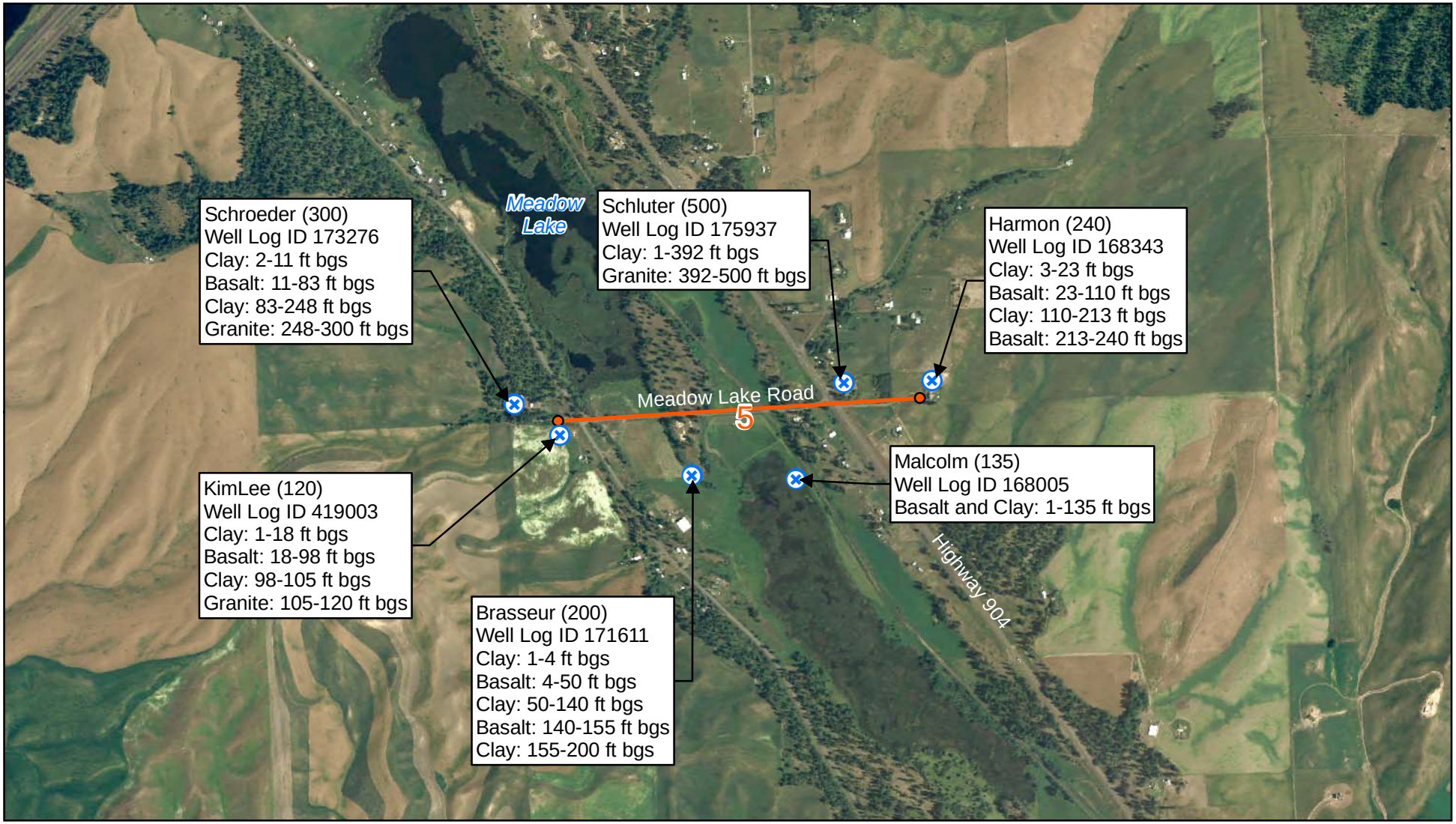
Map Projection:
Washington State Plane
North Zone NAD 1983

Source:
WA Dept. of Ecology (wells),
USDA (NAIP, 2m, 2005),
Golder Associates Inc. (geophysics lines)

N

This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

FIGURE **5**
LINE 4:
WOOD ROAD
SC/WEST PLAINS GEOPHYS SURVEY/WA



LEGEND

- Existing Well (well depth in feet)
- 5 Proposed Geophysics Line

Note: Existing well locations are approximate and based on information from WA Dept. of Ecology's online Well Log Viewer.

0 1500

Scale in Feet

Map Projection:
Washington State Plane
North Zone NAD 1983

Source:
WA Dept. of Ecology (wells),
USDA (NAIP, 2m, 2005),
Golder Associates Inc. (geophysics lines)

N

This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

FIGURE **6**
LINE 5:
MEADOW LAKE ROAD
SC/WEST PLAINS GEOPHYS SURVEY/WA

Golder Associates

APPENDIX A1

WELL LOGS

LINE 1: CRAIG ROAD AND HIGHWAY 902 TO HAYFORD ROAD

WELL LOG ID 417068

42363

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W057375
UNIQUE WELL I.D. # AAL 539
Water Right Permit No. G3-28914P

OWNER: Name CITY OF MEDICAL LAKE Address P.O Box 369 MEDICAL LAKE WA.

LOCATION OF WELL: County SPOKANE NW 1/4 NW 1/4 Sec 11 T. 24 N., R. 41E W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) CRAIG RD + STATE HIWAY 902

(3) PROPOSED USE: ☐ Domestic ☐ Irrigation ☐ DeWater ☐ Industrial ☐ Test Well ☒ Municipal ☐ Other

(4) TYPE OF WORK: Owner's number of well (If more than one) _____
Abandoned ☐ New well ☒ Deepened ☐ Reconditioned ☐ Method: Dug ☐ Cable ☐ Rotary ☒ Bored ☐ Driven ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 16" X12" inches.
Drilled 1404 feet. Depth of completed well 1404 ft.

(6) CONSTRUCTION DETAILS:
Casing Installed: Welded ☒ Liner installed ☐ Threaded ☐
20" Diam. from 0 ft. to 53 ft.
16" Diam. from +1.5 ft. to 824 ft.
12" Diam. from 315 ft. to 1404 ft.

Perforations: Yes ☒ No ☐
Type of perforator used MILL CUT 24 HOLES PER FT
SIZE of perforations 3 in. by 1/4 in.
3840 perforations from 329 ft. to 489 ft.
2880 perforations from 610 ft. to 750 ft.
2400 perforations from 1280 ft. to 1380 ft.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. ____ Slot size _____ from _____ ft. to _____ ft.
Diam. ____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 324 ft.
Material used in seal NEAT CEMENT GROUT
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 53 ft. below top of well Date 3/14/95
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) 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: 500 gal./min. with 74 ft. drawdown after 2 hrs.
" 1000 " 171 " 6.5 "
" 1400 " 233 " 24 "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
0	287	8 MIN	159	20 MIN	138
0SEC	205	10 "	152	30 "	122
MIN	170	14 "	148	3 HR	73

Date of test 2/28/95
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water 56 Was a chemical analysis made? Yes ☒ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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 information.

	MATERIAL	FROM	TO
	GRAVEL + SANDY CLAY	0	64
	BASALT BRN	64	84
	BASALT GRAY	84	189
★	BASALT BLK + BRN CLAY	189	243
	BASALT GREY	243	290
	BASALT GREY + GREY CLAY	290	326
★	BASALT BRN + BLK / CLAY	326	346
★	BASALT BLK + BRN	346	499
	CLAY BRN + GREY	499	572
★	BASALT GREY FRAC.	572	800
	BASALT BLK	800	805
	~~BASALT~~ CLAY BRN	805	961
	CLAY GRN + GREY	961	985
	CLAY BRN	985	1150
	CLAY GRN + GREY	1150	1163
	CLAY GREY + WHITE SAND	1163	1211
	CLAY BRN	1211	1231
	CLAY GREY	1231	1258
	CLAY GREY + WHITE SAND	1258	1278
★	WASHED GRAVEL + SAND	1278	1301
★	QUARTZITE GREY + WHITE	1301	1364
	GRANITE	1364	1404

★ INDICATES WATER BEARING ZONE

16" + 20" PRESSURE GROUTED FROM BOTTOM BACK TO GROUND SURFACE

Work Started 10/24/1994 Completed 3/28/1995

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME HOLMAN DRILLING CORP (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)
Address E3410 9TH AVE SPOKANE WA
(Signed) Arnold E Holman (WELL DRILLER) License No. 0189
Contractor's Registration No. HOLMADC131N4 Date MARCH 15 1995

(USE ADDITIONAL SHEETS IF NECESSARY)

ECL 050-1-20 (2/93) * * f

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 417068

Well Tagging Form

WASHINGTON STATE DEPARTMENT OF ECOLOGY

42363

Unique Well Tag No: AHC 095

RECORD VERIFICATION (check ✓ one)

- ☐ Well Report available *(please attach this form to the well report and submit it to the Ecology Regional Office near you)*
- ☐ Verification inconclusive PWS 53400 SOURCE 05
- ☐ Well Report not available

WELL OWNERSHIP, IF DIFFERENT FROM WELL REPORT

First Name: Medical Lake, City of Last Name: _____

Street Address: _____

City: _____ State: _____

LOCATION OF WELL, IF DIFFERENT FROM WELL REPORT

Well Address: _____

City: _____ County: Spokane

_____ N. R. _____ _____ W.M. Sec. _____ _____ 1/4 of the _____

FOR AGENCY USE ONLY

Latitude 47° 35 . 37.279 "

Longitude 117° 36 . 26.013 "

- ☐ GPS
- ☐ Topographic Map
- ☐ Survey
- ☐ Computer generated

Elevation at land surface _____ feet/meters *(circle one)*

- ☐ Digital Altimeter
- ☐ Topographic Map
- ☐ Other _____

Additional information, if available:

- ☐ Location marked on topographic map *(please attach)*
- ☐ Location marked on air photo *(please attach)*

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WRN LOG ID 166859

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Application No.
Permit No.

(1) OWNER: Name G. and J Delegans Address 2912 Raymond Cr. Spokane, Washington 99206

(2) LOCATION OF WELL: County Spokane SW ¼ SW ¼ Sec. 2 T. 24 N., R. 41 E W.M.

Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☒ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 12 inches.
Drilled 301 ft. Depth of completed well 301 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 16" Diam. from +1 ft. to 67' 2" ft.
Threaded ☐ 12" Diam. from +1 ft. to 152 ft.
Welded ☒ " Diam. from ft. to ft.

Perforations: 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.

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel.
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 150 ft.
Material used in seal concrete
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level 2400 ft.
Static level 50 ft. below top of well Date
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Air test 900+ gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Cold Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

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
sand & clay		0	4
Bolders & gravel		4	19
gravel and clay		19	26
red clay	damp	26	42
clay basalt gravel		42	67
broken basalt		67	69
firm basalt		69	102
broken porous basalt		102	120
basalt with blue clay		120	139
broken basalt		139	147
firm basalt porous	water	147	161
blue clay seams	water	161	170
firm basalt		170	175
broken basalt		175	182
hard		182	195
broken		195	210
firm basalt		210	249
clay brown	water	249	268
porous basalt	water	268	273
broken basalt	water	273	294
hard		294	301

Permit: 800 gpm Commercial

RECEIVED
MAY 24 1979
DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started 4/5/ 1979 Completed 5/4/ 1979

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 American Drilling & Development Inc.
(Person, firm, or corporation) (Type or print)

Address P.O. Box 14977 Spokane, Wa. 99214

[Signed] Billy D Murphy
(Well Driller)

License No. 0322 Date 5/22/ 1979

5/24/79

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 166590

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Application No. .....
Permit No. .....

(1) **OWNER:** Name Floyd Mayhan Address RT 1 Bx 17-A Spokane Wash.

(2) **LOCATION OF WELL:** County Spokane SW ¼ NE ¼ Sec. 1 T. 24 N., R. 41 W.M.
Bearing and distance from section or subdivision corner

(3) **PROPOSED USE:** Domestic ☑ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) **TYPE OF WORK:** Owner's number of well (if more than one) ....
New well ☑ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) **DIMENSIONS:** Diameter of well 6 inches.
Drilled 303 ft. Depth of completed well 303 ft.

(6) **CONSTRUCTION DETAILS:**
Casing installed: 6 " Diam. from 0 ft. to 20 ft.
Threaded ☐ ..... " Diam. from ..... ft. to ..... ft.
Welded ☑ ..... " Diam. from ..... ft. to ..... ft.

Perforations: 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.

Screens: Yes ☐ No ☑
Manufacturer's Name .....
Type ..... Model No .....
Diam. ..... Slot size ..... from ..... ft. to ..... ft.
Diam. ..... Slot size ..... from ..... ft. to ..... ft.

Gravel packed: Yes ☐ No ☑ Size of gravel: .....
Gravel placed from ..... ft. to ..... ft.

Surface seal: Yes ☑ No ☐ To what depth? 20 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☑
Type of water? ..... Depth of strata .....
Method of sealing strata off .....

(7) **PUMP:** Manufacturer's Name .....
Type: ..... H.P. .....

(8) **WATER LEVELS:** Land-surface elevation above mean sea level ~~2386~~ 2389 ft.
Static level 185 ft. below top of well Date 6-6-76
Artesian pressure ..... lbs. per square inch Date .....
Artesian water is controlled by ..... (Cap, valve, etc.)

(9) **WELL TESTS:** Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? .....
Yield: ..... gal./min. with ..... ft. drawdown after ..... hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

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

(10) **WELL LOG:**
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
Overburden	0	9
Basalt Blue, Hard.	9	46
Brn Soft	46	47
Hard	47	105
Scoria, Med	105	145
Med.	145	260
Scoria.	260	303

Work started 6-1, 19 77 Completed 6-6, 19 77

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 Graham Drilling (Person, firm, or corporation) (Type or print)
Address Nine Mile Falls Wa.
[Signed] Leo C Graham (Well Driller)
License No. 156 Date 6-10, 19 77

6/23/77

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

APPENDIX A2

WELL LOGS

LINE 2: VENTURA ROAD

WELL LOG ID 431395

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

Construction/Decommission *("x" in circle)* 190350

☒ Construction

☐ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

CURRENT

Notice of Intent No. WE04517

Unique Ecology Well ID Tag No. ALR829

Water Right Permit No. _____

Property Owner Name Jason Stevens

Well Street Address Rambo Road

City _____ County Spokane

Location NW 1/4-1/4 SW 1/4 Sec 22 Twn 25 R 41 EWM ☑ or WWM ☐ circle one

Lat/Long (s, t, r Still **REQUIRED**) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

PROPOSED USE: ☑ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____

☑ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ☐ Cable ☑ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 6 inches, drilled 238 ft.

Depth of completed well 238 ft.

CONSTRUCTION DETAILS

Casing Installed: ☑ Welded 6 " Diam. from +1 ft. to 19 ft.

☑ Liner installed 4 " Diam. from 9 ft. to 238 ft.

☐ Threaded _____ " Diam. from _____ ft. to _____ ft.

Perforations: ☑ Yes ☐ No

Type of perforator used 3/8" Spade Bit - See Perf. Note Below Right

SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: ☐ Yes ☑ No ☐ K-Pac Location _____

Manufacturer's Name _____

Type _____ Model No. _____

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand _____

Materials placed from _____ ft. to _____ ft.

Surface Seal: ☑ Yes ☐ No To what depth? 18+ ft.

Material used in seal Barroid Bentonite

Did any strata contain unusable water? ☐ Yes ☑ No

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

PUMP: Manufacturer's Name _____

Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.

Static level 111 ft. below top of well Date 11/12/05

Artesian pressure _____ lbs. per square inch Date _____

Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☑ No If yes, by whom? _____

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____

Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest 8 gal./min. with stem set at _____ ft. for _____ hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water _____ Was a chemical analysis made? ☐ Yes ☑ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Topsoil	0	1
Sand	1	5
Clay, Brown	5	12
Basalt, Medium w/ Shale, Brown	12	58
Basalt, Fractured	58	63
Basalt, Hard	63	150
Basalt, Fractured - Water 2gpm	150	153
Shale, Brown and Medium	153	155
Shale, Grey and Medium w/ some Quartz Sand	155	165
Water - 1gpm		
Basalt, Fractured	165	178
Shale, Brown and Medium	178	190
Basalt, Fractured	190	205
Basalt, Medium	205	230
Basalt, Fractured - Water 5gpm	230	236
Shale, Brown	236	237
Clay, Orange	237	238
Recommended pump depth is 150 feet.		
4" PVC Liner Perforations: 100 to 120 feet,		
140 to 160 feet, 180 to 200 feet, 220 to 238 feet		

RECEIVED

FEB 21 2006

DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

Start Date 11/11/05 Completed Date 11/12/05

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☐ Trainee Name (Print) Don Anderson

Driller/Engineer/Trainee Signature Don Anderson

Driller or trainee License No. 1447

Drilling Company J & J Drilling, Inc.

Address E. 17313 Linke Road

City, State, Zip Greenacres, WA 99016

Contractor's Registration No. JJDRII-177KU Date 11/17/05

IF TRAINEE,
Driller's Licensed No. _____
Driller's Signature _____

Ecology is an Equal Opportunity Employer.

ECY 050-1-20 (Rev 3/05) **The Department of Ecology does NOT warranty the Data and/or Information on this Well Report.**

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WRR log ID 170166

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W 21658 #2

Water Right Permit No. _____

(1) OWNER: Name Lloyd Harding B B L CO. INC Address W 913 12th. Spokane, WA 99204

LOCATION OF WELL: County Spokane ¼ SW ¼ Sec. 22 T. 25 N., R. 41 W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) Rambo R. Hwy. 2 Spokane, WA Tract 20

(3) PROPOSED USE: [X] Domestic [ ] Industrial [ ] Municipal [ ] Irrigation [ ] Test Well [ ] Other [ ] DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) _____

Abandoned [ ] New well [X] Method: Dug [ ] Bored [ ] Deepened [ ] Cable [ ] Driven [ ] Reconditioned [ ] Rotary [X] Jetted [ ]

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 205 feet. Depth of completed well 205 ft.

(6) CONSTRUCTION DETAILS:

Casing Installed: 6 " Diam. from +1 ft. to 19 ft.
Welded [X] Liner installed [ ] Threaded [ ] _____ " Diam. from _____ ft. to _____ ft.

Perforations: Yes [ ] No [X]
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.

Screens: Yes [ ] No [X]
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes [ ] No [X] Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes [X] No [ ] To what depth? 18+ ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes [ ] No [X]
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 40 ft below top of well Date 8/16/93
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes [ ] No [X] If yes, by whom? _____
Yield: 10 gal./min. with _____ ft. drawdown after _____ hrs.
" Air test approx. 10-G.P.M. "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes [ ] No [ ]

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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 information.

MATERIAL	FROM	TO
Topsoil	0	1
Sand	1	3
Clay-brn.	3	5
Basalt-med.	5	55
Clay-brn.	55	75
Clay-red	75	122
Clay-red w/basalt-fract.	122	135
Quartz sand-water-10-G.P.M.	135	136
Clay-tan w/sand strips	136	163
Clay-tan w/basalt strips	163	182
Granit-soft	182	205

Work started 8/13/93, 19. Completed 8/16/, 19 93

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME J & J DRILLING INC (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address S 5613 Linke Rd. Greenacres, WA 99016

(Signed) Brian T Mount (WELL DRILLER) License No. 2139

Contractor's Registration No. JJDRII-177KU Date 8/19/, 19 93

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10/87) -1329-

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WFW log ID 315953

WATER WELL REPORT

STATE OF WASHINGTON

File Original with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy 104072

Notice of Intent W 27483
UNIQUE WELL I D # AAL 165
Water Right Permit No 99218

(1) OWNER: Name BB & CO. INC. L. Harding Address W. 903 W. stover Rd. Spokane, WA

(2) LOCATION OF WELL: County SPOKANE NW¼ SW¼ 1/4 SW 1/4 Sec 22 T 25N N R 41E WM

(2a) STREET ADDRESS OF WELL: (or nearest address) S. 1103 RAMBO Rd TRACT 35

TAX PARCEL NO. 15 22.30.110

(3) PROPOSED USE: ☑ Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one)
☑ New Well Method ☐ Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☐ Jetted ☐ Decommission

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 124 feet Depth of completed well 124 ft

(6) CONSTRUCTION DETAILS
Casing Installed:
☑ Welded 6 " Diam from +2 ft to 93 ft
☐ Liner installed " Diam from ft to ft
☐ Threaded " Diam from ft to ft

Perforations. ☑ Yes ☐ No
Type of perforator used Torch
SIZE of perforations ¼ in by 6 in
perforations from 84 ft to 92 ft

Screens: ☐ Yes ☑ No ☐ K-Pac Location
Manufacturer's Name
Type Model No
Diam Slot Size from ft to ft
Diam Slot Size from ft to ft

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand
Material placed from ft to ft

Surface seal: ☑ Yes ☐ No To what depth? 18 + ft
Material used in seal Bentonite
Did any strata contain unusable water? ☐ Yes ☑ No
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type H P

(8) WATER LEVELS: Land-surface elevation above mean sea level ft
Static level 37 ft below top of well Date 11-10-01
Artesian pressure lbs per square inch Date
Artesian water is controlled by (Cap, valve, etc)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☑ No If yes, by whom?
Yield gal/min with ft drawdown after hrs
Yield gal/min with ft drawdown after hrs
Yield gal/min with ft drawdown after hrs
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal/min with ft drawdown after hrs
Airtest 50 gal/min with ft drawdown after hrs
Artesian flow g p m Date
Temperature of water Was a chemical analysis made? ☐ Yes ☑ No

(10) WELL LOG or DECOMMISSIONING PROCEDURE DESCRIPTION
Formation Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information Indicate all water encountered

MATERIAL	FROM	TO
BROWN TOP SOIL	0	2
GREY HARD BASALT	2	25
YELLOW-BROWN CLAY-Sand	25	90
YELLOW-SAND and soft granite	90	124
Water from 90ft-124ft		

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NOV 19
DEPT OF ECOLOGY
EASTERN REGIONAL OFFICE

Work Started 10-20-01 Completed 11-10-01

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief

Type or Print Name Boyd L. Wood License No 1283
(Licensed Driller/Engineer)

Trainee Name License No
Drilling Company Boyd L. Wood
(Signed) Boyd L. Wood License No 1283
(Licensed Driller/Engineer)
Address 15910 S. CAMPBELL ROCKFORD 99030 WA
Contractor's Registration No BOYDLWW024NS Date 11-10-01

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer For special accommodation needs, contact the Water Resources Program at (360) 407-6600 The TDD number is (360) 407-6006

ECY 050-1-20 (11/98)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 176932

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W111067
Unique Well I.D. # AEM035
Water Right Permit No.

(1) OWNER: Name **FLINT CHARLES** Address **1010 S FAIRVIEW HEIGHTS MEDICAL LAKE, WA 99022-**

(2) LOCATION OF WELL: County **SPOKANE** - **SE** 1/4 **SW** 1/4 Sec **22** T **25** N , R **41** WM
(2a) STREET ADDRESS OF WELL (or nearest address) **1010 S FAIRVIEW HEIGHTS, MEDICAL LAKE**

(3) PROPOSED USE: **DOMESTIC**

(4) TYPE OF WORK: Owner's Number of well (If more than one) **1**
NEW WELL Method: **ROTARY**

(5) DIMENSIONS: Diameter of well **6** inches
Drilled **200** ft. Depth of completed well **200** ft.

(6) CONSTRUCTION DETAILS:
Casing installed: **6** " Dia. from **+2** ft. to **18** ft.
WELDED **4** " Dia. from **-5** ft. to **200** ft.
" Dia. from ft. to ft.

Perforations: **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.

Screens: **YES**
Manufacturer's Name **BOART**
Type **PVC** Model No.
Diam. **4** slot size **20** from **160** ft. to **180** ft.
Diam. slot size from ft. to ft.

Gravel packed: **NO** Size of gravel
Gravel placed from ft. to ft.

Surface seal: **YES** To what depth? **18** ft.
Material used in seal **BENTONITE**
Did any strata contain unusable water? **NO**
Type of water? Depth of strata ft.
Method of sealing strata off **CASING**

(7) PUMP: Manufacturer's Name
Type **NONE** H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level **30** ft. below top of well Date **04/27/99**
Artesian Pressure lbs per square inch Date
Artesian water controlled by **CAP**

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? **NO** If yes, by whom?
Yield: gal./min with ft. drawdown after hrs.

Recovery data
Time Water Level Time Water Level Time Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test **12+** gal/min. w/ stem set at **200** ft. for **1** hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? **NO**

(10) WELL LOG

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 in formation.

MATERIAL	FROM	TO
TOPSOIL	**0**	**1**
SAND COARSE	**1**	**12**
BASALT BROKEN BLACK + BROWN	**12**	**52**
BASALT BLACK SOFT	**52**	**70**
CLAY ORANGE	**70**	**80**
SANDSTONE BROWN WITH	**80**	**190**
CLAY W/WATER	**190**	
DECOMPOSED GRANITE	**190**	**200**
	200	

RECEIVED
MAY 19 1999
DEPARTMENT OF ECOLOGY

Work started **04/27/99** Completed **04/27/99**

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

NAME **FOGLE PUMP & SUPPLY, INC.**
(Person, firm, or corporation) (Type or print)

ADDRESS **POB 1450, AIRWAY HTS. WA.**

[SIGNED] Todd A. Lucht License No. **2321**

Contractor's Registration No **FOGLEPSO95L4** Date **04/28/99**

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 173290

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 056840 #1

Water Right Permit No. _____

OWNER: Name Ted Audett Address Rt. 2 Box 75 W. Medical LK., WA 99022

(1) LOCATION OF WELL: County Spokane ¼ SW ¼ Sec 22 T 25 N., R 41 W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) 15610 HWY.-2 West, Medical LK., WA

(3) PROPOSED USE: Municipal — ☐ Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) _____

Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 600 feet. Depth of completed well 600 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam. from +1 ft. to 290 ft.
Welded ☒ Liner installed ☐ Threaded ☐
_____ " Diam. from _____ ft. to _____ ft.
_____ " Diam. from _____ ft. to _____ ft.

Perforations: 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.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 18+ ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? _____ Depth of strata _____
Method of sealing strata off 300ft.-10" drilling-sealed to surface

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 0 ft. below top of well Date 9/29/92
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? _____
Yield: 0 gal./min. with _____ ft. drawdown after _____ hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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 information.

MATERIAL	FROM	TO
Topsoil	0	1
ClayObrn.-sand	1	9
Basalt-fract. w/clay brn.	9	26
Basalt-med. w/fracts.	26	55
Basalt-hard	55	61
Basalt-fract. water bearing	61	78
47-G.P.M.		
Basalt-fract. w/clay brn.	78	135
Basalt-fract. w/sand quartz	135	138
Basalt-med. w/clay brn.	138	190
Clay-brn.-hard	190	260
Sand stone hard	260	270
Basalt-med.	270	280
Basalt-hard	280	310
Basalt-med. w/clay-brn.	310	350
Basalt-hard	350	361
Basalt-med. w/clay-brn.	361	390
Basalt-med. w/clay-white	390	403
Basalt-med. w/fracts.	403	478
Basalt-hard	478	505
Basalt-med.	505	543
Granit-soft	543	563
Granit-med.	563	571
Granit-hard-white	571	600

Work started 9/16/92 19. Completed 9/29/92 19

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME J & J DRILLING INC (PERSON, FIRM OR CORPORATION) (TYPE OR PRINT)

Address S 5613 Linke Rd. Greenacres, WA 99016

(Signed) _____ (WELL DRILLER) License No 1447

Contractor's Registration No. JJDRII-177KU Date 10/4/ 19 92

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10-87) 1329-3

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Wtr Log ID 371438

RESOURCE PROTECTION WELL REPORT

14/080

START CARD NO W - 066656

OWNER/PROJECT DOD FAIRCHILD AFB Wa

COUNTY SPOKANE

WELL IDENTIFICATION NO TW-D-1 / AHE-234

LOCATION SE¼ NE ¼ SEC 28 TWN 25N R 41EWM

DRILLING METHOD AIR ROTARY

STREET ADDRESS OF WELL

DRILLER STEVE STORY 1917

FIRM LAYNE CHRISTENSEN CO

WATER LEVEL BELOW GROUND SURFACE. 136 8

SIGNATURE Steve Story

GROUND SURFACE ELEVATION

CONSULTING FIRM URS / SPOKANE

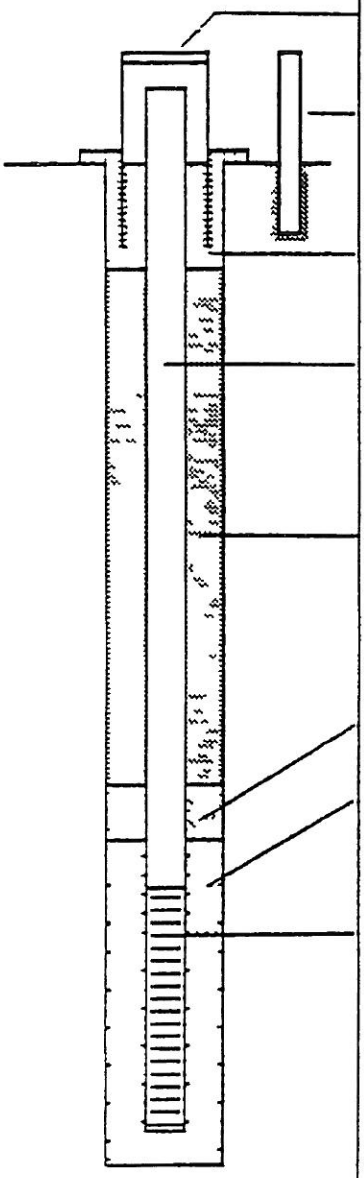
DATE(S) INSTALLED 09/12/03

REPRESENTATIVE VANCE ATKINS

DATE(S) DEVELOPED 09-24-03 Thur 09-27-03

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

AS-BUILT



TOTAL DEPTH OF BORING 439 FT

WELL DATA

STEEL SURFACE MONUMENT

W/LOCK 2 FT ABOVE G L

PROTECTIVE POSTS 4
3'abgs X 3'bgs

CONCRETE SURFACE SEAL N/A TO N/A FT

WELL CASING +2 TO 386 FT

SCHEDULE 250 ~~PVC~~ DIA 6"
STEEL

ANNULAR SEALANT 0 TO 374 FT

MATERIAL BENTONITE GROUT

SEAL 374 TO 377 FT
COATED PELLETS

FILTER PACK 377 TO 439 FT

MATERIAL 4X8 SILICA SAND

SCREEN INTERVAL 386 TO 436 FT

SCHEDULE S S~~PVC~~ DIA 6"

060 FACTORY SLOTTED
WIRE WRAP

HOLE DIAMETER

12 IN 0 TO 439 FT

____ IN ____ TO ____ FT

FORMATION DESCRIPTION

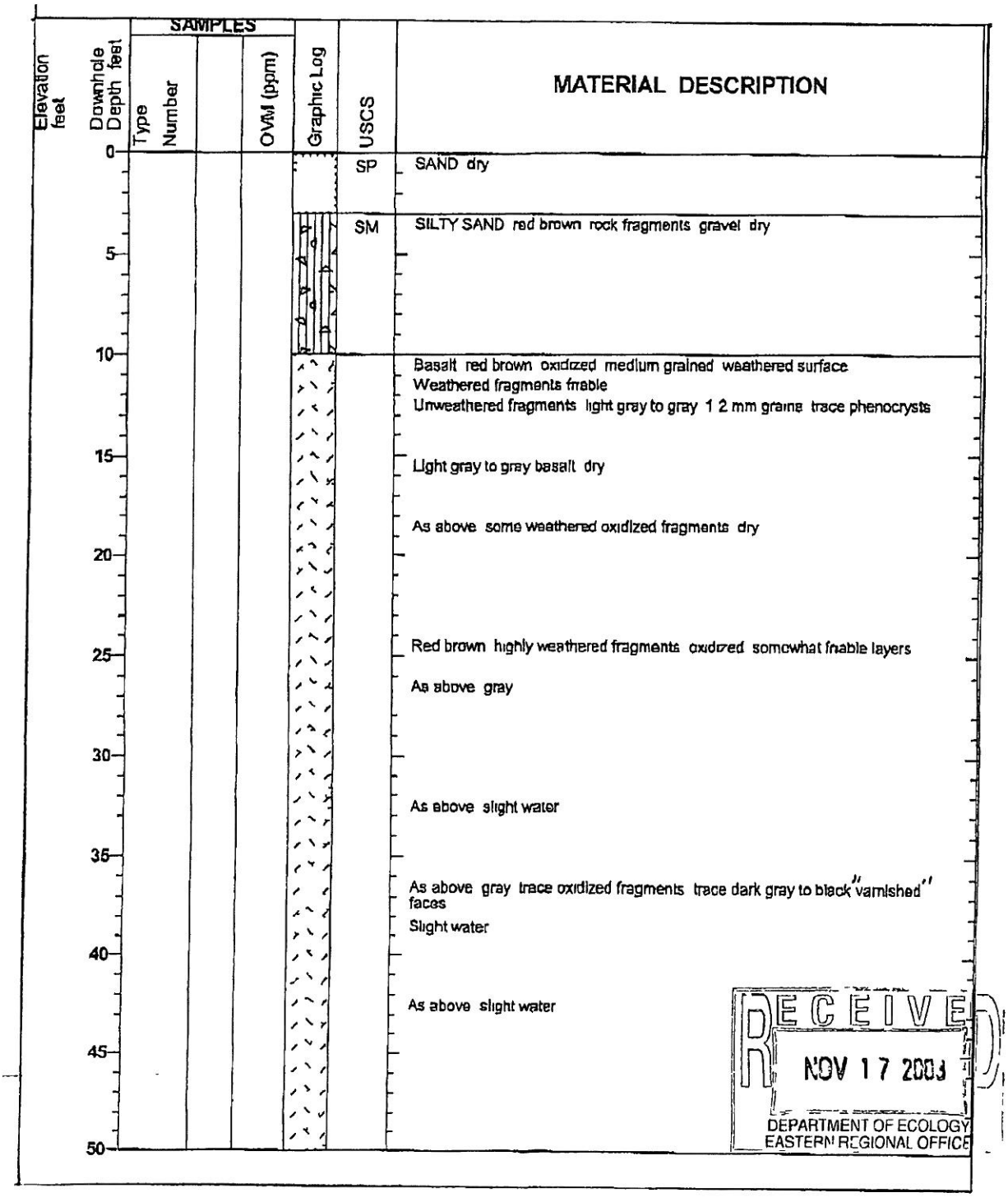
SEE ATTACHED
(9 pages total)

RECEIVED
NOV 13 2003
DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

RECEIVED
NOV 17 2003
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

Layne Christensen Company
9001 PACIFIC AVE. BLDG B - TACOMA WA 98444 - (253) 536-1161 FAX (253) 536-1167

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



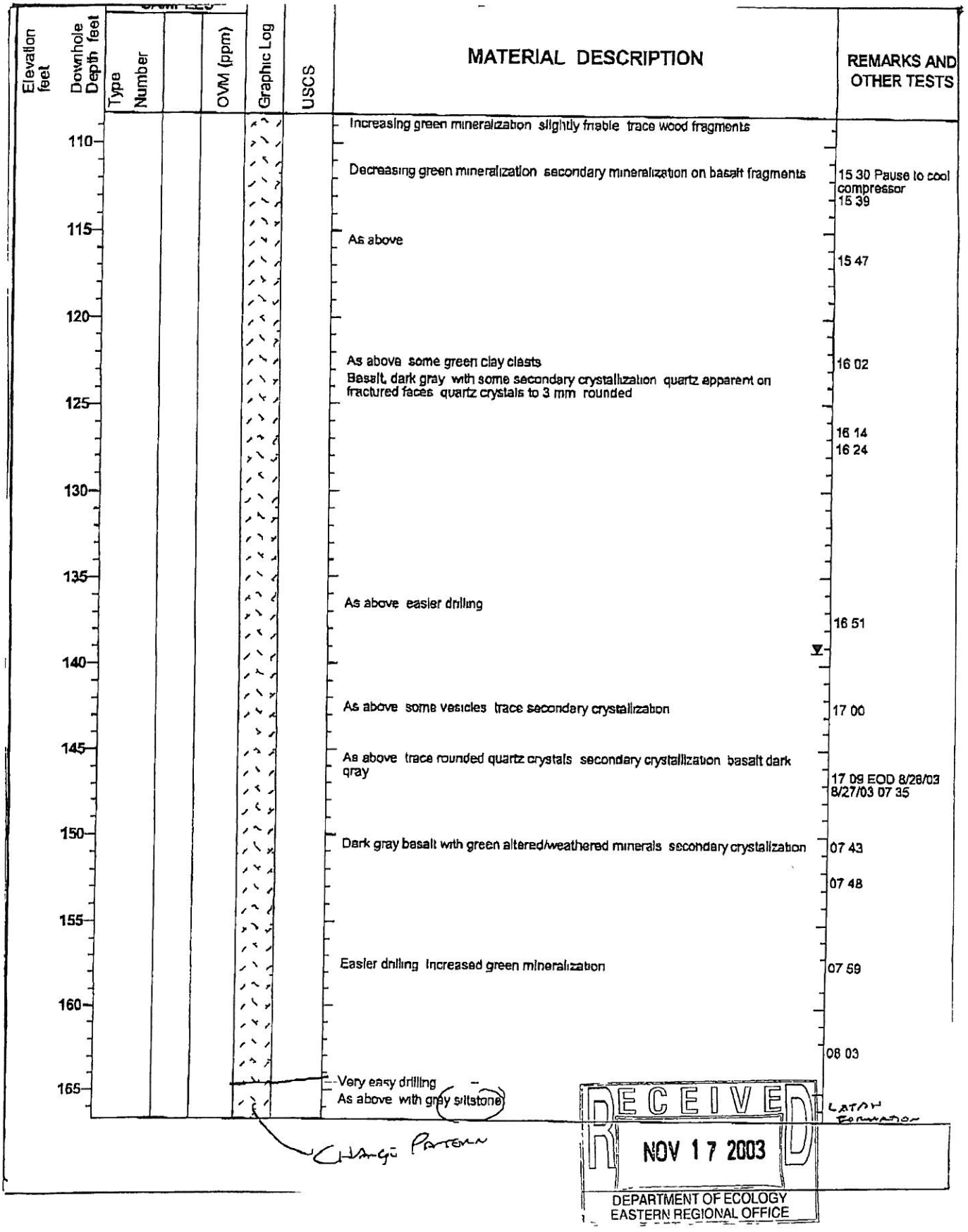
RECEIVED
NOV 17 2003
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

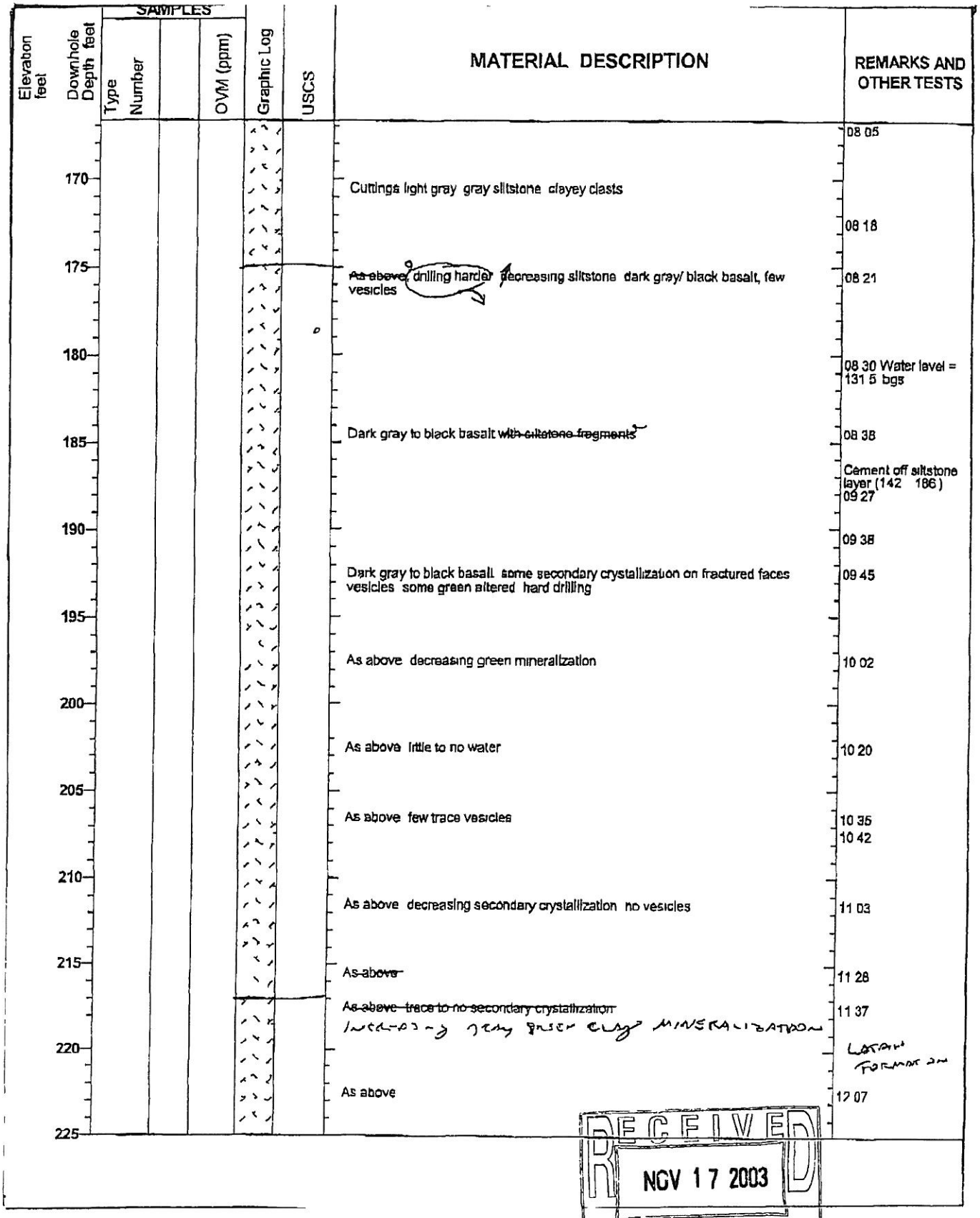
Elevation feet	Downhole Depth feet	SAMPLES Type	SAMPLES Number	SAMPLES	OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	50								
	55								
	60							Minor water production < 1 gpm gray to dark gray basalt Hard no apparent weathering	11 35
	65							As above	Stop to detach cyclone discharge to prevent bypass or discharge 11 50 12 43
	70								
	75							Discharge gray green	13 15
								Dark gray to black basalt with some weathered altered brown green basalt Slightly easier drilling Minor water	13 20 Pause to cool compressor 13 34
	80							Cuttings grading brown softer fine grained altered aphanitic/ glassy highly weathered basalt with red brown clay	13 44
	85							As above increasing gray basalt weathered fragments	13 48
								Slightly friable trace vesicles to 2mm	14 08
	90							Gray basalt increasing water	
	95								
	100							Soft drilling	
								Hard drilling	14 49
	105							Dark gray to black basalt some green weathered/ altered mineralization increasing water	14 54

RECEIVED
NOV 17 2003
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

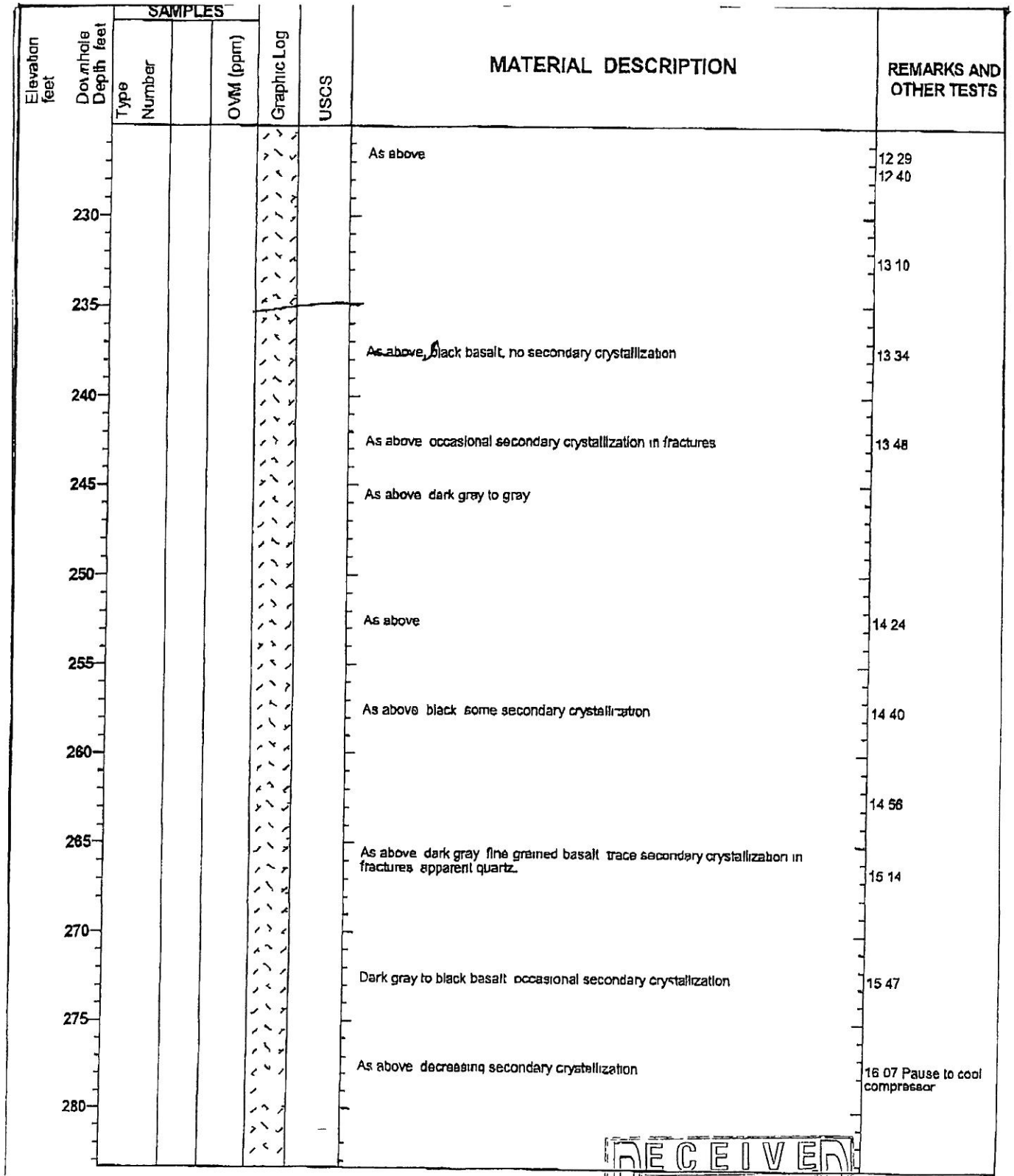


The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



RECEIVED
NOV 17 2003
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



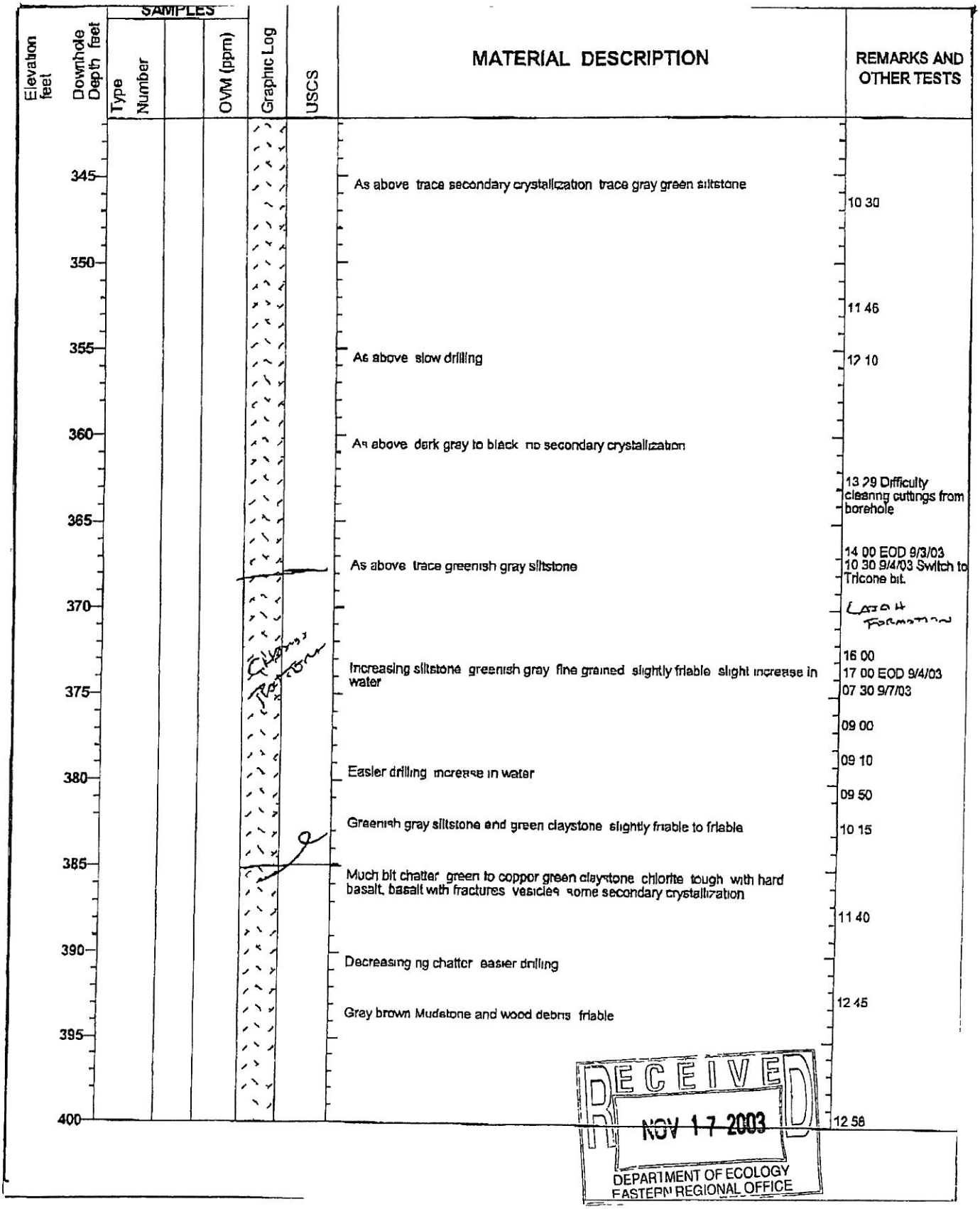
RECEIVED
NOV 17 2003
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Elevation feet	Downhole Depth feet	Type	Number	OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	285						As above grading gray to gray green siltstone somewhat friable increasing water few gallons per minute	EOD 8/28/03 07 30 8/29/03
	290						Grading black vesicular basalt vesicles 2 3mm decreasing water	07 58
	295						As above decreasing vesicles	08 21
	300						As above no vesicles As above	08 48
	305						As above trace gray green siltstone	
	310							08 40
	315						As above trace secondary crystallization	10 02
	320						As above trace vesicles	10 25
	325						As above black to dark green basalt trace secondary crystallization (Quartz grains) ~~Some siltstone slough.~~	10 46 EOD 8/29/03 08 25 9/3/03
	330						As above fine grained	08 42
	335						As above trace secondary crystallization Slow drilling	09 11 09 25
	340							09 51

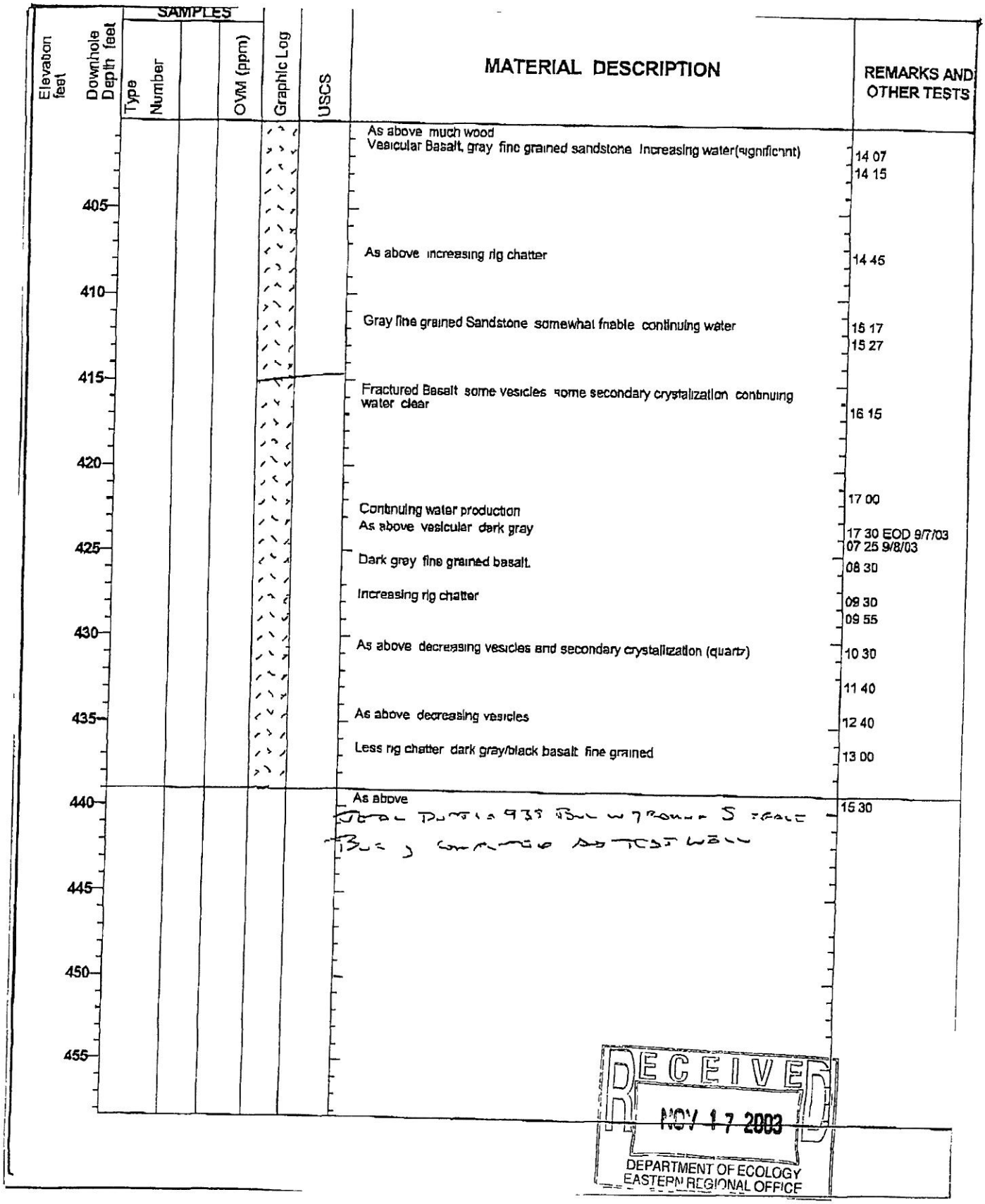
RECEIVED
NOV 17 2003
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



RECEIVED
NOV 17 2003
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



Elevation feet	Downhole Depth feet	SAMPLES Type	SAMPLES Number	OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
							As above much wood Vesicular Basalt, gray fine grained sandstone Increasing water(significant)	14 07 14 15
	405						As above increasing rig chatter	14 45
	410						Gray fine grained Sandstone somewhat friable continuing water	15 17 15 27
	415						Fractured Basalt some vesicles some secondary crystalization continuing water clear	16 15
	420						Continuing water production	17 00
							As above vesicular dark gray	17 30 EOD 9/7/03 07 25 9/8/03
	425						Dark grey fine grained basalt	08 30
							Increasing rig chatter	09 30 09 55
	430						As above decreasing vesicles and secondary crystallization (quartz)	10 30 11 40
	435						As above decreasing vesicles	12 40
							Less rig chatter dark gray/black basalt fine grained	13 00
	440						As above	15 30
	445							
	450							
	455							

RECEIVED
NOV 17 2003
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

APPENDIX A3

WELL LOGS

LINE 3: CRAIG ROAD (HWY 902 TO FOUR LAKES)

Well log ID 417068

42363

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Start Card No. W057375
UNIQUE WELL I.D. # AAL 539
Water Right Permit No. G3-28914P

OWNER: Name CITY OF MEDICAL LAKE Address P.O Box 369 MEDICAL LAKE WA.

(2) LOCATION OF WELL: County SPOKANE NW 1/4 NW 1/4 Sec 11 T. 24 N., R. 41 E W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) CRAIG RD + STATE HIWAY 902

(3) PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☒ ☐ Irrigation ☐ Test Well ☐ Other ☐ ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (If more than one) _____
Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 16" X 12" inches.
Drilled 1404 feet. Depth of completed well 1404 ft.

(6) CONSTRUCTION DETAILS:
Casing Installed: 20" Diam. from 0 ft. to 53 ft.
Welded ☒ 16" Diam. from +1.5 ft. to 824 ft.
Liner installed ☐ 12" Diam. from 315 ft. to 1404 ft.
Threaded ☐

Perforations: Yes ☒ No ☐
Type of perforator used MILL CUT 24 HOLES PER FT
SIZE of perforations 3 in. by 1/4 in.
3840 perforations from 329 ft. to 489 ft.
2880 perforations from 610 ft. to 750 ft.
2400 perforations from 1280 ft. to 1380 ft.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. ____ Slot size _____ from _____ ft. to _____ ft.
Diam. ____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 324 ft.
Material used in seal NEAT CEMENT GROUT
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 53 ft. below top of well Date 3/14/95
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) 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: 500 gal./min. with 74 ft. drawdown after 2 hrs.
" 1000 " 171 " 6.5 "
" 1400 " 233 " 24 "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
0	287	8 MIN	159	20 MIN	138
30 SEC	205	10 "	152	30 "	122
1 MIN	170	14 "	148	3 HR	73

Date of test 2/28/95
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water 56 Was a chemical analysis made? Yes ☒ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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 information.

	MATERIAL	FROM	TO
	GRAVEL + SANDY CLAY	0	64
	BASALT BRN	64	84
	BASALT GRAY	84	189
★	BASALT BLK + BRN CLAY	189	243
	BASALT GREY	243	290
	BASALT GREY + GREY CLAY	290	326
★	BASALT BRN + BLK / CLAY	326	346
★	BASALT BLK + BRN	346	499
	CLAY BRN + GREY	499	572
★	BASALT GREY FRAC.	572	800
	BASALT BLK	800	805
	CLAY BRN	805	961
	CLAY GRN + GREY	961	985
	CLAY BRN	985	1150
	CLAY GRN + GREY	1150	1163
	CLAY GREY + WHITE SAND	1163	1211
	CLAY BRN	1211	1231
	CLAY GREY	1231	1258
	CLAY GREY + WHITE SAND	1258	1278
★	WASHED GRAVEL + SAND	1278	1301
★	QUARTZITE GREY + WHITE	1301	1364
	GRANITE	1364	1404

★ INDICATES WATER BEARING ZONE

16" + 20" PRESSURE GROUTED FROM BOTTOM BACK TO GROUND SURFACE

Work Started 10/24/ 19 94 Completed 3/28/ 19 95

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME HOLMAN DRILLING CORP (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)
Address E3410 9TH AVE SPOKANE WA
(Signed) Arnold E Holman (WELL DRILLER) License No. 0189
Contractor's Registration No. HOLMADC131N4 Date MARCH 15, 1995

(USE ADDITIONAL SHEETS IF NECESSARY)

ECL 050-1-20 (2/93) * * 1

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 164483

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Application No. .....
Permit No. 6325465

(1) OWNER: Name City of Four Lakes Address Washington

(2) LOCATION OF WELL: County ..... SW¼ NW¼ NW¼ Sec. 14 T. 24 N., R. 41 W.M.
Bearing and distance from section or subdivision corner 1280' S. - 70' E of NW cor.

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☑
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) .....
New well ☑ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☑ Jetted ☐

(5) DIMENSIONS: Diameter of well 8 inches.
Drilled 675 ft. Depth of completed well 675 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 8 " Diam. from 0 ft. to 440 ft.
Threaded ☐ " Diam. from ..... ft. to ..... ft.
Welded ☑ " Diam. from ..... ft. to ..... ft.

Perforations: Yes ☑ No ☐
Type of perforator used milled
SIZE of perforations 3 in. by 3/16 in.
perforations from 380 ft. to 320 ft.
perforations from ..... ft. to ..... ft.
perforations from ..... ft. to ..... ft.

Screens: Yes ☐ No ☑
Manufacturer's Name .....
Type ..... Model No. .....
Diam. ..... Slot size ..... from ..... ft. to ..... ft.
Diam. ..... Slot size ..... from ..... ft. to ..... ft.

Gravel packed: Yes ☐ No ☑ Size of gravel: .....
Gravel placed from ..... ft. to ..... ft.

Surface seal: Yes ☑ No ☐ To what depth? 370 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 .....

(7) PUMP: Manufacturer's Name .....
Type: ..... H.P. .....

(8) WATER LEVELS: Land-surface elevation above mean sea level 2410 A.T.
Static level 36 ft. below top of well Date .....
Artesian pressure ..... lbs. per square inch Date .....
Artesian water is controlled by ..... (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? .....
Yield: 680 gal./min. with 23 ft. drawdown after 8 hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
0"	29				
15"	60				
30"	58				
60"	58				

Date of test .....
Bailer test ..... gal./min. with ..... ft. drawdown after ..... hrs.
Artesian flow ..... g.p.m. Date .....
Temperature of water ..... Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:
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
sand Loam	0	2
gravel & sand	2	7
Sand	7	16
Clay	16	28
Med hard gray basalt	28	53
Med to hard gray basalt	53	124
Soft Gray basalt	124	133
Med to hard Gray basalt	133	185
Soft black basalt	185	189
Black basalt w/ blue shale streaks	189	209
brown basalt w/ gray shale	209	212
Soft to hard gray basalt	212	269
softer gray basalt	269	273
Med gray basalt to softer	273	307
Shale with black basalt	307	310
Med hard gray basalt	310	328
brown shale w/ black basalt	328	330
Hard gray basalt	330	347
Softer gray basalt	347	360
Med gray basalt	360	356
Soft brown shale w/ black basalt	356	358
med hard gray basalt	358	372
Black basalt w/ brown shale	372	390
Very Soft fine black basalt	390	400
Hard Gray basalt	400	421
Blue Shale	421	426
Brown shale w/ basalt	426	436
Med Gray basalt	436	442
Hard Gray basalt	442	469
Med Gray basalt w/ some shale	469	472
Hard to Med Hard Gray basalt	472	592
Hard gray basalt w/ white seams	592	597
Hard Gray basalt	597	664
Soft brown clay	664	775

Permitted 290 gpm
320 ft - 40 - Muskegal

Work started July 20, 1977 Completed Oct 12, 1977

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 Uhlenkott Well Drilling
(Person, firm, or corporation) (Type or print)

Address Fenn, Idaho

[Signed] Ray Uhlenkott
(Well Driller)

License No. ..... Date Oct 30, 1977

(USE ADDITIONAL SHEETS IF NECESSARY)

Four Lakes 7½' - E
3625 E
473437 1173 57 E

4/28/78

ECY 060-1-20

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 468689

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No. ......
Permit No. G3-20383

(1) OWNER: Name City of Four Lakes Address Four Lakes Washington

(2) LOCATION OF WELL: County Spokane All of Sec. 35 NW ¼ Sec. 3 T. 24 N., R. 41 W.M.

Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☑ Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) ......
New well ☑ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 300 ft. Depth of completed well 300 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from 1 ft. to 305 ft.
Threaded ☐ ......" Diam. from ...... ft. to ...... ft.
Welded ☑ ......" Diam. from ...... ft. to ...... ft.

Perforations: 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.

Screens: Yes ☐ No ☑
Manufacturer's Name ......
Type ...... Model No. ......
Diam. ...... Slot size ...... from ...... ft. to ...... ft.
Diam. ...... Slot size ...... from ...... ft. to ...... ft.

Gravel packed: Yes ☐ No ☑ Size of gravel: ......
Gravel placed from ...... ft. to ...... ft.

Surface seal: Yes ☑ No ☐ To what depth? 305 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 ......

(7) PUMP: Manufacturer's Name ......
Type: ...... H.P. ......

(8) WATER LEVELS: Land-surface elevation above mean sea level 2400 ft.
Static level 44 ft. below top of well Date ......
Artesian pressure ...... lbs. per square inch Date ......
Artesian water is controlled by ...... (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☑ If yes, by whom? ......
Yield: 71 gal./min. with 200 ft. drawdown after 5 hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test July 23 - 1974
Bailer test ...... gal./min. with ...... ft. drawdown after ...... hrs.
Artesian flow ...... g.p.m. Date ......
Temperature of water ...... Was a chemical analysis made? Yes ☐ No ☑

(10) WELL LOG:

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
Top Soil Brown	0	1
Basalt Broken	1	16
Basalt Gray hard	16	168
Basalt Clay Black	168	178
Latah Clay and Sands	178	184
Latah Clay Gray	184	194
Clay Brown	194	198
Basalt Black Rock	198	201
Basalt Blue hard	201	215
Basalt Gray hard	215	217
Basalt Brown Broken	217	219
Basalt Decomposed	219	234
Clay Yellow	234	239
Clay Brown	239	244
Basalt Decomposed	244	250
Basalt Gray hard	250	271
Basalt Blue hard	271	285
Granite Decomposed	285	300
Clay type of [illegible]		

150
240 Mun

RECEIVED
AUG 19 1974
DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started July 15, 1974. Completed July 23, 1974

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 E.B. Hatman Drilling Co. (Person, firm, or corporation) (Type or print)

Address Cold Springs Rd Spokane Wa

[Signed] [signature] (Well Driller)

License No. 0101 Date July 23, 1974

8/20/74

(USE ADDITIONAL SHEETS IF NECESSARY)

E. F. No. 7358—(Rev. 4-71).

RECEIVED
FEB 27 2007
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

Well log ID 170665

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Application No. .....
Permit No. 82-27108

(1) OWNER: Name Jim Keys Address P.O. Box 30 Med. Lk. Wash.

(2) LOCATION OF WELL: County Spokane NE ¼ NE ¼ Sec. 22 T. 24 N., R. 41 W.M.
ng and distance from section or subdivision corner SE SE 15 24 41

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) .....
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 225 ft. Depth of completed well 225 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6" Diam. from 0 ft. to 19 ft.
Threaded ☐ ." Diam. from ft. to ft.
Welded ☐ ." Diam. from ft. to ft.

Perforations: 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.

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 19 ft.
Material used in seal Puddling Clay
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level 2410 ft.
Static level ft. below top of well Date
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

ate of test
bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

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
Over burden	0	17
Basalt hard and gray	17	185
Basalt fractured	185	196
Basalt fractured with water	196	225
Air Tested at 50 plus G P M		
Very strong well		

RECEIVED
OCT 7 1982
DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started 8/1 19 81 Completed 8/6 1981

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 Coffey Drilling
(Person, firm, or corporation) (Type or print)

Address RT 4 Box 448 Cheney, Wash. 99004

[Signed] (Well Driller)

License No. 0572 Date 9/10, 1981

10/7/82

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

APPENDIX A4

WELL LOGS

LINE 4: WOOD ROAD

Wfw log ID) 17 5566

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W44457
Unique Well ID # ABW156
Water Right Permit No.

(1) OWNER: Name BIGLER, BARRY Address 1917 EAST LIBERTY AVENUE SPOKANE, WA 99207-

(2) LOCATION OF WELL: County SPOKANE - NE 1/4 NE 1/4 Sec 03 T 25 N. R 48E WM
(2a) STREET ADDRESS OF WELL (or nearest address)

(3) PROPOSED USE: DOMESTIC

(4) TYPE OF WORK: Owner's Number of well (if more than one) 1
NEW WELL Method: ROTARY

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 320 ft. Depth of completed well 320 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Dia. from +2 ft. to 30 ft.
WELDED 4 " Dia. from -5 ft. to 70 ft.
4 " Dia. from 90 ft. to 320 ft.

Perforations: YES
Type of perforator used SKILL SAW
Size of perforations 1/8 in. by 6 in.
80 perforations from 230 ft. to 310 ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: YES
Manufacturer's Name
Type PVC Model No.
Dia. 4 slot size 10 from 50 ft. to 70 ft.
Dia. slot size from ft. to ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

Surface seal: YES To what depth? 20+ ft.
Material used in seal BENTONITE
Did any strata contain unusable water? NO
Type of water? Depth of strata ft.
Method of sealing strata off OVERBORE

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level 50 ft. below top of well Date 12/06/94
Artesian Pressure lbs. per square inch Date
Artesian water controlled by

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? NO If yes, by whom?
Yield: gal./min with ft. drawdown after hrs.

Recovery data
Time Water Level Time Water Level Time Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test 5+ gal/min. w/ stem set at 320 ft. for 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? NO

(10) WELL LOG

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 in formation.

MATERIAL	FROM	TO
DECOMPOSED GRAVEL SAND	0	10
DECOMPOSED GRAVEL BROWN	10	30
SMALL BROWN GRANITE	30	40
BROKEN GRANITE BROWN	40	60
SMALL BROWN GRANITE	60	180
HARD BLACK & WHITE GRANITE	180	320
	320	

RECEIVED
DEC 22 1994

Work started 11/30/94 Completed 12/06/94

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME PONDEROSA DRILLING
(Person, firm, or corporation) (Type or print)

ADDRESS E 6010 BROADWAY

[SIGNED] M. Kelly License No. 1901

Contractor's Registration No. PO-ND-EI*248JE Date 12/14/94

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 176121

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy
55957

WATER WELL REPORT
STATE OF WASHINGTON

Start Card No. W081529
UNIQUE WELL I.D. # ACK936
Water Right Permit No.

(1) OWNER: Name Frances Steel Address 4202 Wood Road, Reardan WA 99029

(2) LOCATION OF WELL: County Spokane NW 1/4 NW 1/4 Sec 2 T 25 N. R 40 WM.

(2a) STREET ADDRESS OF WELL (or nearest address)

(3) PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐ ☐ Irrigation ☐ Test Well ☐ Other ☐ ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one)
Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 300 feet. Depth of completed well 300 ft.

(6) CONSTRUCTION DETAILS:
Casing Installed: 6 " Diam from +2 ft to 98 ft.
Welded ☒ " Diam from ft. to ft
Liner installed ☐ " Diam from ft to ft
Threaded ☐

Perforations: 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.

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No
Diam. Slot size from ft to ft.
Diam. Slot size from ft to ft

Gravel packed. Yes ☐ No ☒ Size of gravel
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type H P

(8) WATER LEVELS: Land surface elevation above mean sea level ft.
Static level ft below top of well Date
Artesian pressure lbs per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield gal./min. with ft. drawdown after hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs
Artesian 1 gal./min. with stem set at 300 ft. for 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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 information.

MATERIAL	FROM	TO
Soil	0	5
Basalt	5	16
Clay	16	18
Granite (decomposed)	18	22
Clay	22	95
Granite (red & white)	95	175
Granite (blk & wht)	175	250
Quartz (wht) (1 g.p.m.)	250	252
Granite	252	300

OCT 2 1996

Work Started 10-16-96 19 Completed 10-17-96 19

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Troy Tarbert / Tarbert Drilling LLC (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address Rt 1, Box 20, Davenport WA 99122

(Signed) Troy Tarbert (WELL DRILLER) License No 1709

Contractor's Registration No. TARBEDL044C8 Date 10/20/96 19

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (206) 407-6800. The TDD number is (206) 407-6006.

ECY (50)-1-20 (8/93) * * *

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL TAG ID 172973

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 057648 #2

Water Right Permit No. _____

1) OWNER: Name Spokane Hutterian Address Rt. #1 Box 6 E Reardan, WA 99029

(2) LOCATION OF WELL: County Spokane SW ¼ SW ¼ Sec 2 T 25 N. R 40E W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) Wood & Euclid Rd. Reardan, WA

(3) PROPOSED USE: ☒ Domestic ☐ Irrigation ☐ DeWater ☐ Industrial ☐ Test Well ☐ Municipal ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
Abandoned ☐ New well ☒ Deepened ☐ Reconditioned ☐ Method: Dug ☐ Cable ☐ Rotary ☒ Bored ☐ Driven ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 240 feet. Depth of completed well 240 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Diam. from +1 ft. to 65 ft.
Welded ☒ Liner installed ☐ Threaded ☐ _____ " Diam. from _____ ft. to _____ ft.
_____ " Diam. from _____ ft. to _____ ft.

Perforations: 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.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 18+ ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 40 ft below top of well Date 6/12/92
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? _____
Yield: 20 gal./min. with _____ ft. drawdown after _____ hrs.
" Air test approx. 20-G.P.M. "
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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 information.

MATERIAL	FROM	TO
Topsoil	0	1
Basalt-hard	1	9
Basalt-med. w/fracts.	9	24
Basalt-fract. w/clay brn.	24	41
Basalt-med. w/fracts.	41	55
Basalt-hard	55	115
Basalt-fractured	115	118
Basalt-hard	118	125
Clay-grey-hard	125	131
Basalt-fractured-hard	131	183
Basalt-hard	183	230
Sand-quartz-fine	230	240

Work started 6/11/92 19. Completed 6/12/ 19 92

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME J & J DRILLING INC (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address S 5613 Linke Rd. Greenacres, WA 99016

(Signed) _____ (WELL DRILLER) License No. 1447

Contractor's Registration No. JJDRIL-177KU Date 6/16/ 19 92

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10/87) -1329

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 172 974

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 057648 #1

Water Right Permit No. _____

(1) OWNER: Name Spokane Hutterian Address Rt.-1 Box 65, Reardan, WA 99029

(2) LOCATION OF WELL: County Spokane SW ¼ SW ¼ Sec. 2 T. 25 N., R. 40 E W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) Wood & Euclid Rd., Reardan, WA

(3) PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐ ☐ Irrigation ☐ Test Well ☐ Other ☐ ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) _____

Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 300 feet. Depth of completed well 300 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from +1 ft. to 146 ft.
Welded ☒ 4" Diam. from _____ ft. to 300 ft.
Liner installed ☒
Threaded ☐ _____" Diam. from _____ ft. to _____ ft.

Perforations: 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.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 18+ ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 125 ft. below top of well Date 6/11/92
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? _____
Yield: 50 gal./min with _____ ft. drawdown after _____ hrs.
Air test approx. 50-G.P.M. " " " " " " " "
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test _____ gal./min. with _____ ft drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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 information.

MATERIAL	FROM	TO
Clay-brn.-med.	0	20
Basalt-med.	20	29
Basalt-hard	29	42
Basalt-highly fractured	42	130
Clay-grey-hard	130	150
Basalt-med. w/fracts.	150	217
Basalt-fractured	217	255
Basalt-hard	255	300

Work started 6/9/92 19. Completed 6/11/ 1992

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME J & J DRILLING INC (PERSON, FIRM OR CORPORATION) (TYPE OR PRINT)

Address S 5613 Linke Rd. Greenacres, WA 99016

(Signed) _____ (WELL DRILLER) License No. 1447

Contractor's Registration No. JJDRII-177KU Date 6/16/ 1992

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10/87) 1329

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WFW LOG ID 163899

Original and First Copy with Owner of Ecology
Owner's Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No .....
Permit No .....

(1) OWNER: Name Hutterian Brethern Address Rt.1, Box 6-E, Reardon, Wash. 99029

(2) LOCATION OF WELL: County Spokane — SW ¼ SW ¼ Sec 2 T 25 N., R 40E W.M.

Give legal and distance from section or subdivision corner

(3) PROPOSED USE: Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

(4) TYPE OF WORK: Owner's number of well (if more than one) .....
New well [X] Method: Dug [ ] Bored [ ]
Deepened [ ] Cable [ ] Driven [ ]
Reconditioned [ ] Rotary [X] Jetted [ ]

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 400 ft. Depth of completed well 400 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam. from +1 ft. to 22 ft.
Threaded [ ] " Diam. from ... ft. to ... ft.
Welded [ ] " Diam. from ... ft. to ... ft.

Perforations: Yes [ ] No [X]
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.

Screens: Yes [ ] No [X]
Manufacturer's Name .....
Type ..... Model No .....
Diam. ... Slot size ... from ... ft. to ... ft.
Diam. ... Slot size ... from ... ft. to ... ft.

Gravel packed: Yes [ ] No [X] Size of gravel: .....
Gravel placed from ... ft. to ... ft.

Surface seal: Yes [X] No [ ] To what depth? 22 ft.
Material used in seal Bentinite
Did any strata contain unusable water? Yes [ ] No [X]
Type of water? ... Depth of strata ...
Method of sealing strata off .....

(7) PUMP: Manufacturer's Name .....
Type: ... H.P. ...

(8) WATER LEVELS: Land-surface elevation above mean sea level 2460 ft.
Static level 40 ft. below top of well Date 6/20/75
Artesian pressure ... lbs. per square inch Date ...
Artesian water is controlled by ... (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes [X] No [ ] If yes, by whom? Driller
Yield 35 to 40 gal./min. with 360 ft. drawdown after 1 hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test .....
... test ... gal./min. with ... ft. drawdown after ... hrs.
Artesian flow ... g.p.m. Date ...
Temperature of water ... Was a chemical analysis made? Yes [ ] No [X]

(10) WELL LOG:

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
Back fill	0'	2
Basalt, heav fract, brn-blk, med hrd	2'	7
Clay, moist, brn w/basalt rocks	7'	9
Basalt, heav fract, blk, brn sediment in creaks, med hrd	9'	15'
Basalt, fract, blk, med hrd	15'	34
Clay, moist, yellow, firm	34'	39'
Basalt, fract, blk, med hrd	39'	58'
Clay, orange-brn, med hrd	58'	63
Basalt, heav fract, brn, med hrd, water 5 GPM	63'	66'
Basalt, gray, hrd	66'	76'
Basalt, heav fract, blk, med hrd	76'	84'
Basalt, fract, honey-comb, med hrd water 9 GPM	84'	92'
Basalt, occas fract, gray, hrd	92'	99'
Clay, gray, med hrd	99'	102'
Basalt, occas fract, gray, hrd	102'	109'
Clay, blue-gray, med hrd	109'	111'
Shale, grn, w/wood chips, firm	111'	119'
Basalt, fract, blk, med hrd	119'	134'
Basalt, occas fract, gray, hrd	134'	192'
Basalt, fract, blk, med hrd	192'	203'
Basalt, occas fract, gray, med hrd	203'	217'
Clay, moist, gray, firm, w/basalt rocks	217'	223
Basalt, fract, blk, med hrd, water 18 GPM	223'	248'
Basalt, gray, hrd	248'	266'
Basalt, fract, blk, med hrd	266'	279'
Basalt, gray, hrd	279'	295
Shale, grn, med hrd, w/wood chips	295'	298'
Basalt, fract, gray, med hrd	298'	311'
Basalt, fract, blk, med hrd	311'	316'
Shale, gray, med hrd	316'	323
Basalt, fract, gray, med hrd	323'	328

(Well log continued on page 2)

Work started June 16, 19 75 Completed June 20, 19 75

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 ZINKGRAF'S WELL DRILLING COMPANY
(Person, firm, or corporation) (Type or print)

Address E. 1606 Sharp, Spokane, Wash. 99202

[Signed] James J. Zinkgraf
Well Driller

License No. 0544 Date June 25, 1975

(USE ADDITIONAL SHEETS IF NECESSARY)

S. F. No. 7356—OS—(Rev 4-71)
ECY-070-28

6/27/75

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report. I Report.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Well Tagging Form

Unique Well Tag No: AHC 090

RECORD VERIFICATION (check ✓ one)

- [ ] Well Report available *(please attach this form to the well report and submit it to the Ecology Regional Office near you)*
- [ ] Verification inconclusive — PWS 18375 SOURCE 02
- [ ] Well Report not available

WELL OWNERSHIP, IF DIFFERENT FROM WELL REPORT

st Name: DEEP CREEK HUTTERITE Last Name: _____

eet Address: _____

y: _____ State: _____

LOCATION OF WELL, IF DIFFERENT FROM WELL REPORT

ell Address: _____

ty: _____ County: SPOKANE

_____ N. R. _____ _____ W.M. Sec. _____ _____ 1/4 of the _____

FOR AGENCY USE ONLY

ıtitude 47° 41 . 25.261 "

ngitude 117° 43 . 27.845 "

- [X] GPS
- [ ] Topographic Map
- [ ] Survey
- [ ] Computer generated

levation at land surface _____ feet/meters *(circle one)*

- [ ] Digital Altimeter
- [ ] Topographic Map
- [ ] Other _____

dditional information, if available:

- [ ] Location marked on topographic map *(please attach)*
- [ ] Location marked on air photo *(please attach)*

APPENDIX A5

WELL LOGS

LINE 5: MEADOW LAKE ROAD

Well Log ID 145276

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No.

Permit No.

(1) OWNER: Name T. Schroeder & Wm. Sylvester Address Rt. 1 Box 241 K Medical Lake, Wa. 99022

(2) LOCATION OF WELL: County Spokane — SE ¼ NW ¼ Sec. 26 T. 24 N., R. 41 W.M.

Bearing and distance from section or subdivision corner

PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 300 ft. Depth of completed well 300 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam. from 0 ft. to 22 ft.
Threaded ☐ " Diam. from ft. to ft.
Welded ☒ " Diam. from ft. to ft.

Perforations: 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.

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal bentonite
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level... 2500 ft.
Static level ft. below top of well Date
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:

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
top soil	0	2
hard clay	2	11
basalt	11	72
basalt and clay	72	83
clay	83	248
decomposed granite	248	263
granite	263	300

Work started 10/15/75, 19 Completed 10/15/75, 19

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 Bartholomew Drilling
(Person, firm, or corporation) (Type or print)

Address Nine Mile Falls, Wa. 99026

[Signed] (Well Driller)

License No. 0027 Date 10/27/75, 19

(USE ADDITIONAL SHEETS IF NECESSARY)

S. F. No. 7356—OS—(Rev. 4-71)
ECY-070-28

2/23/74

The Dep. The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 419003

WATER WELL REPORT

Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

Construction/Decommission *("x" in circle)*
- (⊗) Construction
- ( ) Decommission *ORIGINAL CONSTRUCTION Notice of Intent Number* _____

CURRENT Notice of Intent No. W179789

Unique Ecology Well ID Tag No. ALR569

Water Right Permit No. _____

Property Owner Name KimLee

Well Street Address 12212 S. Murhy

City N/A (Spok) County: Spokane

Location NW 1/4- 1/4 SE 1/4 Sec 26 Twn 24 N R 41 (EWM) or WWM *circle one*

Lat/Long: (s,t,r still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Tax Parcel No. 14264.0113

PROPOSED USE: [X] Domestic [ ] Industrial [ ] Municipal [ ] DeWater [ ] Irrigation [ ] Test Well [ ] Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____

[X] New Well [ ] Reconditioned *Method:* [ ] Dug [ ] Bored [ ] Driven [ ] Deepened [ ] Cable [X] Rotary [ ] Jetted

DIMENSIONS: Diameter of well 6 inches, drilled 120 ft. Depth of completed well 120 ft.

CONSTRUCTION DETAILS

Casing Installed: [X] Welded 6" Diam. from +1 ft. to 39 ft.
[ ] Liner installed _____" Diam. from _____ ft. to _____ ft.
[ ] Threaded _____" Diam. from _____ ft. to _____ ft.

Perforations: [ ] Yes [X] No
Type of perforator used _____
SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: [ ] Yes [X] No [ ] K-Pac Location _____
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot Size _____ from _____ ft. to _____ ft.
Diam. _____ Slot Size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: [ ] Yes [X] No [ ] Size of gravel/sand _____
Materials placed from _____ ft. to _____ ft.

Surface Seal: [X] Yes [ ] No To what depth? 20+ ft
Materials used in seal Bentonite
Did any strata contain unusable water? [ ] Yes [X] No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 20 ft below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (cap,valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? [ ] Yes [ ] No If yes, by whom? _____
Yield _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
Approx. 1 GPM by Airtest					

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest 1 gal./min. with stem set at 120 ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? [ ] Yes [ ] No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. Indicate all water encountered. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Topsoil	0	1
Brn. Clay	1	18
Basalt-Fract..w/Clay	18	30
Basalt-H,Fracts.w/Clay	30	95
1 GPM @ 50'		
Basalt-Fract. w/ Clay	95	98
Brn. Clay-F to H	98	105
Very Decomp. Granite-S	105	120

RECEIVED OCT 19 2005 DEPARTMENT OF ECOLOGY EASTERN REGIONAL OFFICE

Start Date 8/9/05 Completed Date 8/9/05

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

[X] Driller [ ] Engineer [ ] Trainee Name (Print) Benson Carpenter, Drilling Company Carpenter Drilling Co.Inc.

Driller/Engineer/Trainee Signature _____ Address 8918 N. Forker Rd.

Driller or Trainee License No. 1278 City, State, Zip Spokane, Wa. 99217

If trainee, licensed driller's Signature and License no. _____ Contractor's Registration No CARPEDCO22JT Date 8/10/05

Ecology is an Equal Opportunity Employer ECY 050-1-20 (Rev 4/01)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Well Log ID 171611

#2

STATE

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. _____

Water Right Permit No. _____

(1) **OWNER:** Name Phil Bresseur Address 7011 S Grove Rd. Spokane, WA 99204

(2) **LOCATION OF WELL:** County Spokane #2 NE¼ NW¼ SE¼ ~~NE¼~~ ¼ ~~SE~~ ¼ Sec. 26 T. 24 N., R. 41 W.M.

(2a) **STREET ADDDRESS OF WELL** (or nearest address) 12313 Murphy Rd. Cheney, WA

(3) **PROPOSED USE:** ☒ Domestic ☐ Industrial ☐ Municipal ☐ ☐ Irrigation ☐ Test Well ☐ Other ☐ ☐ DeWater

(4) **TYPE OF WORK:** Owner's number of well (if more than one) _____

Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) **DIMENSIONS:** Diameter of well 6 inches. Drilled 200 feet. Depth of completed well 200 ft.

(6) **CONSTRUCTION DETAILS:**

Casing installed: 6 " Diam. from +1 ft. to 19 ft.

Welded ☐ Liner installed ☐ Threaded ☐ _____ " Diam. from _____ ft. to _____ ft.

Perforations: 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.

Screens: Yes ☐ No ☐

Manufacturer's Name _____

Type _____ Model No. _____

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☐ Size of gravel _____

Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? _____ ft.

Material used in seal Bentonite

Did any strata contain unusable water? Yes ☐ No ☐

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

(7) **PUMP:** Manufacturer's Name _____

Type: _____ H.P. _____

(8) **WATER LEVELS:** Land-surface elevation above mean sea level _____ ft.

Static level _____ ft. below top of well Date _____

Artesian pressure _____ lbs. per square inch Date _____

Artesian water is controlled by _____ (Cap, valve, etc.)

(9) **WELL TESTS:** Drawdown is amount water level is lowered below static level

Was a pump test made? Yes ☐ No ☐ If yes, by whom? _____

Yield: 8 gal./min. with _____ ft. drawdown after _____ hrs.

" " " "

" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____

Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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 information.

MATERIAL	FROM	TO
Clay-brn.	0	4
Basalt-hard	4	21
Basalt-fractured-w/sand	21	50
Clay-brn.	50	140
Basalt-med.	140	155
Clay-red #2	155	175
Sand	175	178
Clay-brn.	178	200

C-27

Work started 6/27 19 91 Completed 6/27 19 91

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME J & J DRILLING INC (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address S 5613 Linke Rd. Greenacres, WA 99016

(Signed) _____ (WELL DRILLER) License No. 1447

Contractor's Registration No. JJDRIL-177KU Date 7/7/ 19 91

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10/87) -3329-

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG ID 168005

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No

Permit No

(1) OWNER: Name Inez Malcolm Address Upham North Dakota 58789

(2) LOCATION OF WELL: County Spokane NW ¼ SW ¼ Sec 25 T 24 N., R 41 W.M.

Give distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☑ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)

New well ☑ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☑ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 135 ft. Depth of completed well 135 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam. from -1½ ft. to 18½ ft.
Threaded ☐ " Diam. from ft. to ft.
Welded ☐ " Diam. from ft. to ft.

Perforations: Yes ☑ No ☐
Type of perforator used 5" Steel Liner
SIZE of perforations 3/8 in. by 12 in.
30 perforations from 135 ft. to 115 ft.
30 perforations from 115 ft. to 95 ft.
0 perforations from 95 ft. to 15 ft.

Screens: Yes ☐ No ☑
Manufacturer's Name
Type Model No
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☑ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☑ No ☐ To what depth? 18½ ft.
Material used in seal Puddling Clay
Did any strata contain unusable water? Yes ☐ No ☑
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level 2400 ft.
Static level ft. below top of well Date
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:

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
Overburden Soil	0	1
Fr. Basalt Gray Med	1	10
Loose Sand + Gravel	10	15
Basalt Gray Hard	15	25
Clay Brown Med	25	26
Clay & Basalt Brown Med	26	31
Clay Brown Med	31	33
Basalt Gray Hard	33	40
Fr. Basalt Gray Med	40	50
Clay Blue Med	50	53
Fr. Basalt Gray Med	53	60
Clay Blue Med	60	63
Fr. Basalt Gray Med	63	70
Clay Blue Med	70	72
Basalt Gray Med	72	75
Fr. Basalt Gray Med (under)	75	88
Clay Gray & Brown Med Soft	88	100
Clay & Brown Soft	100	112
Basalt Gray Med (water)	112	134
Clay Brown Soft	134	135

Airtest 15 GPM

RECEIVED
AUG 20 1979
DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started July 27 19 79 Completed July 30 19 79

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 C+S Drilling (Person, firm, or corporation) (Type or print)

Address W. 7724 Lake Spokane 99204

[Signed] Allen Dodgen (Well Driller)

License No. 1004 Date Aug 1 19 79

8/20/79

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Well log ID 175937

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

55261

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W079704

UNIQUE WELL I.D. # ACF 710

Water Right Permit No. _____

(1) OWNER: Name SHAUN SCHLUTER Address 8103 E. ELDE SPOKANE 99212

(2) LOCATION OF WELL: County SPOKANE SW 1/4 NW 1/4 Sec 25 T. 24 N., R. 41 W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) Hunt RD

(3) PROPOSED USE: ☑ Domestic ☐ Industrial ☐ Municipal ☐ ☐ Irrigation ☐ Test Well ☐ Other ☐ ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) _____

Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6" inches. Drilled 500' feet. Depth of completed well 400' ft.

(6) CONSTRUCTION DETAILS:

Casing Installed: ☑ Welded ☐ Liner installed ☐ Threaded
6" Diam. from +1.5' ft. to 262' ft.
5" Diam. from 227' ft. to 395' ft.
_____ Diam. from _____ ft. to _____ ft.

Perforations: 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.

Screens: Yes ☐ No ☑
Manufacturer's Name _____
Type _____ Model No. _____
Diam. ____ Slot size _____ from _____ ft. to _____ ft.
Diam. ____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☑ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☑ No ☐ To what depth? 18' ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☑ No ☐
Type of water? Muddy Clay Depth of strata 88'
Method of sealing strata off Cased off

(7) PUMP: Manufacturer's Name Grundfos
Type: Sub H.P. 1 1/2

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 85' ft. below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☑ No ☐ If yes, by whom? DC
Yield: 7 gal./min. with _____ ft. drawdown after _____ hrs.
" Estimated Air Lift " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest 4 gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

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 information.

MATERIAL	FROM	TO
Top Soil	0	1
Sandy clay	1	88
Clay w/ Decomposed Granite	88	102
Clay	102	235
Sandy clay	235	247
Clay & Decomposed Granite	247	392
Granite Med Hard	392	405
Granite soft w/water	405	460
Granite Hard	460	465
	465	500

RECEIVED
JUL 23
JULY 23, 1996
DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

Work Started 6-4-96 19. Completed 7-2 1996

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME TIPTOP WATER WELL Drilling (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address 15511 Blanchard Rd Elk 99009

(Signed) Robert Dehle (WELL DRILLER) License No. 2059

Contractor's Registration No. TIPTOWW101YB Date 7-3 1996

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (206) 407-6600. The TDD number is (206) 407-6006.

ECY 050-1-20 (9/93)

WCN WG ID 168343

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No. .....

Permit No. .....

(1) OWNER: Name James V. Harmon Address Route 2, Box 161 -- Cheney, Washington 99004

(2) LOCATION OF WELL: County Spokane SE ¼ NW ¼ Sec 25 T 24 N., R 41E W.M.

Bearing and distance from section or subdivision corner Meadow Lake 1st & Vac Stp North of Adj to Lot 24

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) ....

New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6" inches.
Drilled 240' ft. Depth of completed well 240' ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 8" " Diam. from +1' ft. to 19' ft.
Threaded ☐ 6" " Diam. from +1' ft. to 214' ft.
Welded ☒ " Diam. from ..... ft. to ..... ft.

Perforations: 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.

Screens: Yes ☐ No ☒
Manufacturer's Name .....
Type ..... Model No .....
Diam. ..... Slot size ..... from ..... ft. to ..... ft.
Diam. ..... Slot size ..... from ..... ft. to ..... ft.

Gravel packed: Yes ☐ No ☒ Size of gravel: .....
Gravel placed from ..... ft. to ..... ft.

Surface seal: Yes ☒ No ☐ To what depth? 18' ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? ..... Depth of strata .....
Method of sealing strata off .....

(7) PUMP: Manufacturer's Name .....
Type: ..... H.P. .....

(8) WATER LEVELS: Land-surface elevation above mean sea level 2500 ft.
Static level 80' ft. below top of well Date 5/01/80
Artesian pressure ..... lbs. per square inch Date .....
Artesian water is controlled by ..... (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom? .....
Yield: 50 gal./min. with ft. drawdown after hrs.
" Estimated Airlift " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test .....
Bailer test ..... gal./min. with ..... ft. drawdown after ..... hrs.
Artesian flow ..... g.p.m. Date .....
Temperature of water ..... Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

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
Top Soil	0	3
Clay, Brown, Moist	3	10
Clay, Bluish, Moist	10	15
Clay, Brownish, Dry	15	23
Basalt, Brown, Soft	23	55
Basalt, Black	55	60
Basalt, Brown	60	62
Basalt, Black	62	95
Basalt, Brown, Clay Seams/Water	95	110
Clay, Gravel, Moist	110	160
Clay, Brown	160	213
Basalt, Fractured With Water	213	240
60' of 4" PVC Liner Installed		
6" Drive Shoe Installed		
8" Drive Shoe Installed		

RECEIVED
MAY 06 1980
DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started 4/30 19 80 Completed 5/01 19 80

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 Ponderosa Drilling & Development, Inc.
(Person, firm, or corporation) (Type or print)

Address East 6010 Broadway -- Spokane, WA 99206

[Signed] W. Joe Close (Well Driller)

License No. 1040 Date 5/02 19 80

5/6/80

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.