

Appendix C
Drinking Water Source Protection



DRINKING WATER SOURCE PROTECTION PLAN UPDATE

WELLS 3, 4, 5, 6, & 8

**(HAL Project No.: 089.25.200)
System No. 18020**

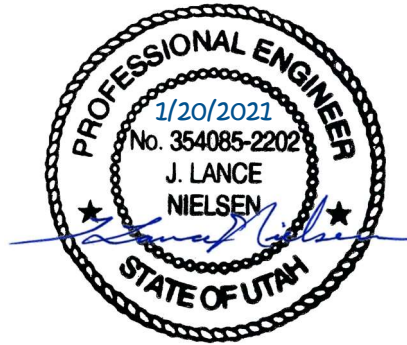
January 2021

CITY OF WEST JORDAN

DRINKING WATER SOURCE PROTECTION PLAN UPDATE

WELLS 3, 4, 5, 6, & 8

(HAL Project No.: 089.25.200)
System No. 18020



**HANSEN
ALLEN
& LUCE**_{inc}
ENGINEERS

January 2021

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EXECUTIVE SUMMARY

This report is the Drinking Water Source Protection (DWSP) plan update for the City of West Jordan's Wells 3 through 6 and Well 8. The wells serve as a source of drinking water for residences in the City of West Jordan. Source protection areas for the wells have been delineated as defined in R309-600-9.

This report has been prepared to the Standard Report Format for Existing Wells and Springs, as published by the Division of Drinking Water (DDW, 2007).

This report describes well locations, pertinent geologic and structural data, hydrogeology of the contributing aquifer(s), and the methodology and derivation of descriptive aquifer parameters used in the delineation of Drinking Water Source Protection zones. Aquifer parameters for the wells were developed using Technical Publication 110-B (Lambert, 1995), well drillers' logs for Wells 3 through 6 and Well 8, and constant-rate pump tests conducted at Well 3 and Well 8. Aquifer parameters were used in the United States Environmental Protection Agency's (EPA) WhAEM (Wellhead Analytic Element Model) software to delineate source protection zones 2, 3 and 4. Source protection zones were overlain onto a map of the area, showing the relationship of these protection zones to surface features.

A Potential Contamination Source (PCS) inventory was conducted by Hansen, Allen & Luce, Inc. (HAL). PCSs include agricultural, residential, light industrial areas, transportation routes, and use and storage of hazardous materials. The PCSs have been prioritized, the hazards have been assessed, and land management strategies have been planned for all inadequately controlled PCSs. Management strategies for future PCSs will be implemented as the City of West Jordan becomes aware of the planned location of PCSs within the DWSP zones. The following additional sections are included in this DWSP: Implementation Schedule, Resource Evaluation, Record Keeping, Contingency Plan, Public Notification, and Waivers.

CHAPTER 1 – INTRODUCTION

Hansen, Allen & Luce, Inc. (HAL) was retained by the City of West Jordan to prepare the Drinking Water Source Protection (DWSP) plan update for Wells 3 through 6 and Well 8. The wells provide drinking water for residents of the City of West Jordan. This report has been prepared in accordance with R309-600 (Utah Administrative Code, 2017).

This introduction addresses the water system information, source information, and designated person information. Subsequent chapters of this report address the Delineation Report, Inventory of PCSs, Management Program for Existing and Future PCSs, Implementation Schedule, Resource Evaluation, Record Keeping, Contingency Plan, Public Notification, and Waivers.

SYSTEM INFORMATION

City of West Jordan
8000 South Redwood Rd
West Jordan, UT 84088
801-569-5070
System Number: 18020

SOURCE INFORMATION

The well locations are shown in Table 1-1.

**Table 1-1
Well Locations**

Well	Location
3	North 176 feet and West 793 feet from East Quarter Corner of Section 2, Township 3 South, Range 2 West, SLB&M
4	North 368 feet and East 206 feet from Southwest Corner of Section 1, Township 3 South, Range 2 West, SLB&M
5	South 1,096 feet and East 456 feet from the North Quarter Corner of Section 2, Township 3 South, Range 2 West, SLB&M
6	North 243 feet and East 138 feet from South Quarter Corner of Section 2, Township 3 South, Range 2 West, SLB&M
8	South 140 feet and West 1,208 feet from the North Quarter Corner of Section 2, Township 3 South, Range 2 West, SLB&M.

DESIGNATED PERSON

Mr. Brian Clegg
West Jordan Utilities Manager
8000 South Redwood Rd
West Jordan, UT 84088
801-569-5707

CHAPTER 2 – DELINEATION REPORT

GEOLOGIC DATA

The general geologic and groundwater conditions in the Salt Lake Valley have been described by the USGS and by the Utah Department of Natural Resources. Two of the reports include “Ground-Water Conditions in Salt Lake Valley, Utah, 1969-83, and Predicted Effects of Increased Withdrawals from Wells” by Waddell et. al. (1987), and “Water Resources of Salt Lake County, Utah” by Hely et. al. (1971). In these reports, four main aquifer divisions have been identified in the Salt Lake Valley. These water yielding aquifers are defined as follows:

1. Confined (artesian) aquifer,
2. Deep unconfined aquifer between the artesian aquifer and the mountains,
3. The shallow-unconfined aquifer overlying the artesian aquifer, and
4. Locally occurring unconfined-perched aquifers.

The confined aquifer, also known as the principal aquifer, is comprised of numerous interbedded lenses of fine grained materials and sands and gravels. However, the fine grained lenses are discontinuous, allowing for movement of water between the more permeable sand and gravel layers. The confined aquifer is generally not found adjacent to the east and west mountain ranges (Waddell et. al., 1987). In the area adjacent to the mountain ranges, a deep unconfined aquifer exists from which a large amount of water from the Salt Lake Valley is withdrawn. It is understood that the deep unconfined aquifer flows into the confined aquifer found in the center of the valley. Hely et. al. (1971) determined that areas in the deep unconfined aquifer along or near stream channels have better sorted material thus allowing for higher production. The opposite was true that areas between stream channels generally produced lower yields. Well 8 was completed within the deep unconfined aquifer near a stream channel.

Structure

Based on the Utah Geologic Survey (UGS, 2017), the nearest major faults are the West Valley Fault, located approximately 6 miles away, and the Granger Fault, located approximately 6.3 miles away. The above referenced mapping does not indicate the presence of any additional subsurface fractured zones in the immediate vicinity of Wells 3 through 6 and Well 8. However, it is possible that small, unidentified faults may exist which could impact the groundwater conditions on a localized basis. A copy of the geologic map of the area as reported by Marsell and Threet (1964) is included in Appendix A. In a numerical computer model of the Salt Lake Valley completed by Lambert (1995), any existing faults within the alluvium were assumed to not have an effect on groundwater flow within the aquifer. It is not expected that unconsolidated sedimentary deposits, such as those found in the aquifer, would exhibit fault related fractures that could serve as groundwater flow conduits.

Local Geology

Wells 3 through 6 and Well 8 were drilled to depths of 610 to 1000 feet. There is no indication in the well logs (See Appendix A) that bedrock was encountered within the completion depth of the wells. The primary water producing layer consists of sands and gravels and begins between 120 feet and 300 feet below ground. Some of the sand and gravel are mixed with intermittent clay layers. Well logs for Wells 3 through 6 and Well 8 are included in Appendix A.

WELL CONSTRUCTION DATA

A summary of well construction data for Wells 3 through 6 and Well 8 are included in Table 2-1. The driller's logs for the wells are included in Appendix A.

**Table 2-1
Well Completion Data Summary**

Well	Well Completion Date	Elevation of Wellhead	Well Casing Diameter	Well Perforations
3	August 31, 2011	~4,890 ft	30-in from 3 to 37 ft 20-in from 40 to 912 ft	417 to 477 ft – 304 SS 497 to 537 ft – 304 SS 550 to 570 ft – 304 SS 632 to 652 ft – 304 SS 661 to 666 ft – 304 SS 762 to 842 ft – 304 SS 862 to 902 ft – 304 SS
4	February 10, 1986	~4,885 ft	20-in from 0 to 590 ft	380 to 400 ft 430 to 450 ft 470 to 590 ft
5	May 15, 1989	~4,895 ft	16-in from 1 to 610 ft	330 to 340 ft – Wire Wrap 350 to 370 ft – Wire Wrap 445 to 475 ft – Wire Wrap 492 to 512 ft – Wire Wrap 534 to 544 ft – Wire Wrap 550 to 560 ft – Wire Wrap 583 to 603 ft – Wire Wrap
6	February 28, 1991	~4,930 ft	32-in from 0 to 30 ft 20-in from 32 to 607 ft	378.7 to 587 ft 607 to 690.3 ft
8	August 8, 2019	~4,919 ft	30-in from 0 to 100 ft 20-in from 100 to 667 ft	400 to 580 ft – SS Wire Wrap 610 to 630 ft – SS Wire Wrap 645 to 655 ft – SS Wire Wrap

PUMP DATA

The maximum pumping rates for Wells 3 through 6 come from the 250-day model discharge in the 1996 delineation report (CH2MHill, 1996). The pumping rate of each pump is included in Table 2-3. The types of pumps equipped in the wells are unknown.

No pump data are available for Well 8 because the pump house hasn't been fully designed yet. It is anticipated that the well will be equipped with a vertical line shaft pump with a maximum capacity of 700 gpm.

AQUIFER CHARACTERISTICS

A constant-rate 24-hour test for Well 3 was analyzed, as well as a step-test, to determine the aquifer parameters for Well 3. The aquifer transmissivity for Well 3 was calculated using the computer modeling program AQTESOLV by HydroSOLV, Inc. AQTESOLV provides statistical parameter estimation methods with various graphical curve matching techniques. The second half of the constant-rate contained some anomalies that suggest that a nearby well may have

interfered with the test and the following recovery. Therefore, multiple methods were used to analyze the constant-rate test and step test to determine an average transmissivity for the aquifer. A review of the well log suggests that the aquifer may be a confined aquifer, but unconfined aquifer analyses were also included because the solutions fit the data closely. The results from the analyses are included in the table below. Analyses of AQTESOLV solutions to the Well 3 pump test are included in Appendix A.

**Table 2-2
Well 3 Aquifer Analyses**

Test Data	Solution Method	Transmissivity (ft²/day)	Hydraulic Conductivity (ft/day)
Constant-Rate Discharge Test	Cooper-Jacob Confined Method (1 st half of data)	3,185	12.0
	Cooper-Jacob Confined Method (2 nd half of data)	1,160	4.4
	Cooper-Jacob Unconfined Method	2,923	11.0
Step-Rate Drawdown Test	Theis Unconfined Method	3,095	11.7
Average		2,591	9.8

Well 8 had a constant rate pump test performed on August 7, 2019. The test ran for 24 hours and pumped at a constant rate of 700 gpm. Aquifer properties were thus determined and are summarized in Table 2-3. Aquifer transmissivity for Well 8 was calculated using the computer modeling program AQTESOLV (HydroSOLV, 2002). Transmissivity was evaluated with both the Theis and Cooper-Jacob aquifer solutions for confined aquifers and was computed to be 4,650 square feet per day (See Appendix A). This is within the range of values for transmissivity for this region as reported by Lambert in Technical Publication 110-B (Lambert, 1995). Hydraulic conductivity was calculated by dividing transmissivity by thickness, which resulted in 22 feet per day.

**Table 2-3
Well 8 Constant Rate Pump Test Summary**

Parameter	Data
Date of Test	August 7, 2019
Constant Pumping Rate (gpm)	700
Time-Drawdown Data and Curve	See Appendix A
Total Drawdown in Well (ft)	138
Static Level (ft)	331.3
Length of Drawdown Test (hr)	24
Computed Transmissivity (ft ² /day)	4,650
Aquifer Thickness (ft)	210
Average Hydraulic Conductivity (ft/day)	22

No constant rate pumping test data are available for Wells 4 through 6. Aquifer characteristics were derived based on the pump tests at Well 3, Technical Publication 110-B (Lambert, 1995) from the well logs, and from the previous DWSP Plan.

The hydraulic conductivity of Wells 4 through 6 was determined using data from Lambert's (1995) MODFLOW model or the AQTESOLV results for Well 3. The aquifer thickness for Wells

3 through 6 was calculated using the screened interval from the well logs and found to be 265, 160, 120, and 292 feet, respectively. Transmissivity values from the MODFLOW model were used to estimate hydraulic conductivity for Wells 4 and 6. Model transmissivity values were converted to hydraulic conductivity using the model layer thickness of 150 feet. The hydraulic conductivities between the multiple layers in the model were averaged. The hydraulic conductivity from the MODFLOW model for Well 4 (30 feet per day) and Well 6 (27 feet per day) were used. The hydraulic conductivity of 10 feet per day from the pump test was used for Well 3. Due to the large discrepancy between the model hydraulic conductivity for Well 5 (4 feet per day) and the Cooper-Jacobs value calculated for the well (76 feet per day), the average hydraulic conductivity for Wells 3, 4, and 6 was used for Well 5 (23 feet per day).

Effective porosity was estimated based on the driller's logs for Wells 3 through 6 and Well 8 which indicated that the primary production aquifer is composed of gravels and sands. Based on typical effective porosities reported in *Ground-Water Hydrology and Hydraulics* (McWhorter and Sunada, 1977) for gravels (0.24) and medium sands (0.32) an average value of 0.28 was used.

The hydraulic gradient and groundwater flow direction were obtained from Technical Publication 110-B. The hydraulic gradient was calculated to be 0.017 feet per foot for Wells 3 through 6 and 0.022 feet per foot for Well 8. The flow direction was estimated as east 15 degrees south for Wells 3 through 6 and Well 8. The calculations for the hydraulic gradient and flow direction can be seen in Appendix A.

Table 2-4 presents a summary of the aquifer characteristics summary.

**Table 2-4
Aquifer Characteristics Summary**

Description	Well 3	Well 4	Well 5	Well 6	Well 8
Transmissivity	2,650 ft ² /day	4,800 ft ² /day	2,760 ft ² /day	7,873 ft ² /day	4,650 ft ² /day
Aquifer Thickness	265 ft	160 ft	120 ft	292 ft	210 ft
Hydraulic Conductivity	10 ft/day*	30 ft/day**	23 ft/day***	27 ft/day**	22 ft/day*
Effective Porosity	0.28				
Hydraulic Gradient	0.017 ft/ft				0.022 ft/ft
Direction of Groundwater Flow	East 15° South				
Maximum Pumping Rate	1,374 gpm	2,415 gpm	1,605 gpm	2,561 gpm	700 gpm

*Calculated using AQTESOLV.

**Calculated using regional MODFLOW model.

***Calculated using average of Wells 3, 4, and 6.

HYDROGEOLOGIC METHODS, PROCEDURES AND CALCULATIONS

Theory

Delineation of the DWSP zones within the primary aquifer was performed using the WhAEM 2000 software. WhAEM is a two-dimensional groundwater computer model and was used to compute and display groundwater pathlines or flowlines for this analysis. WhAEM was developed by the EPA (Haitjema, 2005). The WhAEM assumption of homogeneous aquifers with steady flow fields is reasonably applicable to the unconsolidated aquifer that is found on the west side of the Salt Lake Valley.

In general terms, WhAEM code is based upon the following methodology. The amount of water passing through the aquifer is a function of the permeability of the aquifer materials, and the difference in pressure head. This relationship is known as Darcy's Law. The governing equation and definition of parameters are defined as follows:

$$v = k i$$

Where:

v = velocity (L/T)
k = permeability (L/T)
i = hydraulic gradient (L/L)

This equation is further modified because flow can only occur through that portion of the cross-sectional area occupied by voids. As a result, the average linear velocity of flow within the aquifer becomes:

$$\bar{v} = v / n$$

Where:

\bar{v} = average linear velocity (L/T)
v = velocity (L/T)
n = effective porosity (dimensionless)

Based on the above equation, the average linear velocity (\bar{v}) is inversely proportional to the effective porosity (n). The distance that a particle of water will move over a given increment of time is simply the average linear velocity multiplied by time. As a particle of water approaches the drawdown cone induced by a pumping well, the travel velocity of that particle will increase in direct proportion to the gradient of the resultant potentiometric surface as shown in the above equations. Therefore, the travel time (t) between any two points on the potentiometric surface is the sum of the time required for the particle to move over discretized spatial steps (x_i) as follows:

$$t = \sum t_i x_i$$

Input parameters required by WhAEM include the aquifer thickness, hydraulic conductivity of the aquifer, the direction and magnitude of the regional hydraulic gradient, aquifer effective porosity, boundary conditions, the location and discharge rate of the pumped wells under analysis, and the location and discharge rate of other pumping wells or recharge wells in the study area. Calculations for the development of input parameters to WhAEM are presented in Appendix A.

Well Interference

For Wells 3 through 6, each well was modeled pumping at its maximum pumping rate while the other three wells pumped at their average pumping rate determined from data reported to the Division of Water Rights. The maximum pumping rate comes from the 250-day model discharge in the 1996 delineation report (CH2MHill, 1996). The pathlines used to delineate the DWSP zones from the resulting four models account for interference among Wells 3 through 6 with each other.

Well 8 was modeled pumping at the expected maximum pumping rate while Well 5 was pumped at the average pumping rate determined from data reported to the Division of Water Rights. The pathlines used to delineate the DWSP zones for Well 8 account for interference from Well 5.

DELINEATION OF DRINKING WATER SOURCE PROTECTION ZONES

The DWSP zones for Wells 3 through 6 and Well 8 are shown on Figure 2–1. Descriptions of the source protection zones are given below.

Modeling

WhAEM tracks particles representing groundwater as they travel through the modeled aquifer. These particles were tracked for 250 days, 3 years, and 15 years corresponding to DWSP zones 2, 3, and 4, respectively. The pathlines were then exported as shapefiles and displayed graphically in ArcGIS. The endpoints of the pathlines were digitized to delineate the respective DWSP zones within ArcGIS.

The DWSP zones shown on Figure 2-1 reflect the calculated up-gradient, down-gradient and lateral extent of the calculated DWSP zones using the methodology discussed above. The DWSP zones are defined as follows.

DWSP Zone 1

Due to map scale, the 100-foot radius around the well is not shown on Figure 2-1.

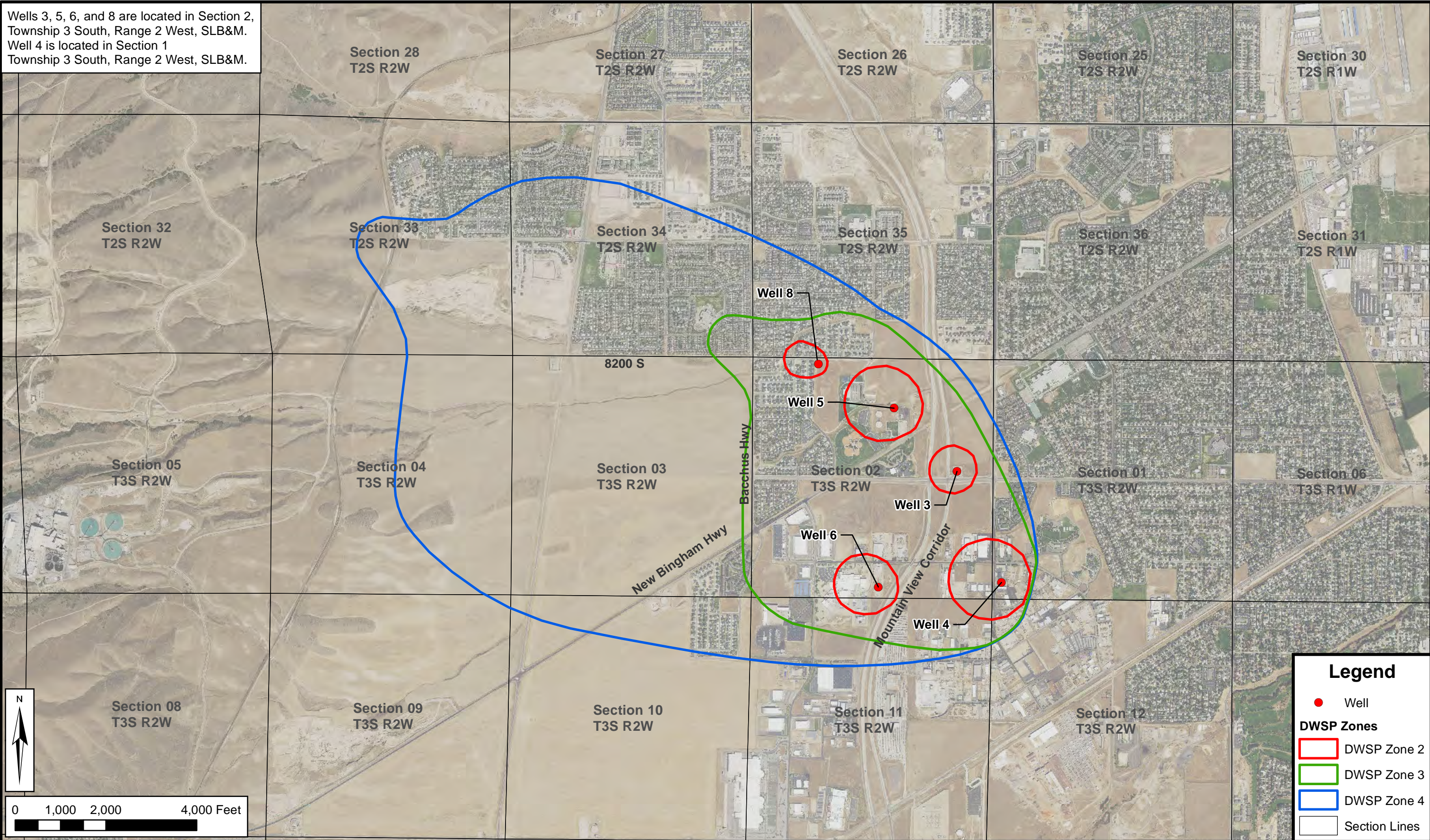
DWSP Zones 2, 3, and 4

DWSP zones 2, 3, and 4 shown on Figure 2-1 include the extent of the capture area within 250-day, 3-year, and 15-year groundwater travel time periods for Wells 3 through 6 and Well 8 assuming the parameters discussed previously. The maximum calculated extent of DWSP zones 2, 3, and 4 are shown in Table 2-5.

**Table 2-5
Limits of Zones 2, 3, and 4**

DWSP Zone	Maximum Overall Zone Dimension	Well 3	Well 4	Well 5	Well 6	Well 8
2	Width (ft)	1,060 (S-N)	1,760 (S-N)	1,650 (S-N)	1,330 (S-N)	730 (S-N)
	Length (ft)	1,050 (E-W)	1,800 (E-W)	1,725 (E-W)	1,400 (E-W)	970 (E-W)
3	Width (ft)	7,050 (S-N)				
	Length (ft)	9,410 (E-W)				
4	Width (ft)	9,925 (S-N)				
	Length (ft)	16,900 (E-W)				

Wells 3, 5, 6, and 8 are located in Section 2, Township 3 South, Range 2 West, SLB&M.
 Well 4 is located in Section 1 Township 3 South, Range 2 West, SLB&M.



Legend

- Well
- DWSP Zones**
- DWSP Zone 2
- DWSP Zone 3
- DWSP Zone 4
- Section Lines

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 Wells 3, 4, 5, 6, & 8**

Drinking Water Source Protection Zones

PROTECTED AQUIFER CLASSIFICATION

The DWSP rule provides for classification as a “Protected Aquifer”, as part of established criteria for the granting of a susceptibility waiver, provided the following three criteria are substantiated and supported with sufficient data. The three criteria for establishing a protected aquifer are:

- A minimum of 30 feet of a confining, clay layer which overlies the production aquifer. The thickness, depth and lithology must be clearly identified.
- Data must indicate the lateral continuity of the clay layer throughout the extent of Zone 2.
- The well or wells must be grouted from the ground surface down to at least 100 feet in depth and through the protective clay layer.

Wells 3 through 6 were grouted to a depth of 100, 150, 200, and 325 feet, respectively. Throughout the grouted interval, the driller’s logs for Wells 3 through 6 do not show sufficient evidence of a 30 foot thick protective clay layer. As a result, Wells 3 through 6 do not qualify for protected aquifer classification.

Data from well logs for Well 8 do not provide sufficient evidence of 30 feet of clay throughout zone 2. Therefore, Well 8 does not qualify for protected aquifer classification.

CHAPTER 3 – INVENTORY OF POTENTIAL CONTAMINATION SOURCES

This chapter addresses the process of inventorying the Potential Contamination Sources (PCSs) within each of the four delineated protection zones around the sources, hazard identification at each PCS, prioritization of the inventory, and a map showing the locations of PCSs.

The requirements for development of the PCS inventory state that:

Each PWS shall list all potential contamination sources within each DWSP zone or management area in priority order and state the basis for this order. This priority ranking shall be according to relative risk to the drinking water source. The name and address of each commercial and industrial potential contamination source is required. Additional information should include the name and phone number of a contact person and a list of the chemical, biological, and/or radiological hazards associated with each potential contamination source. Additionally, each PWS shall identify each potential contamination source as to its location in zone one, two, three, four or in a management area and plot it on the map required in R309-600-9(6)(a)(viii) or R309-600-9(6)(b)(i).

IDENTIFICATION OF PCSs

The PCS inventory includes identified sources of potential contaminants which are capable of adversely impacting the quality of groundwater tributary to a drinking water source. In a general sense, PCSs may include any business, group, or individual involved in the manufacture, disposal, transport, storage, or use of contaminants which could potentially degrade the quality of the groundwater resources. Although there is a tendency to associate groundwater contamination with large business or industry, significant PCSs are often associated with smaller entities, which may include gas stations, farm storage tanks, septic tanks, and agricultural areas.

The DWSP zones include agricultural, residential, and light industrial areas. The basis for determining whether an activity constituted a PCS was based primarily upon guidelines provided by the "Ground Water Source Protection User's Guide" (DDW, 2013). Judgment was also applied in determining what would qualify as a PCS.

IDENTIFICATION OF HAZARDS AT EACH PCS

A survey was performed by Hansen, Allen & Luce, Inc. (HAL) personnel to identify PCSs and quantify potential hazards at each PCS. Chemical, biological, or radiological hazards are identified at each PCS in order to plan effective management strategies for reducing the risks to groundwater. A summary of information gathered for each PCS is included in Appendix B.

PCS INVENTORY

PCSs identified during the survey are summarized in Table 3-1. This table includes an assigned PCS number, contact information, potential hazards, and estimated contaminant quantities for each PCS.

**Table 3-1
PCS Inventory**

PCS #	Name of Facility	Contact Information	Hazards	Quantities
DWSP Zone 1 (No PCSs)				
DWSP Zone 2				
2-1	Agricultural Fields	Various addresses	Use of pesticides, fertilizers, and herbicides	Unknown
2-2	UDOT Highways (SR 48, 86, 111)	Bryan Adams UDOT Region 2 Director 2010 South 2760 West Salt Lake City, UT 84104 801-975-4900	Potential transportation of contaminants	Up to the quantity contained in a tanker truck
2-3	Ron Wood Memorial Park	West Jordan Park Department 7925 South 1300 West West Jordan, UT 84088 801-569-5700	Fertilizer and herbicide application and storage	Unknown
2-4	TeraFlex	5680 Dannon Way West Jordan, UT 84081 801-713-3314	Automotive fluid and chemical storage	Unknown
2-6	Historical Arts and Castings	5580 Bagley Park Rd. West Jordan, UT 84081 801-280-2400	Paint and solvents	Unknown
2-7	West Jordan Fire Station #54	9351 Hawley Park Rd. West Jordan, UT 84081 801-840-4000	Fuel storage	Unknown
2-8	CSM Construction	5541 W Bagley Park Rd. West Jordan, UT 84081 801-280-2803	Fuel storage	Unknown
2-9	Utility Coating & Fabrication Inc.	5481 Bagley Park Rd. West Jordan, UT 84081 801-280-1930	Fuel, paint, and solvents	Unknown
2-10	M & M Asphalt Services	5464 Leo Park Rd. West Jordan, UT 84081 801-280-9400	Asphalt storage, diesel, and gasoline tanks	3 500-gallon tanks
2-11	Industrial Fluoro-Plastics	9328 S. Hawley Park Rd. West Jordan, UT 84081 801-282-6722	Chemical storage	Unknown
2-12	Intermountain Precision	9342 Hawley Park Rd. West Jordan, UT 84081 801-562-5906	Chemical storage	Unknown
2-13	Towing Impound Yard	Mountain West Towing 5580 W Leo Park Rd. West Jordan, UT 84081 801-282-6650	Automotive fluids	~10 gallons of fuel and ~5 gallons of other automotive fluids per vehicle
2-14	L & M Enterprise Investments	L & M Enterprise Investments 5565 W Leo Park Rd. West Jordan, UT 84081	Portable restroom fluid	4 10,000-gallon tanks approximately half full
2-15	Carver Construction	5577 Leo Park Rd. West Jordan, UT 84081 801-573-4072	Automotive fluids	Unknown

PCS #	Name of Facility	Contact Information	Hazards	Quantities
2-16	Jeep Fix	Mike Walsman 5591 Leo Park Rd. West Jordan, UT 84081 801-280-8050	Automotive fluids	Unknown
2-17	U-Haul	5970 W Dannon Way West Jordan, UT 84081 801-758-7298	Diesel and gasoline	~20 gallons of automotive fluids per vehicle.
2-18	Finco Brothers Inc.	5971 W Dannon Way West Jordan, UT 84081 801-590-0819	Fuel storage	Unknown
2-19	Dannon Company Western Division	6165 Dannon Way West Jordan, UT 84081 801-280-7414	Chemical storage	Unknown
2-20	Residential and Light Industrial Areas	Various addresses	Municipal sewer connections, household hazardous waste, use and storage of yard chemicals, road runoff	negligible sewer leakage per residence, < 15 gallons of chemicals per building; < 25 lbs of fertilizers, pesticides, herbicides per residence
DWSP Zone 3				
3-1	Agricultural Fields		See 2-1	
3-2	UDOT Highways (SR 48, 86, 111)		See 2-2	
3-3	Residential and Light Industrial Areas		See 2-20	
3-4	Copper Hills Youth Center	5899 Rivendell Dr. West Jordan, UT 84081 800-776-7116	Fuel storage	10,000 gallon tank
3-5	Papa Pita Bakery	6208 Dannon Way West Jordan, UT 84081 801-282-3100	Chemical storage	Unknown
3-6	Elevated Transit	5970 W Dannon Way West Jordan, UT 84081 801-353-8283	Diesel and gasoline	~20 gallons of automotive fluids per vehicle.
3-7	Wadsworth Ralph L Construction	5900 W Dannon Way West Jordan, UT 84081 801-330-0888	Automotive fluids	Unknown
3-8	Cottonwood Landscapes	5718 Dannon Way West Jordan, UT 84081 801-679-2452	Pesticides, fertilizer, and herbicides	Unknown
3-9	Sysco Intermountain Food	9494 Prosperity Rd. West Jordan, UT 84081 801-563-6300	Chemical storage	Unknown
3-10	Black Forest Paving	9524 South Feulner Park Road West Jordan, UT 84081 801-280-1313	Used oil and fuel storage	Unknown
3-11	Rays Gardening	5768 W Feulner Park Cir West Jordan, UT 84081 801-253-3179	Pesticides, fertilizer, and herbicides	Unknown
3-12	TFP Utah	9509 S Wells Cir. West Jordan, UT 84081 801-280-6611	Chemical storage	Unknown

PCS #	Name of Facility	Contact Information	Hazards	Quantities
3-13	Messmers	9500 Hawley Park Rd West Jordan, UT 84081 801-569-2426	Chemical storage	Unknown
3-14	JT Steel	9550 Hawley Park Rd West Jordan, UT 84081 801-280-3520	Solvents and paints	Unknown
3-15	Savage Asphalt	5662 Wells Park Rd West Jordan, UT 84088 801-280-4441	Used oil and fuel storage	Unknown
3-16	Copperhills Power Equipment	9583 S Wells Cir West Jordan, UT 84081 801-282-8928	Chemical and fuel storage	Unknown
3-17	Pipeline Inc.	John Raymond 5766 W Wells Park Rd West Jordan, UT 84081 801-719-9429	Resin and chemicals	~20 50-gallon barrels
DWSP Zone 4				
4-1	Agricultural Fields	See 2-1		
4-2	UDOT Highways (SR 48, 86, 111)	See 2-2		
4-3	Residential Areas	See 3-3		
4-4	Holiday Oil #48	8166 UT 111 West Jordan, UT 84081 801-973-7002	Diesel and gasoline	30,000 gallons in 3 underground tanks
4-5	Oaks Park	West Jordan Park Department 7925 South 1300 West West Jordan, UT 84088 801-569-5700	Pesticides, fertilizer, and herbicides	Unknown
4-6	Sunset Ridge Middle School	8292 Skyline Arch Dr. West Jordan, UT 84081 801-412-2475	Pesticides, fertilizer, and herbicides	Unknown
4-7	Reynolds Pit 1	8300 Bacchus Hwy West Jordan, UT 84084 888-672-7766	Diesel and gasoline	15,000 gallons
4-8	Oakcrest Elementary	8462 Hilltop Oak Dr. West Jordan, UT 84081 801-280-7243	Fertilizer and herbicide application	Unknown
4-9	Electric Substation	Pacificorp 12840 Pony Express Rd Draper, UT 84020 888-221-7070	Electrical fluids	Unknown

PRIORITIZATION OF POTENTIAL CONTAMINATION SOURCES

Prioritization of PCSs is accomplished through a priority setting scheme similar to that used by the EPA, as set forth in "Managing Groundwater Contamination Sources in Wellhead Protection Areas: A Priority Setting Approach" (USEPA 570/9-91-023). This approach is recommended in the "Ground Water Source Protection User's Guide" by the State Division of Drinking Water (2013).

Using the EPA approach in its entirety was determined to be excessive for the scope and circumstances of this DWSP plan. However, the general theory of risk assessment used in the EPA approach is applicable for PCS prioritization.

The **prioritization approach** described in this chapter consists of a strategy where PCSs are prioritized by assessing the risk potential of each source. Risk potential is a function of the likelihood of contamination and the severity of the resulting contamination. These two factors are each divided into two sub-categories and are defined as follows:

1. LIKELIHOOD OF CONTAMINATION

- a. **Source Containment** – This includes factors or conditions at the PCS that affect the likelihood of contaminants being released into the groundwater. This represents approximately 25% of the total risk.
- b. **Time of Travel** – Time of travel is the time it takes for released contaminants to reach the drinking water source. This is primarily a function of distance from the source and represents approximately 25% of the total risk.

2. SEVERITY OF CONTAMINATION

- a. **Quantity of Contaminants** – Larger quantities of contaminants increase the risk to the drinking water source. This represents 25% of the total risk.
- b. **Health Risk of Contaminants** – Contaminants that present more severe health risks upon reaching the drinking water source pose a greater risk. This represents 25% of the total risk.

Each of the above factors are further broken down into sub-categories and assigned points as shown and defined in Table 3-2. Each PCS is evaluated and assigned a score for each subcategory. The total risk to the drinking water source from each PCS equals the sum of all the sub-category scores. PCSs are then prioritized from greater risk (higher risk score) to lesser risk (lower risk score).

**Table 3-2
Contaminant Risk Evaluation**

Likelihood of Contamination		
Source Containment	Located Indoors =	0
	Outdoors, Above Ground =	5
	Outdoors, Below Ground =	10
	Inadequate Storage =	15
	If PCS is adequately controlled, subtract 5 from the Source Containment Score	
Time of Travel	15-year Zone, far =	3
	15-year Zone, near =	5
	3-year Zone, far =	7
	3-year Zone, near =	9
	250-day Zone, far =	11
	250-day Zone, near =	13
	Within Zone 1 =	15
Severity of Potential Contamination		
Quantity	<55 gallons =	1
	56-100 gallons =	3
	101-500 gallons =	6
	501-1,000 gallons =	9
	1,001-10,000 gallons =	12
	>10,000 gallons =	15
Health Risk	Low =	5
	Medium =	10
	High =	15

This procedure may not be applicable to all types of PCSs. In cases where one or more sub-categories are not applicable to a PCS, the risk score is assigned using the best judgment of the individual performing the prioritization.

PRIORITIZATION RESULTS

The contaminant risk evaluation was applied to each PCS identified in Table 3-1. The numerical summation of all the risk factors was completed and the resulting sum sorted according to decreasing numerical risk ranking. PCSs that are located in multiple zones were prioritized based on the closest proximity to the drinking water source. PCSs that include multiple hazards were prioritized based on the hazard posing the greatest risk. The results of the contaminant risk evaluation are summarized in Table 3-3. The complete prioritization procedure is included in Appendix B.

**Table 3-3
PCS Priority Ranking**

Priority	PCS #	PCS Name	Risk Score
1	2-14	L & M Enterprise Investments	41
2	2-13	Towing Impound Yard	40
3	2-18	Finco Brothers Inc.	40

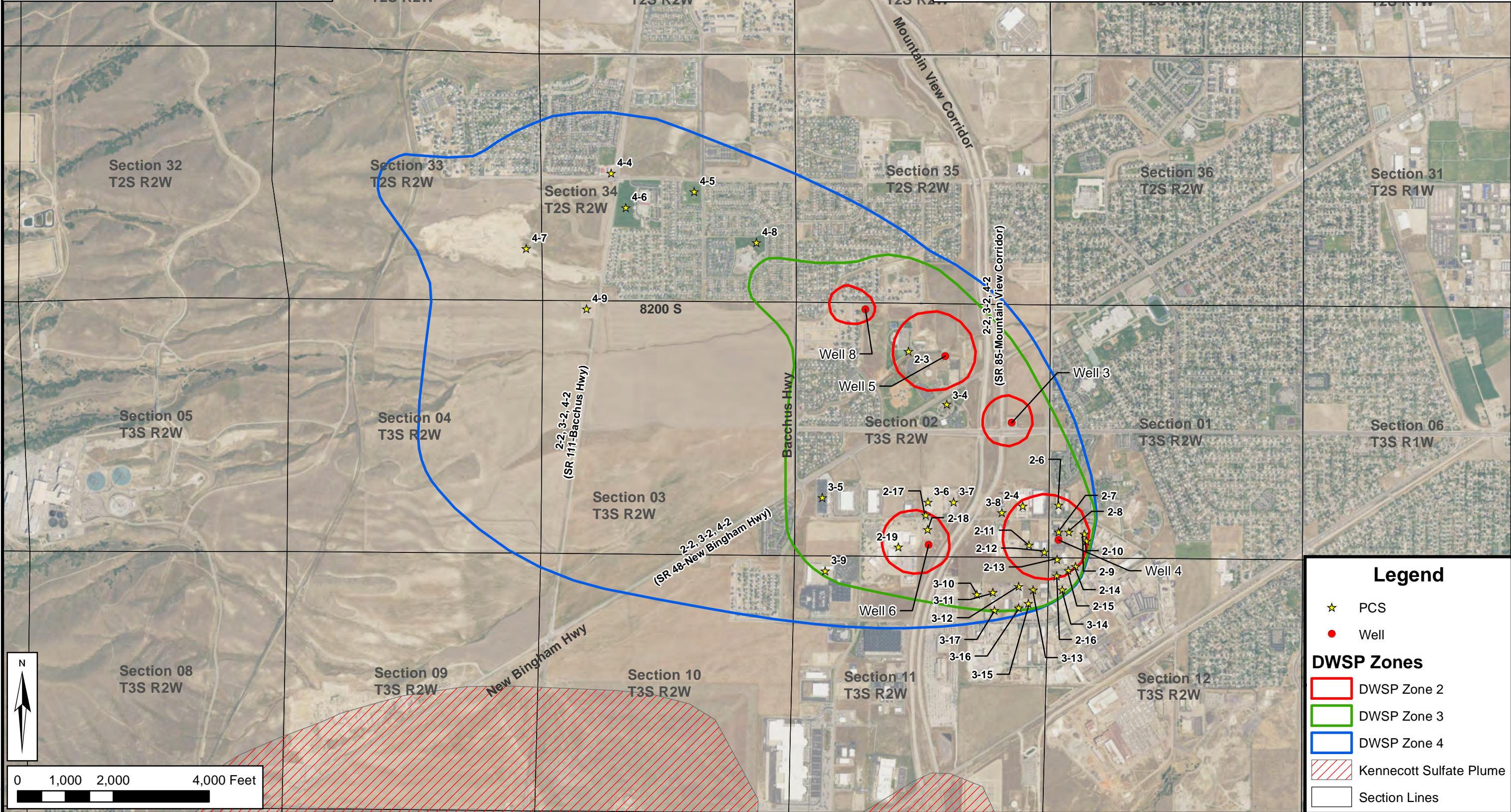
Priority	PCS #	PCS Name	Risk Score
4	2-2, 3-2, 4-2	UDOT Highways (SR 48, 86, 111)	38
5	3-4	Copper Hills Youth Center	36
6	2-15	Carver Construction	35
7	3-16	Copperhills Power Equipment	34
8	2-10	M & M Asphalt Services	33
9	2-19	Dannon Company Western Division	33
10	4-4	Holiday Oil #48	33
11	4-7	Reynolds Pit 1	33
12	2-1, 3-1, 4-1	Agricultural Areas	32
13	2-8	CSM Construction	32
14	2-16	Jeep Fix	32
15	2-3	Ron Wood Memorial Park	32
16	3-13	Messmers	31
17	2-9	Utility Coating & Fabrication Inc.	30
18	3-8	Cottonwood Landscapes	30
19	3-11	Rays Gardening	30
20	3-5	Papa Pita Bakery	29
21	2-17	U-Haul	27
22	3-15	Savage Asphalt	26
23	2-20, 3-3, 4-3	Residential and Light Industrial Areas	25
24	3-6	Elevated Transit	25
25	2-12	Intermountain Precision	24
26	3-9	Sysco Intermountain Food	24
27	2-4	TeraFlex	22
28	2-6	Historical Arts and Castings	22
29	2-11	Industrial Fluoro-Plastics	22
30	2-7	West Jordan Fire Station #54	21
31	3-7	Wadsworth Ralph L Construction	20
32	3-12	TFP Utah	20
33	3-10	Black Forest Paving	18
34	4-8	Oakcrest Elementary	18
35	3-14	JT Steel	17
36	3-17	Pipeline Inc.	16
37	4-5	Oaks Park	16
38	4-6	Sunset Ridge Middle School	16
39	4-9	Electric Substation	16

POTENTIAL CONTAMINATION SOURCE LOCATION MAP

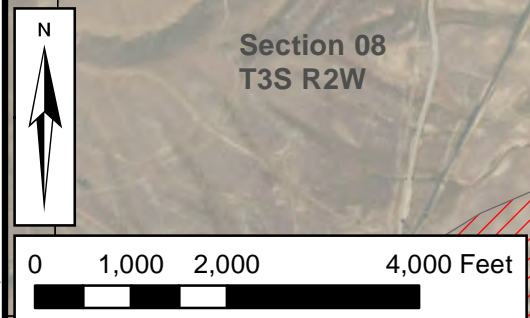
The well locations, delineated protection zones, and the locations of the identified PCSs within the source protection zones are shown on Figure 3-1. The numerical designation of the PCSs on Figure 3-1 corresponds with the assigned PCS number as shown in Table 3-1.

Based on aquifer gradient and flow direction and the projected well pumping rate, the Kennecott sulfate plume as reported by the U.S. EPA (EPA, 2017) is not expected to impact the well.

Wells 3, 5, 6, and 8 are located in Section 2, Township 3 South, Range 2 West, SLB&M. Well 4 is located in Section 1 Township 3 South, Range 2 West, SLB&M. Agricultural Areas (2-1, 3-1, 4-1) are present throughout zones 2 through 4. Residential and Light Industrial Areas (2-20, 3-3, 4-3) are present throughout zones 2 through 4.



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**West Jordan - DWSP Plan Update
Wells 3, 4, 5, 6, & 8**

Potential Contamination Source Inventory

CHAPTER 4 – ASSESSMENT OF PCS HAZARDS

The hazards identified in Table 3-1 are each assessed as adequately controlled or inadequately controlled based on one of the four types of hazard controls identified by the Division of Drinking Water (R309-600-10(2)(a) through (d)). These controls are described in Table 4-1.

**Table 4-1
Hazard Control Descriptions and Assessment Procedure**

Control Type	Description	Procedure
Regulatory Controls	Regulatory Controls are codes, ordinances, rules, and regulations which regulate a PCS hazard.	<ol style="list-style-type: none"> 1. Identify the enforcement agency. 2. Cite and/or quote applicable references in the regulation, rule or ordinance which pertain to controlling the hazard. 3. Explain how the regulatory controls affect the potential for ground water contamination. 4. Verify that the hazard is being regulated by the enforcement agency. 5. Assess the hazard as "Adequately Controlled" or "Not Adequately Controlled" and set a date to reassess the hazard if "Adequately Controlled."
Best Management Practices (BMPs)	BMPs include practices and procedures currently being used by the PCS to control a PCS hazard.	<ol style="list-style-type: none"> 1. List the specific BMPs which have been implemented by the PCS management to control the hazard. 2. Indicate that the PCS is willing to continue the use of these BMPs. 3. Explain how these BMPs affect the potential for ground water contamination. 4. Assess the hazard as "Adequately Controlled" or "Not Adequately Controlled" and set a date to reassess the hazard if Adequately Controlled.
Physical Controls	Physical Controls are man-made structures and impoundments which prevent a hazard from entering the drinking water source.	<ol style="list-style-type: none"> 1. Describe the physical control(s) which have been constructed to control the hazard. 2. Explain how these controls affect the potential for contamination. 3. Assess the hazard as "Adequately Controlled" or "Not Adequately Controlled" and set a date to reassess the hazard if Adequately Controlled.
Negligible Quantity Controls	Negligible Quantity Controls relate to the amount or toxicity of a hazard that is used by a PCS. The control deals with the risk of contamination and determining whether that risk is negligible or not significant enough to warrant further management.	<ol style="list-style-type: none"> 1. Identify the quantity of the hazard that is being used, disposed, stored, manufactured, and/or transported. 2. Explain why this amount is a negligible quantity. 3. Assess the hazard as "Adequately Controlled" or "Not Adequately Controlled" and set a date to reassess the hazard if Adequately Controlled.

HAZARD ASSESSMENT

Table 4-2 includes the hazard assessment for each PCS and its hazards. Reassessment dates are only listed for those PCSs where an applied control is assessed as adequately controlling the PCS.

**Table 4-2
Assessment of PCS Hazards**

Priority Rank	PCS Name & No.	Applied Control	Description of Control*	Assessment Status Reassessment Date
1	L & M Enterprise Investments (2-14)	Physical Controls (Unknown fluid storage)	<ol style="list-style-type: none"> 1. Storage tanks over pervious surface. No secondary containment is provided for the storage tanks. 2. Spills or leaks would not be contained. 	Inadequately Controlled NA
2	Towing Impound Yard (2-13)	Physical Controls (Automotive fluids)	<ol style="list-style-type: none"> 1. Vehicles are impounded on gravel. No secondary containment is provided for the automotive fluids. 2. Spills or leaks would not be contained. 	Inadequately Controlled NA
3	Finco Brothers Inc. (2-18)	Best Management Practices (Fuel storage)	<ol style="list-style-type: none"> 1. Unknown if BMPs are practiced. 2. Unknown. 3. Unknown if BMPs are practiced. 	Inadequately Controlled NA
4	UDOT Highways (SR 48, 86, 111) (2-2, 3-2, 4-2)	Best Management Practices (Potential transportation of contaminants)	<ol style="list-style-type: none"> 1. Spills of hazardous waste are reported by first responders and emergency response personnel, and cleanup efforts are initiated. 2. Federal law requires reporting of spill of hazardous materials and emergency response teams will continue to report spills. 3. Remediation efforts may include removing all the contaminant and any contaminated soils. 	Adequately Controlled 2026
5	Copper Hills Youth Center (3-4)	Regulatory Controls (Fuel storage)	<ol style="list-style-type: none"> 1. DEQ, CFR. 2. UST Rule 311-200, and 40 CFR 112. 3. All USTs are subject to these controls which require correct installation, maintenance, leak detection, and SPCC. 4. DERRID 4001327. 	Adequately Controlled 2026
6	Carver Construction (2-15)	Physical Controls (Automotive fluids)	<ol style="list-style-type: none"> 1. Automotive fluids over pervious surface. No secondary containment is provided for the automotive fluids. 2. Spills or leaks would not be contained. 	Inadequately Controlled NA
7	Copperhills Power Equipment (3-16)	Physical Controls (Chemical and fuel storage)	<ol style="list-style-type: none"> 1. Chemical and fuel storage over pervious surface. No secondary containment is provided for the chemical and fuel storage. 2. Spills or leaks would not be contained. 	Inadequately Controlled NA
8	M & M Asphalt Services (2-10)	Physical Controls (Asphalt storage, diesel, and gasoline tanks)	<ol style="list-style-type: none"> 1. Asphalt and fuel storage over impervious surface. Secondary containment is provided for the asphalt and fuel storage. 2. Spills or leaks would be contained. 	Adequately Controlled 2026
9	Dannon Company Western Division (2-19)	Physical Controls (Chemical storage)	<ol style="list-style-type: none"> 3. Secondary containment is provided for the chemical storage. 4. Spills or leaks would be contained. 	Adequately Controlled 2026

Priority Rank	PCS Name & No.	Applied Control	Description of Control*	Assessment Status Reassessment Date
10	Holiday Oil #48 (4-4)	Regulatory Controls (Diesel and gasoline)	<ol style="list-style-type: none"> 1. DEQ, CFR. 2. UST Rule 311-200, and 40 CFR 112. 3. All USTs are subject to these controls which require correct installation, maintenance, leak detection, and SPCC. 4. DERRID 4002440. 	Adequately Controlled 2026
11	Reynolds Pit 1 (4-7)	Physical Controls (Diesel and gasoline)	<ol style="list-style-type: none"> 1. Fuel storage over pervious surface. No secondary containment is provided for the fuel storage. 2. Spills or leaks would not be contained. 	Inadequately Controlled NA
12	Agricultural Areas (2-1, 3-1, 4-1)	Best Management Practices (Pesticides, fertilizer, and herbicides)	<ol style="list-style-type: none"> 1. Agricultural efforts use fertilizer and herbicides according to manufacturer direction. 2. Correct application of fertilizer and herbicides will continue. 3. Fertilizer and herbicide use according to manufacturer direction prevents excess application which could contaminate groundwater. 	Adequately Controlled 2026
13	CSM Construction (2-8)	Physical Controls (Fuel storage)	<ol style="list-style-type: none"> 1. Secondary containment is provided for the fuel storage. 2. Spills or leaks would be contained. 	Adequately Controlled 2026
14	Jeep Fix (2-16)	Best Management Practices (Automotive fluids)	<ol style="list-style-type: none"> 1. Unknown if BMPs are practiced. 2. Unknown. 3. Unknown if BMPs are practiced. 	Inadequately Controlled NA
15	Ron Wood Memorial Park (2-3)	Best Management Practices (Fertilizer and herbicide application)	<ol style="list-style-type: none"> 1. Use fertilizer and herbicides according to manufacturer direction. 2. Correct application of fertilizer and herbicides will continue. 3. Fertilizer and herbicide use according to manufacturer direction prevents excess application which could contaminate groundwater. 	Adequately Controlled 2026
		Physical Controls (Fertilizer and herbicide storage)	<ol style="list-style-type: none"> 1. Storage of fertilizer and herbicide is over impervious areas on spill pallets. 2. Storm drainage system is in place in storage area to prevent contaminated runoff from reaching groundwater and spill pallets will contain any leaks. 	Adequately Controlled 2026
16	Messmers (3-13)	Physical Controls (Chemical storage)	<ol style="list-style-type: none"> 1. Chemical storage over impervious surface. Secondary containment is provided for the chemical storage. 2. Spills or leaks would be contained. 	Adequately Controlled 2026
17	Utility Coating & Fabrication Inc. (2-9)	Physical Controls (Fuel, paint, and solvents)	<ol style="list-style-type: none"> 1. Secondary containment is provided for the fuel, paint, and solvents. 2. Spills or leaks would be contained. 	Adequately Controlled 2026

Priority Rank	PCS Name & No.	Applied Control	Description of Control*	Assessment Status Reassessment Date
18	Cottonwood Landscapes (3-8)	Best Management Practices (Pesticides, fertilizer, and herbicides)	1. Unknown if BMPs are practiced. 2. Unknown. 3. Unknown if BMPs are practiced.	Inadequately Controlled NA
19	Rays Gardening (3-11)	Best Management Practices (Pesticides, fertilizer, and herbicides)	1. Unknown if BMPs are practiced. 2. Unknown. 3. Unknown if BMPs are practiced.	Inadequately Controlled NA
20	Papa Pita Bakery (3-5)	Physical Controls (Chemical storage)	1. Chemical storage over impervious surface. Secondary containment is provided for the chemical storage. 2. Spills or leaks would be contained.	Adequately Controlled 2026
21	U-Haul (2-17)	Physical Controls (Diesel and gasoline)	1. Fuel and automotive fluids stored over impervious surface. Secondary containment is provided for fuel and automotive fluids by private storm drainage system. 2. Spills or leaks would be contained.	Adequately Controlled 2026
22	Savage Asphalt (3-15)	Physical Controls (Used oil and fuel storage)	1. Used oil and fuel storage over impervious surface. Secondary containment is provided for the used oil and fuel storage. 2. Spills or leaks would be contained.	Adequately Controlled 2026
23	Residential and Light Industrial Areas (2-20, 3-3, 4-3)	Regulatory Controls (Municipal Sewer systems)	1. Utah Administrative Code. 2. Utah Administrative Code R317. 3. Regulation requires proper testing, plan reviews, and installation.	Adequately Controlled 2026
		Physical Controls (Road runoff)	1. Street runoff generally flows over impervious surfaces. 2. Storm drainage system is not in all residential and light industrial areas and street/parking runoff may enter the groundwater system.	Inadequately Controlled NA
		Negligible Quantities (Household chemicals, yard chemicals)	1. < 15 gallons of chemicals per building; < 25 lbs of fertilizers, pesticides, herbicides per residence. 2. Combined quantity from many buildings may not be negligible.	Inadequately Controlled NA
24	Elevated Transit (3-6)	Physical Controls (Diesel and gasoline)	1. Fuel and automotive fluids stored over impervious surface. Secondary containment is provided for fuel and automotive fluids by private storm drainage system. 2. Spills or leaks would be contained.	Adequately Controlled 2026
25	Intermountain Precision (2-12)	Best Management Practices (Chemical storage)	1. Unknown if BMPs are practiced. 2. Unknown. 3. Unknown if BMPs are practiced. History of illicit discharges.	Inadequately Controlled 2026

Priority Rank	PCS Name & No.	Applied Control	Description of Control*	Assessment Status Reassessment Date
26	Sysco Intermountain Food (3-9)	Physical Controls (Chemical storage)	1. Chemical storage over impervious surface. Secondary containment is provided for the chemical storage. 2. Spills or leaks would be contained.	Adequately Controlled 2026
27	TeraFlex (2-4)	Physical Controls (Automotive fluid and chemical storage)	1. Chemical storage indoors over impervious surface. 2. Spills or leaks would be contained.	Adequately Controlled 2026
28	Historical Arts and Castings (2-6)	Physical Controls (Paint and solvents)	1. Paint and solvents stored indoors over impervious surface. 2. Spills or leaks would be contained.	Adequately Controlled 2026
29	Industrial Fluoro-Plastics (2-11)	Physical Controls (Chemical storage)	1. Chemical storage indoors over impervious surface. 2. Spills or leaks would be contained.	Adequately Controlled 2026
30	West Jordan Fire Station #54 (2-7)	Physical Controls (Fuel storage)	1. Fuel storage indoors over impervious surface. 2. Spills or leaks would be contained.	Adequately Controlled 2026
31	Wadsworth Ralph L Construction (3-7)	Physical Controls (Automotive fluids)	1. Automotive fluids stored over impervious surface. Secondary containment is provided for the automotive fluids. 2. Spills or leaks would be contained.	Adequately Controlled 2026
32	TFP Utah (3-12)	Physical Controls (Chemical storage)	1. Chemical storage indoors over impervious surface. 2. Spills or leaks would be contained.	Adequately Controlled 2026
33	Black Forest Paving (3-10)	Physical Controls (Used oil and fuel storage)	1. Contaminants are used and stored indoors over impervious surface. . 2. Spills or leaks would be contained.	Adequately Controlled 2026
34	Oakcrest Elementary (4-8)	Best Management Practices (Fertilizer and herbicide application)	1. Use fertilizer and herbicides according to manufacturer direction. 2. Correct application of fertilizer and herbicides will continue. 3. Fertilizer and herbicide use according to manufacturer direction prevents excess application which could contaminate groundwater.	Adequately Controlled 2026
35	JT Steel (3-14)	Physical Controls (Solvents and paints)	1. Solvents and paints stored indoors over impervious surface. 2. Spills or leaks would be contained.	Adequately Controlled 2026
36	Pipeline Inc. (3-17)	Physical Controls (Resin and chemicals)	1. Resin and chemical stored indoors over impervious surface. 2. Spills or leaks would be contained.	Adequately Controlled 2026

Priority Rank	PCS Name & No.	Applied Control	Description of Control*	Assessment Status Reassessment Date
37	Oaks Park (4-5)	Best Management Practices (Pesticides, fertilizer, and herbicides)	<ol style="list-style-type: none"> 1. Use fertilizer and herbicides according to manufacturer direction. 2. Correct application of fertilizer and herbicides will continue. 3. Fertilizer and herbicide use according to manufacturer direction prevents excess application which could contaminate groundwater. 	Adequately Controlled 2026
38	Sunset Ridge Middle School (4-6)	Best Management Practices (Pesticides, fertilizer, and herbicides)	<ol style="list-style-type: none"> 1. Use fertilizer and herbicides according to manufacturer direction. 2. Correct application of fertilizer and herbicides will continue. 3. Fertilizer and herbicide use according to manufacturer direction prevents excess application which could contaminate groundwater. 	Adequately Controlled 2026
39	Electric Substation (4-9)	Best Management Practices (Electrical fluids)	<ol style="list-style-type: none"> 1. Unknown if BMPs are practiced. 2. Unknown. 3. Unknown if BMPs are practiced. 	Inadequately Controlled NA

*Numbered items in the Description of Control column correspond to the respective requirements for assessing a PCS as adequately controlled using Regulatory, Best Management Practice, Physical, and Negligible Quantity Controls as shown in Table 4-1 and as outlined in R309-600-10(2)(a) through (d).
NA = not applicable.

CHAPTER 5 – MANAGEMENT PROGRAM FOR EXISTING PCSSs

Groundwater is a source of drinking water for the City of West Jordan. As such it is important that this vital resource be protected from contamination. Preventing contamination is the easiest and most cost-effective way to keep this water supply safe. Following sound management controls can serve as an important component of a source protection program to control groundwater contamination. Therefore, it is the City's objective to protect its water supply through preventative measures by developing management strategies to help potential contamination sources minimize the risk of contamination.

This section of the DWSP report describes the strategies for managing existing potential contamination sources within the delineated protection zones that have been assessed as inadequately controlled. The intent of these strategies, which are mostly educationally focused, is to provide the City with ways to encourage best management practices of existing potential contamination sources.

BASIS OF MANAGEMENT PROGRAM

A successful DWSP program requires management strategies that the Public Water Supplier (PWS) can legally and effectively implement. The effectiveness of the program depends upon several factors such as the resources needed, cost, manpower, and cooperation of the PCSs within the DWSP zones. The City of West Jordan understands that source protection is a community objective. Many of the management strategies are developed to inform and educate the community about source protection and how to be actively involved in achieving it.

Management strategies are generally categorized as either regulatory or non-regulatory. Regulatory controls involve legislation or other means of control exercised according to the water supplier's jurisdiction. These controls vary in their ability to manage land uses and activities. Some examples of regulatory management strategies are zoning and subdivision ordinances, site plan reviews, design and operating standards, and source prohibitions (DDW, 2013).

Non-regulatory management strategies are intended to reach as broad a spectrum of the community as possible. Some examples of non-regulatory land management strategies are public education programs, purchase of property or development rights, household hazardous waste collection programs, groundwater monitoring, water conservation programs, memoranda of understanding, and written contracts or agreements (DDW, 2013).

MANAGEMENT STRATEGIES FOR EXISTING PCSs

The City of West Jordan intends to pursue a public education program for managing existing potential contamination sources. A list of land management strategies that the City will implement for existing PCSs is presented in Table 5-1.

**Table 5-1
Listing of Management Strategies**

Strategy Code	Management Strategies
A	Request that the PCS use pesticides, herbicides, and fertilizers in accordance with manufacturer's directions and follow best management practices with regards to each as shown in Appendix C.
B	Request home and business owners to implement Best Management Practices for pollution prevention and for household hazardous waste (See Appendix C) and to not dispose of chemicals into the storm drain system or onto the ground.
C	Request PCS to store contaminants indoors over an impervious surface or to provide secondary spill containment for each container outdoors.
D	Request PCS to use a State approved business for automotive waste disposal.
E	Request the PCS to notify the PWS in the event of a leak or spill.

One or more of the management strategies identified in Table 5-1 will be implemented for each inadequately controlled PCS within the source protection zones. Table 5-2 identifies which management strategies will be applied to each inadequately controlled PCS. The strategies chosen for each PCS were based on the hazards present at the PCS.

**Table 5-2
Management Strategies to be Implemented for Existing PCSs**

Priority Ranking	PCS Name and No.	Contaminant Source	Management Strategies to be Implemented*			
1	L & M Enterprise Investments (2-14)	Portable restroom fluid		B	C	E
2	Towing Impound Yard (2-13)	Automotive fluids		B	C	D E
3	Finco Brothers Inc. (2-18)	Fuel storage		B	C	E
6	Carver Construction (2-15)	Automotive fluids		B	C	D E
7	Copperhills Power Equipment (3-16)	Chemical and fuel storage		B	C	E
11	Reynolds Pit 1 (4-7)	Diesel and gasoline		B	C	E
14	Jeep Fix (2-16)	Automotive fluids		B	C	D E
18	Cottonwood Landscapes (3-8)	Pesticides, fertilizer, and herbicides	A	B		E
19	Rays Gardening (3-11)	Pesticides, fertilizer, and herbicides	A	B		E
23	Residential and Light Industrial Areas (2-20, 3-3, 4-3)	Household hazardous waste, use and storage of yard chemicals, road runoff	A	B	C	D E
25	Intermountain Precision (2-12)	Unknown		B	C	D E
39	Electric Substation (4-9)	Electrical fluids		B	C	E

*Letters in the "Management Strategies to be Implemented" column correspond to the Strategy Code in Table 5-1.

CHAPTER 6 – MANAGEMENT PROGRAM FOR FUTURE PCSs

Management strategies to control future potential contamination sources involve a management plan to protect groundwater resources by controlling future PCSs that could be established within each of the DWSP zones.

Future potential contamination sources are property owners, businesses, and other activities that do not yet exist within the DWSP zones but have a potential of locating within this area under existing social, economic and zoning conditions. Some of these future sources may perform the same type of functions as existing PCSs, or they may be activities that were not previously located in the DWSP zones. It is impossible for the City of West Jordan to predict the amount, size, or severity of risk that may be encountered with future potential contamination hazards. Therefore, a management program is included as part of the DWSP plan to effectively plan for these future hazards to groundwater.

ADOPT A DWSP ORDINANCE

Salt Lake County has adopted a Drinking Water Source Protection Ordinance as of May 11, 2010, and West Jordan City as of July 1, 2012 (see Appendix D).

MANAGEMENT STRATEGIES FOR FUTURE PCSs

In addition to use of the West Jordan City and Salt Lake County DWSP ordinances, the management plan for future PCSs shall include the following procedure.

1. Update the PCS inventory periodically with new PCSs that have moved into the DWSP zones.
2. Identify the hazards of new PCSs and include them in the prioritized inventory.
3. Assess hazard controls at new PCSs.
4. Plan land management strategies for new PCSs as necessary.

CHAPTER 7 – IMPLEMENTATION SCHEDULE

The Implementation Schedule included in Table 7-1 outlines the time frame in which the City of West Jordan will implement the land management strategies addressed in Chapters 5 and 6.

**Table 7-1
Land Management Strategies Implementation Schedule**

Land Management Strategy	Code*	Implementation Date
Request that the PCS use pesticides, herbicides, and fertilizers in accordance with manufacturer's directions and follow best management practices with regards to each as shown in Appendix C.	A	2021
Request home and business owners to implement Best Management Practices for pollution prevention and for household hazardous waste (See Appendix C) and to not dispose of chemicals into the storm drain system or onto the ground.	B	2021
Request PCS to store contaminants indoors over an impervious surface or to provide secondary spill containment for each container outdoors.	C	2021
Request PCS to use a State approved business for automotive waste disposal.	D	2021
Request the PCS to notify the PWS in the event of a leak or spill.	E	2021
DWSP Management Plan for future PCSs.	NA	Ongoing update of PCS inventory

CHAPTER 8 – RESOURCE EVALUATION

According to the DWSP Rule, each public water system must assess the financial and other resources which may be required to implement a DWSP plan and determine how these resources may be acquired.

FINANCIAL RESOURCES

West Jordan City provides water to residents and businesses within the City service area and administers all water system improvement programs. The City collects fees from the connections within the service area which cover the cost of providing culinary water. These resources have been adequate to meet the expenses of the water system. It is believed that this DWSP Plan can be implemented without significant cost to the City, and that available financial resources will be adequate.

HUMAN RESOURCES

The DWSP plan will be administered by the City of West Jordan. Implementation of the DWSP plan will not require extensive human resources. Staff currently exists to handle billings to the City's customers and is expected to adequately manage the implementation of the DWSP plan.

CHAPTER 9 – RECORD KEEPING SECTION

The Record Keeping portion of the DWSP plan will be updated by the City of West Jordan as steps are taken to implement the items covered in this DWSP plan. Examples to changes could include:

- The identification of new potential sources of groundwater contamination that were either not identified earlier or are new to the area;
- Changes in management practices at existing potential contamination sources;
- The acquisition of new information which significantly affects the assessment of controls of a potential source of groundwater contamination.
- Implementation of public education programs, letter, and other correspondence about preventing groundwater contamination.

DOCUMENTATION OF PLAN IMPLEMENTATION

Table 9-1 is included for the City to document implementation of this DWSP plan.

**Table 9-1
Documentation of DWSP Plan Implementation**

Date	Description of Completed Task
1996	The DWSP plan for Wells 3-6 was submitted to the Division of Drinking Water.
2007	The DWSP plan update for Wells 3-6 was submitted to the Division of Drinking Water.
2010	Salt Lake County adopted a Drinking Water Source Protection Ordinance.
2011	The Drinking Water Source Protection Plan Preliminary Evaluation Report (PER) was submitted and approved for the Well 3 replacement well.
2012	West Jordan City adopted a Drinking Water Source Protection Ordinance.
2018	The delineation of the DWSP zones was updated to reflect data collected during the Well 3 replacement drilling process and constant-rate pump test.
March 2018	The DWSP plan update for Wells 3-6 was submitted to the Division of Drinking Water.
2018	Prepared and submitted the DWSP PER for Well 8 to the Division of Drinking Water.
May 2018	The City sent out letters to individual PCSs outlining the City's wellhead protection program and advised the PCSs to protect the groundwater from potential contamination. This PCS list and an example letter that was sent out are examples of the City's implementation of the DWSP Plan and are found in Appendix E.
May 2020	Prepared the DWSP Plan for Well 8. Updated the delineation of DWSP Zones, PCS inventory and prioritization, hazard assessment, management programs for existing and future PCSs, implementation schedule, resource evaluation, documentation, public notification, and waivers. Submitted DWSP Plan to DDW.
Dec. 2020	Combined DWSP Plans for Wells 3-6 and Well 8 into one report and submitted to the Division of Drinking Water.
Dec. 23, 2020	Management Strategies have been implemented from the current DWSP Plan. Implementation of plan and example letters sent to individual PCSs are included in Appendix E.
2020	An annual Water Quality Report (CCR) was provided to customers and the State for the calendar year 2020 (see Appendix E).
Annually	West Jordan City requests the use of best management practices at residential homes through the annual Water Quality Report which is accessible on the City's website.

CHAPTER 10 – CONTINGENCY PLAN

There are no changes to the Contingency Plan already submitted for the City of West Jordan. The Contingency Plan consists of an Emergency Response Plan, a Rationing Plan, a Water Decontamination Plan, and Source Development Plan, as required in the State of Utah Administrative Code R309-600-14.

CHAPTER 11 – PUBLIC NOTIFICATION

Public water systems must notify the public that their DWSP plans are available for review in accordance with R309-600-15. The City of West Jordan will notify its customers of the general conclusions of the DWSP plan. Generally this information may be included in an annual Water Quality Report published and distributed by the City. An example of the required information required in the notification is included below:

The Drinking Water Source Protection Plan for West Jordan is available for your review. It contains information about source protection zones, potential contamination sources, and management strategies to protect our drinking water. Our sources are located in the City and have a medium level of susceptibility to potential contamination sources. General potential contamination sources within the source protection zones include agricultural, residential, and light industrial areas. We have also developed management strategies to further protect our sources from contamination. Please contact us if you have questions or concerns about our source protection plan.

CHAPTER 12 – WAIVERS

Monitoring waivers have been established by the Division of Drinking Water to potentially save PWSs from significant water quality analysis costs, where risks to contamination of groundwater sources by certain chemical parameter groups are deemed to be low, and for PWSs which meet the established waiver guidelines. The three types of monitoring waivers available to PWSs are:

- Reliably and Consistently
- Use
- Susceptibility

The criteria for establishing a Reliably and Consistently Waiver is not affiliated with Drinking Water Source Protection plans, and therefore will not be addressed in this plan. However, the Use and Susceptibility Waivers are required to be addressed in the DWSP plan for consideration by the Division of Drinking Water.

USE WAIVER

If the chemicals within the VOC and/or pesticide parameter groups have not been used within the past five years within zones one, two, and three, the source may be eligible for a Use Waiver. The requirements for a Use Waiver, as established by DDW are:

1. List the chemicals which are used, disposed, stored, transported, and manufactured at each potential contamination source within zones 1, 2, and 3 where the use of the chemicals within the VOC and pesticide parameter groups are likely; and
2. Submit a dated statement which is signed by the system's designated person that none of the VOCs and pesticides within these respective parameter groups have been used, disposed, stored, transported, or manufactured within the past five years within zones 1, 2, and 3.

The City's Wells 3 through 6 do NOT meet the criteria for a Use Waiver, because VOCs and pesticides have been used and transported through zones 2 and 3 within the past five years.

SUSCEPTIBILITY WAIVER

A source which does not qualify for a Use Waiver may be eligible for a Susceptibility Waiver. A Susceptibility Waiver is based upon the evidence that a groundwater source is not susceptible to contamination from chemicals which exist in zones 1, 2, and 3. The requirements for a Susceptibility Waiver, as established by DDW are:

1. Submit the monitoring results of at least one applicable sample from the VOC and/or pesticide parameter group(s) that has been taken within the past five years. A non-detectable analysis for each chemical within the parameter group(s) is required;
2. Submit a dated statement which is signed by the system's designated person verifying that the PWS is confident that a susceptibility waiver for the VOC and/or pesticide parameter groups will not threaten public health; and
3. Verify that the source is developed in a protected aquifer, as defined in R309-600-6(1)(x), and have a public education program which addresses proper use and disposal practices for pesticides and VOCs in the management sections of the DWSP plan.

The City of West Jordan wells do not meet the requirements for a Susceptibility Waiver because Wells 3 through 6 and Well 8 do not qualify for protected aquifer classification.

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APPENDIX A

Delineation Calculations

Problem:

Calculate hydraulic conductivity, gradient, and flow direction to delineate the DWSP zones.

Data:

Geologic Map	See Sheet 5
Flow Direction Figures	See Sheets 6 - 7
Pathline Figures	See Sheets 8 - 9
Well Driller's Reports	See Sheets 10 - 20
Aquifer Test Solutions	See Sheets 21 - 30
Constant Rate Test Results	See Sheet 31

Calculations for Wells 3-6:

Calculate Hydraulic Gradient

Contour Interval 1		
x =	5,850	feet
y =	100	feet
gradient =	0.017	ft/ft

**Using Lambert (1995) Potentiometric surface in Figure 16*

Calculate Flow Direction

Flow Direction =	E 15 S
-------------------------	---------------

**Using Lambert (1995) Potentiometric surface in Figure 16*

Well Characteristics

	Well 3	Well 4	Well 5	Well 6
Surface Elevation	4,890	4,885	4,895	4,930
Depth to water	314	184	199	251
Well Depth	1,000	610	620	707
Static Water Elevation	4,576	4,701	4,696	4,679
Bottom Elevation	3,890	4,275	4,275	4,223
Screened interval	265	160	120	292
Well Diameter	20"	20"	22"	20"

Calculate Hydraulic Conductivity (K)

Transmissivity (ft²/day)

	Well 3	Well 4	Well 5	Well 6
Model Layer 3	-	7,692	755	7,871
Model Layer 4	-	5,570	480	3,970
Model Layer 6	-	200	-	200

**Using Lambert (1995) MODFLOW model (Layer thickness = 150 ft)*

Hydraulic Conductivity (ft/day)

	Well 3	Well 4	Well 5	Well 6
Model Layer 3	-	51.3	5.0	52.5
Model Layer 4	-	37.1	3.2	26.5
Model Layer 6	-	1.3	-	1.3
Average	10*	30	23**	27

**Value calculated from pump tests (Previous DWSP Plan = 25 ft/day)*

***Average of 10, 25, 27, 30*

WhAEM Input Parameters

	Well 3	Well 4	Well 5	Well 6
<u>Wells</u>				
Maximum Discharge (gpm)	1,374	2,415	1,605	2,561
Maximum Discharge (ft ³ /day)	264,495	464,887	308,962	492,992
Radius (ft)	0.83	0.83	0.92	0.83
Starting Elevation	4,023	4,355	4,335	4,369
<u>Uniform Flow</u>				
Reference Head (ft)	4,576	4,701	4,696	4,679
Hydraulic Gradient	0.017	0.017	0.017	0.017
Flow Direction	-15°	-15°	-15°	-15°
<u>Aquifer Properties</u>				
Base Elevation (ft)	3,890	4,275	4,275	4,223
Thickness (ft)	265	160	120	292
Hydraulic Conductivity (ft/day)	10	30	23	27
Porosity	0.28	0.28	0.28	0.28
Transmissivity	2,650	4,800	2,760	7,873

Estimate Interference Well Pumping Rate

Interference Well: Well 3

2016 pumping rate = 118.5 acft/year
73.5 gpm
14,142 ft³/day

**Pumping rate from 2016 (no previous data) water rights data:*

Interference Well: Well 4

1997-2016 average pumping rate = 1000 acft/year
620.0 gpm
119,342 ft³/day

*Average pumping rate from 1997-2016 water rights data:

Interference Well: Well 5

1990-2015 average pumping rate = 822.47 acft/year
509.9 gpm
98,156 ft³/day

*Average pumping rate from 1990-2015 water rights data:

Interference Well: Well 6

1997-2016 average pumping rate = 1000 acft/year
620.0 gpm
119,342 ft³/day

*Average pumping rate from 1997-2016 (exclude 2014-2015) water rights data:

Calculations for Well 8:

Calculate Aquifer Parameters (K, n, B, T)

Hydraulic Conductivity (K)

K (ft/day) = 22

*Hydraulic Conductivity equals Transmissivity divided by Thickness

Porosity (n) = 0.28

*Porosity within range of those from McWhorter and Sunada (1977)

Screened Intervals		
From (ft)	To (ft)	Depth
400	580	180
610	630	20
645	655	10

*From Well 8 Completion Report

Well 8 Thickness, B (ft) = 210

*Thickness (B) equals sum of perforated screen intervals

Transmissivity, T (ft²/day) = 4,650

*Transmissivity computed by averaging the Unconfined Cooper-Jacob and Unconfined Theis AQTESOLV solutions (found on sheets 28 and 29)

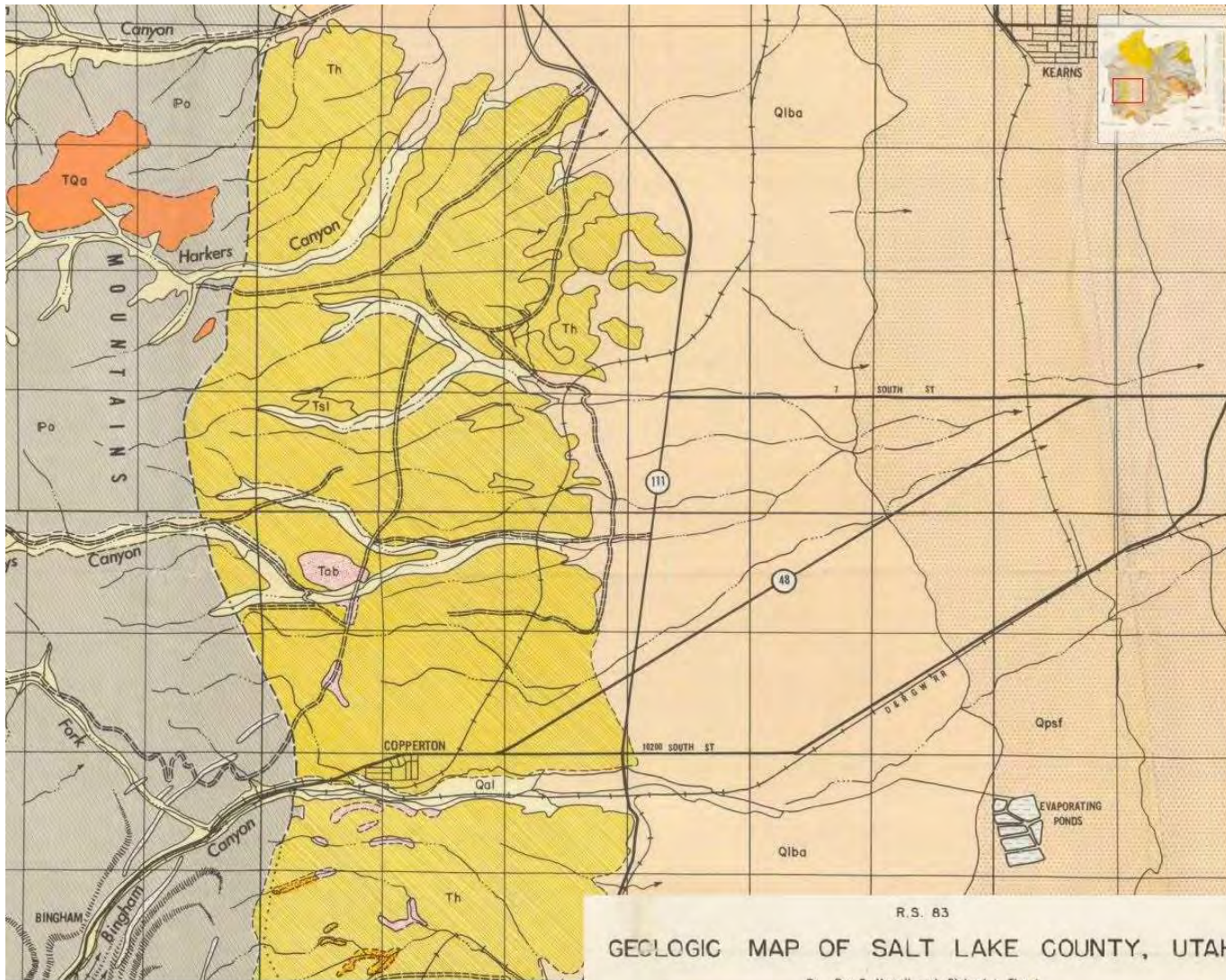
Calculate Hydraulic Gradient

Upper Contour (ft) =	4900
Lower Contour (ft) =	4700
Rise (ft) =	200
Run (km) =	2.62
Run (ft) =	9200
Gradient (ft/ft) =	0.022

*Slope calculated from Figure 16 in Lambert (1995)

WhAEM Input Information

Well inputs	Well #8 X-coordinate (ft) =	1490981
	Well #8 Y-coordinate (ft) =	7385859
	Pumping rate (gpm) =	700
	Pumping rate (ft ³ /day) =	134750
	Radius (ft) =	0.667
Unifor m flow inputs	Reference Head (ft) =	4781
	Regional Hydraulic Gradient (ft/ft) =	0.0220
	Orientation (degrees) =	S 75 E
Aquifer inputs	Base Elevation (ft) =	4252
	Thickness (ft) =	210
	Hydraulic Conductivity (ft/day) =	22
	Porosity =	0.28



LEGEND				
CENOZOIC ROCK				
QUATERNARY	Post-Late Bonneville	Salt flat		
		Alluvial fans & colluvial deposits	Qal	
		Flood plain deposits along existing streams	Qfp	
		Jordan river flood plain & delta complex	Qjpc	
		Abandoned channel flood plain deposits	Qaf	
		Provo & younger lake bottom silts & sands	Qlb	
		Provo & younger shore facies of sand & gravel	Qpsf	
		Lake Bonneville-Alpine deposits; chiefly shore facies of gravels & sands, & offshore silts	Qlba	
		Glacial till, chiefly Wisconsin	Qm	
		Talus & landslides	Qtl	
		Older alluvium, high level remnants	Qoa	
	Mio-Pliocene Pliocene		Harkers conglomerate	Th
			Salt Lake group (Jordan Narrows & Camp Williams undifferentiated)	Tsl
			South Mountain andesite flows	Tso
	TERTIARY	Oligocene	Ross Canyon latite-andesite volcanic	Tab
			Butterfield andesite flows	Tba
	Eocene		Knight conglomerate	Tk
		Tertiary limestone	Tll	

R.S. 83
GEOLOGIC MAP OF SALT LAKE COUNTY, UTAH

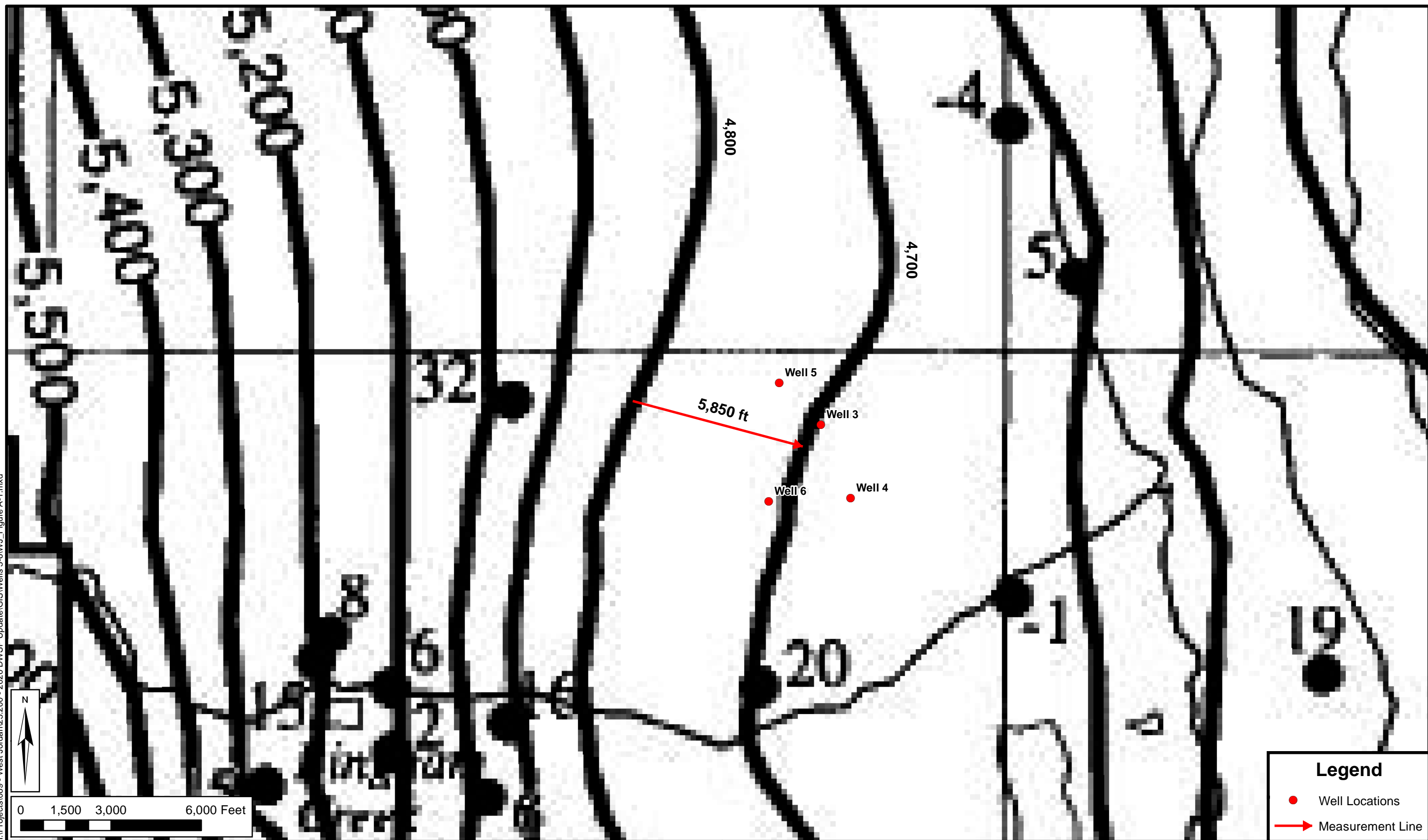
By Roy E. Morsell and Richard L. Threst

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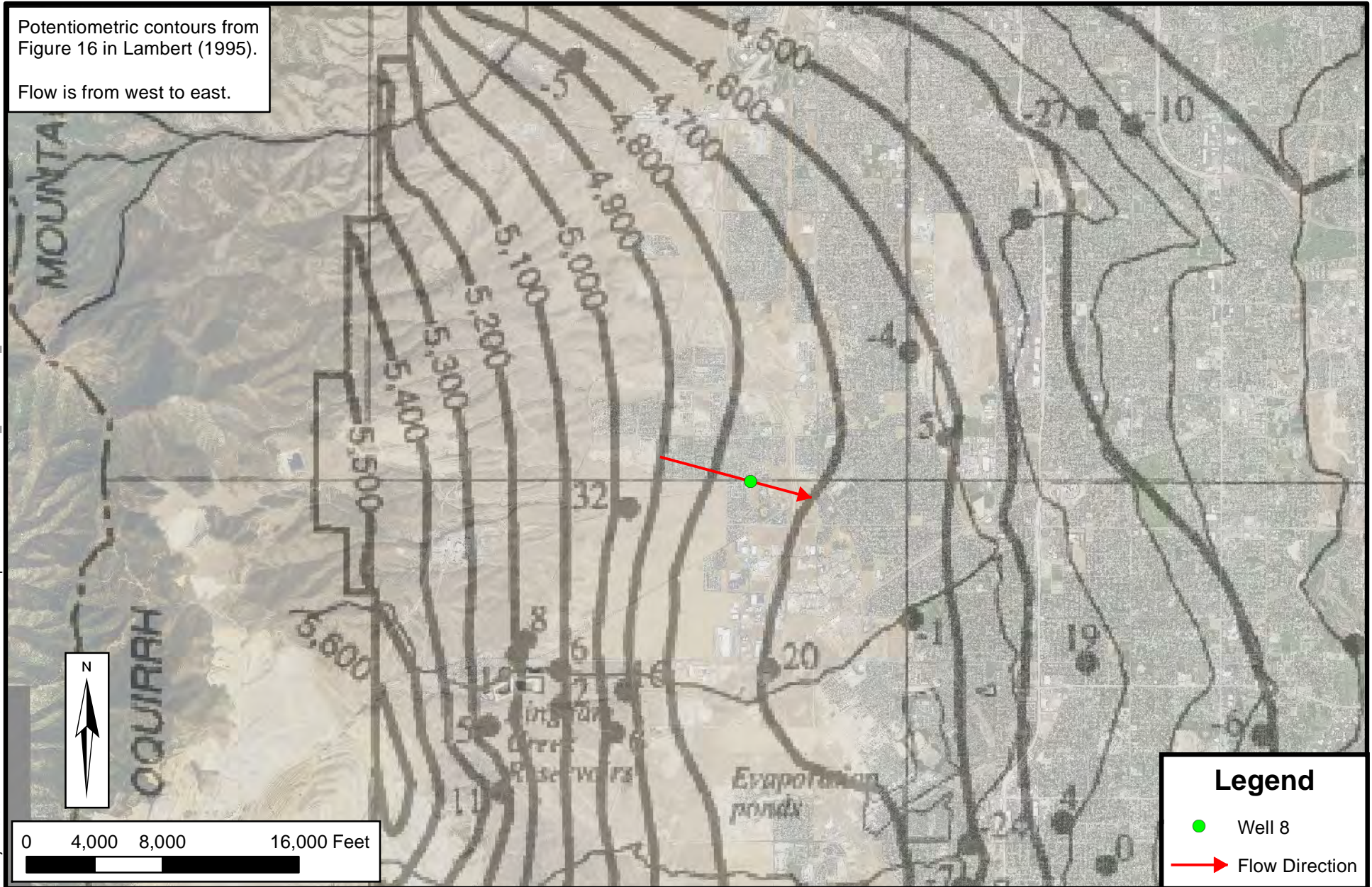


City of West Jordan - DWSP Plan Update
Wells 3, 4, 5, 6, & 8

Gradient and Flow Direction Calculation
Wells 3-6

FIGURE
A-1

Potentiometric contours from Figure 16 in Lambert (1995).
Flow is from west to east.



Legend

- Well 8
- ➔ Flow Direction

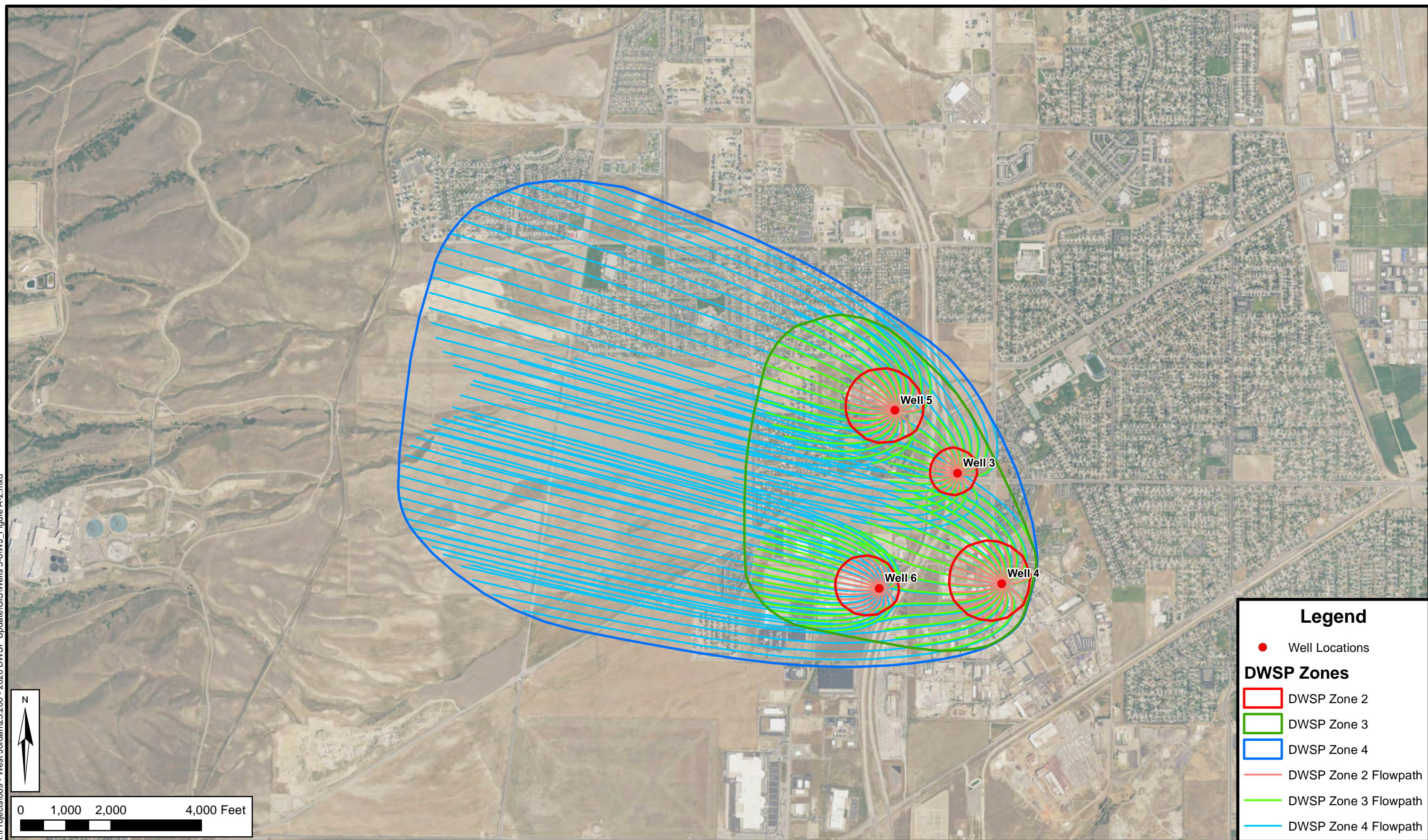
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City of West Jordan - DWSP Plan Update
Wells 3, 4, 5, 6, & 8

Ground Water Flow Direction
Well 8

FIGURE
A-2



Legend

- Well Locations

DWSP Zones

- DWSP Zone 2
- DWSP Zone 3
- DWSP Zone 4
- DWSP Zone 2 Flowpath
- DWSP Zone 3 Flowpath
- DWSP Zone 4 Flowpath

0 1,000 2,000 4,000 Feet

N

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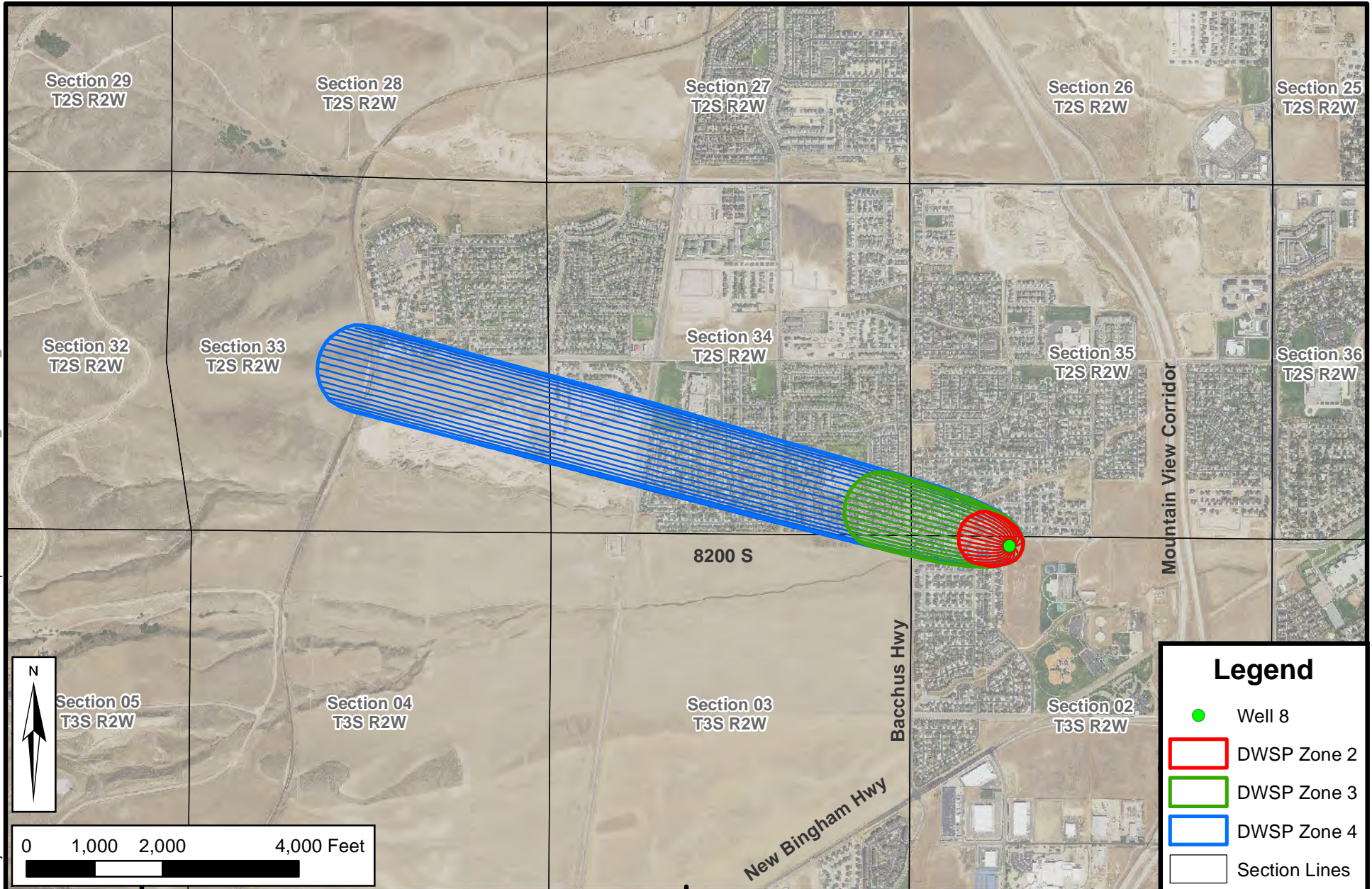


**City of West Jordan - DWSP Plan Update
 Wells 3, 4, 5, 6, & 8**

**DWSP Zone Delineation Pathlines
 Wells 3-6**

**FIGURE
 A-3**

Date: 12/17/2020
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Legend

- Well 8
- DWSP Zone 2
- DWSP Zone 3
- DWSP Zone 4
- Section Lines



**City of West Jordan - DWSP Plan Update
Wells 3, 4, 5, 6, & 8**

**DWSP Zone Pathlines
Well 8**

**FIGURE
A-4**

WELL DRILLER'S REPORT

10/31

State of Utah
Division of Water Rights

AMENDED WELL LOG

For additional space, use "Additional Well Data Form" and attach

Well Identification

Change Application: a37279 (59-3584)

WIN: 434850

Owner

Note any changes

City of West Jordan
8000 South Redwood Road
West Jordan UT 84088

Contact Person/Engineer: _____

Well Location

Note any changes

N 180 W 790 from the E4 corner of section 02, Township 3S, Range 2W, SL B&M

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

Drillers Activity

Start Date: 6-19-11 Completion Date: 8-31-11

Check all that apply: New Repair Deepen Clean Replace Public Nature of Use: _____

If a replacement well, provide location of new well. _____ feet north/south and _____ feet east/west of the existing well.

DEPTH (feet) FROM TO	BOREHOLE DIAMETER (in)	DRILLING METHOD	DRILLING FLUID
0 1000	1 3/4"	Mud Rotary / Reverse Rotary (from 300'-1000')	Mud
0 920	2 1/2"	Mud Rotary / Reverse Rotary (0-300')	Mud

Well Log

DEPTH (feet) FROM TO	WATER	PERMEABLE	UNCONSOLIDATED						CONSOLIDATED		DESCRIPTION AND REMARKS (e.g., relative %, grain size, sorting, angularity, bedding, grain composition density, plasticity, shape, cementation, consistency, water bearing, odor, fracturing, mineralogy, texture, degree of weathering, hardness, water quality, etc.)
			C L I A L Y	S A N D	G R A V E L	C O B B L E S	B O U L D E R	ROCK TYPE	COLOR		
0 10			X	X	X	X					
10 90				X	X	X					
90 120				X	X	X					
120 150			X	X	X	X					
150 170				X							
170 178			X	X							
178 207				X	X	X					
207 228					X	X					
228 240			X	X	X	X					
240 293			X	X	X	X					

RECEIVED

OCT 24 2011 JH

RECEIVED

OCT 17 2011 JH

WATER RIGHTS
SALT LAKE

WATER RIGHTS
SALT LAKE

Static Water Level

Date 8-29-11 Water Level 314 feet Flowing? Yes No
 Method of Water Level Measurement probe If Flowing, Capped Pressure _____ PSI
 Point to Which Water Level Measurement was Referenced ground Elevation _____
 Height of Water Level reference point above ground surface _____ feet Temperature _____ degrees C F

Well Log

AMENDED WELL LOG

Construction Information

DEPTH (feet)		CASING			DEPTH (feet)		<input checked="" type="checkbox"/> SCREEN	<input type="checkbox"/> PERFORATIONS	<input type="checkbox"/> OPEN BOTTOM
FROM	TO	CASING TYPE AND MATERIAL/GRADE	WALL THICK (in)	NOMINAL DIAM. (in)	FROM	TO	SCREEN SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM. OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)
+3	37	Steel A53B	.317	30"	417	477	.080		304-SS
+3	912	Steel A53B	.377	20	550	570	.080		"
					632	652	.080		"
					661	666	.080		"
					762	842	.080		"
		3' sections of 1/2" steel casing			862	902	.080		"
		above & below each section of screen							

Well Head Configuration: Capped Access Port Provided? Yes No

Casing Joint Type: Welded Perforator Used: Mill

Was a Surface Seal Installed? Yes No Depth of Surface Seal: 300 feet Drive Shoe? Yes No

Surface Seal Material Placement Method: pumped in

Was a temporary surface casing used? Yes No - If yes, depth of casing: _____ feet diameter: _____ inches

DEPTH (feet)		SURFACE SEAL / INTERVAL SEAL / FILTER PACK / PACKER INFORMATION		
FROM	TO	SEAL MATERIAL, FILTER PACK and PACKER TYPE and DESCRIPTION	Quantity of Material Used (if applicable)	GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.)
0	285	Cement Grout	30 yards	15 bag mix
285	290	* 60 Sand	15	50# bags
290	295	Bentonite Hole Plug	28	50# bags
295	300	* 60 Sand	15	50# bags
300	920	6x9 Silica Sand	58 yards	

Well Development and Well Yield Test Information

DATE	METHOD	YIELD	Units Check One		DRAWDOWN (ft)	TIME PUMPED (hrs & min)
			GPM	CFS		
8/22/11	Line Shaft	1000	X		116	24 HR.

Pump (Permanent)

Pump Description: _____ Horsepower: _____ Pump Intake Depth: _____ feet

Approximate Maximum Pumping Rate: _____ Well Disinfected upon Completion? Yes No

Comments

Description of construction activity, additional materials used, problems encountered, extraordinary circumstances, abandonment procedures. *Use additional well log forms for more space.*

RECEIVED

RECEIVED

OCT 24 2011 JH

OCT 17 2011 JH

**WATER RIGHTS
SALT LAKE**

**WATER RIGHTS
SALT LAKE**

Well Driller Statement

This well was drilled and constructed under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.

Name GARDNER BROTHERS DRILLING

License No. WELDED WELCO

Signature Dale Gardner
(Licensed Well Driller)

Date 10-14-11

WELL DRILLER'S REPORT ADDITIONAL DATA FORM

12/31

State of Utah
Division of Water Rights

AMENDED WELL LOG

Page ____ of ____

Well Identification

Change Application: a37279 (59-3584)

Owner

Note any changes

City of West Jordan
8000 South Redwood Road
West Jordan UT 84088

Contact Person/Engineer: _____

Well Location

Note any changes

N 180 W 790 from the E4 corner of section 02, Township 3S, Range 2W, SL B&M

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

Well Log		WATER	PERMEABILITY		UNCONSOLIDATED						CONSOLIDATED		ROCK TYPE	COLOR	DESCRIPTION AND REMARKS (e.g., relative %, grain size, sorting, angularity, bedding, grain composition density, plasticity, shape, cementation, consistency, water bearing, odor, fracturing, mineralogy, texture, degree of weathering, hardness, water quality, etc.)
			High	Low	CLAY	SAND	GRAVEL	COBBLES	BOULDER	OTHER					
DEPTH (feet)	FROM	TO													
293	340		X		X	X	X								
340	355				X	X									
355	385						X	X	X	X					
385	395						X	X	X						
395	480						X	X	X	X					
480	500					X	X								Sticky Clay
500	565						X	X	X						
565	640					X	X	X	X						
640	665					X	X	X	X						
665	690					X	X	X	X						
690	775					X	X	X							
775	905						X	X	X						
905	1000					X	X	X	X						

RECEIVED

OCT 24 2011
WATER RIGHTS
SALT LAKE

RECEIVED

OCT 17 2011 JH
WATER RIGHTS
SALT LAKE

Utah Division of Water Rights



WELLPR T Well Log Information Listing

Version: 2003.09.18.00 Rundate: 10/09/2003 02:37 AM

13/31

Utah Division of Water Rights

Water Well Log

LOCATION:

N 200 ft E 200 ft from SW CORNER of SECTION 1 T 3S R 2W BASE SL Elevation: 4882.00 feet
FIRE STATION WELL #4; 9351 S. 5600 W.

DRILLER ACTIVITIES:

ACTIVITY # 1 NEW WELL
DRILLER: AAA Drilling LICENSE #: 531
START DATE: 10/17/1985 COMPLETION DATE: 02/10/1986

BOREHOLE INFORMATION:

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	610	28	ROTARY

LITHOLOGY:

Depth(ft)	Lithologic Description	Color	Rock Type
From	To		
0	10		GRAVEL
10	30		CLAY,SAND,GRAVEL
30	140		GRAVEL
140	165		CLAY,GRAVEL
165	180		GRAVEL
180	195		CLAY,SAND,GRAVEL
195	200		CLAY,SAND,GRAVEL
200	210		GRAVEL
210	270		CLAY,SAND,GRAVEL
270	320		GRAVEL
320	330		CLAY,GRAVEL
330	440		SAND,GRAVEL
440	450		CLAY,SAND,GRAVEL
450	460		SAND,GRAVEL
460	475		CLAY,SAND,GRAVEL
475	550		SAND,GRAVEL
550	598		CLAY,SAND,GRAVEL
598	610		CLAY,GRAVEL

WATER LEVEL DATA:

Date	Time	Water Level (feet)	Status
02/10/1986		184.00	STATIC

CONSTRUCTION - CASING:

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	590	NEW	.375 20

CONSTRUCTION - SCREENS/PERFORATIONS:

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)	Screen Type/#	Perf.
From	To					
380	400	SCREEN	80	20		

430	450	SCREEN	80	20
470	590	SCREEN	80	20

WELL TESTS:

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/10/1986	PUMP	6.684	65	48

WATER QUALITY DATA AVAILABLE

Examined _____
Recorded: B. C. _____ T. B. _____
Inspection Sheet _____
Copied _____

REPORT OF WELL DRILLER
STATE OF UTAH

Application No. P.E. T 88-59-49
Claim No. A 43097 WR 69 4003
Coordinate No. _____

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:
Name West Jordan City 84084
Address 1850 West 7800 South West Jordan UT

(2) LOCATION OF WELL:
County Salt Lake Ground Water Basin _____ (leave blank)
North 1090 feet, East 400 feet from N 1/4 Corner
South _____ feet, West _____ feet
of Section 2, T 3 N, R 2 SLBM (strike out words not needed)

(3) NATURE OF WORK (check):
New Well
Replacement Well Deepening Repair Abandon
If abandonment, describe material and procedure: _____

(4) NATURE OF USE (check):
Domestic Industrial Municipal Stockwater
Irrigation Mining Other Test Well

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

(6) CASING SCHEDULE: Threaded Welded
16 " Diam. from 1 feet to 330 feet Gage 375
340-350
" Diam. from 270-425 feet to 475 feet Gage _____
475-499
" Diam. from 512-543 feet to _____ feet Gage _____
New 544-583 560-583 544-583 603-603 Used

(7) PERFORATIONS: Expanded? Yes No
Type of perforator used SCREEN
Size of perforations 0.65 inches by _____ inches
perforations from 330 feet to 340 feet
perforations from 350 feet to 370 feet
perforations from 445 feet to 475 feet
perforations from 492 feet to 512 feet
perforations from 534 feet to 544 feet

(8) SCREENS: Well screen installed? Yes No
Manufacturer's Name PASCOE MUSE ST ZINLER STEEL
Type Wire wound type Model No. _____
Diam. Slot size 0.65 Set from 550 ft. to 560
Diam. Slot size _____ Set from 583 ft. to 603

(9) CONSTRUCTION:
Was well gravel packed? Yes No Size of gravel: 8-12
Gravel placed from 620 feet to 200 feet
Was a surface seal provided? Yes No
To what depth? 200 feet
Material used in seal: 9 bag mix cement
Did any strata contain unusable water? Yes No
Type of water: _____ Depth of strata _____
Method of sealing strata off: _____

Was surface casing used? Yes No
Was it cemented in place? Yes No

(10) WATER LEVELS:
Static level 199 feet below land surface Date 4-18-89
Artesian pressure _____ feet above land surface Date _____

LOG RECEIVED FLOWING WELL:
Controlled by (check) Valve
 Plug No Control
Does well leak around casing? Yes
No
WATER RIGHTS
SALT LAKE

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.
Was a pump test made? Yes No If so, by whom? Scott Stephenson
Yield: 2000 gal./min. with 6.5 feet drawdown after 2.4 hours
" " " " " "
" " " " " "
" " " " " "
Bailer test _____ gal./min. with _____ feet drawdown after _____ hours
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? No Yes

(13) WELL LOG: Diameter of well 22 inches
Depth drilled 620 feet. Depth of completed well 620 feet.
NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

DEPTH	MATERIAL										REMARKS		
	From	To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate		Bedrock	Other
0	50	X	X	X									
50	85	X	X	X									
85	125	X	X	X									
125	140	X	X	X									
140	290	X	X	X									
290	410	X	X	X									
410	445	X	X	X									
445	475	X	X	X									more clay
475	525	X	X	X									
525	550	X	X	X									
550	605	X	X	X									
605	620	X	X	X									more clay

Work started JAN 23, 1989 Completed May 15, 1989

(14) PUMP:
Manufacturer's Name _____
Type: _____ H. P. _____
Depth to pump or bowles _____ feet

Well Driller's Statement:
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.
Name Scott Stephenson Drilling
(Person, firm, or corporation) (Type or print)
Address P.O. Box 141 Fillmore UT 84631
(Signed) Scott Stephenson (Well Driller)
License No. 106 Date May 30, 1989

16/31

AB

Examined _____
Recorded: B. C. _____ T. B. _____
Inspection Sheet _____
Copied _____

REPORT OF WELL DRILLER
STATE OF UTAH

Application No. 215988 12
Claim No. 59-1572
Coordinate No. _____

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 80 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:
Name CITY OF WEST JORDAN WELL #6
Address 1850 W. 7800 S., W. JORDAN, UT. 84084

(2) LOCATION OF WELL:
County SALT LAKE Ground Water Basin _____
(leave blank)
North 220 feet, East 100 feet from 5-1/4 Corner
XXX of Section 2, T 3, R 2, S XXX, W XXX (strike
out words not needed)

(3) NATURE OF WORK (check): New Well
Replacement Well Deepening Repair Abandon
If abandonment, describe material and procedure: _____

(4) NATURE OF USE (check): Domestic Industrial Municipal Stockwater
Irrigation Mining Other Test Well

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

(6) CASING SCHEDULE: Threaded Welded
32 " Diam. from 0 feet to 30 feet Gage 3/8
20 " Diam. from +2 feet to 378.7 feet Gage 3/8
20 " Diam. from 587 feet to 607 feet Gage 3/8
New Relect Used

(7) PERFORATIONS: Perforated? Yes No
Type of perforator used _____
Size of perforations _____ inches by _____ inches
perforations from _____ feet to _____ feet
perforations from _____ feet to _____ feet
perforations from _____ feet to _____ feet
perforations from _____ feet to _____ feet
perforations from _____ feet to _____ feet

(8) SCREENS: Well screen installed? Yes No
Manufacturer's Name HOUSION WELL SCREEN
Type _____ Model No. _____
Diam. 20 Slot size 80 Set from 378.7 ft. to 587
Diam. _____ Slot size _____ Set from 607 ft. to 690.3

(9) CONSTRUCTION:
Was well gravel packed? Yes No Size of gravel: 4-8
Gravel placed from 325 feet to 707 feet
Was a surface seal provided? Yes No
To what depth? 325 feet
Material used in seal: CEMENT GROUT
Did any strata contain unusable water? Yes No
Type of water: _____ Depth of strata _____
Method of sealing strata off: _____

Was surface casing used? Yes No
Was it cemented in place? Yes No

(10) WATER LEVELS:
Static level 251.03 feet below T.O.C. land surface Date 2-25-91
Arterian pressure _____ feet above land surface Date _____

(11) FLOWING WELL:
Controlled by (check) Valve
Cap Plug No Control
Does well leak around casing? Yes No

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.
Was a pump test made? Yes No If so, by whom? WIDDISON TURBINE
Yield: 785 gal./min. with 11.67 feet drawdown after 1 hours
" 1286 " " 21.47 " " 1 "
" 1748 " " 34.74 " " 4 "
" 2300 gal./min. with 60.77 feet drawdown after 18.5 hours
Arterian flow _____ g.p.m. Date _____
Temperature of water 61° F Was a chemical analysis made? No Yes

(13) WELL LOG: Diameter of well 20 inches
Depth drilled 707 feet. Depth of completed well 690.3 feet.

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

DEPTH		MATERIAL										REMARKS
From	To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	
0	190			X	X							
190	205			X	X							
205	225			X	X							
225	230			X	X	X						
230	245	X		X	X							
245	345			X	X							
345	405	X		X	X							
435	440	X		X	X							
440	515			X	X							
515	565	X		X	X							
565	590			X	X							
590	625	X		X	X							
625	645			X	X							
645	707	X		X	X							

Work started FEBRUARY 1, 1991 Completed FEBRUARY 28, 1991

(14) PUMP:
Manufacturer's Name _____
Type: _____ H. P. _____
Depth to pump or bowies _____ feet

Well Driller's Statement:
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.
Name LANG EXPLORATORY DRILLING (Type or print)
(Person, firm, or corporation)
Address 2286 W. 1500 S., S.L.C., UT. 84104
(Signed) _____ (Well Driller)
License No. 568 Date MARCH 11, 1991

RECEIVED
MAR 15 1991
WATER RIGHTS
SALT LAKE

MICROFILMED

Green

Well 8

WELL DRILLER'S REPORT 18017

17/31

State of Utah Division of Water Rights

For additional space, use "Additional Well Data Form" and attach

Well Identification

Change Application: a43701 (59-3584)

WIN: 442459

Owner Note any changes

City of West Jordan
8000 South Redwood Road
West Jordan UT 84088

Contact Person/Engineer: Lance Nielsen 801-808-4953

Well Location Note any changes

S 140 W 1208 from the N4 corner of section 02, Township 3S, Range 2W, SL B&M

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

Drillers Activity

Start Date: Oct 29, 2018 Completion Date: 8-8-19

Check all that apply: New Repair Deepen Clean Replace Public Nature of Use: _____

If a replacement well, provide location of new well. _____ feet north/south and _____ feet east/west of the existing well.

DEPTH (feet) FROM TO		BOREHOLE DIAMETER (in)	DRILLING METHOD	DRILLING FLUID
0	100	42"	Reverse Rotary	Bentonite
100	665	28'	Reverse Rotary	"

Well Log

DEPTH (feet) FROM TO	WATER	PERMEABLE	UNCONSOLIDATED						CONSOLIDATED		ROCK TYPE	COLOR	DESCRIPTION AND REMARKS (e.g., relative %, grain size, sorting, angularity, bedding, grain composition density, plasticity, shape, cementation, consistency, water bearing, odor, fracturing, mineralogy, texture, degree of weathering, hardness, water quality, etc.)
			CLAY	SAND	GRAVEL	COBBLES	BOULDER	OTHER					
0	20											Brown	Sand, Gravel
20	25		X	X	X							Brown	5% Clay, 15% Gravel, 80% Sand
25	70				X	X						Brown	85% Sand, 15% Gravel
70	75				X	X						Brown	80% Sand
75	340				X	X						"	60% Sand, 40% Gravel
340	375		X	X	X							"	50% clay, 25% Sand, 25% Gravel
375	420				X	X						"	80% Gravel, 20% Sand
420	465		X	X	X							"	5% clay, 25% Sand, 70% Gravel
465	550				X	X						Brown	50% clay, 50% Gravel
550	675		X	X	X							Brown	60% clay, 30% Gravel, 10% Sand

Static Water Level

Date 8-6-19 Water Level 331 feet Flowing? Yes No
 Method of Water Level Measurement Electric Sounder If Flowing, Capped Pressure _____ PSI
 Point to Which Water Level Measurement was Referenced Ground level Elevation _____
 Height of Water Level reference point above ground surface 0 feet Temperature 55 degrees C F

WELL DRILLER'S REPORT ADDITIONAL DATA FORM

State of Utah
Division of Water Rights

18/31

Well Identification

Change Application: a43701 (59-3584)

Owner

Note any changes

City of West Jordan
8000 South Redwood Road
West Jordan UT 84088

Contact Person/Engineer: Lance Nielsen 801-808-4953

Well Location

Note any changes

S 140 W 1208 from the N4 corner of section 02, Township 3S, Range 2W, SL B&M

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

Well Log

DEPTH (feet) FROM TO		WATER	PERMEABLE		UNCONSOLIDATED					CONSOLIDATED	ROCK TYPE	COLOR	DESCRIPTION AND REMARKS (e.g., relative %, grain size, sorting, angularity, bedding, grain composition density, plasticity, shape, cementation, consistency, water bearing, odor, fracturing, mineralogy, texture, degree of weathering, hardness, water quality, etc.)
			High	Low	CLAY	SILT	SAND	GRAVEL	COBBLES	Boulders			
675	715			X		X							60% clay, 40% Gravel

Construction Information (con't)

DEPTH (feet)		CASING			DEPTH (feet)		<input type="checkbox"/> SCREEN	<input type="checkbox"/> PERFORATIONS	<input type="checkbox"/> OPEN BOTTOM
FROM	TO	CASING TYPE AND MATERIAL/GRADE	WALL THICK (in)	NOMINAL DIAM. (in)	FROM	TO	SCREEN SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM. OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)
0	100	Conductor	.50	30"	400	580	SS wire wrap		.70
+2	400	Blank low Carbon	.50	20"	610	630	SS wire wrap		.70
580	610	Blank low Carbon	.50	20"	645	655	SS wire wrap		.70
630	645	Blank low Carbon	.50	20"					
655	665	Blank low Carbon w/bottom cap	.50	20"					

DEPTH (feet)		SURFACE SEAL / INTERVAL SEAL / FILTER PACK / PACKER INFORMATION		
FROM	TO	SEAL MATERIAL, FILTER PACK and PACKER TYPE and DESCRIPTION	Quantity of Material Used (if applicable)	GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.)
0	665	SRI 1/4" x 1/8" Gravel Pack		

Comments (con't)

Well Driller Statement

This well was drilled and constructed under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.

Name ZIM INDUSTRIES INC
(Person, Firm, or Corporation - Print or Type)

License No. 697

Signature *Rbert J Zimmer*
(Licensed Well Driller)

Date 8-15-19

Amended Revised Test Pumping

Information

- on Second sheet

20/31

DEPTH (feet)		CASING			DEPTH (feet)		<input type="checkbox"/> SCREEN	<input type="checkbox"/> PERFORATIONS	<input type="checkbox"/> OPEN BOTTOM
FROM	TO	CASING TYPE AND MATERIAL/GRADE	WALL THICK (in)	NOMINAL DIAM. (in)	FROM	TO	SCREEN SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM. OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)

Well Head Configuration: _____ Access Port Provided? Yes No

Casing Joint Type: _____ Perforator Used: _____

Was a Surface Seal Installed? Yes No Depth of Surface Seal: _____ feet Drive Shoe? Yes No

Surface Seal Material Placement Method: _____

Was a temporary surface casing used? Yes No If yes, depth of casing: _____ feet diameter: _____ inches

DEPTH (feet)		SURFACE SEAL / INTERVAL SEAL / FILTER PACK / PACKER INFORMATION		
FROM	TO	SEAL MATERIAL, FILTER PACK and PACKER TYPE and DESCRIPTION	Quantity of Material Used (if applicable)	GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.)
		on Second sheet		

Well Development and Well Yield Test Information

DATE	METHOD	YIELD	Units Check One		DRAWDOWN (ft)	TIME PUMPED (hrs & min)
			GPM	CFS		
8-7-19	Constant Rate	700	X		138.12	24
8-6-19	Step test	450	X		61.78	2
8-6-19	Step test	650	X		106.55	2

Pump (Permanent) _____

Pump Description: N/A Horsepower: _____ Pump Intake Depth: _____ feet

Approximate Maximum Pumping Rate: _____ Well Disinfected upon Completion? Yes No

Comments Description of construction activity, additional materials used, problems encountered, extraordinary Circumstances, abandonment procedures. Use additional well data form for more space.

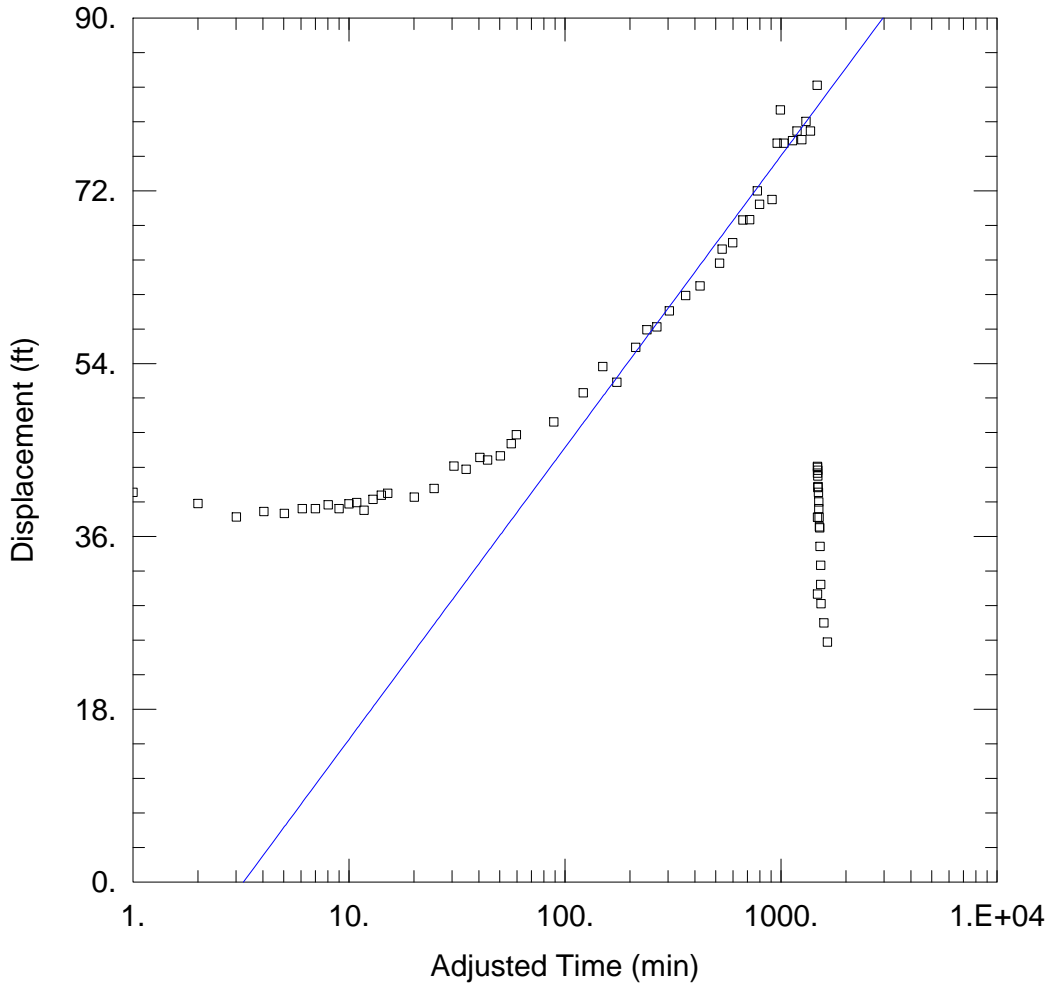
Well Driller Statement This well was drilled and constructed under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.

Name ZIM INDUSTRIES INC License No. 697

Signature [Signature] Date 8-15-19

(Licensed Well Driller)

10-11-19



WEST JORDAN WELL 3

Data Set: H:\...\Well3CR_CJ_High.aqt
 Date: 02/09/18

Time: 15:18:15

AQUIFER DATA

Saturated Thickness: 265. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well3	1494033.397	383509.807	□ OW 1	1494033.397	383509.807

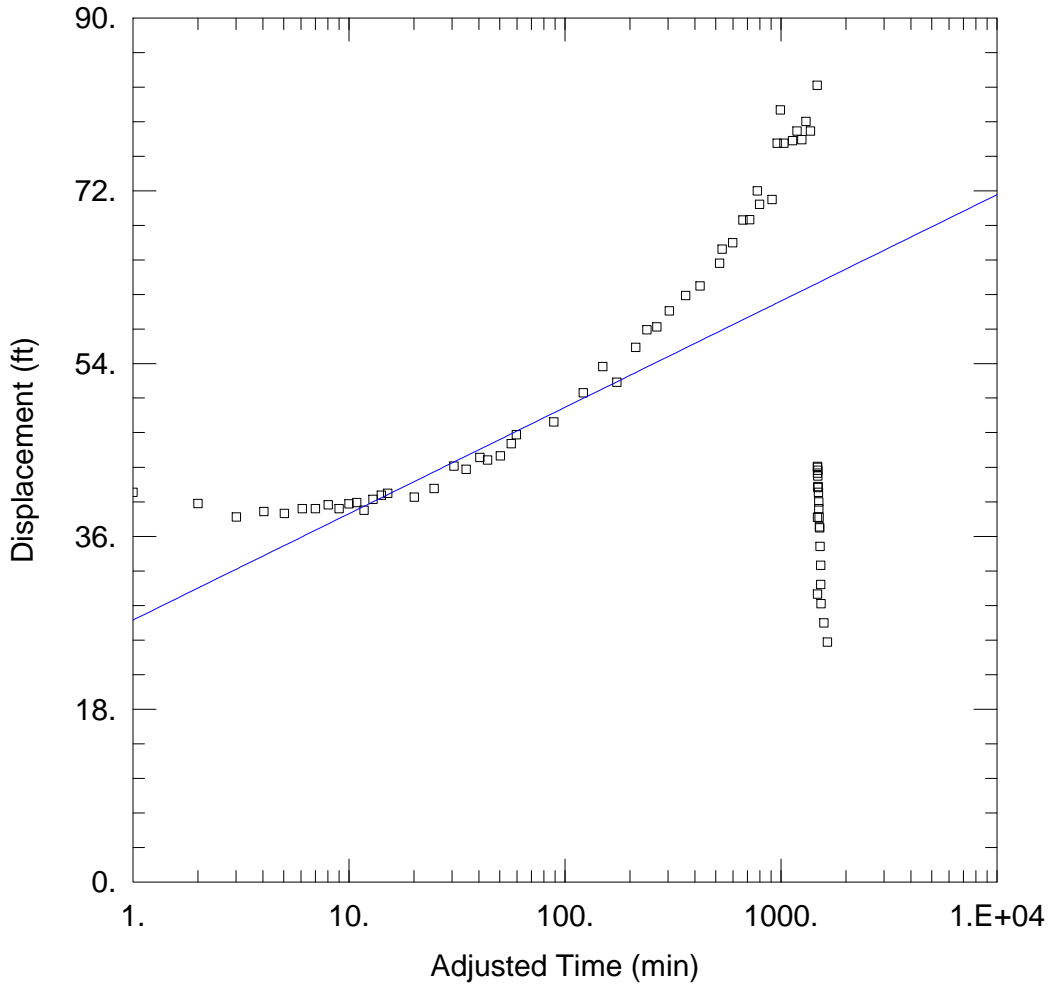
SOLUTION

Aquifer Model: Confined

Solution Method: Cooper-Jacob

T = 1160.4 ft²/day

S = 0.9414



WEST JORDAN WELL 3

Data Set: H:\...\Well3CR_CJ_Low.aqt
 Date: 02/09/18

Time: 15:16:07

AQUIFER DATA

Saturated Thickness: 265. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well3	1494033.397	383509.807	□ OW 1	1494033.397	383509.807

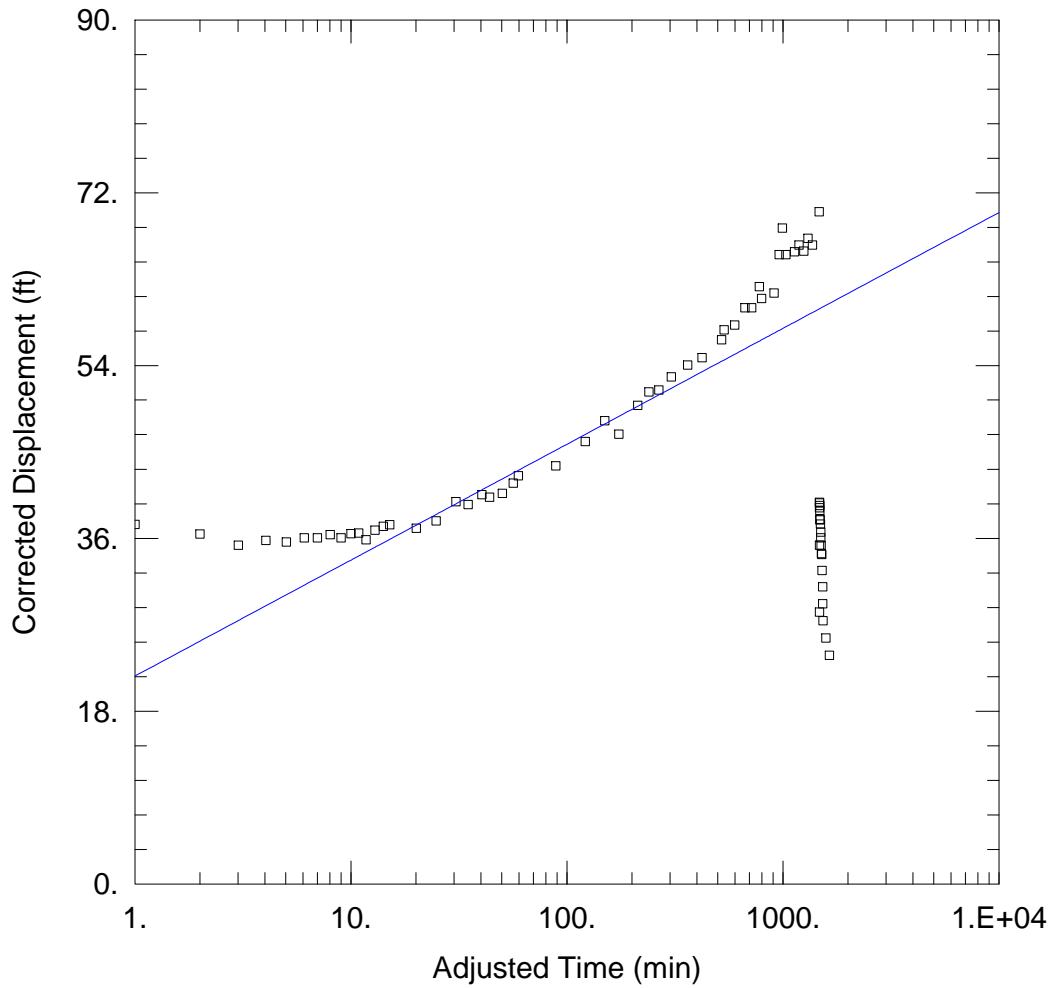
SOLUTION

Aquifer Model: Confined

Solution Method: Cooper-Jacob

T = 3184.9 ft²/day

S = 0.002737



WEST JORDAN WELL 3

Data Set: H:\...\Well3CR_CJ_Unconfined.aqt
 Date: 02/09/18

Time: 15:42:17

AQUIFER DATA

Saturated Thickness: 265. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well3	1494033.397	383509.807	□ OW 1	1494033.397	383509.807

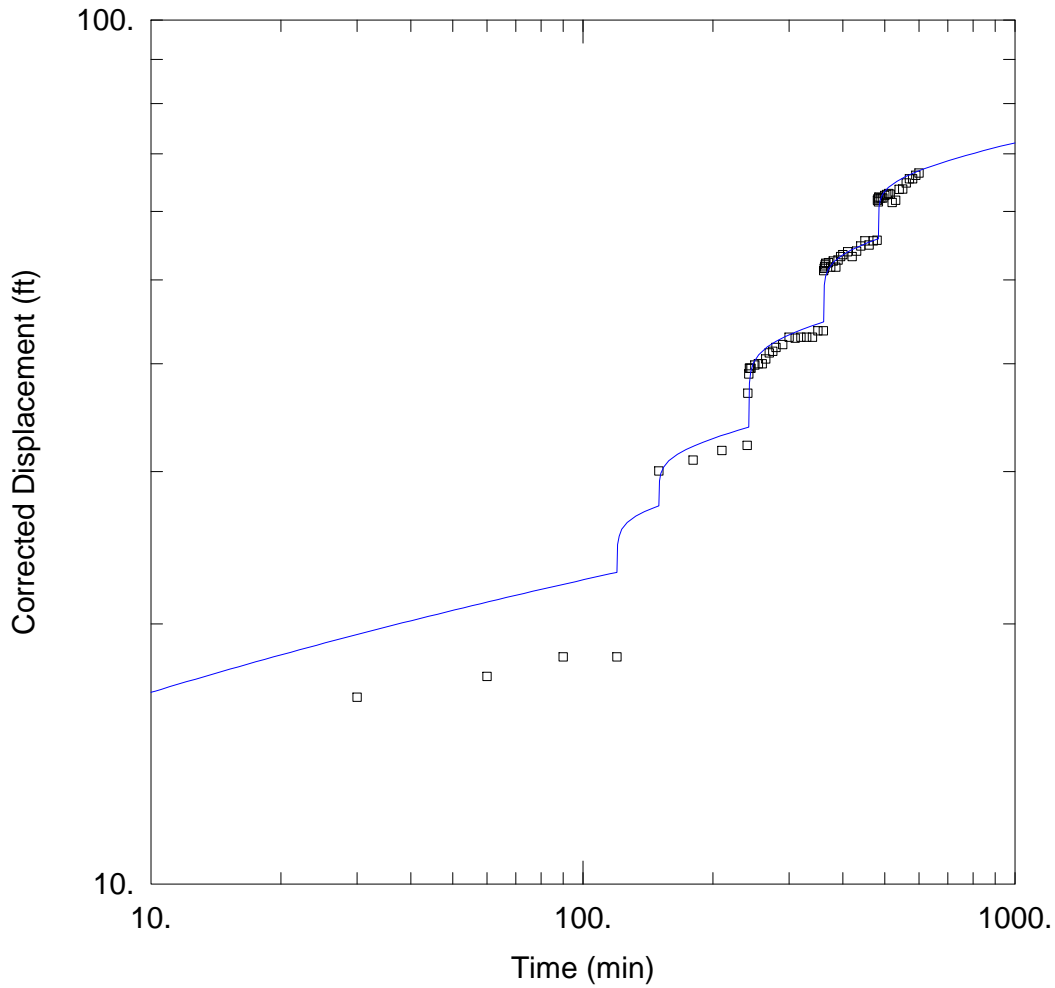
SOLUTION

Aquifer Model: Unconfined

Solution Method: Cooper-Jacob

T = 2922.6 ft²/day

S = 0.01171



WEST JORDAN WELL 3

Data Set: H:\...\Well3StepTheisUnconfined.aqt

Date: 02/09/18

Time: 16:12:44

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well3	1494033.397	383509.807	OW 1	1494033.397	383509.807

SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

T = 3026.5 ft²/day

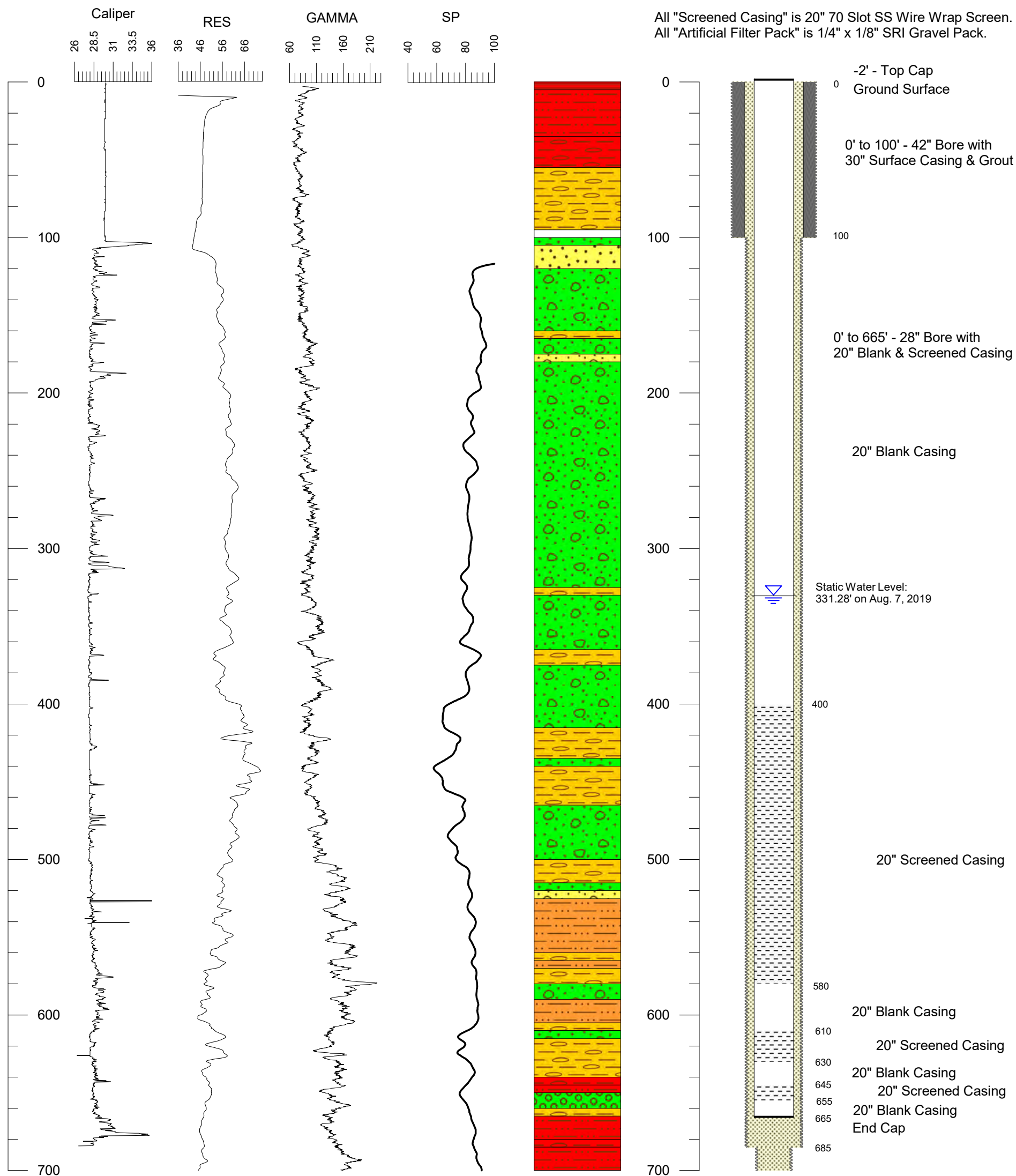
S = 0.01046

Kz/Kr = 1.

b = 265. ft

West Jordan Well 8 Geophysical Logs and Well Construction Details

25/31



Well Completion
Oct. 29, 2018 to Sept. 13, 2019

Drilling Company
Zim Industries, Inc.

Drilling Method
Reverse Circulation

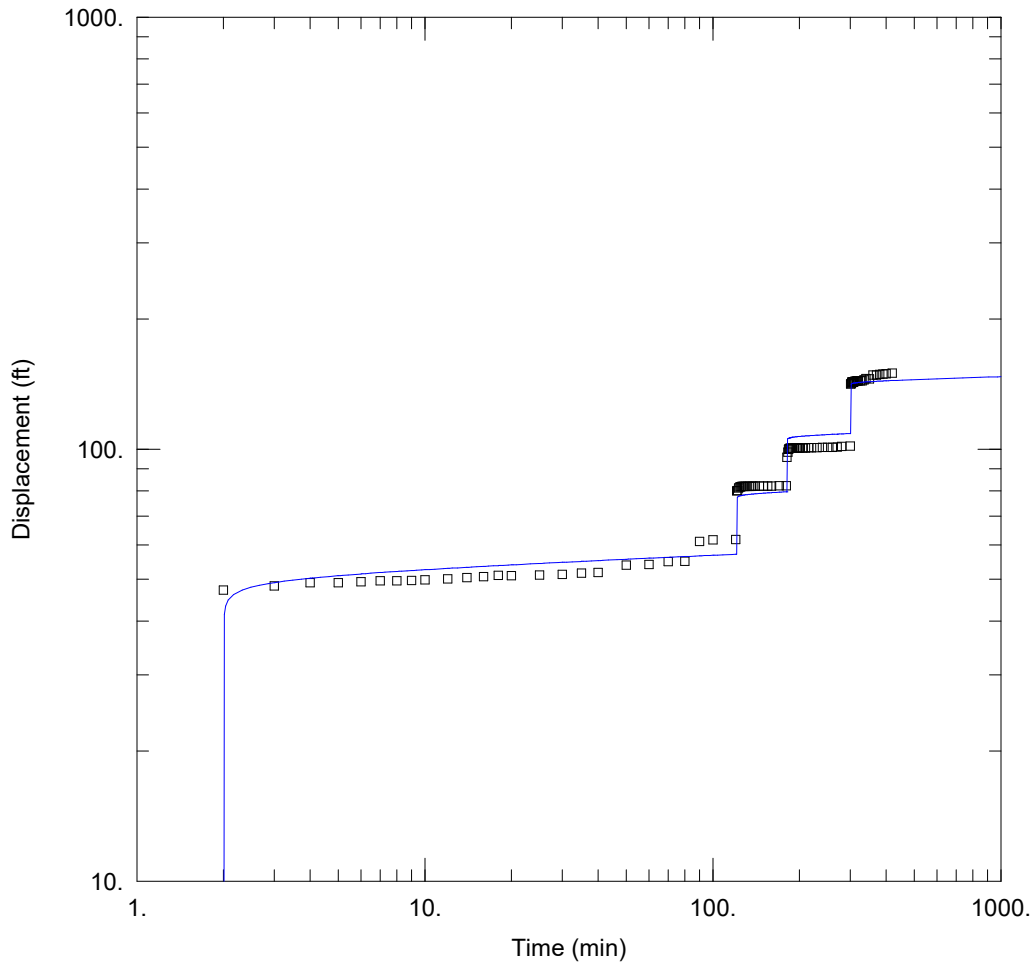
Lithologic Legend (Primary, Secondary)

	Clay, Clay		Sand, Gravel
	Clay, Sand		Gravel, Clay
	Clay, Gravel		Gravel, Sand
	Sand, Clay		Gravel, Gravel
	Sand, Sand		

Well Construction Detail Legend

	Top or End Cap
	Grout
	Casing
	Screened Casing
	Artificial Filter Pack
	Bentonite





WELL TEST ANALYSIS

Data Set: H:\...\Well 8_Step Test_No Recovery.aqt
 Date: 10/02/19

Time: 13:14:11

PROJECT INFORMATION

Company: Hansen, Allen & Luce, Inc.
 Client: West Jordan
 Project: 089.24.100
 Location: West Jordan, UT
 Test Well: Well 8
 Test Date: 8/7/2019

AQUIFER DATA

Saturated Thickness: 210 ft

Anisotropy Ratio (Kz/Kr): 0.6351

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well 8	0	0	□ Well 8	0	0

SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Step Test)

T = 4094.9 ft²/day

S = 2.12E-8

Sw = 0.

C = 7.163E-5 min²/ft⁵

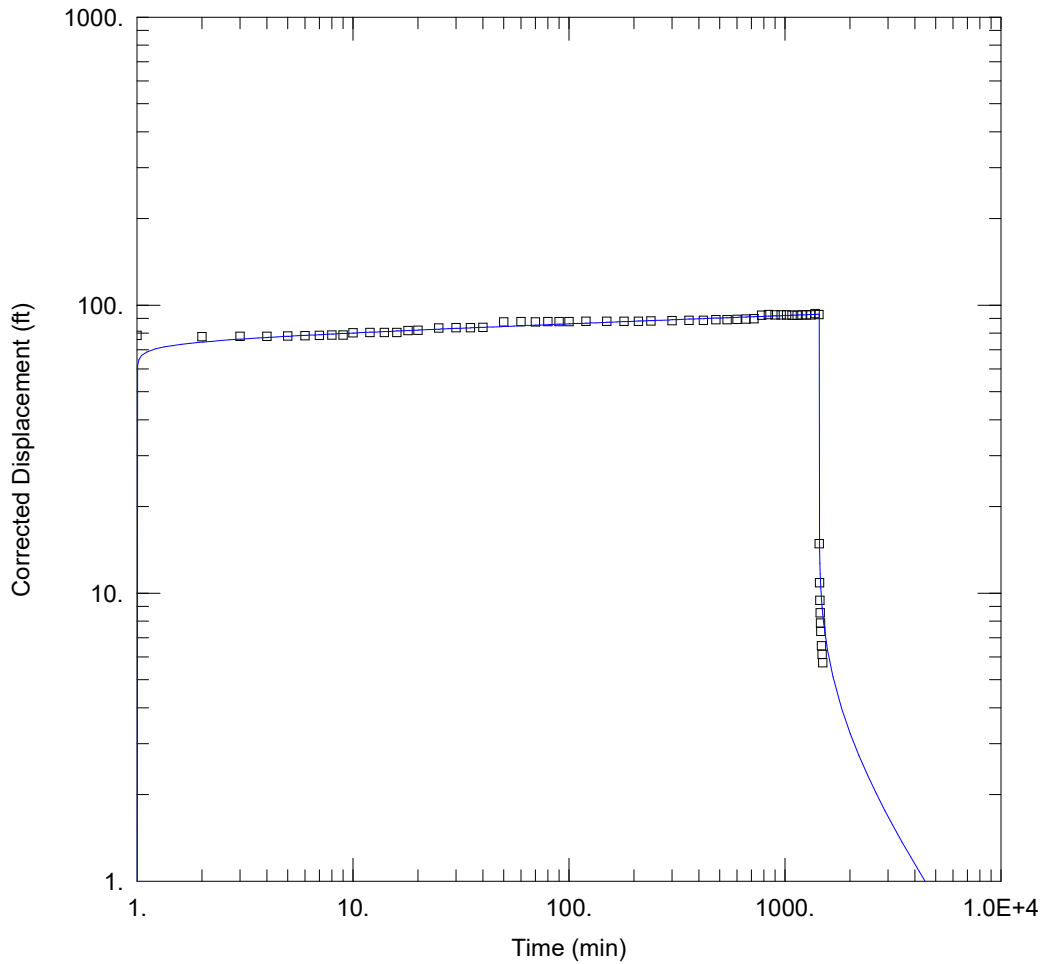
P = 3.

Step Test Model: Jacob-Rorabaugh

s(t) = -0.7201Q + 7.163E-5Q³.

Time (t) = 1. min Rate (Q) in cu. ft/min

W.E. = -1.#10% (Q from last step)



WELL TEST ANALYSIS

Data Set: H:\...\Well 8 Complete Constant Rate Test.aqt
 Date: 08/19/19 Time: 10:52:43

PROJECT INFORMATION

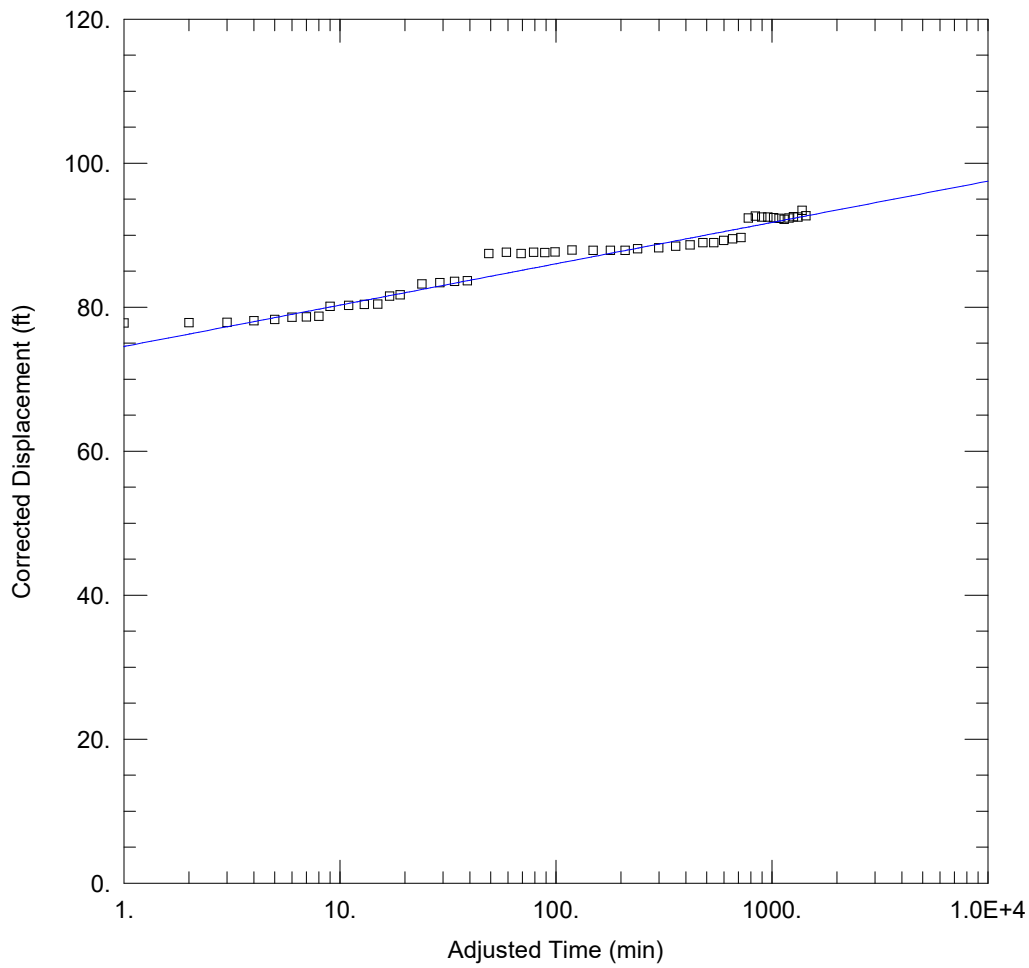
Company: Hansen, Allen & Luce, Inc.
 Client: West Jordan
 Project: 089.24.100
 Location: West Jordan, UT
 Test Well: Well 8
 Test Date: 8/7/2019

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well 8	0	0	□ Well 8	0	0

SOLUTION

Aquifer Model: Unconfined Solution Method: Theis
 $T = 4200 \text{ ft}^2/\text{day}$ $S = 2.105E-12$
 $Kz/Kr = 1.$ $b = 210. \text{ ft}$



WELL TEST ANALYSIS

Data Set: H:\...\Well 8_Constant Rate Test_No Recovery_Cooper Jacobs.aqt
 Date: 08/19/19 Time: 11:12:43

PROJECT INFORMATION

Company: Hansen, Allen & Luce, Inc.
 Client: West Jordan
 Project: 089.24.100
 Location: West Jordan, UT
 Test Well: Well 8
 Test Date: 8/7/2019

AQUIFER DATA

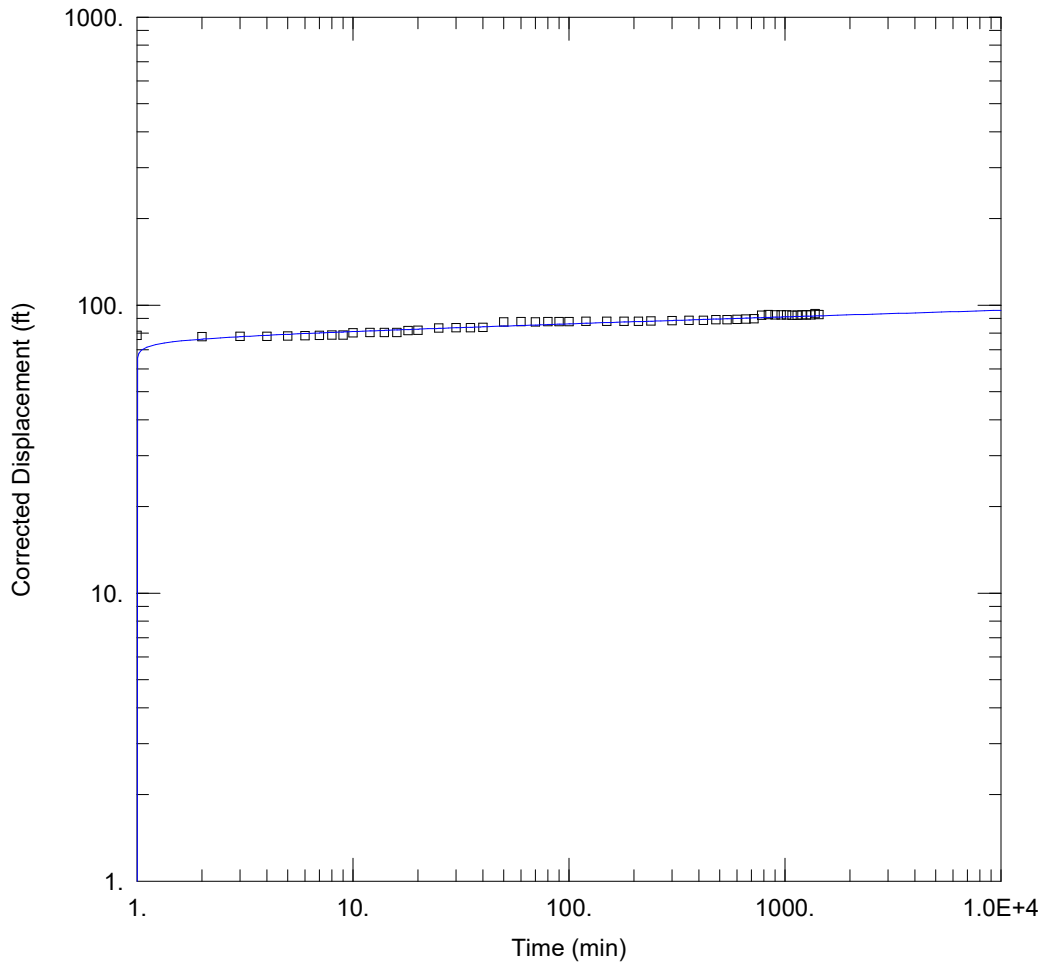
Saturated Thickness: 210. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well 8	0	0	□ Well 8	0	0

SOLUTION

Aquifer Model: Unconfined Solution Method: Cooper-Jacob
 T = 4300. ft²/day S = 1.013E-12



WELL TEST ANALYSIS

Data Set: H:\...\Well 8_Constant Rate Test_No Recovery.aqt
 Date: 08/19/19 Time: 10:55:50

PROJECT INFORMATION

Company: Hansen, Allen & Luce, Inc.
 Client: West Jordan
 Project: 089.24.100
 Location: West Jordan, UT
 Test Well: Well 8
 Test Date: 8/7/2019

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Well 8	0	0	Well 8	0	0

SOLUTION

Aquifer Model: Unconfined Solution Method: Theis
 $T = 5000. \text{ ft}^2/\text{day}$ $S = 4.165\text{E-}15$
 $Kz/Kr = 1.$ $b = 210. \text{ ft}$



Client West Jordan Sheet _____
 Project Wells 3-6 DWSP Update Comp. JKN
 Feature Specific Capacity Calculations Chck'd _____
 Project # 089.25.100 Date 2/12/2018

Cooper-Jacob Aquifer Solution using Specific Capacity

$$T = \frac{264Q}{s} \log \left(\frac{0.3Tt}{r^2S} \right)$$

		Discharge Q (gpm)	drawdown s (ft)	time t (days)	Storage S	Radius r (ft)	T guess (gpd/ft)	T calculated (gpd/ft)	T (ft ² /day)	Avg Value Used (ft ² /day)	Screened Interval (ft)	Hydraulic Conductivity (ft/day)
5	Well 5	2000	65	1.00	0.01	0.92	50841.7	50841.7	6,797.0	6,791.6	90	75.5

$$T = \frac{2.3Q}{4\pi S} \log \left(\frac{2.25Tt}{r^2S} \right)$$

							T guess (ft ² /day)	T (ft ² /day)
5	Well 5	2000	65	1.00	0.01	0.92	6786.2	6,786.2



ZIM INDUSTRIES, INC.

4545 Lincoln • Fresno 93725

Ph: (559) 834-1551 • FAX: (559) 834-5156

E-mail: zim@zimindustries.com • www.zimindustries.com

Well 8

31/31

PUMP TEST DATA

TYPE OF PUMP TEST (I.E. STEP; CONSTANT RATE; OR RECOVERY): Constant Rate

S.W.L.: 331.28

TEST DATE: 8-7-19 8-8-19

ENGINE RATE (R.P.M.): 1410

TEST OPERATOR: Ignacio

TEST RATE (G.P.M.): 700

WELL LOCATION: WEST JORDAN

SPECIFIC CAPACITY: _____

OWNER OR JOB NAME: CITY JORDAN

Flowmeter = 1474682

JOB NUMBER: 18017

TIME	MIN.	P.W.L.	SAND
	0		
9:01	1	436.00	
9:02	2	434.40	0
9:03	3	434.51	
9:04	4	434.60	.01
9:05	5	435.00	
9:06	6	435.40	.02
9:07	7	436.00	
9:08	8	436.10	.09
9:09	9	436.21	
9:10	10	439.00	.1
9:12	12	439.35	
9:14	14	439.62	
9:16	16	439.70	
9:18	18	442.00	.2
9:20	20	442.41	
9:25	25	445.60	
9:30	30	446.05	
9:35	35	446.45	.2
9:40	40	446.61	
9:50	50	455.45	
10:00	60 (1 HR)	455.90	
10:10	70	455.42	.2
10:20	80	455.88	
10:30	90	455.75	.2

TIME	MIN.	P.W.L.
10:40	100	4752 456.00
11:00	120 (2 HRS)	4766 456.58
11:30	150	4787 456.50
12:00	180 (3 HRS)	4808 456.55
12:30	210	4829 456.48
1:00	240 (4 HRS)	4850 457.10
2:00	300 (5 HRS)	4892 457.42
3:00	360 (6 HRS)	4934 457.95
4:00	420 (7 HRS)	4976 458.40
5:00	480 (8 HRS)	5018 459.21
6:00	540 (9 HRS)	5060 459.17
7:00	600 (10 HRS)	5102 460.00
8:00	660 (11 HRS)	5144 460.62
9:00	720 (12 HRS)	5186 461.00
10:00	780 (13 HRS)	5228 468.42
11:00	840 (14 HRS)	5270 469.20
12:00	900 (15 HRS)	5312 468.90
1:00	960 (16 HRS)	5354 468.82
2:00	1020 (17 HRS)	5396 468.61
3:00	1080 (18 HRS)	5438 468.40
4:00	1140 (19 HRS)	5480 468.00
5:00	1200 (20 HRS)	5522 468.51
6:00	1260 (21 HRS)	5564 469.00
7:00	1320 (22 HRS)	5606 468.86
8:00	1380 (23 HRS)	5648 471.62

TIME	MIN.	P.W.L.
9:00	1440 (24 HRS)	5690 269.40
	1500 (25 HRS)	
	1560 (26 HRS)	
	1620 (27 HRS)	
	1680 (28 HRS)	
	1740 (29 HRS)	
	1800 (30 HRS)	Recovery 1 hrs
9:05	1860 (31 HRS)	346.70
9:10	1920 (32 HRS)	342.45
9:15	1980 (33 HRS)	340.95
9:20	2040 (34 HRS)	340.00
9:25	2100 (35 HRS)	339.30
9:30	2160 (36 HRS)	338.78
9:40	2220 (37 HRS)	337.95
9:50	2280 (38 HRS)	337.50
10:00	2340 (39 HRS)	337.10
	2400 (40 HRS)	
	2460 (41 HRS)	
	2520 (42 HRS)	
	2580 (43 HRS)	
	2640 (44 HRS)	
	2700 (45 HRS)	
	2760 (46 HRS)	
	2820 (47 HRS)	
	2880 (48 HRS)	

24 hrs + 1 Recovery

APPENDIX B

Potential Contamination Source Data

West Jordan Wells 3-6 & 8		PCS Information Summary							
Ranking	PCS #	PCS Name	Description	Contact Info	Address	Phone	Contaminants	Quantity	notes
12	2-1, 3-1, 4-1	Agricultural Areas	Farm land	Various	Various	Various	Pesticides, fertilizer, and herbicides	Unknown	Applied at recommended rate
4	2-2, 3-2, 4-2	UDOT Highways (SR 48, 86, 111)	State highways	Bryan Adams UDOT Region 2 Director	2010 South 2760 West Salt Lake City, UT 84104	801-975-4900	Potential transportation of contaminants	Up to the quantity contained in a tanker truck	Spills cleaned-up quickly with remediation to remove contaminants
23	2-20, 3-3, 4-3	Residential and Light Industrial Areas	Buildings with municipal sewer connections, household hazardous wastes, yard chemicals, and road runoff	Various	Various	Various	Municipal sewer connections, household hazardous waste, use and storage of yard chemicals, road runoff	negligible sewer leakage per residence, < 15 gallons of chemicals per residence; < 25 lbs of fertilizers, pesticides, herbicides per residence	Combined quantities from many residences may not be negligible
15	2-3	Ron Wood Memorial Park	Athletic fields and parks	West Jordan Park Department	7925 South 1300 West West Jordan, UT 84088	801-569-5700	Fertilizer and herbicide application	Unknown	Applied at recommended rate
27	2-4	TeraFlex	Car part manufacturer		5680 Dannon Way West Jordan, UT 84081	801-713-3314	Automotive fluid and chemical storage	Unknown	Contaminants are used and stored indoors over impervious surface
28	2-6	Historical Arts and Castings	Art preservation		5580 Bagley Park Rd. West Jordan, UT 84081	801-280-2400	Paint solvents	Unknown	Contaminants are used and stored indoors over impervious surface
30	2-7	West Jordan Fire Station #54	Fire station		9351 Hawley Park Rd. West Jordan, UT 84081	801-840-4000	Fuel storage	Unknown	Contaminants are used and stored indoors over impervious surface
13	2-8	CSM Construction	General contractor		5541 W Bagley Park Rd. West Jordan, UT 84081	801-280-2803	Fuel storage	Unknown	Contaminants are stored in secondary containment
17	2-9	Utility Coating & Fabrication Inc.			5481 Bagley Park Rd. West Jordan, UT 84081	801-280-1930	Fuel and paint solvents	Unknown	Contaminants are stored in secondary containment
8	2-10	M & M Asphalt Services	Asphalt Services		5464 Leo Park Rd. West Jordan, UT 84081	801-280-9400	Asphalt storage, diesel, and gasoline tanks	3 500-gallon tanks	Contaminants are stored in secondary containment over impervious surface
29	2-11	Industrial Fluoro-Plastics			9328 S. Hawley Park Rd. West Jordan, UT 84081	801-282-6722	Chemical storage	Unknown	Contaminants are used and stored indoors over impervious surface
25	2-12	Intermountain Precision			9342 Hawley Park Rd. West Jordan, UT 84081	801-562-5906	Chemical storage	Unknown	History of illicit Discharge
2	2-13	Towing Impound Yard		Mountain West Towing	5580 W Leo Park Rd. West Jordan, UT 84081	801-282-6650	Automotive fluids	~10 gallons of fuel and ~5 gallons of other automotive fluids per vehicle	Contaminants stored over pervious surface

West Jordan Wells 3-6 & 8		PCS Information Summary							
Ranking	PCS #	PCS Name	Description	Contact Info	Address	Phone	Contaminants	Quantity	notes
1	2-14	L & M Enterprise Investments	Large fluid tanks	L & M Enterprise Investments	5565 W Leo Park Rd. West Jordan, UT 84081	Unknown	Unknown fluid storage	4 10,000-gallon tanks approximately half full	Contaminants stored over pervious surface
6	2-15	Carver Construction	General contractor		5577 Leo Park Rd. West Jordan, UT 84081	801-573-4072	Automotive fluids	Unknown	Contaminants stored over pervious surface
14	2-16	Jeep Fix	Auto shop	Mike Walsman	5591 Leo Park Rd. West Jordan, UT 84081	801-280-8050	Automotive fluids	Unknown	Unknown if BMPs are practiced
21	2-17	U-Haul	Trailer rental		5970 W Dannon Way West Jordan, UT 84081	801-758-7298	Diesel and gasoline	~20 gallons of automotive fluids per vehicle.	Contaminants are stored over impervious surface
3	2-18	Finco Brothers Inc.	General contractor		5971 W Dannon Way West Jordan, UT 84081	801-590-0819	Fuel storage	Unknown	Unknown if BMPs are practiced
9	2-19	Dannon Company Western Division	Food production		6165 Dannon Way West Jordan, UT 84081	801-280-7414	Chemical storage	Unknown	Contaminants are stored in secondary containment over impervious surface
5	3-4	Copper Hills Youth Center			5899 Rivendell Dr. West Jordan, UT 84081	800-776-7116	Fuel storage	10,000 gallon tank	DERRID: 4001327
20	3-5	Papa Pita Bakery	Food production		6208 Dannon Way West Jordan, UT 84081	801-282-3100	Chemical storage	Unknown	Contaminants are stored in secondary containment over impervious surface
24	3-6	Elevated Transit			5970 W Dannon Way West Jordan, UT 84081	801-353-8283	Diesel and gasoline	~20 gallons of automotive fluids per vehicle.	Contaminants are stored over impervious surface
31	3-7	Wadsworth Ralph L Construction	General contractor		5900 W Dannon Way West Jordan, UT 84081	801-330-0888	Automotive fluids	Unknown	Contaminants are used and stored indoors over impervious surface
18	3-8	Cottonwood Landscapes	Greenhouses		5718 Dannon Way West Jordan, UT 84081	801-679-2452	Pesticides, fertilizer, and herbicides	Unknown	Unknown if BMPs are practiced
26	3-9	Sysco Intermountain Food			9494 Prosperity Rd. West Jordan, UT 84081	801-563-6300	Chemical storage	Unknown	Contaminants are stored in secondary containment over impervious surface
33	3-10	Black Forest Paving	General contractor		9524 South Feulner Park Road West Jordan, UT 84081	801-280-1313	Used oil and fuel storage	Unknown	Contaminants are used and stored indoors over impervious surface

West Jordan Wells 3-6 & 8		PCS Information Summary							
Ranking	PCS #	PCS Name	Description	Contact Info	Address	Phone	Contaminants	Quantity	notes
19	3-11	Rays Gardening	Landscaping		5768 W Feulner Park Cir West Jordan, UT 84081	801-253-3179	Pesticides, fertilizer, and herbicides	Unknown	Unknown if BMPs are practiced
32	3-12	TFP Utah	Welding and manufacturing		9509 S Wells Cir. West Jordan, UT 84081	801-280-6611	Chemical storage	Unknown	Contaminants are used and stored indoors over impervious surface
16	3-13	Messmers	Stains		9500 Hawley Park Rd West Jordan, UT 84081	801-569-2426	Chemical storage	Unknown	Contaminants are stored in secondary containment over impervious surface
35	3-14	JT Steel	Steel manufacturer		9550 Hawley Park Rd West Jordan, UT 84081	801-280-3520	Solvents and paints	Unknown	Contaminants are stored indoors over impervious surface
22	3-15	Savage Asphalt	General contractor		5662 Wells Park Rd West Jordan, UT 84088	801-280-4441	Used oil and fuel storage	Unknown	Contaminants are stored in secondary containment over impervious surface
7	3-16	Copperhills Power Equipment			9583 S Wells Cir West Jordan, UT 84081	801-282-8928	Chemical and fuel storage	Unknown	Contaminants stored over pervious surface
36	3-17	Pipeline Inc.	Pipeline and manhole rehabilitation and lining	John Raymond	5766 West Wells Park Rd West Jordan, UT 84081	801-719-9429	Resin and chemicals	~20 50-gallon barrels	Contaminants are stored indoors over impervious surface
10	4-4	Holiday Oil #48	Gas station		8166 UT 111 West Jordan, UT 84081	801-973-7002	Diesel and gasoline	30,000 gal in 3 tanks	DERRID: 4002440
37	4-5	Oaks Park	City park	West Jordan Park Department	7925 South 1300 West West Jordan, UT 84088	801-569-5700	Pesticides, fertilizer, and herbicides	Unknown	Applied at recommended rate
38	4-6	Sunset Ridge Middle School	Athletic fields and parks		8292 Skyline Arch Dr. West Jordan, UT 84081	801-412-2475	Pesticides, fertilizer, and herbicides	Unknown	Applied at recommended rate
11	4-7	Reynolds Pit 1	Sand and gravel operation		8300 Bacchus Hwy West Jordan, UT 84084	888-672-7766	Diesel and gasoline	15,000 gallons	Contaminants stored over pervious surface
34	4-8	Oakcrest Elementary	Athletic fields and parks		8462 Hilltop Oak Dr. West Jordan, UT 84081	801-280-7243	Fertilizer and herbicide application	Unknown	Applied at recommended rate
39	4-9	Electric Substation	Pacificorp electric substation	Pacificorp	12840 Pony Express Rd Draper, UT 84020	888-221-7070	Electrical fluids	Unknown	Unknown if BMPs are practiced

West Jordan Wells 3-6 & 8			PCS Contaminant Risk Evaluation										
Ranking	PCS #	PCS Name	Source Containment		Time of Travel	Quantity gal	Health Risk (h/m/l)	Scores					
			Location (I/OA/OB/IS)	Adequately Controlled (y/n)	Distance (zone n/f)			SOURCE CONTAINMENT		DIST	QUANTITY	HEALTH RISK	RISK SCORE
12	2-1, 3-1, 4-1	Agricultural Areas	OA	y	2n	1000	m	5	-5	13	9	10	32
4	2-2, 3-2, 4-2	UDOT Highways (SR 48, 86, 111)	OA	y	2n	15000	m	5	-5	13	15	10	38
23	2-20, 3-3, 4-3	Residential and Light Industrial Areas	OA	n	3n	50	m	5	0	9	1	10	25
15	2-3	Ron Wood Memorial Park	OA	y	2f	500	h	5	-5	11	6	15	32
27	2-4	TeraFlex	I	y	2f	250	m	0	-5	11	6	10	22
28	2-6	Historical Arts and Castings	I	y	2f	500	m	0	-5	11	6	10	22
30	2-7	West Jordan Fire Station #54	I	y	2n	100	m	0	-5	13	3	10	21
13	2-8	CSM Construction	OA	y	2n	1000	m	5	-5	13	9	10	32
17	2-9	Utility Coating & Fabrication Inc.	OA	y	2f	1000	m	5	-5	11	9	10	30
8	2-10	M & M Asphalt Services	OA	y	2f	1500	m	5	-5	11	12	10	33
29	2-11	Industrial Fluoro-Plastics	I	y	2f	250	m	0	-5	11	6	10	22

West Jordan Wells 3-6 & 8			PCS Contaminant Risk Evaluation										
Ranking	PCS #	PCS Name	Source Containment		Time of Travel	Quantity gal	Health Risk (h/m/l)	Scores					
			Location (I/OA/OB/IS)	Adequately Controlled (y/n)	Distance (zone n/f)			SOURCE CONTAINMENT		DIST	QUANTITY	HEALTH RISK	RISK SCORE
25	2-12	Intermountain Precision	I	n	2n	50	m	0	0	13	1	10	24
2	2-13	Towing Impound Yard	OA	n	2n	9000	m	5	0	13	12	10	40
1	2-14	L & M Enterprise Investments	OA	n	2f	20000	m	5	0	11	15	10	41
6	2-15	Carver Construction	OA	n	2f	1000	m	5	0	11	9	10	35
14	2-16	Jeep Fix	OA	n	2f	250	m	5	0	11	6	10	32
21	2-17	U-Haul	OA	y	2f	500	m	5	-5	11	6	10	27
3	2-18	Finco Brothers Inc.	OA	n	2n	2000	m	5	0	13	12	10	40
9	2-19	Dannon Company Western Division	OA	y	2f	10000	m	5	-5	11	12	10	33
5	3-4	Copper Hills Youth Center	OB	y	3n	10000	m	10	-5	9	12	10	36
20	3-5	Papa Pita Bakery	OA	y	3f	5000	m	5	-5	7	12	10	29
24	3-6	Elevated Transit	OA	y	3n	500	m	5	-5	9	6	10	25

West Jordan Wells 3-6 & 8			PCS Contaminant Risk Evaluation										
Ranking	PCS #	PCS Name	Source Containment		Time of Travel	Quantity gal	Health Risk (h/m/l)	Scores					
			Location (I/OA/OB/IS)	Adequately Controlled (y/n)	Distance (zone n/f)			SOURCE CONTAINMENT		DIST	QUANTITY	HEALTH RISK	RISK SCORE
31	3-7	Wadsworth Ralph L Construction	I	y	3n	300	m	0	-5	9	6	10	20
18	3-8	Cottonwood Landscapes	OA	n	3n	250	m	5	0	9	6	10	30
26	3-9	Sysco Intermountain Food	OA	y	3f	10000	I	5	-5	7	12	5	24
33	3-10	Black Forest Paving	I	y	3f	200	m	0	-5	7	6	10	18
19	3-11	Rays Gardening	OA	n	3n	250	m	5	0	9	6	10	30
32	3-12	TFP Utah	I	y	3n	250	m	0	-5	9	6	10	20
16	3-13	Messmers	OA	y	3n	10000	m	5	-5	9	12	10	31
35	3-14	JT Steel	I	y	3n	100	m	0	-5	9	3	10	17
22	3-15	Savage Asphalt	OA	y	3f	1000	m	5	-5	7	9	10	26
7	3-16	Copperhills Power Equipment	OA	n	3f	5000	m	5	0	7	12	10	34
36	3-17	Pipeline Inc.	I	y	3f	1000	I	0	-5	7	9	5	16

West Jordan			PCS Contaminant Risk Evaluation										
Wells 3-6 & 8			Source Containment		Time of Travel	Quantity gal	Health Risk (h/m/l)	Scores					
			Location (I/OA/OB/IS)	Adequately Controlled (y/n)	Distance (zone n/f)			SOURCE CONTAINMENT		DIST	QUANTITY	HEALTH RISK	RISK SCORE
Ranking	PCS #	PCS Name						Location	Adeq. Cont.				
10	4-4	Holiday Oil #48	OB	y	4f	40000	m	10	-5	3	15	10	33
37	4-5	Oaks Park	OA	y	4f	100	m	5	-5	3	3	10	16
38	4-6	Sunset Ridge Middle School	OA	y	4f	100	m	5	-5	3	3	10	16
11	4-7	Reynolds Pit 1	OA	n	4f	15000	m	5	0	3	15	10	33
34	4-8	Oakcrest Elementary	OA	y	4n	100	m	5	-5	5	3	10	18
39	4-9	Electric Substation	OA	n	4f	100	l	5	0	3	3	5	16

APPENDIX C

Best Management Practices for Managing PCSs





Partnership for the Environment

Utah Department of Environmental Quality

Pollution Prevention Fact Sheet

Pollution Prevention (P2) uses source reduction techniques and practices to reduce or eliminate the amount of hazardous substances, pollutants or contaminants entering any waste stream or being released into the environment. In short, P2 means not creating waste in the first place while reducing risks to public health, welfare, and the environment.

Pollution Prevention is Good Business

While most pollution control strategies cost money, P2 has saved many businesses thousands of dollars in treatment and disposal costs. Other economic benefits include:

- Reduced operating costs.
- Savings from reduced need for pollution control equipment.
- Elimination of waste transportation, storage, disposal and liability costs.
- Reduced compliance costs from government regulations.
- Improved public image.
- Stimulating reinvestment and enhancing competitiveness.
- Reducing risk of spills, accidents and emergencies.
- Increasing environmental protection.

P2 Techniques

Generating less waste is the best way businesses can practice pollution prevention. This can be achieved through:

- Inventory management: Tracking all raw materials and improving operations.
- Substitute non-hazardous materials for hazardous materials.
- Improving material receiving, storage, and handling practices.
- Modifying and redesigning equipment to enhance recovery and recycling.
- Improved operating efficiency of equipment.
- Establishing strict preventive maintenance programs.
- Segregating wastes for recovery.
- Separating hazardous and non-hazardous wastes to prevent cross-contamination.
- Eliminating sources of leaks and spills.
- Use of water soluble cleaning agents in place of organic solvents and degreasers.

Management Support

The support of company management is essential for developing a lasting and successful P2 program. This commitment should be passed on to employees, especially those working in areas that generate hazardous waste. Management approaches may include the following:

- Make P2 a part of the company policy, a process of continuous improvement.
- Target goals for reducing the volume and toxicity of waste streams.
- Implement recommendations identified through waste assessments.
- Reward employees who identify cost-effective P2 opportunities.
- Train employees in P2 hazardous material waste handling and emergency response procedures.

Good Housekeeping

Most successful P2 waste assessments identify sources of waste and calculate the true cost of waste generation and management. A little extra attention paid to “minor” sources of waste can result in major reductions. Improved housekeeping practices, system adjustments, process and product inspections, and the use of production unit control equipment and methods are often successful P2 practices. Others include:

- Inspect and repair equipment to reduce waste caused by equipment failure, leaks and spills.
- Contain leaks and spills by using drip trays and splash guards.
- Keep containers closed except when material is added or withdrawn.
- Utilize a “first-in first-out” inventory policy to avoid losses due to expirations.

Product Substitution

Some companies are so motivated by pollution prevention practices they change the products they produce in order to employ nonhazardous production processes. For example, they may change the design, specifications or composition of an existing end product to reduce the need for toxic materials can help reduce pollution and associated costs.

Process Modification

Inefficient or outdated production processes that could be sources of hazardous waste generation can be upgraded or replaced by a more efficient process.

- Changes in the placement order of equipment.
- Equipment modification.
- Changes in operation settings and schedules.
- Process automation.

For More Information, Contact:

Division of Solid & Hazardous Waste - (801) 538-6170

Division of Drinking Water, Source Protection Program - (801) 536-4200

Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477

Small Business Assistance Program - (801) 536-4479

Environmental Hotline - 1-800-458-0145



Partnership for the Environment

Utah Department of Environmental Quality

Household Hazardous Waste Fact Sheet

What is Household Hazardous Waste?

Many hazardous products and chemicals such as cleaners, oils and pesticides are used in the home every day. When discarded, these products are called household hazardous waste (HHW). HHWs are discarded materials and products that are ignitable, corrosive, reactive, toxic or otherwise listed as hazardous by the EPA. Products used and disposed of by a typical residence may contain more than 100 hazardous substances including:

- Batteries
- Cleaners
- Cosmetics
- Fluorescent light bulbs
- Glues
- Heating oil
- Insecticides and pesticides
- Ink
- Medicines
- Motor oil and automotive supplies
- Paints, thinners, stains and varnishes
- Polishes
- Swimming pool chemicals
- Smoke detectors
- Thermometers
- Fuel

HHW is a Serious Threat

The U.S. Environmental Protection Agency estimates the average American household generates 20 pounds of HHW each year. As much as 100 pounds of HHW can accumulate in the home and remain there until the resident moves or undertakes a thorough "spring cleaning."

Since the chemicals found in HHW can cause soil and groundwater contamination, generate hazardous emissions at landfills and disrupt water treatment plants, it is important to dispose of HHW properly. Many solid waste treatment facilities are currently required to screen for HHW to avoid operating under restrictive hazardous waste laws. Furthermore, many communities may be required to establish a HHW collection program in order to qualify for permits to manage storm water.

Safe Handling Tips

The best way to handle household hazardous materials is to completely use the product before disposing of the container. If this is not possible, then the next alternative is to return unused portions to your community household hazardous waste clean-up day. Keep products in their original package with all labels intact. If the container is leaking, place it in a thick plastic bag. Pack the products in a plastic-lined cardboard box to prevent leaks and breakage.

Household hazardous waste clean-up days are for household wastes only. No industrial or commercial wastes and no containers larger than five gallons are accepted. Explosives, radioactive

material and medical wastes are also unacceptable.

HHW can be dangerous to people and pets who come in contact with them. HHW can endanger water supplies, damage sewage treatment systems, and cause other environmental damage. Only use the products as directed. **DO NOT:**

- Flush HHWs down the toilet
- Pour HHWs down the sink
- Pour HHWs down a storm drain
- Pour HHWs on the ground

Contact your local health department or the Division of Solid and Hazardous Waste to determine whether your community has a household hazardous waste collection program.

Identify HHW

Reduce the amount of potentially hazardous products in your home and eliminate what you throw away by following these easy steps:

1. Before you buy:

- Read the labels and be aware of what they mean.
- Look for these words on labels; they tell you what products may need special handling or disposal.

Caution	Flammable
Combustible	Poison
Corrosive	Toxic
Danger	Volatile
Explosive	Warning

- Select a product best suited for the job.
- Buy only what you can use entirely.

2. After you buy:

- Read label precautions and follow directions for safe use.
- Recycle/dispose of empty containers properly.
- Share what you can't use with friends or neighbors.
- Store properly.
- Use recommended amounts; more is not necessarily better.
- Use the child-resistant closures and keep them on tightly.

For More Information, Contact:

Division of Solid & Hazardous Waste - (801) 538 - 6170

Division of Drinking Water, Source Protection Program - (801) 536-4200

Environmental Hotline - 1-800-458-0145

Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477



Partnership for the Environment

Utah Department of Environmental Quality

Fertilizer Fact Sheet

What Are The Potential Hazards?

Fertilizer applied to plants during crop, lawn, and garden maintenance may leach into the ground water and cause contamination. The main constituent in fertilizer is usually nitrogen. If the nitrate level of drinking water is too high, infants, up to the age of six months, can develop a fatal disease called blue baby syndrome (methemoglobinemia). Drinking water that contains 10 milligrams of nitrate-nitrogen per liter of water exceeds the drinking water standard and should not be used, especially for infant formula. Proper storage, application, and watering procedures should be included in fertilizer best management practices to prevent contamination of ground water.

Storing Fertilizers

The less fertilizer you buy, the less you will have to store. Therefore, only purchase the amount and kind of fertilizer that you need.

- Fertilizer should be stored in locked, dry cabinets.
- Keep fertilizer and pesticides on separate shelves.
- Don't store fertilizer with combustibles, such as gasoline or kerosine, because of explosion hazards.

Application Precautions

The chemical in fertilizer that can most easily pollute ground water is a form of nitrogen called nitrate. Nitrate moves readily in soil to the ground water strata. The best way to prevent the movement of nitrate into the ground water is to apply no more nitrogen than the crops, grass, garden plants, shrubs, or trees can use during the time that the plants are growing.

- Calibrate your spreader and sprayer to keep from applying too much fertilizer.
- Load fertilizer spreaders on the driveway or other hard surfaces so any spills can easily be swept up. Fertilizer that spills should be swept up and applied to the lawn or garden at the right time and amount. This allows the fertilizer to grow plants instead of washing off into the storm drain system and ultimately contaminating nearby streams and lakes.
- If you are using liquid fertilizer on your turf, add fertilizer to the spray tank while on the lawn. This way, if you spill the fertilizer, it will be used by the plants and not run off into the storm drain system.
- Do not spray or apply fertilizer near irrigation wells. Wells are conduits to the ground water.

Application Rates For Lawns

Utah State University's Extension Service recommends the following for Utah lawns: "It is important to fertilize on a regular basis every four to six weeks to maintain an attractive lawn. Begin

when lawns start to green in the spring, mid to late April. Earlier applications may cause a lawn to become greener faster, but may also increase spring disease problems. Summer applications of nitrogen fertilizer will not burn lawns, if you apply them to dry grass and water immediately. Fall applications are important for good winter cold tolerance, extended fall color, and fast spring green-up. A complete fertilizer containing nitrogen, phosphorus and potassium should be applied in the fall every three to four years. This will prepare the lawn for winter conditions and allow the phosphorus to penetrate into the root zone by the next growing season.

For a well-kept lawn in Utah, apply 1 pound of available nitrogen per 1,000 square feet each four to six weeks throughout the growing season. The following chart indicates how much of various fertilizer will supply one pound of nitrogen.”

%N on Label	Pounds of Fertilizer Per 1000 Square Feet
12-15	7-8
18-21	5-5 ½
24-28	3 ½-4
30-34	3-3½
45-46	2-2 ¼

Types of Plants

One of the best ways to protect your ground water is to use plants that are drought-tolerant and that are adapted to your area. Drought-tolerant or low-water-use plants can continue to survive once they are established, even during times of little rainfall. Because you do not have to water these plants, there is less chance that nitrate and pesticides will be carried with the water through the soil and into the ground water.

If low-water-use plants are not practical, then try to use medium water use plants. Water these plants only when they begin to show drought stress. Some plants will wilt when they are drought-stressed, while other plants will show marginal leaf burn.

Watering

Over-watering plants can cause excess water to move through the soil. This water can flush fertilizer away from the root zone of your plants and into the ground water. The best way to avoid over-watering is simply to measure how much you are adding. Contact your county Extension Service to determine the best way to calculate how much water your plants need and how to measure the amount you are applying.

For More Information, Contact:

Division of Drinking Water, Source Protection Program - (801) 536-4200
Department of Agriculture - (801) 538-7100
Environmental Hotline - 1-800-458-0145
Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477



Partnership for the Environment

Utah Department of Environmental Quality

Pesticides Fact Sheet

What Are The Potential Hazards?

Pesticides applied to plants during crop, lawn, and garden maintenance may leach into the ground water and cause contamination. Proper storage, mixing, application, spill cleanup, watering, and disposal procedures should be included in pesticide best management practices.

Storing Pesticides

The fewer pesticides you buy, the fewer you will have to store. Therefore, only purchase the amount and kind of pesticide that is needed. Pesticides should always be stored in sound, properly labeled, original containers. *Sound containers are the first defense against spills and leaks.*

- Ensure that there are no holes, tears, or weak seams in the containers and that the label is readable.
- Pesticides should be stored in locked, dry cabinets.
- Be sure to store dry products above liquids to prevent wetting from spills.
- Storage and mixing areas should not be located near floor drains of any kind.
- Storage facilities should have secondary containment, such as a berm or dike, which will hold spills or leaks at:
 1. 10% of the total volume of the containers, or
 2. 110% of the volume of the largest container, whichever is larger.

Mixing Pesticides

- Mix pesticides on an impermeable surface, such as concrete, so any spills will be contained.
- Mix only the amount that you will use:
 1. Measure the total square feet you intend to treat.
 2. Read the label on the pesticide container and follow the instructions. (These are often given in terms of amount of pesticide to use per thousand square feet.)
 3. By properly measuring and calculating, there should be little or no pesticide left in the spray tank when the job is finished and it will be applied at the recommended rate.

Applying Pesticides

Pesticides are used to kill or control weeds (herbicides), insects (insecticides) and fungi (fungicides) that attack plants. Some of these pesticides can move through the soil and into the ground water. Guidelines for the safe use of pesticides are listed below:

- Be willing to accept a low level of weed, insect, and plant disease infestation.

- Use pesticides only when absolutely necessary.
- Identify pests correctly. Use the proper pesticides.
- Read and follow the directions printed on the container labels. Remember, *the label is the law*.
- Calibrate your spreader and sprayer to keep from applying too much pesticide.
- Do not spray or apply pesticides near irrigation wells. Wells are conduits to the ground water.
- Do not spray or apply pesticides near your walks and driveway. This prevents them from washing off into the storm drain system.

Cleaning Up Spills

- Dry formulated pesticide spills should be swept up and applied to crops, lawns, and gardens at the rate specified on the label.
- Liquid pesticide spills should be soaked up using absorbent material (such as, soil, sawdust, and cat litter). The contaminated absorbent material should then be put in a sealed container and taken to a household hazardous waste collection site.

Watering

Over-watering your plants can cause excess water to move through the soil. This water can carry pesticides that can contaminate the ground water. The best way to avoid over-watering is simply to measure how much you are adding. Contact your county Extension Service to determine the best way to calculate how much water your plants need and how to measure the amount you are applying.

Disposing of Pesticides

If the pesticide was properly measured and mixed, there should be little or no spray left in the tank. The little that may be left can be safely sprayed over the area that was treated until it is gone. Disposal of “empty” pesticide containers and unused pesticides should be handled as follows:

- If you are using liquid pesticides, rinse the container three times. Be sure to pour the rinsing into your sprayer and not down a drain or onto the ground. Containers which have been emptied and rinsed can be discarded in the trash.
- Unused pesticides in their original containers can be recycled at household hazardous waste collection sites.

For More Information, Contact:

Division of Drinking Water, Source Protection Program - (801) 536-4200

Department of Agriculture - (801) 538-7100

Environmental Hotline - 1-800-458-0145

Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477



Partnership for the Environment

Utah Department of Environmental Quality

Pollution Prevention for Vehicle Maintenance & Repair Industry

Background

Vehicle repair shops generate regulated waste, either from the services they provide, such as fluid replacement, or from operations they perform, such as parts washing. Some common waste types include:

- Degreasers
- Engine fluids (oil, antifreeze)
- Floor dust
- Floor wash water
- Lead acid batteries
- Metal parts/scrap
- Oily waste sump sludge
- Spent solvents
- Paints and thinners
- Paper products (masking paper, cardboard, office paper.)
- Rags and absorbents
- Refrigerants
- Tires

Here are some options vehicle maintenance and repair companies can use to reduce wastes.

Train Employees to use Good Housekeeping Practices

- Implement spill prevention measures to reduce products from entering the environment.
- Perform preventative maintenance on equipment and vehicles.
- Check incoming vehicles for leaking fluids. Use drip pans to prevent spillage.
- Prevent non-hazardous material from getting contaminated by segregating waste streams.
- Monitor your inventory in storage to reduce accumulation of over-age products.
- Implement a "first-in first-out" policy.

Substitute Materials

- Look for ways to replace solvents with water based cleaners.
- Substitute detergent-based solutions for caustic solutions when cleaning.
- Substitute non-asbestos brake lining for asbestos brake lining.
- Purchase materials in non-aerosol form.
- Use biodegradable floor cleaners.
- Use non-chlorinated brake cleaners.

Modify Processes

- Prerinse parts with spent cleaning solution.
- Remove parts slowly after immersion in solvent solution to prevent spillage.
- Use a still rinse solvent sink rather than a free running rinse.
- Cover or plug solvent sinks when not in use to prevent evaporation.
- Replace solvent parts washers with a hot water washer or jet spray.
- Place cleaning equipment in a convenient location near the service bays to reduce drips and spills.
- Change spray painting process to high volume, low pressure process which will minimize paint lost due to overspray.

Recycle

- Recyclable waste streams should be segregated to prevent cross-contamination.
- Oils and antifreeze should be collected and recycled.
- Lease or purchase solvent sinks and recycle solvent on or off site.
- Send tires, batteries, and metal parts to a recycler.
- Contract a linen service which will supply clean rags and collect dirty ones for washing.
- Purchase a recycling system to recover refrigerant. Reuse containers within the facility or through a drum salvage company.
- An oil/water separator should be used before water is diverted to sewer.

For More Information, Contact:

Division of Solid & Hazardous Waste - (801) 538 - 6170

Division of Drinking Water, Source Protection Program - (801) 536-4200

Division of Water Quality - (801) 538-6146

Small Business Assistance Program - (801) 536-4479

Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477

Environmental Hotline - 1-800-458-0145

APPENDIX D

Drinking Water Source Protection Ordinances

Chapter 9.25 - WATER SOURCE PROTECTION

Section

Salt Lake County Ordinance

Appendix A

9.25.010 - Purpose and intent.

- A. This chapter shall be known as the Salt Lake County Water Source Protection Ordinance.
- B. The purpose of this chapter is to comply with Utah Code Ann., §19-4-113 requiring counties to adopt a water source protection ordinance to protect groundwater sources of public drinking water. This chapter establishes use districts, known as drinking water source protection zones, and surrounding groundwater sources used by public drinking water systems and also provides for the regulation of land uses within such protection zones to prevent pollution.
- C. Salt Lake County has the authority to adopt this chapter to facilitate the protection of groundwater source areas pursuant to the Safe Drinking Water Act, § 19-4-113; the County Land Use, Development and Management Act, §§ 17-27a-101, et seq.; the Local Health Department Act §§ 26A-1-101, et seq., Utah Code Ann., 1953 as amended; and Utah Admin. Code R309-600.

(Ord. No. 1677, § I, 5-11-2010)

9.25.020 - Definitions.

- A. "Allowed uses" means a use, activity or practice allowed by this chapter which does not create a risk of pollution or contamination in the specified protection zone of such significance so as to require the implementation of regulatory requirements, best management practices or engineered controls.
- B. "Best management practices" means a practice or combination of practices determined by the division of drinking water to be an effective practicable means of conducting a land use activity to minimize the potential for becoming a pollution source.
- C. "Board of health" means the SLVHD Board of Health as created in Chapter 9.04 of the Salt Lake County Code of Ordinances.
- D. "Collection area" means the area surrounding a groundwater source which is underlain by collection pipes, tile, tunnels, infiltration boxes, or other groundwater collection devices.
- E. "Council" means the Salt Lake County Council.
- F. "Division of drinking water" means the Utah Department of Environmental Quality, Division of Drinking Water.
- G. "Groundwater source" means any well, spring, tunnel, adit or other underground opening from or through which ground water flows or is pumped from subsurface water bearing formations.
- H.

"Land management strategy" means a written agreement, including but not limited to, a "land use agreement" as provided for in Utah Admin. Code R309-600-13(2)(d), wherein the landowner agrees to implement such land use restrictions, covenants, conditions or controls as may be required by a public water system to prevent the discharge of pollutants, contaminants or substances to groundwater. Such agreements must be recorded in the county recorder's office.

- I. "Pollution source" means point source discharges of contaminants to ground or surface water or potential discharges of the liquid forms of "extremely hazardous substances" which are stored in containers in excess of "applicable threshold planning quantities" as specified in SARA Title III. Examples of possible pollution sources include, but are not limited to, the following: storage facilities that store the liquid forms of extremely hazardous substances, septic tanks, drain fields, class V underground injection wells, landfills, open dumps, landfilling of sludge and septage, manure piles, salt piles, pit privies, drain lines and animal feeding operations with more than ten animal units.

The following definitions are part of R309-600 and clarify the meaning of "pollution source:"

- (1) "Animal feeding operation" means a lot or facility where the following conditions are met: animals have been or will be stabled or confined and fed or maintained for a total of forty-five days or more in any twelve-month period, and crops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility. Two or more animal feeding operations under common ownership are considered to be a single feeding operation if they adjoin each other, if they use a common area, or if they use a common system for the disposal of wastes.
 - (2) "Animal unit" means a unit of measurement for any animal feeding operation calculated by adding the following numbers: the number of slaughter and feeder cattle multiplied by 1.0, plus the number of mature dairy cattle multiplied by 1.4, plus the number of swine weighing over fifty-five pounds multiplied by 0.4, plus the number of sheep multiplied by 0.1, plus the number of horses multiplied by 2.0.
 - (3) "Extremely hazardous substances" means those substances which are identified in the Sec. 302(EHS) column of the "TITLE III LIST OF LISTS - Consolidated List of Chemicals Subject to Reporting Under SARA Title III" (EPA 550-B-96-015).
- J. "Potential contamination source" means any facility or site which employs an activity or procedure which may potentially contaminate ground or surface water. A pollution source is also a potential contamination source.
- K. "Prohibited use" means a use, activity or practice which creates a substantial risk of pollution or contamination in the specified protection zone. A prohibited use is not permitted.
- L. "Public water system" means a system, either publicly or privately owned, providing water through constructed conveyances for human consumption and other domestic uses, which has at least fifteen service connections; or serves an average of at least twenty-five individuals daily at least sixty days out

of the year and includes collection, treatment, storage or distribution facilities that have an approved drinking water source protection plan from the division of drinking water.

- M. "Restricted use" means a use associated with a "potential contamination source." A restricted use may be permitted only after review and recommendations are received from the affected public water system and the Salt Lake Valley Health Department.
- N. "SLVHD" means Salt Lake Valley Health Department.
- O. "Source protection zone" means the specified surface and subsurface area surrounding a groundwater source supplying a public water system, through which contaminants are reasonably likely to reach the groundwater source of drinking water.
- P. "Time of travel" "TOT" means the time required for a particle of water to move in the producing aquifer from a specific point to a ground water source of drinking water.

(Ord. No. 1677, § I, 5-11-2010)

9.25.030 - Application.

This chapter applies to the incorporated and unincorporated areas of Salt Lake County except that it does not apply in a municipality that has adopted an ordinance in compliance with §19-4-113, Utah Code Ann., 1953 as amended. In addition, any municipal ordinance adopted pursuant to § 10-8-15 shall supersede this chapter to the extent the ordinances conflict.

(Ord. No. 1677, § I, 5-11-2010)

9.25.040 - Establishment of drinking water source protection zones.

Source protection zones are hereby established regulating specified land uses and conditions in zones designated for the protection of groundwater sources of drinking water. The drinking water source protection zones are identified and described as follows:

- A. Protection zone one is the area within a one hundred-foot radius from the wellhead or margin of the collection area.
- B. Protection zone two is the area within a two hundred fifty-day groundwater TOT to the wellhead, or margin of the collection area, the boundary of the aquifer(s) which supplies water to the groundwater source, or the groundwater divide, whichever is closer as specified on the "drinking water source protection map" described in Section 9.25.060 herein.
- C. Protection zone three is the area within a three-year groundwater TOT to the wellhead, or margin of the collection area, the boundary of the aquifer(s) which supplies water to the groundwater source, or the groundwater divide, whichever is closer, as specified on the "drinking waters source protection map" described in Section 9.25.060 herein.
- D.

Protection zone four is the area within a fifteen-year groundwater TOT to the wellhead, the boundary of the aquifer(s) [recharge area] which supplies water to the ground water source, or the groundwater divide, whichever is closer, as specified on the "drinking water source protection map" described in Section 9.25.060 herein.

(Ord. No. 1677, § I, 5-11-2010)

9.25.050 - Identification of public water systems and source protection plans.

Utah Administrative Code R309-600 requires public water systems to submit a drinking water source protection plan to the division of drinking water, for each of its groundwater sources of drinking water.

(Ord. No. 1677, § I, 5-11-2010)

9.25.060 - Drinking water source protection map.

- A. The planning and development services division shall incorporate the GIS data files received from the division of drinking water identifying groundwater sources and source protection zones based on the source protection plans submitted to the division of drinking water by public water systems, on a county map known as the "drinking water source protection map."
- B. The adoption and any amendments, additions or deletions to this map shall be made by the council on an annual basis.
- C. Before identifying specific protection zones on the drinking water source protection map, each public water system submitting a source protection plan to the division of drinking water shall be responsible for notifying landowners who may be affected by the plan. Challenges to the source protection zones shall be resolved by the public water system that provided the relevant source protection plan and, if necessary, the division of drinking water may assist with the resolution of any challenges to the source protection plans and delineated protection zones approved for the public water system.

(Ord. No. 1677, § I, 5-11-2010)

9.25.070 - Overlapping source protection zones.

- A. Public water systems with overlapping protection zones shall cooperate in resolving conflicts in the land management strategies contained in the applicable source protection plans. If necessary, the division of drinking water may assist with the resolution of any conflicts. In the event the challenge or conflict in overlapping protection zones cannot be resolved in one hundred eighty days, the most restrictive provision shall apply.
- B. No permits or land use approvals including, but not limited to, a subdivision approval, conditional or permitted use approval, business license or building permit shall be issued pending the resolution of any challenges to the boundaries or conflict between overlapping protection zones.

(Ord. No. 1677, § I, 5-11-2010)

9.25.080 - Allowed uses.

Each use established before the effective date of this section and uses incidental and accessory to such use may be continued in the same manner thereafter, provided that such use is not in violation of any other ordinance, health regulation nor determined by a court of competent jurisdiction to be a nuisance under the provisions of federal, state and local laws or health regulations. All new land uses, change of uses, or expansion of uses shall comply with this section.

(Ord. No. 1677, § I, 5-11-2010)

9.25.090 - Restricted and prohibited uses.

- A. The matrix attached as Appendix "A" adopted in this chapter, identifies specified land uses and conditions which have the potential to pollute or contaminate groundwater sources.
- B. These land uses have been classified according to the potential risk of pollution or contamination posed by specified land uses and conditions in each of the four designated source protection zones as a "restricted" or "prohibited" use.
- C. Any use deemed a potential contamination source by the public water system or a regulatory agency not listed on the matrix shall be reviewed by the source protection technical advisory committee as provided for in Section 9.25.130.

(Ord. No. 1677, § I, 5-11-2010)

9.25.100 - Drinking water source protection requirements.

Following the effective date of this section, no building permit or other form of approval required to develop or use real property in Salt Lake County shall be issued by the planning and development services division until the SLVHD determines that the proposed development or use of real property complies with the requirements of this section.

(Ord. No. 1677, § I, 5-11-2010)

9.25.110 - Review of applications.

- A. Restricted use - a restricted use poses some risk of causing pollution or potential contamination in a specified protection zone. Following preliminary staff review of an application, the planning and development services division will request a verification of compliance from the SLVHD and from the appropriate public water system. The applicant shall submit to the appropriate public water system the best management practices and engineered and/or construction controls, or land management strategy to be implemented. Upon acceptance and approval, the appropriate public water system must

issue a recommendation letter to the SLVHD listing the best management practices, engineered and/or construction controls, or land management strategy to be implemented as part of the recommendation. Any engineered and/or construction controls must be illustrated on the site plan or construction drawings. A public water system shall respond to an applicant's best management practices, engineered and/or construction controls, or land management strategy within forty-five days of submission. If a public water system does not approve of the best management practices, engineered and/or construction controls, or land management strategy submitted by an applicant, or cannot come to an agreement on the issue, the public water system will submit the reason that approval is not given and provide recommendations for additions or changes. The recommendation must also comply with this chapter and any applicable SLVHD health regulations. The SLVHD shall review all recommendations received and specify the conditions of any approval before forwarding the approval to the planning and development services division.

Challenges to the best management practices, engineered and/or construction controls, land management strategy or other conditions recommended by a public water system may be appealed as provided for in Section 9.25.130 herein. The division of drinking water may assist the SLVHD in the resolution of an appeal challenging the recommendations of a public water system. No permits or land use approvals including, but not limited to, a subdivision approval, conditional or permitted use approval, business license or building permit shall be issued until such appeal has been resolved.

Every applicant having received a land use approval in accordance with this title shall re-submit to the responsible public water system their best management practices whenever significant changes or modifications are made and once every three years. Failure to do so may result in revocation of the land use permit.

- B. Prohibited use - a prohibited use poses a very high risk of causing pollution or potential contamination in the specified source protection zone. An application received by the planning and development services division for any permits or land use approvals including, but not limited to, a subdivision approval, conditional or permitted use approval, business license or building permit in a zone designated as prohibited shall be denied. If a denial is based on a prohibited use designation listed on the matrix within a specified source protection zone, the applicant may:
- (1) work with the public water system in the specified source protection zone to implement an acceptable engineered and/or construction control or a land management strategy; or
 - (2) appeal the denial to the SLVHD. The division of drinking water may assist the SLVHD, public water system, and applicant in the resolution of any appeal challenging a prohibited use.

(Ord. No. 1677, § I, 5-11-2010)

9.25.120 - Administration.

The policies and procedures for the administration of any groundwater source protection zone established under this chapter shall be administered by the planning and development services division and the SLVHD as provided for in this chapter.

(Ord. No. 1677, § I, 5-11-2010)

9.25.130 - Appeals process.

An applicant challenging the use restrictions imposed in a specified source protection zone, the best management practices, engineered and/or construction controls, conditions, or the denial of an application based on this chapter, may appeal by filing a written notice of appeal with the SLVHD within thirty days following the action. The public water system in the specified source protection zone must be made a party to the appeal.

The board of health shall appoint a source protection technical advisory committee. The purpose of the committee shall be to hear appeals filed by an applicant and to make recommendations to the board of health. The committee shall consist of a member from the planning and development services division, a member from the environmental health division, a member from a public water system, a member from the division of drinking water, a member of the board of health, and a member from a municipality with extra-territorial jurisdiction. All appeals shall be governed by the adjudicative hearing procedures adopted by the board of health.

(Ord. No. 1677, § I, 5-11-2010)

9.25.140 - Enforcement.

A retail water supplier may seek enforcement of this chapter following the procedures provided for in § 19-4-113(3)(c), Utah Code Ann.

(Ord. No. 1677, § I, 5-11-2010)

9.25.150 - Effective date.

This chapter shall become effective fifteen days after its passage and upon at least one publication of the ordinance from which this chapter derives or a summary thereof in a newspaper published and having general circulation in Salt Lake County.

(Ord. No. 1677, § I, 5-11-2010)

APPENDIX A

The following table identifies uses which have varying potentials to contaminate groundwater sources. These uses have been classified according to the risk of contamination in each protection zone as follows:

Restricted (R)

Prohibited Uses (X)

Allowed (A)

**Appendix A
Regulated Uses**

Potential Contamination Sources	Protection Zone		
	Zone 1	Zone 2	Zones 3 and 4
Agricultural pesticide, herbicide, and fertilizer storage, use, filling, and mixing areas	X	R	R
Agriculture experimental station	X	R	R
Airport maintenance and fueling sites	X	R	R
Animal byproduct plants; offal or dead animal reduction or dumping	X	X	R
Animal feeding operations with more than 10 animal units, including dairy, stockyard, etc	X	X	R
Animal hospital or clinic; veterinary office	X	R	A
Apiary (Bee yard)	X	R	A
Appliance repair (commercial)	X	R	A
Aviary	X	R	A
Baby diaper service	X	R	R

Beauty salons and barber shops	X	R	A
Beverage bottling facilities	X	R	R
Boat building and refinishing	X	R	R
Blacksmith shop	X	R	R
Blast furnace	X	R	R
Boilers	X	R	R
Bookbinding	X	R	A
Breweries	X	R	R
Campgrounds	X	R	A
Carpet, rug, and upholstery cleaning or dyeing	X	X	R
Car washes	X	R	A
Cemetery, mortuary, etc	X	R	R
Chemical reclamation facilities	X	X	R
Chemical storage or pipelines (Ref the hazardous materials and extremely hazardous material lists found in (40 CFR 261 and 355))	X	X	X
Chemigation wells	X	X	R
Coal and fuel yards	X	R	R
Coke ovens	X	R	R
Commercial and private recreation	X	R	R

Concrete, asphalt, and tar use, storage, or processing	X	R	R
Drying, freighting or trucking yard or terminal	X	R	R
Dry cleaners with chemicals on site	X	X	R
Dry cleaners without chemicals onsite	X	A	A
Embalming services	X	R	R
Equipment storage or rental yards	X	R	R
Fabrication, assembly and maintenance of business machines and/or electronic instruments, excluding processing and compounding of raw materials	X	R	R
Fabrication, assembly and treatment of articles of merchandise from previously prepared precious or semiprecious metals or stones	X	R	R
Farm dump sites	X	R	R
Farm maintenance garage	X	R	R
Fat rendering processes	X	X	R
Feed, cereal or flour mill	X	R	R
Fertilizer and soil conditioner manufacture, processing and/or sales	X	X	R
Firearms and/or archery range; Gun club	X	R	A
Food processing and meat packing facilities	X	R	R
Forest industry; production of forest products	X	R	R
Foundry	X	R	R

Fruit and vegetable storage and packing plant	R	R	R
Fuel, oil, and heating oil distribution and storage facilities	X	R	R
Fur farm	X	R	R
Furniture stripping, painting, and finishing business	X	R	R
Gasohol production for private use	X	R	R
Geothermal heat pumps, less than 30 feet deep	X	R	R
Geothermal heat pumps, more than 30 feet deep	X	X	X
Golf course	X	R	R
Grain storage elevator	X	R	R
Gravel pits; quarries; mines	X	R	R
Greenhouse or nursery	X	R	R
Hatchery	X	R	R
Home business	X	R	A
Hospitals and medical and dental clinics or offices	X	R	R
Hydroelectric dam	X	R	R
Impound lot	X	R	R
Improperly Abandoned wells	X	X	X
Incinerator	X	X	R

Industrial manufacturers of: chemicals, pesticides, herbicides, paper products, leather products, textiles, rubber, plastic, fiberglass, silicone glass, pharmaceuticals, and electrical equipment, etc.	X	R	R
Industrial waste disposal / impoundment areas	X	X	R
Junk and salvage yards	X	R	R
Laboratory which may include scientific research, investigation, testing or experimentation including prototype product development or incidental pilot plants	X	R	R
Landfills and transfer stations	X	X	R
Laundromats	X	R	R
Logging and lumber processing, provided evidence is presented of approval by any federal or state agencies with jurisdiction over such use	X	R	R
Machine shops, metal plating, heat treating, smelting, annealing, and descaling facilities	X	R	R
Manufacturing: any use which involves the assembly, compounding, fabrication, maintenance, packaging, processing, refining, storage, or treatment, etc of any product or substance. (all uses listed in the M-1 or M-2 zones which involve manufacturing)	X	R	R
Manure spreading, processing, drying and sales	X	X	R
Manure piles > than 20 cu. ft.	X	X	R
Meat products smoking, curing and packing	X	R	R
Medical, optical and dental laboratories	X	R	A

Metal plating; metal anodizing; metal polishing	X	R	R
Metals crushing for salvage; metals and metal products treatment and processing	X	R	R
Mine; quarry; gravel pit; mining operations; including crushers, concrete batching plants, asphalt plant or any type of oil or asphalt emulsion mixing operation	X	R	R
Mineral extraction and processing	X	R	R
Monument works	X	R	R
Motor vehicles, trailers, bicycles and machinery assembling, painting, upholstering, rebuilding, repairing, rentals, sales and reconditioning	X	R	R
Motor Vehicles: any use which involves motor vehicles: storage, maintenance, sales, car wash etc. Including boats, trailers etc. (any motorized vehicles)	X	R	R
Municipal wastewater treatment plants	X	R	R
Oil and/or gas storage and pipelines (excluding natural gas and propane)	X	R	R
Oil or lubricating grease compounding	X	X	R
Ore beneficiation	X	R	R
Organic disposal site	X	X	R
Other potential contamination sources	R	R	R
Outdoor chemical toilet use, storage,	X	R	R
Packaging facility	X	R	R

Paint store or paint shop of any kind, sign, auto body, etc	X	R	R
Park	X	R	R
Parking lot drainage	R	A	A
Pest extermination and control business	X	R	R
Petroleum refining or storage	X	R	R
Pharmacy	X	R	A
Photo processing and print shops	X	R	R
Planning mill	X	R	R
Printing and copying processes, including lithographing, engraving and photoengraving, etc	X	R	R
Public stable; riding academy; rodeo grounds	X	R	R
Publishing shop	X	R	R
Radiological materials mining, use , storage, or processing	X	R	R
Railroad yards, shop and/or roundhouse	X	X	R
Recreational grounds	X	R	A
Recreational vehicles campers, snowmobiles, etc.) use, storage	X	R	R
Recycling collection center	X	R	R
Residential pesticide, herbicide, and fertilizer storage, use, filling, and mixing areas	X	R	R
Rock crushing;	X	R	R

RV waste disposal stations	X	X	A
Salt and/or sand piles	X	R	R
Sand and gravel excavation and processing	X	R	A
Sandblasting	X	R	R
Sanitary landfill	X	X	R
Septic system (gray water) and black water holding tank	X	X	R
"Septic system, conventional" shall mean an underground wastewater disposal system for domestic wastewater. It consists of a building sewer, a septic tank and an absorption system.	X	X	R
Slaughterhouse; stockyard	X	X	X
Smelting or refining	X	R	R
Soil composting manufacture and sales	X	R	R
Solar evaporation pond for the processing of salt	X	R	R
Sportsman's kennel	X	R	R
Steel or iron mill	X	R	R
Storm water detention basin and snow storage sites	X	R	A
Swimming pool	X	R	R
Taxidermist	X	R	R
Tire store, or processing of any kind including re-treading, vulcanizing, etc	X	R	R

Underground record storage vaults	R	R	A
Underground storage tanks	X	R	R
Upholstering, including mattress manufacturing, rebuilding and renovating	X	R	R
Warehouse	X	R	R
Water treatment plant, pump station, or reservoir	X	R	R
Welding facilities	X	R	R
Wood preservative use, storage, or disposal	X	R	R
Worm farming	X	R	R

(Ord. No. 1677, § I, 5-11-2010)

Chapter 7

DRINKING WATER SOURCE PROTECTION

ARTICLE A. GENERAL PROVISIONS AND ADMINISTRATION

9-7A-1: APPLICABILITY:

It shall be the responsibility of any person owning real property and/or owning or operating a business within the jurisdiction of the city to conform and comply with this chapter. Ignorance of this provision shall not excuse any violations of the provisions of this chapter. (2001 Code § 90-5-101)

9-7A-2: PURPOSE:

- A. The purpose of this chapter is to protect, preserve and maintain existing and potential public drinking water sources in order to safeguard the public health, safety and welfare of city residents and visitors. The intent of this chapter is to establish and designate drinking water source protection zones and ground water recharge areas for all sources of public drinking water within city boundaries and jurisdiction. This chapter establishes criteria for regulating the storage, handling, use or production of hazardous or toxic substances within identified areas where ground water is, or could be, affected by the potential contaminant source. This shall be accomplished by the designation and regulation of property uses and conditions that may be maintained within such zones or areas. Unless otherwise specified, the provisions of this chapter apply to new development and/or handling, movement and storage of potentially hazardous materials.
- B. The degree of protection afforded by this chapter is considered adequate for regulatory purposes. This chapter does not ensure that public drinking water sources will not be subject to accidental or intentional contamination, nor does it create liability on the part of the city, or an officer or employee thereof, for any damages to the public water supplies from reliance on this chapter, nor any administrative order lawfully made thereunder.
- C. A notice to cease or an exemption issued under this chapter shall not relieve the owner of the obligation to comply with any other applicable federal, state, regional or local regulations, rules, ordinances or requirements, nor shall said notice or exemption relieve any owner of any liability for violation of such regulations, rules, ordinances or requirements. (2001 Code § 90-5-102)

9-7A-3: DEFINITIONS:

Unless the context specifically indicates otherwise, the meaning of terms used in this chapter shall be defined as follows:

ABANDONED WELL: A well, the use of which has been permanently discontinued or is in such a state of disrepair that it cannot be used for its intended purpose or for observation purposes.

BEST MANAGEMENT PRACTICES (BMPs): A practice or combination of practices determined to be the most effective practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution to a level compatible with water, soil and air quality goals.

COLLECTION AREA: The area surrounding a ground water source that is underlain by collection pipes, tile, tunnels, infiltration boxes, or other ground water collection devices.

CONTINUOUS TRANSIT: The nonstop movement of a mobile vehicle, except for stops required by traffic laws.

DISCHARGE: Means and includes, but is not limited to, spilling, leaking, seeping, pouring, injecting, emitting, emptying, disposing, releasing, or dumping regulated substances to the soils, air, ground waters or surface waters of the city. "Discharge" does not include the use of a regulated substance in accordance with the appropriate use intended or specified by the manufacturer of the substances; provided, that such use is not prohibited by federal, state or local regulations. "Discharge" shall not include discharges specifically authorized by federal or state permits.

DRINKING WATER SOURCE PROTECTION ZONE: An area within which certain practices are mandated to protect ground water flowing to public drinking water wells.

DRINKING WATER SUPPLY WELL: A drinking water well to supply water which has been permitted or intended for consumptive use.

GROUND WATER: Any water that may be drawn from the ground.

GROUND WATER DIVIDE: A line on a water table on each side of which the water table slopes downward in a direction away from the line.

GROUND WATER TOT: Time of travel for ground water.

HANDLE: To use, generate, process, produce, package, treat, store or transport a regulated substance in any fashion.

PCS: Potential contaminant source.

PWS: Public water system.

PERSON: An individual, firm, partnership, corporation, association, joint venture, governmental entity or other legal entity, and shall include the plural as well as singular.

PETROLEUM PRODUCT: Shall include fuels (gasoline, diesel fuel, kerosene, and mixtures of these

products including MTBE), lubricating oils, motor oils (new and used), hydraulic fluids, and other similar petroleum based products.

PRIMARY RECHARGE AREA: The areas depicted on the recharge area and protection zone map, as established and revised pursuant to [title 13, chapter 8, article F](#) of this code, or its successor provisions.

PROTECTION ZONE: The delineation zones of the drinking water source protection zone, as summarized in [title 13, chapter 8, article F](#) of this code, or its successor provision.

REGULATED SUBSTANCES: Substances (including degradation and interaction products) which because of quantity, concentration, or physical, chemical (including ignitability, corrosivity, reactivity and toxicity), infectious characteristics, radiomutagenicity, carcinogenicity, teratogenicity, bioaccumulative effect, persistence (nondegradability) in nature, or any other characteristics relevant to a particular material that may cause significant harm to human health and/or environment (including surface and ground water, plants and animals).

SECONDARY RECHARGE AREA: The areas depicted on the recharge area and protection zone map as established and revised pursuant to [title 13, chapter 6, article F](#) of this code, or its successor provision.

SLUDGE OR BIOSOLIDS: The solids separated from wastewater during the wastewater treatment process.

TRAVEL TIME CONTOUR: The locus of points that form a line of any configuration in space from which ground water particles on that line theoretically take an equal amount of time to reach a given destination, such as a well or a wellfield, as predicted by the Refined Salt Lake Valley MODFLOW/MODPATH Model, copyrighted.

UAC: The Utah administrative code.

USGS: The United States geological survey.

WELL: Any excavation that is drilled, cored, bored, washed, driven, dug, jetted, or otherwise constructed when the intended use of such excavation is for the location, acquisition, development or artificial recharge of ground water.

WELLFIELD: An area of land that contains one or more drinking water supply wells. (2001 Code § 90-5-103)

9-7A-4: ABROGATION AND GREATER RESTRICTIONS:

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and other restrictions, including land use codes or development regulations conflict or overlap, whichever imposes the most stringent restrictions shall prevail. (2001 Code § 90-5-501)

9-7A-5: DISPUTES:

Disputes arising from the delineation of drinking water source protection zones and primary and secondary recharge areas shall be directed to the utilities manager to review specific detailed delineation maps showing the boundaries. The boundaries have been defined according to major city streets. (2001 Code § 90-5-502)

9-7A-6: LIABILITY:

Any person subject to regulation under this chapter shall be liable with respect to regulated substances emanating on or from the person's property for all cost of removal or remedial action incurred by the city or the PWS, and for damages for injury to, destruction of, or loss of natural resources, including the reasonable cost of assessing such injury, destruction, or loss from the discharge or threatened discharge of a "regulated substance", as defined by this article. Such removal or remedial action by the city or the PWS may include, but is not limited to, the prevention of further contamination of ground water, monitoring, containment and cleanup or disposal of regulated substances resulting from the discharge of any regulated substance or material which creates, or is expected to create, an emergency hazardous situation. (2001 Code § 90-5-601)

9-7A-7: ADMINISTRATION:

The policies and procedures for administration of any protection zone or primary and secondary recharge area established under this chapter, including, without limitation, those applicable to nonconforming uses, exceptions, enforcement and penalties, shall be the same as provided in any existing zoning ordinance in the city, as the same is presently enacted or may from time to time be amended. (2001 Code § 90-5-602)

ARTICLE B. MANAGEMENT STRATEGIES AND PERFORMANCE STANDARDS

9-7B-1: HANDLING REGULATIONS FOR TOXIC, HAZARDOUS AND OTHER MATERIALS:

A. Classes Of Substances: The general classes of substances to be regulated under this chapter shall be those set forth in the generic regulated substances list found below. The regulated substances shall include those set forth in the most current lists, as amended from time to time, entitled "Identification And Listing Of Hazardous Materials" (40 CFR part 261, subpart D) and "List Of

Extremely Hazardous Substances" (40 CFR part 355, appendix A and B), and which are in a form that they are, all or in part, capable of entering the ground water.

GENERIC REGULATED SUBSTANCE LIST

Acid and basic cleaning solutions.

Animal dips.

Antifreeze and coolants.

Arsenic and arsenic compounds.

Battery acids.

Bleaches and peroxide.

Brake and transmission fluid.

Brine solution.

Casting and foundry chemicals.

Caulking agents and sealants.

Cleaning solvents.

Corrosion and rust preventatives.

Cutting fluids.

Degreasing solvents.

Disinfectants.

Dyes.

Electroplating solutions.

Engraving and etching solutions.

Explosives.

Fertilizers.

Fire extinguishing chemicals.

Food processing wastes.

Formaldehyde.

Fuels and additives.

Glues, adhesives and resins.

Greases.

Hydraulic fluid.

Indicators.

Industrial and commercial janitorial supplies.

Industrial sludges and stillbottoms.

Inks, printing, and photocopying chemicals.

Laboratory chemicals.

Liquid storage batteries.

Medical, pharmaceutical, dental, veterinary, and hospital solutions.

Mercury and mercury compounds.

Metal finishing solutions.

Methyl tertiary butyl ether (MTBE).

Oils.

Painting solvents.

Paints, primers, thinners, dyes, stains, wood preservatives, varnishing and cleaning compounds.

Pesticides and herbicides.

Photo development chemicals.

Plastic resins, plasticizers and catalysts.

Poisons.

Polishes.

Polychlorinated biphenyls (PCBs).

Pool chemicals.

Processed dust and particulates.

Radioactive sources.

Reagents and standards.

Refrigerants.

Roofing chemicals and sealers.

Sanitizers, disinfectants, bactericides, and algaecides.

Soaps, detergents and surfactants.

Solders and fluxes.

Stripping compounds.

Tanning industry chemicals.

Transformer and capacitor oils and fluids.

Wastewater.

Water and wastewater treatment chemical.

- B. Use And Storage In Zones And Areas Prohibited: The use and storage of regulated substances in designated protection zones and recharge areas shall be prohibited if the quantity of any substance meets or exceeds the "reportable quantity" for such regulated substance, as designated in 40 CFR 302 (pursuant to section 311 of the clean water act). A person may apply to be exempted from the provisions of this section, and such application may be approved if it is demonstrated to the city council and to the Utah division of drinking water quality that the regulated substances pose no hazard to ground water. A person granted an exemption pursuant to this section shall not be exempt from any other requirements of this chapter or [title 13](#) of this code. (2001 Code § 90-5-201)

ARTICLE C. EXCLUSIONS AND EXEMPTIONS

9-7C-1: EXCLUSIONS:

- A. Applicability: The exclusions and exemptions contained in this section shall not apply to zones 1 and 2.
- B. Substances Specified: The following substances are not subject to the provisions of this chapter; provided, that these substances are handled, stored and disposed of in a manner that does not

result in an unauthorized release or cause contamination of the ground water:

1. Regulated substances stored at residences that do not exceed ten (10) pounds or five (5) gallons and are used for personal, family or household purposes.
2. Commercial products limited to use at the site solely for office or janitorial purposes when stored in total quantities of less than twenty (20) pounds, or ten (10) gallons.
3. Prepackaged consumer products available through retail sale to individuals for personal, family or household use, that are properly stored.
4. Water based latex paint.
5. Fertilizers and treated seed (except as noted in this chapter).
6. Pesticide products and materials intended for use in weed abatement, pest control, erosion control, soil amendment or similar applications when applied in accordance with manufacturer's instructions, label directions, and nationally recognized standards.
7. Compressed gases.
8. Substances or mixtures that may pose a hazard but are labeled pursuant to the federal food, drug and cosmetic act. (2001 Code § 90-5-301)

9-7C-2: CONTINUOUS TRANSIT:

The transportation of any regulated substances through any protection zone or recharge area shall be allowed; provided, that the transporting vehicle is in continuous transit. (2001 Code § 90-5-302)

9-7C-3: VEHICULAR AND LAWN MAINTENANCE FUEL AND LUBRICANT USE:

The use of any petroleum product solely as an operational fuel in the vehicle or lawn maintenance fuel tank, or as a lubricant in such a vehicle, shall be exempt from the provisions of this chapter. These spent products shall be properly disposed of in compliance with applicable federal, state and local regulations. (2001 Code § 90-5-303)

ARTICLE D. ENFORCEMENT, VIOLATION AND PENALTY

9-7D-1: INSPECTIONS:

The city manager or designated representative shall enforce the provisions of this chapter for the city. An authorized officer of the city or the PWS has the right to conduct inspections of facilities to determine compliance with this chapter. The authorized officer or the PWS shall inform the city manager and other city entities, as deemed appropriate, of the results of the inspection and whether violations were noted. The authorized officer of the city shall enforce the provisions of this chapter without regard to whether the wells within the city boundaries are owned by the city. Noncompliance with the provisions of this chapter is a violation. If the facility is not complying with the requirements of this chapter, penalties (e.g., citations of noncompliance, orders to cease operations or administrative penalties) may be assessed. (2001 Code § 90-5-401)

9-7D-2: NOTICE OF VIOLATIONS:

- A. Notice Requirements: Whenever it is determined that there is a violation of this chapter or the regulations promulgated pursuant hereto, a notice of violation may be issued pursuant to [title 1, chapter 14, article C](#) of this code.
- B. Authority Of City For Dangerous Conditions: In the event of a spill, leak or discharge of a regulated substance, which may pose a real and present danger of contaminating surface or ground water which would normally enter the public water supply, the city manager or designated representative has the authority under this chapter to issue an emergency order causing cessation of said activity or use of regulated substance, require administrative controls to mitigate said danger and/or cause the provision of pollution control and abatement activities.
- C. Misdemeanor Violation: In addition to administrative penalties and enforcement, violations of the provisions of this chapter constitute a misdemeanor, punishable as provided by law. (2001 Code § 90-5-402; amd. Ord. 12-10, 4-25-2012, eff. 7-1-2012)

9-7D-3: APPEALS:

(2001 Code § 90-5-403; Rep. by Ord. 12-10, 4-25-2012, eff. 7-1-2012)

APPENDIX E

Implementation of Management Strategies

PCS Zones

Business Addresses

"NO" means no letter avail.

NO	DBA	LOC NO	PRE	LOC STREET	ST/DC	UNIT	LOC APT	LOC CITY	DC STA	ZIP CODE	BUS PARCEL	6/15/2018	INITIAL
1	A KLEAN SOLUTIONS LLC	9901	S	PROSPERITY RD				WEST JORDAN	UT	84081	26113020030000	NO	
2	A TO Z LANDSCAPING	9583	S	WELLS CIR				WEST JORDAN	UT	84081	26112260060000	10-27-18	
3	ABE'S TOWING LLC	6062	W	9860 S				WEST JORDAN	UT	84081	26113270100000	6-28-18	DS
4	ABLE AUTO & TOWING INC	6062	W	9860 S				WEST JORDAN	UT	84081	26113270100000	6-28-18	DS
5	ABLE AUTO & TOWING INC	6062	W	9860 S				WEST JORDAN	UT	84081	26113270100000	6-28-18	
6	AK MASONRY LLC	9901	S	PROSPERITY RD				WEST JORDAN	UT	84081	26113020030000	6-28-18	
7	ALL PRO ELECTRIC INC	9411	S	BAGLEY PARK RD				WEST JORDAN	UT	84081	26013000060000	6-28-18	
8	ALL RITE PRODUCTS INC	9554	S	WELLS CIR	SUITE	D		WEST JORDAN	UT	84081	26112260020000	NO	
9	AL TAVIEW CONCRETE INC	5792	W	AXEL PARK RD				WEST JORDAN	UT	84081	26112000380000	6-28-18	
10	ANY TIME GLASS	5495	W	LEO PARK RD				WEST JORDAN	UT	84081	26121020090000	7-1-18	
11	ARCTIC CIRCLE #127	8677	S	5600 W				WEST JORDAN	UT	84081	26011000240000	6-27-18	
12	ARROW ROCK AND STONE LLC	5602	W	AXEL PARK RD				WEST JORDAN	UT	84081	26121510180000	6-27-18	
13	ARROW ROCK AND STONE LLC	5602	W	AXEL PARK RD				WEST JORDAN	UT	84081	26121510180000	6-28-18	
14	A-TOM PLUMBING INC	5606	W	AXEL PARK RD				WEST JORDAN	UT	84081	26112000090000	6-28-18	
15	AUTO TRANS CO	9626	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26121510030000	6-28-18	
16	BALKAMP INC/WESTERN DIVISION	9229	S	PROSPERITY RD	SUITE		600	WEST JORDAN	UT	84081	26023760010000	6-28-18	
17	BANTT LLC	5320	W	WELLS PARK RD	UNIT	14		WEST JORDAN	UT	84081	26121280020000	6-27-18	
18	BEDDY'S LLC	6101	W	9790 S				WEST JORDAN	UT	84081	26113270030000	6-28-18	
19	BEDROCK QUARTZ SURFACES LLC	5996	W	DANNON WY				WEST JORDAN	UT	84081	26023000100000	6-27-18	
20	BEDROCK QUARTZ SURFACES LLC	9229	S	PROSPERITY RD	SUITE	600		WEST JORDAN	UT	84081	26023760010000	6-27-18	
21	BELTRAN FENCE & CONSTRUCTION CO	5673	W	WELLS PARK RD				WEST JORDAN	UT	84081	26112000300000		
22	BENNION LANDSCAPE & MAINTENANCE INC	6076	W	9860 S				WEST JORDAN	UT	84081	26113270090000		
23	BLACK FOREST PAVING LLC	9524	S	FEULNER PARK RD				WEST JORDAN	UT	84081	26112010020000	7-2-18	
24	BLACK MOUNTAIN MANUFACTURING LLC	5654	W	AXEL PARK RD				WEST JORDAN	UT	84081	26112000410000	6-28-18	
25	BLU COMPANY LLC	5320	W	WELLS PARK RD	UNIT	11		WEST JORDAN	UT	84081	26121280020000	6-27-18	
26	BLU COMPANY LLC	5320	W	WELLS PARK RD	UNIT	11		WEST JORDAN	UT	84081	26121280020000	6-27-18	
27	BOWLES PACKAGING COMPANY INC	5455	W	LEO PARK RD				WEST JORDAN	UT	84081	26013520010000	7-2-18	
28	CARVER CONSTRUCTION INC	5577	W	LEO PARK RD				WEST JORDAN	UT	84081	26121020020000	7-2-18	
29	CARVE LLC <i>Rubio Bought</i>	5323	W	WELLS PARK RD				WEST JORDAN	UT	84081	26121260020000	6-27-18	
30	CENTIMARK CORPORATION	9229	S	PROSPERITY RD	SUITE	600		WEST JORDAN	UT	84081	26023760010000	6-27-18	
31	CHAMPION HEATING & AIR CONDITIONING INC	5360	W	AXEL PARK RD				WEST JORDAN	UT	84081	26121260170000	7-3-18	
32	CL WAYMAN PIPING LC	5535	W	LEO PARK RD				WEST JORDAN	UT	84081	26121020080000	7-2-18	
33	CLASSY CLOSETS	5585	W	WELLS PARK RD				WEST JORDAN	UT	84081	26121510130000	6-27-18	
34	CLEAN MACHINE LLC	9706	S	PROSPERITY RD				WEST JORDAN	UT	84081	26111510040000	6-28-18	
35	COPPER HILLS YOUTH CENTER	5899	W	RIVENDELL DR				WEST JORDAN	UT	84081	26022000380000	7-3-18	
36	COPPER MOUNTAIN FAB LLC	5300	W	OLD BINGHAM HWY				WEST JORDAN	UT	84081	26121760110000	7-2-18	
37	COTTONWOOD LANDSCAPES LLC	5718	W	DANNON WY				WEST JORDAN	UT	84081	26024000410000	6-28-18	
38	CRS AMERICA LLC	5970	W	DANNON WY				WEST JORDAN	UT	84081	26024000190000	7-2-18	
39	CSJ EQUIPMENT LLC	9901	S	PROSPERITY RD				WEST JORDAN	UT	84081	26113020030000	NO	
40	CSM CONSTRUCTION INC	5541	W	BAGLEY PARK RD				WEST JORDAN	UT	84081	26013510020000	6-28-18	
41	CURIOUS COUNTRY CREATIONS LLC	5320	W	WELLS PARK RD	UNIT	8		WEST JORDAN	UT	84081	26121280020000	6-27-18	
42	CUSTOM INDUSTRIES INC	5400	W	OLD BINGHAM HWY				WEST JORDAN	UT	84081	26121760050000	7-2-18	
43	DAWSON DEVELOPMENT LLC	6184	W	9790 S	UNIT			WEST JORDAN	UT	84081	26111760030000	7-2-18	
44	DECOLS SPEED SHOP LLC	9901	S	PROSPERITY RD				WEST JORDAN	UT	84081	26113020030000	NO	
45	DIRECT TO NET LLC	6061	W	9860 S	SUITE	A		WEST JORDAN	UT	84081	26113280050000	7-2-18	
46	DIRT BAG INC, THE	6054	W	9790 S				WEST JORDAN	UT	84081	26111760070000	7-2-18	
47	EDWARD J. FRAUGHTON INC	5566	W	BAGLEY PARK RD				WEST JORDAN	UT	84081	26013000150000	7-2-18	
48	ELEVATED TRANSIT LLC	5970	W	DANNON WY				WEST JORDAN	UT	84081	26024000190000	7-2-18	
49	EZCHLOR	5320	W	WELLS PARK RD	UNIT	15		WEST JORDAN	UT	84081	26121280020000	6-27-18	
50	FABCO REINFORCEMENT LLC	5323	W	WELLS PARK RD				WEST JORDAN	UT	84081	26121260020000	6-27-18	

on Krichgo Park Phase 2

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NO	DBA	LOC NO	PRE	LOC STREET	STDC UNIT	LOC APT	LOC CITY	DC STA	ZIP CODE	BUS PARCEL	6/15/2018	INITIAL
51	FASHION CABINETS MANUFACTURING INC	5440	W	AXEL PARK RD			WEST JORDAN	UT	84081	26121030040000	6-28-18	JCS
52	FLAT OUT AUTOMOTIVE LLC	5428	W	LEO PARK RD			WEST JORDAN	UT	84081	26013510060000	7-2-18	
53	FLAT OUT AUTOMOTIVE LLC	5428	W	LEO PARK RD			WEST JORDAN	UT	84081	26013510060000	7-2-18	
54	FLOWQUIP MINING & INDUSTRIAL LLC	9554	S	WELLS CIR	SUITE	D	WEST JORDAN	UT	84081	26112260020000	6-27-18	
55	FOUR SEASONS TELECOMMUNICATION	9480	S	BAGLEY PARK RD			WEST JORDAN	UT	84081	26121260050000	6-28-18	MSB
56	GENERATOR EXCHANGE INC	6113	W	9860 S			WEST JORDAN	UT	84081	26113280020000	6-28-18	MSB
57	GLASSEY STEEL WORKS INC	5368	W	AXEL PARK RD			WEST JORDAN	UT	84081	26121260090000	6-28-18	MSB
58	GRAHAM PACKAGING COMPANY LP	6165	W	DANNON WY			WEST JORDAN	UT	84081	26023000210000	6-28-18	MSB
59	GUARANTEE COMPANY OF NORTH AMERICA USA	9901	S	PROSPERITY RD			WEST JORDAN	UT	84081	26113020030000	7-2-18	MSB
60	HANCO CONSTRUCTION INC	5360	W	AXEL PARK RD			WEST JORDAN	UT	84081	26121260170000	7-5-18	MSB
61	HANCO CONSTRUCTION INC	5360	W	AXEL PARK RD			WEST JORDAN	UT	84081	26121260170000	7-5-18	MSB
62	HANSEN HEATING & AIR CONDITIONING INC	5752	W	FEULNER PARK CIR			WEST JORDAN	UT	84081	26112260090000	7-2-18	MSB
63	HARDLINE EXCAVATION LLC	6184	W	9790 S	UNIT		WEST JORDAN	UT	84081	26111760030000	6-28-18	MSB
64	HARDLINE EXCAVATION LLC	6184	W	9790 S	UNIT		WEST JORDAN	UT	84081	26111760030000	6-28-18	MSB
65	HAYWARD BAKER INC	5662	W	WELLS PARK RD			WEST JORDAN	UT	84081	26112260190000	6-27-18	MSB
66	HISTORICAL ARTS & CASTING INC	5580	W	BAGLEY PARK RD			WEST JORDAN	UT	84081	26013000180000	6-28-18	MSB
67	HP SAVANNAHS	9620	S	HAWLEY PARK RD			WEST JORDAN	UT	84081	26121510150000	6-28-18	MSB
68	HP SAVANNAHS	9620	S	HAWLEY PARK RD			WEST JORDAN	UT	84081	26121510150000	6-28-18	MSB
69	INDUSTRIAL FLUORS-PLASTICS INC	9328	S	HAWLEY PARK RD			WEST JORDAN	UT	84081	26024000540000	7-2-18	MSB
70	INNOVATION BUILDERS LLC	5320	W	WELLS PARK RD	UNIT	03	WEST JORDAN	UT	84081	26121280020000	6-27-18	MSB
71	INNOVATIVE EXCAVATION INC	5403	W	WELLS PARK RD			WEST JORDAN	UT	84081	26121260200000	6-27-18	MSB
72	INTEGRACORE FULFILLMENT LLC	6077	W	WELLS PARK RD			WEST JORDAN	UT	84081	26111760120000	6-27-18	MSB
73	INTERMOUNTAIN ORNAMENTAL	10047	S	PROSPERITY RD			WEST JORDAN	UT	84081	26113520030000	6-27-18	MSB
74	INTERSTATE BRICK	9780	S	5200 W			WEST JORDAN	UT	84081	26123000060000	7-2-18	MSB
75	IPM INC	9342	S	HAWLEY PARK RD			WEST JORDAN	UT	84081	26024000490000	7-2-18	MSB
76	IRON MOUNTAIN ENGINE LLC	9431	S	BAGLEY PARK RD	UNIT	B	WEST JORDAN	UT	84081	26121270010000	6-28-18	MSB
77	ISCO INDUSTRIES INC	9541	S	BAGLEY PARK RD			WEST JORDAN	UT	84081	26121270120000	6-28-18	MSB
78	J & R PROPERTY MAINTENANCE	5769	W	FEULNER PARK CIR			WEST JORDAN	UT	84081	26112260110000	7-2-18	MSB
79	J T STEEL INC	9550	S	HAWLEY PARK RD			WEST JORDAN	UT	84081	26112260200000	6-27-18	MSB
80	JENNMAR CORPORATION OF UTAH INC	9786	S	PROSPERITY RD			WEST JORDAN	UT	84081	26111510050000	6-27-18	MSB
81	JENNMAR CORPORATION OF UTAH INC	9786	S	PROSPERITY RD			WEST JORDAN	UT	84081	26111510050000	6-27-18	MSB
82	JERSEY CONSULTING LLC	5565	W	LEO PARK RD			WEST JORDAN	UT	84081	26121020060000	6-27-18	MSB
83	JERSEY CONSULTING LLC	5565	W	LEO PARK RD			WEST JORDAN	UT	84081	26121020060000	6-27-18	MSB
84	JONES EXCAVATING COMPANY INC	5633	W	AXEL PARK RD			WEST JORDAN	UT	84081	26112000250000	6-28-18	MSB
85	JONES EXCAVATING COMPANY INC	5776	W	AXEL PARK RD			WEST JORDAN	UT	84081	26112000390000	6-28-18	MSB
86	JORDAN RIVER GALVANIZING INC	5447	W	AXEL PARK RD			WEST JORDAN	UT	84081	26121760100000	6-28-18	MSB
87	JORDAN SELF STORAGE-UTAH LLC	9528	S	BAGLEY PARK RD			WEST JORDAN	UT	84081	26121260070000	6-28-18	MSB
88	KGB CONSTRUCTION LLC	5816	W	WELLS PARK RD			WEST JORDAN	UT	84081	26112010040000	6-27-18	MSB
89	KGB CONSTRUCTION LLC	5816	W	WELLS PARK RD			WEST JORDAN	UT	84081	26112010040000	6-27-18	MSB
90	KITCHEN & BATH CREATION DESIGN	5320	W	WELLS PARK RD	UNIT	# 62	WEST JORDAN	UT	84081	26121280020000	6-27-18	MSB
91	KYDEN MACHINE INC	5577	W	WELLS PARK RD			WEST JORDAN	UT	84081	26121510140000	6-27-18	MSB
92	LANDSCAPE MANAGEMENT SERVICE INC	6116	W	9860 S			WEST JORDAN	UT	84081	26113270070000	7-2-18	MSB
93	LEGACY WELDING AND FABRICATION LLC	9371	S	HAWLEY PARK RD			WEST JORDAN	UT	84081	26013510080000	7-2-18	MSB
94	LEVEL 3 COMMUNICATIONS LLC	6045	W	9860 S			WEST JORDAN	UT	84081	26113280050000	6-28-18	MSB
95	LOUIS AND COMPANY	9826	S	PROSPERITY RD			WEST JORDAN	UT	84081	26113010010000	6-28-18	MSB
96	LUXURIEN INTERNATIONAL LLC	6061	W	9860 S	SUITE	E	WEST JORDAN	UT	84081	26113280050000	7-2-18	MSB
97	M & M ASPHALT SERVICES INC	5464	W	LEO PARK RD			WEST JORDAN	UT	84081	26013510110000	7-2-18	MSB
98	MACKAY REAL ESTATE LLC	9258	S	PROSPERITY RD			WEST JORDAN	UT	84081	26023540010000	7-2-18	MSB
99	MADDOX CONSTRUCTION LC	5365	W	AXEL PARK RD			WEST JORDAN	UT	84081	26121760020000	7-5-18	MSB
100	MBC INC	5260	W	OLD BINGHAM HWY			WEST JORDAN	UT	84081	26121760080000	7-5-18	MSB

NO	DBA	LOC NO	PRE	LOC STREET	STP	DC UNIT	LOC APT	LOC CITY	DC STA	ZIP CODE	BUS PARCEL	6/15/2018	INITIALS
101	MESSMER'S	9500	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26112260170000	7-2-18	JK
102	MK 1 STUDIO LLC	5320	W	WELLS PARK RD		UNIT	14	WEST JORDAN	UT	84081	26121280020000	6-27-18	JK
103	MOUNTAIN CREST CABINET INC	5404	W	OLD BINGHAM HWY				WEST JORDAN	UT	84081	26121530090000	7-5-18	JK
104	MOXIE LOGISTICS LLC	6101	W	9790 S				WEST JORDAN	UT	84081	26113270030000	7-12-18	JK
105	MULTI-FILL INC	9620	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26121510150000	6-28-18	JK
106	MULTI-FILL INC	9620	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26121510150000	6-28-18	JK
107	NEILS CONCRETE CUTTING INC	5654	W	AXEL PARK RD				WEST JORDAN	UT	84081	26112000400000	6-28-18	JK
108	NEWMAN WOOD SYSTEMS INC	9441	S	BAGLEY PARK RD				WEST JORDAN	UT	84081	26121270130000	6-28-18	JK
109	NEXT ENERGY ALLIANCE	5647	W	WELLS PARK RD				WEST JORDAN	UT	84081	26112000080000		
110	NKD TECHNOLOGIES LLC	5320	W	WELLS PARK RD		UNIT	15	WEST JORDAN	UT	84081	26121280020000	6-27-18	JK
111	NORTHWEST STANDARD CORP	10001	S	PROSPERITY RD				WEST JORDAN	UT	84081	26113520070000	6-27-18	JK
112	NUTECH SPECIALTIES INC	9811	S	6150 W				WEST JORDAN	UT	84081	26113270010000	6-28-18	JK
113	OQUIRRH TIRE & SERVICE	5970	W	DANNON WY				WEST JORDAN	UT	84081	26024000190000	6-28-18	JK
114	OQUIRRH TOW LLC	5970	W	DANNON WY				WEST JORDAN	UT	84081	26024000190000	6-28-18	JK
115	OQUIRRH VIEW STORAGE LLC	6088	W	9790 S				WEST JORDAN	UT	84081	26111760150000		
116	ORACLE AMERICA INC	6136	W	10120 S				WEST JORDAN	UT	84081	26113760080000		
117	ORGANIZED SOLUTIONS INC	6184	W	9790 S		UNIT		WEST JORDAN	UT	84081	26111760030000	7-6-18	JK
118	OSI INDUSTRIES LLC	9470	S	4980 W				WEST JORDAN	UT	84081	26122010020000	7-5-18	JK
119	OUTLAW DEMOLITION INC	6117	W	9790 S				WEST JORDAN	UT	84081	26113270020000		
120	OVERLAND SELF STORAGE LLC	9372	S	PROSPERITY RD				WEST JORDAN	UT	84081	26023510020000		
121	PAPA PITA BAKERY	6208	W	DANNON WY				WEST JORDAN	UT	84081	26023000294001	6-27-18	JK
122	PIPELINE INSPECTION SERVICES INC	5766	W	WELLS PARK RD				WEST JORDAN	UT	84081	26112260140000		
123	PRC INC	10093	S	PROSPERITY RD				WEST JORDAN	UT	84081	26113520040000	6-27-18	JK
124	PROBUILD CONSTRUCTION INC	5495	W	LEO PARK RD				WEST JORDAN	UT	84081	26121020090000	7-2-18	JK
125	PROBUILD CONSTRUCTION INC	5495	W	LEO PARK RD				WEST JORDAN	UT	84081	26121020090000	7-2-18	JK
126	QUALITY STEEL CORPORATION OF MS	5520	W	OLD BINGHAM HWY				WEST JORDAN	UT	84081	26121520010000	6-28-18	JK
127	RALPH L WADSWORTH CONSTRUCTION CO	5892	W	DANNON WY				WEST JORDAN	UT	84081	26024000130000	6-28-18	JK
128	RAY'S GARDENING	5768	W	FEULNER PARK CIR				WEST JORDAN	UT	84081	26112260080000	7-03-18	JK
129	RG PROPERTIES LLC	9326	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26024000550000	7-2-18	JK
130	RIGHTWAY STEEL LLC	5495	W	LEO PARK RD				WEST JORDAN	UT	84081	26121020090000		
131	ROCK CHUCKERS LLC	5415	W	LEO PARK RD				WEST JORDAN	UT	84081	26013760010000	7-2-18	JK
132	ROYAL WHOLESALE ELECTRIC	9229	S	PROSPERITY RD		SUITE	800	WEST JORDAN	UT	84081	26023760010000	6-27-18	JK
133	S & S MANUFACTURING INC	5784	W	WELLS PARK RD				WEST JORDAN	UT	84081	26112260130000	6-27-18	JK
134	S&P CONSULTING SALES AND SERVICE	9554	S	WELLS CIR		SUITE	D	WEST JORDAN	UT	84081	26112260020000		
135	SALT DEPOT	5442	W	WELLS PARK RD				WEST JORDAN	UT	84081	26121020050000	6-27-18	JK
136	SCORPION ENGINEERING INC	5654	W	AXEL PARK RD				WEST JORDAN	UT	84081	26112000400000	6-28-18	JK
137	SITEONE LANDSCAPE SUPPLY LLC	9812	S	6045 W				WEST JORDAN	UT	84081	26113270050000	6-28-18	JK
138	SLASHTAG LLC	5591	W	LEO PARK RD				WEST JORDAN	UT	84081	26121020010000		
139	SLASHTAG LLC	5591	W	LEO PARK RD				WEST JORDAN	UT	84081	26121020010000		
140	SME INDUSTRIES INC	5801	W	WELLS PARK RD				WEST JORDAN	UT	84081	26112000270000	6-27-18	JK
141	SNUGZ USA INC	9258	S	PROSPERITY RD				WEST JORDAN	UT	84081	26023540010000	6-27-18	JK
142	SPECIALTY MACHINE INC	9740	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26121520040000	7-2-18	JK
143	SPLIGITY FIBER OPTIC SERVICES	9451	S	BAGLEY PARK RD				WEST JORDAN	UT	84081	26121270030000	6-28-18	JK
144	SPRUNG INSTANT STRUCTURES INC	5711	W	DANNON WY				WEST JORDAN	UT	84081	26024000840000	6-28-18	JK
145	STAIR FITTINGS INC	9469	S	BAGLEY PARK RD				WEST JORDAN	UT	84081	26121270100000	6-28-18	JK
146	STAKER & PARSON COMPANIES	5792	W	AXEL PARK RD				WEST JORDAN	UT	84081	26112000380000		
147	SYNERGY DANCE ACADEMY LLC	6102	W	9860 S				WEST JORDAN	UT	84081	26113270080000		
148	SYSCO INTERMOUNTAIN	9494	S	PROSPERITY RD				WEST JORDAN	UT	84081	26111010010000	6-27-18	JK
149	TAFFY TOWN INC	9813	W	PROSPERITY RD				WEST JORDAN	UT	84081	26113020040000	6-27-18	JK
150	TERAFLEX INC	5680	W	DANNON WY				WEST JORDAN	UT	84081	26024000080000	6-28-18	JK

NO	DBA	LOC NO	PRE	LOC STREET	STR	DC UNIT	LOC APT	LOC CITY	DC STA	ZIP CODE	BUS PARCEL	6/15/2018	INITIAL
151	THE BOEING COMPANY	10026	S	PROSPERITY RD				WEST JORDAN	UT	84081	26113510030000	6-27-18	MSR
152	THE DANNON COMPANY INC	6165	W	DANNON WY				WEST JORDAN	UT	84081	26023000210000	7-2-18	MSR
153	TLC RV STORAGE LLC	9731	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26121530040000	6-27-18	MSR
154	TOP TOOL SUPPLY LLC	9328	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26024000540000	7-2-18	MSR
155	TOTAL AIR HANDLING INC	9431	S	BAGLEY PARK RD				WEST JORDAN	UT	84081	26121270010000	7-2-18	MSR
156	TRU-FIT PRODUCTS OF UTAH LLC	9509	S	WELLS CIR				WEST JORDAN	UT	84081	26112260040000	6-27-18	MSR
157	TSURUMI PUMP	6216	W	9790 S				WEST JORDAN	UT	84081	26111520020000	6-28-18	MSR
158	UNIQUE PLASTERING INC	9326	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26024000550000	7-2-18	MSR
159	UTILITY COATINGS & FABRICATION	5481	W	BAGLEY PARK RD				WEST JORDAN	UT	84081	26013510040000	6-28-18	MSR
160	V 3 CONSTRUCTION INC	6076	W	9860 S				WEST JORDAN	UT	84081	26113270090000	6-28-18	MSR
161	V 3 CONSTRUCTION INC	6076	W	9860 S				WEST JORDAN	UT	84081	26113270090000	6-28-18	MSR
162	V 3 EXTERIORS LLC	6076	W	9860 S				WEST JORDAN	UT	84081	26113270090000	6-28-18	MSR
163	VALLEY PLUMBING & DRAIN CLEANING	9285	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26013510010000	6-28-18	MSR
164	VERIZON WIRELESS	9656	S	PROSPERITY RD				WEST JORDAN	UT	84081	26111510020000	6-27-18	MSR
165	VOX NUTRITION, INC	5647	W	WELLS PARK RD				WEST JORDAN	UT	84081	26112000080000	6-27-18	MSR
166	WALKER TAPE CO, INC	9312	S	PROSPERITY RD				WEST JORDAN	UT	84081	26023510010000	6-27-18	MSR
167	WASATCH PLACE	5970	W	DANNON WY				WEST JORDAN	UT	84081	26024000190000	6-25-18	MSR
168	WASATCH TRANSPORTATION INC	5970	W	DANNON WY				WEST JORDAN	UT	84081	26024000190000	6-25-18	MSR
169	WASATCH TRANSPORTATION MANAGEMENT LLC	5970	W	DANNON WY				WEST JORDAN	UT	84081	26024000190000	6-25-18	MSR
170	WEST RIDGE ACADEMY	5500	W	BAGLEY PARK RD				WEST JORDAN	UT	84081	26013770010000	6-25-18	MSR
171	WKB LANDSCAPE & MAINTENANCE INC	6054	W	9790 S				WEST JORDAN	UT	84081	26111760070000	6-28-18	MSR
172	WORLD OF STAINS	9500	S	HAWLEY PARK RD				WEST JORDAN	UT	84081	26112260170000	7-2-18	MSR



City of West Jordan
Public Works Department
8030 South 4000 West
West Jordan, Utah 84088
Phone (801) 569-5700

5/17/2018

Dear Business Owner,

To protect the City of West Jordan's drinking water supply for water customers, we have developed a wellhead protection program as required by State law. As part of our wellhead protection program, we have mapped the area overlying the short-term recharge zone of our drinking water wells. This zone is the City's wellhead protection area.

Following the mapping of the wellhead protection area, we conducted an inventory of potential groundwater contamination sources within the area. The nature of your business and its location within our wellhead protection area means that your activities have the potential to affect the City's drinking water supply. We have notified the Utah Division of Drinking Water (DDW), which regulates your type of business/facility in wellhead protection areas. Should you request technical assistance to help manage your business in a way that will best prevent groundwater contamination, please contact the City of West Jordan Water Department (801) 569-5700, or DDW (801) 536-4200.

We realize you have interest in protecting the environment as you conduct your business. We hope that this information on your location within the wellhead protection area will result in further precautions to ensure that your activities protect the City's drinking water supply.

Sincerely,

City of West Jordan

Spill Response Contacts

Salt Lake County Health Department Environmental Spill Hotline - (385) 468-8888 #8

City of West Jordan Fire Department - (801) 870-9150

City of West Jordan Public Works Department - (801) 569-5700

Utah DEQ - Division of Drinking Water - (801) 536-4200

City of West Jordan
8000 S. Redwood Rd.
West Jordan, UT 84088
801-569-5100
WestJordan.Utah.gov

Questions or Input

Public comment can be shared during City Council meetings. The Council meets the 2nd and 4th Wednesday of each month at 5:30 p.m. at City Hall, 8000 S. Redwood Road.

Unusual Taste, Odor or Color?

Please contact the Water Division ASAP if your water is ever discolored or you notice any changes in the taste or odor of your water.

We Can Help

Although the main duties of the Water Division include routine and preventative maintenance, staff responds to more than 600 work requests a year. These requests vary from high water bill inspections to leaking fire hydrants or even water main breaks. If you notice a problem or have a question, let us come check it out.

Atención! Muy Importante!

Este reporte de calidad de agua potable contiene valiosa información sobre la calidad del agua que Usted consume. Por favor, haga que alguien de su confianza le traduzca el contenido demismo.

Requests or questions? Email or call:

Email publicworks@westjordan.utah.gov
Utility Billing 801-569-5020
Water Operations 801-569-5700
After-Hour Emergencies 801-330-4528

***Based on water testing performed in 2019**



Water Quality

CONSUMER CONFIDENCE REPORT*

2020

Safe, Clean Water

The City of West Jordan is dedicated to providing you with a safe and dependable water supply and is pleased to present the 2019 Water Quality Report. This report contains important information regarding the quality of your drinking water. The Safe Drinking Water Act requires water providers to report to their customers on the quality of their drinking water each year.

Our Water Sources

The City of West Jordan's water supply comes from two sources — approximately 85% comes from the Jordan Valley Water Conservancy District (treated water sources include mountain reservoirs, springs, wells). The remaining 15% comes from City-owned groundwater wells, which are used only during summer months to help meet high water demand.

Are There Contaminants in My Drinking Water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

For more information about contaminants and potential health effects, please call the Environmental Protection Agency's Safe Drinking Water Hotline at 800-426-4791.

Special Health Alert & COVID-19

The EPA states that the COVID-19' virus has not been detected in drinking-water supplies. Based on current evidence, the risk to water supplies is low. **Americans can continue to use and drink water from their tap as usual.** The EPA also encourages the public to help keep household plumbing and our nation's water infrastructure operating properly by **only flushing toilet paper.** Disinfecting wipes and other items should be disposed of in the trash, not the toilet.

Although West Jordan's water is considered safe, some people may be more vulnerable to drinking water contaminants than the general population. People with compromised immunity such as cancer patients undergoing chemotherapy, people with HIV/AIDS or other immune system disorders, organ transplant recipients, and some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on ways to lessen the

risk of infection by microbiological contaminants are available from the Safe Drinking Water Hotline at 800-426-4791 or online at epa.gov.

Fluoridation

In accordance with the Salt Lake Valley Health Department, the Jordan Valley Water Conservancy District (the City's water supplier) has been adding fluoride to your drinking water since October 1, 2003. Combined with the natural fluoride already present in the water, the amount added provides about 0.6 mg/L at your tap.

Arsenic

While your drinking water meets EPA standards for arsenic, it contains low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your healthcare provider.

Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of West Jordan is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods,

DID YOU KNOW?

Leaky faucets and toilets can waste over 100 gallons of water a day, increasing a water bill almost 15% a month.

and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at www.epa.gov/safewater/lead

Drinking Water Source Protection

Pollution prevention is the most effective ground-water protection measure. Underground aquifers are often threatened by contamination from paint, used motor oil, gasoline, or lawn and garden chemicals that are not disposed of properly. Once the aquifer is polluted, it takes decades and millions of dollars to restore to its pristine condition.

Stormwater Pollution

Stormwater is NOT TREATED and can affect overall water quality. Stormwater flows through storm drains to local creeks, canals and rivers, and can move to groundwater (our drinking water source).

We all live downstream. Everything dropped, sprayed or poured on the ground could end up in stormwater. Avoid placing waste products or chemicals near or in storm drains. Protection of stormwater is key to protecting our drinking water supply.

What Can You Do?

Look through your home, garage or shed for the usual assortment of cans, bottles and boxes of leftover household cleaners, oil-based paints, stain removal products, and automotive fluids of all sorts. If these products are used in any way other than for what they were intended, they are considered hazardous materials and could harm our storm water and our water supply.

The Trans-Jordan Landfill accepts residential hazardous household waste for no charge Monday-Saturday from 8 a.m.-5 p.m. at 10873 S. Bacchus Hwy., South Jordan. Report illegal dumping of oil, fuel, paint and other hazardous materials into the storm system to: West Jordan Public Works 801-569-5700.

Cross Connection Control and Backflow Prevention

A cross connection is an actual or potential physical connection to the drinking water system

through piping that has the possibility of allowing pollutants or contaminants to backflow into the public drinking water system.

Backflow is the reverse flow of non-potable water or other substances back into the drinking water system. A backflow incident could carry pollutants or contaminants into the drinking water system making it unsafe.

Protect your drinking water by installing an inexpensive Hose Bib Vacuum Breaker on each threaded hose bib around your home. These are needed when a hose bib does not come with an anti-siphon feature from the factory and can be found at a home improvement store. Remove hose bib vacuum breakers during freezing temperatures to prevent water pipe breaks.

City code requires all landscape sprinkling systems connected to the public drinking water system be equipped with an approved backflow prevention assembly. These need to be tested annually to comply with state law.

Water Testing

The Water Division takes more than 100 samples each month to make sure the levels for chlorine and disinfectant bi-products are safe, to look for bacteria and viruses, and to monitor natural contaminants like lead and copper.

Definitions

mg/L: milligrams per liter

ug/L: micrograms per liter

pg/L: picograms per liter

ng/L: nanograms per liter

NTU: Nephelometric Turbidity Unit

VOCs: Volatile Organic Compounds

PCBs: Polychlorinated Biphenyls

SOCs: Synthetic Organic Chemicals

pCi/L: picocuries per liter

MPN/mL: most probable number per millileter

Oocysts/1L: Oocysts per 1 liter

Cysts/1L: Cysts per 1 liter

MCL: Maximum Contaminant Level

MCLG: Maximum Contaminant Level Goal

TTHM: Total Trihalomethanes

HAA5s: Five Haloacetic Acids

HPC: Heterotrophic Plate Count

ND: None Detected

NA: Not Applicable

NE: Not Established

UR: Unregulated

TT: Treatment Technique

AL: Action Level

SS: Secondary Standard

Parameter	Units	Average	Maximum	Minimum	Monitoring Criteria			Last Sampled	Comments / Likely Source
					MCL	MCLG	Violation		
Primary Inorganics									
Arsenic	ug/L	1.1	2.4	0.0	10	0	No	2019	Erosion of naturally occurring deposits and runoff from orchards.
Barium	ug/L	45.7	75.1	0.1	2000	2000	No	2019	Erosion of naturally occurring deposits.
Copper	ug/L	18.1	125.0	ND	NE	NE	No	2019	Erosion of naturally occurring deposits.
Chromium	ug/L	0.2	7.1	ND	100	100	No	2019	Discharge from steel and pulp mills; Erosion of natural deposits.
Cyanide, Free	ug/L	<0.002	2.000	ND	200	200	No	2019	Discharge from steel/metal factories; discharge from plastic and fertilizer factories.
Fluoride	mg/L	0.63	0.97	0.10	4	4	No	2019	Erosion of naturally occurring deposits and discharges from fertilizers.
Lead	ug/L	0.2	1.4	ND	NE	NE	No	2018	Fluoride added at source.
Nickel	ug/L	0.20	2.90	ND	NE	NE	No	2019	Erosion of naturally occurring deposits.
Nitrate	mg/L	1.25	4.00	1.00	10	10	No	2019	Runoff from fertilizer, leaching from septic tanks, and naturally occurring organic material.
Selenium	ug/L	0.5	4.1	0.0	50	50	No	2019	Erosion of naturally occurring deposits.
Sodium	mg/L	21.6	74.2	0.0	NE	NE	No	2019	Erosion of naturally occurring deposits and runoff from road deicing.
Sulfate	mg/L	55.9	239.0	51.0	1000	NE	No	2019	Erosion of naturally occurring deposits.
TDS	mg/L	248.3	1100.0	0	2000	NE	No	2019	Erosion of naturally occurring deposits.
Turbidity (groundwater sources)	NTU	0.2	0.6	0.00	5	NE	No	2019	MCL is 5.0 for groundwater. Suspended material from soil runoff.
Turbidity (surface water sources)	NTU	ND	0.15	0.00	0.3	TT	No	2018	MCL is 0.3 NTU 95% of the time for surface water. Suspended material from soil runoff.
SECONDARY INORGANICS - Aesthetic Standards									
Aluminum	ug/L	12.20	60.00	0.0	SS = 50-200	NE	No	2019	Erosion of naturally occurring deposits and treatment residuals.
Chloride	mg/L	35.0	161.0	10.00	SS = 250	NE	No	2019	Erosion of naturally occurring deposits.
Color	CU	3.00	10.00	0.50	SS = 15	NE	No	2019	Decaying naturally occurring organic material and suspended particles.
Iron	ug/L	21.7	187	ND	SS = 300	NE	No	2019	Erosion of naturally occurring deposits.
Manganese	ug/L	3.4	34.00	ND	SS = 50	NE	No	2019	Erosion of naturally occurring deposits.
pH		7.7	8.5	6.8	SS = 6.5-8.5	NE	No	2019	Naturally occurring and affected by chemical treatment.
Zinc	ug/L	0.2	10.0	ND	SS = 5000	NE	No	2019	Erosion of naturally occurring deposits.
UNREGULATED PARAMETERS - monitoring not required									
Alkalinity, Bicarbonate	mg/L	130	225	25	UR	NE	No	2019	Naturally occurring.
Alkalinity, Carbonate	mg/L	2.5	63.9	ND	UR	NE	No	2019	Naturally occurring.
Alkalinity, CO2	mg/L	100.8	200.0	28.00	UR	NE	No	2016	Naturally occurring.
Alkalinity, Total (CaCO3)	mg/L	112.1	225.0	22.0	UR	NE	No	2019	Naturally occurring.
Bromide	ug/L	ND	9.4	ND	UR	NE	No	2019	Naturally occurring.
Calcium	mg/L	41.7	87	23.00	UR	NE	No	2019	Erosion of naturally occurring deposits.
Chemical Oxygen Demand	mg/L	8.3	18.0	ND	UR	NE	No	2014	Measures amount of organic compounds in water. Naturally occurring.
Conductance	umhos/cm	416.9	1100	45.00	UR	NE	No	2018	Naturally occurring.
Geosmin	ng/L	1.3	6.8	ND	UR	NE	No	2018	Naturally occurring organic compound associated with musty odor.
Hardness, Calcium	mg/L	105.9	200.0	9.0	UR	NE	No	2018	Erosion of naturally occurring deposits.
Hardness, Total	mg/L	173.3	381	93.60	UR	NE	No	2018	Erosion of naturally occurring deposits.
Magnesium	mg/L	16.6	41.3	6.90	UR	NE	No	2018	Erosion of naturally occurring deposits.
Molybdenum	ug/L	0.87	2.20	ND	UR	NE	No	2018	By-product of copper and tungsten mining.
Oil & Grease	mg/L	23.2	40.0	ND	UR	NE	No	2016	Petroleum hydrocarbons can either occur from natural underground deposits or from man made lubricants.
Orthophosphates	ug/L	1.6	20.0	ND	UR	NE	No	2019	Erosion of naturally occurring deposits.
Potassium	mg/L	1.6	3.5	ND	UR	NE	No	2019	Erosion of naturally occurring deposits.
TSS (Total Suspended Solids)	mg/L	ND	ND	ND	UR	NE	No	2019	Erosion of naturally occurring deposits.
Turbidity (distribution system)	NTU	0.1	0.5	0.1	UR	NE	No	2019	Suspended material from soil runoff.
Vanadium	ug/L	0.854	2.200	ND	UR	NE	No	2019	Naturally occurring.
UNREGULATED PARAMETERS - monitoring required by EPA									
chlorate	ug/L	0.5	0.8	ND	UR	NE	No	2014	The Unregulated Contaminant Monitoring Rule (UCMR) is a monitoring program mandated by EPA. It requires public water systems to monitor for different parameters selected by EPA.
chromium-6	ug/L	ND	ND	ND	UR	NE	No	2014	
strontium	ug/L	0	0	0.000	UR	NE	No	2014	
VOCs									
All Parameters		ND	ND	ND	UR	NE	No	2019	Various sources
PESTICIDES/PCBs/SOCs									
Bis (2ethylhexyl) phthalate	ug/L	ND	0.70	ND	6.0	0	No	2019	Discharge from rubber and chemical factories.
RADIOLOGICAL									
Radium 226	pCi/L	0.18	1.30	-0.54	NE	NE	No	2019	Decay of natural and man-made deposits.
Radium 228	pCi/L	0.53	1.60	-0.30	NE	NE	No	2019	Decay of natural and man-made deposits.
Radium 226 & 228	pCi/L	0.50	2.60	-0.29	5	NE	No	2019	Decay of natural and man-made deposits.
Gross-Alpha	pCi/L	3.0	14.0	-1.3	15	NE	No	2019	Decay of natural and man-made deposits.
Gross-Beta	pCi/L	6.2	32.0	1.2	50	NE	No	2019	Decay of natural and man-made deposits.
Uranium	ug/L	4	10	ND	30	NE	No	2019	Decay of natural and man-made deposits.
Radon	pCi/L	ND	0	ND	NE	NE	No	2019	Naturally occurring in soil.
DISINFECTANTS / DISINFECTION BY-PRODUCTS									
Chlorine	mg/L	0.55	0.99	0.03	4	NE	No	2019	Drinking water disinfectant.
TTHMs	ug/L	38.60	67.90	1.20	80	NE	No	2019	High result is not a violation, violation is determined on annual location average. By-product of drinking water disinfection.
HAA5s	ug/L	20.2	50.8	ND	60	NE	No	2019	High result is not a violation, violation is determined on annual location average. By-product of drinking water disinfection.
HAA6	ug/L	19.85	53.6	2.20	UR	NE	No	2019	By-product of drinking water disinfection.
Chlorine Dioxide	ug/L	ND	0.07	ND	800	NE	No	2019	Drinking water disinfectant.
Chlorite	mg/L	0.51	0.75	ND	1	0.8	No	2019	By-product of drinking water disinfection.
ORGANIC MATERIAL									
Total Organic Carbon	mg/L	1.50	3.10	ND	TT	NE	No	2019	Naturally occurring.
Dissolved Organic Carbon	mg/L	1.80	2.30	1.60	TT	NE	No	2019	Naturally occurring.
UV-254	1/cm	0.02	0.05	0.01	UR	NE	No	2019	This is a measure of the concentration of UV-absorbing organic compounds. Naturally occurring.
LEAD and COPPER (tested at the consumer's tap) - monitoring required every 3 years.									
Lead	ug/L	2	23	ND	AL = 15	NE	No	2017	Lead violation is determined by the 90th percentile result. Corrosion of household plumbing systems, erosion of naturally occurring deposits.
Copper	ug/L	158	859	28	AL = 1300	NE	No	2017	Copper violation is determined by the 90th percentile result. Corrosion of household plumbing systems, erosion of naturally occurring deposits.
90th Percentile # of sites above Action Level		Lead = 305 ppb, Copper = 250 ppb							
		Lead = 1, Copper = 0							
PROTOZOA (sampled at source water - prior to treatment)									
Cryptosporidium	Oocysts/1L	ND	ND	ND	TT	0	No	2017	Parasite that enters lakes and rivers through sewage and animal waste.
Giardia	Cysts/1L	1.5	7	0	TT	0	No	2017	Parasite that enters lakes and rivers through sewage and animal waste.
MICROBIOLOGICAL									
HPC	MPN/mL	0	0	0	500	0	No	2019	Used to measure the overall bacteriological quality of drinking water
Total Coliform	% Positive per Month	0%	0%	0%	Not >5%	0	No	2019	MCL is for monthly compliance. All repeat samples were negative; no violations were issued. Human and animal fecal waste, naturally occurring in the environment.

Our drinking water meets all Federal and State requirements.

Complete report available online at WestJordan.Utah.gov

Did You Know?

One pint of oil can produce a one-acre slick on a water surface and contaminate 250,000 gallons of water.



Potential Contaminants

Storm water flows through storm drains directly to local creeks and rivers with NO TREATMENT. Water quality can be affected by a number of natural elements as well as chemical elements introduced by humans.

Contaminants resulting from unwise landscaping practices such as over applying or over watering might include dirt, leaves, grass clippings, fertilizers, herbicides, and pesticides.

Chemicals from household products from washing your car, painting, or household cleaners.

Toxins such as oil or antifreeze that may leak from your car.

Avoiding Water Contamination

- Never use the gutter or storm drain system for disposal of household hazardous waste. If you wouldn't drink it, don't dump it.

- Reduce automotive emissions through regular maintenance and by limiting vehicle usage.

- Clean spills with kitty litter or absorbent material and let dry. Dispose of cleanup as solid waste.

- Follow manufacturers' directions and properly dispose of unused household chemicals like cleaners, herbicides and pesticides.

- Store toxic products and chemicals indoors in a shed or storage cabinet.

- Use the least hazardous methods first to prevent and control pest or weed problems.

- Look for and consider using the least toxic cleaning products available.

- Take unwanted hazardous materials and containers to the household hazardous waste disposal facility at the Trans-Jordan Landfill.

- Do not wash tools and equipment in gutters, driveways, or drainage ways.

- Inspect and maintain vehicles to reduce fluid leakage.

- Vehicles should be washed at a commercial car wash. Vehicles can be washed on the lawn with biodegradable soap to reduce wash water flowing to the storm drain system.

- Recycle oil. Pour used oil into an unbreakable container like a plastic milk jug, seal and label. Recycling oil could reduce national petroleum imports by 25.5 million barrels per year.

- Do not mix other materials with oil.

'Slow the Flow'

Utah is a desert state, and even if we never have another drought, the Utah Division of Water Resources says water conservation is critical because of anticipated population growth — most of which is internal. The city's water supplier is also required by Federal contracts to reduce per capita water consumption.

The goal is to reduce per capita consumption by 25% between the years 2000 and 2025. The city has reduced per capita consumption since the year 2000, and we fully expect to reach the 25 percent goal by 2025. But our progress is fragile and reversible. Within one season, our numbers could easily jump back up to our old wasteful levels. For example, if we all started showering two minutes longer and watering our lawns five minutes longer, this would eliminate 10 years of progress overnight.

West Jordan is on the right track. With your help, we will reach our long-term goals.

Help the City meet its water conservation goals and recommend ideas to the City Council on how the City can plan for tomorrow by adopting a variety of sustainable practices. Visit WestJordan.Utah.gov for more information or email publicworks@wjordan.com.

Indoor & Outdoor Water Use

About 66% of West Jordan residents' culinary water is used for landscape irrigation. Most of us give our lawn twice as much water as it really needs. The easiest way to achieve the most water savings is to water deeply, but as infrequently as possible, depending on the weather. Try applying 1/2" of water at a time (this will soak 6-7 inches deep), and irrigate once a week in the spring, increasing gradually to once every three days in summer, then gradually back to once a week in fall. Visit conservewater.utah.gov for real-time watering recommendations.

Six Measures to Help Ensure Water Quality Control

1. Public education and outreach
2. Public participation/involvement
3. Illicit discharge detection and elimination
4. Construction site runoff control
5. Post-construction runoff control
6. Pollution prevention and good housekeeping



Did You Know?

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.



City of West Jordan
Public Works Department
7960 South 4000 West
West Jordan, Utah 84088
Phone (801) 569-5700

Carver Construction
5577 Leo Park Road
West Jordan, UT 84081

12-23-2020

RE: Protecting Groundwater

Dear Carver Construction:

The City of West Jordan has a well located near your business that provides clean, high quality drinking water to the businesses and residences within our service area. Water that is pumped from the well flows through a groundwater aquifer that is located beneath this area before reaching the well. Because the soils between the ground surface and the aquifer are porous, any contaminants that are discharged on the ground have the potential to seep into the groundwater aquifer and eventually contaminate the water in the well. This could in turn compromise the health of the people drinking the water.

Fortunately, there is something that we all can do to protect groundwater quality. Careful and proper handling and disposal of chemicals, fuels, or other contaminants will prevent the discharge of these contaminants into the ground. Here are some easy ideas for how you can help us protect public health by protecting groundwater:

Listing of Management Strategies

Table with 2 columns: Strategy Code and Management Strategies. Rows include A (pesticides/herbicides/fertilizers), B (Best Management Practices for pollution prevention), C (secondary spill containment), D (automotive waste disposal), and E (leak/spill notification).

For your reference, we have also attached an information bulletin that provides other ideas on how you can protect groundwater.

Thank you for your cooperation and support as we all work together to keep our groundwater safe and clean!

Sincerely,

Brian Clegg
Director of Public Works



City of West Jordan
Public Works Department
7960 South 4000 West
West Jordan, Utah 84088
Phone (801) 569-5700

Copper Hills Youth Center
5899 Rivendell Dr.
West Jordan, UT 84081

12-23-2020

RE: Protecting Groundwater

Dear Copper Hills Youth Center:

The City of West Jordan has a well located near your business that provides clean, high quality drinking water to the businesses and residences within our service area. Water that is pumped from the well flows through a groundwater aquifer that is located beneath this area before reaching the well. Because the soils between the ground surface and the aquifer are porous, any contaminants that are discharged on the ground have the potential to seep into the groundwater aquifer and eventually contaminate the water in the well. This could in turn compromise the health of the people drinking the water.

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Sincerely,

Brian Clegg
Director of Public Works



City of West Jordan
Public Works Department
7960 South 4000 West
West Jordan, Utah 84088
Phone (801) 569-5700

Copperhills Power Equipment
5662 Wells Park Rd.
West Jordan, UT 84081

12-23-2020

RE: Protecting Groundwater

Dear Copperhills Power Equipment:

The City of West Jordan has a well located near your business that provides clean, high quality drinking water to the businesses and residences within our service area. Water that is pumped from the well flows through a groundwater aquifer that is located beneath this area before reaching the well. Because the soils between the ground surface and the aquifer are porous, any contaminants that are discharged on the ground have the potential to seep into the groundwater aquifer and eventually contaminate the water in the well. This could in turn compromise the health of the people drinking the water.

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Sincerely,

Brian Clegg
Director of Public Works



City of West Jordan
Public Works Department
7960 South 4000 West
West Jordan, Utah 84088
Phone (801) 569-5700

Cottonwood Landscapes
5718 Dannon Way
West Jordan, UT 84081

12-23-2020

RE: Protecting Groundwater

Dear Cottonwood Landscapes:

The City of West Jordan has a well located near your business that provides clean, high quality drinking water to the businesses and residences within our service area. Water that is pumped from the well flows through a groundwater aquifer that is located beneath this area before reaching the well. Because the soils between the ground surface and the aquifer are porous, any contaminants that are discharged on the ground have the potential to seep into the groundwater aquifer and eventually contaminate the water in the well. This could in turn compromise the health of the people drinking the water.

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Sincerely,

Brian Clegg
Director of Public Works



1 Vehicle/Equipment Maintenance

- Provide a designated area to perform vehicle maintenance including vehicle washing that is inside a covered structure or building and is connected to the sanitary sewer with approval by local sanitary sewer district. See Covered Storage BMPs below.
- Store vehicle fluids separately in closed, labeled, and non-leaking containers and dispose of properly. Perform cleaning at a centralized station to ensure liquids stay in one area.
- Remove batteries & place in a closed, acid-resistant storage container.
- Clean up spills immediately using dry cleanup procedures and properly dispose of cleanup materials.

2 Detention/Retention/Infiltration Basins

- Use detention basins to collect uncontaminated storm water before discharging to surface or ground water.
- Use retention basins for process waste water to ensure capture and containment of all pollutants.
- Use infiltration basins to help remove sediments by infiltrating storm water into the soil.

3 Storm Drain Inlet Protection

- Use rock waddles, sand bags, or other appropriate material to cover the storm drain inlet to filter out trash and debris.
- Make sure the rock size, that is used in the rock waddle, is no larger than 1 inch in diameter; preferably use pea gravel or sand.
- Inspect inlet protection devices and maintain regularly as needed.
- Divert storm water drainage from liquid storage, loading/unloading facilities, and other operations areas.



4 Minimize Storm Water Discharge

- Direct downspout discharge into a vegetated area to minimize the volume of storm water discharged into the storm drain system.
- Direct downspout drainage to above or below ground cisterns. Water can be used for irrigation of landscapes, lawns, or gardens.
- Direct storm water runoff into a lined retention pond for evaporation.

TOP TEN BMPs

for Pollution Prevention at Industrial & Municipal Sites

See back for more information.

For more information on Best Management Practices (BMPs), go to:

www.BizHelp.utah.gov

For questions contact the Division of Water Quality at:

801-536-4300

To report an Environmental Emergency, call:

1-800-458-0145



5 Clean Paved Surfaces

- Prevent or clean up releases of automotive fluids and chemical spills to prevent surface contamination.
- Sweep and clean storage areas monthly or regularly as needed. Use dry cleanup methods.
- Use de-icing materials only when necessary on the parking lots and access roads in the winter.



6 Fugitive Dust Suppression

- Apply water on haul roads.
- Haul materials in properly tarped or sealed containers.
- Restrict vehicle speeds to 10 mph on-site.
- Prevent visible "track out", e.g., pollutants carried on the tires of vehicles or windblown raw materials.



7 Waste Management

- Cover all waste material with a durable, non-leaking cover and anchor in a way to keep water from entering the dumpster. See Covered Storage BMP below.
- Reuse or recycle paints, fluids, and parts when possible. Store in non-leaking, closed, and labeled container.
- Keep hazardous and non-hazardous wastes separate.



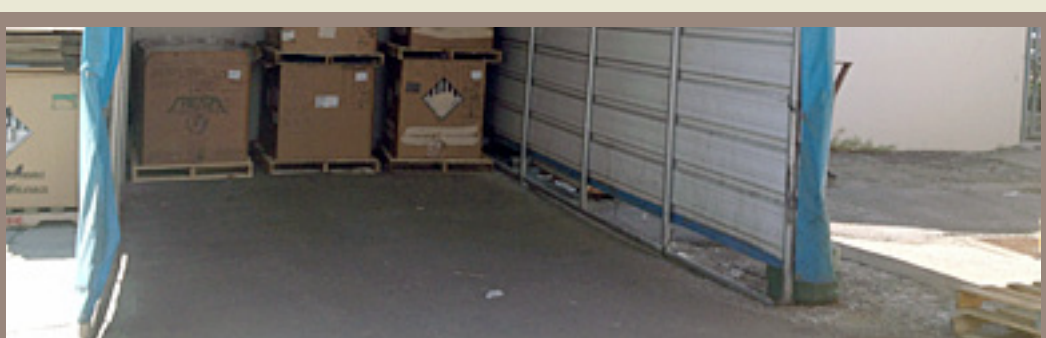
8 Secondary Containment

- Use secondary containment to capture and control leaking materials, including potential leaks from pipes, tanks, and storage containers.
- The secondary container walls, floors, and joints should be made of durable materials, e.g., concrete, concrete block, plastic, or steel.
- Capacity of the secondary container shall be at least 110% of the total volume capacity of the primary container. The total capacity of all primary and secondary containers should be clearly marked.
- Fill locations should have drip trays that drain into a drum or other container. Dispensing areas should have their own containment.



9 Good Housekeeping

- Look for leaks and maintenance issues. This could include loose fittings, gaskets, pumps, piping connections, and rubber nozzles on fuel dispensers.
- Label all containers of hazardous substances with the name of the chemical, expiration date, health or environmental hazards, and dispose of properly.
- Use pesticides, herbicides, fertilizers, and other chemicals only when needed and follow instructions on the label.
- Replace containers that are leaking, corroded, or otherwise deteriorating.
- Keep an accurate, up-to-date inventory of materials.
- Train employees and contractors on proper storm water best management practices.



10 Covered Storage

- Preferably store equipment, deicing materials, etc. in covered structures/buildings. "Covered structures/buildings" are completely roofed and walled, or with top cover but no side coverings, provided materials are not subject to run-on and runoff.
- Drums, barrels, tanks, and similar containers must be tightly sealed, non-leaking, and in good condition. "Sealed" means banded or otherwise secured and without operational taps or valves.
- Preferably store all materials with a durable, non-leaking cover (lid or some other type of cover) and anchor to keep water from entering the container. A "durable, non-leaking cover" means that nothing can enter from the top, drain out of holes in the bottom and no material is lost in loading or unloading.

Best Management Practices

Pollution Prevention

Pollution Prevention at Industrial & Municipal Sites

Do you manage or work at an industrial or municipal facility? If so, this guide is to help YOU minimize the generation of wastes at your facility, reduce or eliminate the discharge of pollutants in storm water runoff, as well as, recycle or reuse as many materials as possible. It covers Best Management Practices or BMPs. BMPs will help you save money by reducing waste disposal costs through better work practices and proper materials storage. BMPs are proven methods to help prevent pollution from being created, known as pollution prevention.

You can find storm water resources by selecting Storm Water on the Division of Water Quality website at:

www.waterquality.utah.gov

Most storm water discharges from Municipal and Industrial sites are considered point sources and an UPDES permit is required to prevent or minimize the discharge of pollutants in storm water runoff. You can find information on UPDES permits by selecting Storm Water > Industrial Activities or MS4:

www.waterquality.utah.gov

For best practices in storm water management, go to the Center for Watershed Protection website at:

www.cwp.org

For additional BMPs, go to the International Stormwater BMP Database website at:

www.bmpdatabase.org

Resources

Local Sanitary Sewer Districts (SSD)

Contact the city's sanitary sewer district.

Salt Lake County Health Department's Small Business Waste

Select Program/Services > Household Hazardous Waste at: www.slcohealth.org.

Utah Division of Air Quality

(Air quality permits/Fugitive Dust Plan) (801-536-4000)
Select Permits or Compliance at:
www.airquality.utah.gov.

Utah Division of Solid and Hazardous Waste

(Recycling Information) (801-536-0200)
Select Recycling Information at:
www.hazardouswaste.utah.gov.

Utah Division of Water Quality

(Storm Water Program) (801-536-4300)
Select Programs > Storm Water Program at:
www.waterquality.utah.gov.

Utah Department of Environmental Quality

(Report Spills: 801-536-4123) or
(DEQ Hotline: 1-800-458-0145)
www.deq.utah.gov

Environmental

BEST MANAGEMENT PRACTICES

at Industrial & Municipal Sites

Hazardous Wastes: Identifying Hazardous Wastes

Business owners and operators are responsible for determining whether wastes that are generated on-site are hazardous or non-hazardous, as defined by the Resource Conservation and Recovery Act. There are several ways to identify hazardous wastes:

- Review Material Safety Data Sheets (MSDS) and product labels.
- Send a sample of waste to a laboratory for analysis. Important tests may include: pH, volatile organics, total petroleum hydrocarbons and heavy metals. If you use the same industrial process, you may only need to periodically test a waste stream.

The following materials are not considered hazardous waste:

- Spent lead acid batteries and mercury devices that will be sent off-site for reclamation.
- Gasoline, diesel, and used oil that has not been mixed with hazardous waste and is reused or recycled on or off-site.
- Solvent-contaminated wipes that are cleaned at industrial laundries or dry cleaners and reused or disposed of at a landfill.

For information on specific waste generator categories, go to: EPA's Managing Your Hazardous Waste: A Guide for Small Businesses at:

www.epa.gov/osw/hazard/generation/sqg/sqghand.htm

Spill Management

Clean up spills and leaks immediately.

- Store and maintain spill cleanup materials in a location that is readily accessible.
- Use absorbent to clean up spills.
- Store used absorbent in closed, labeled, and non-leaking container and dispose of properly.
- For guidance on disposing of spills of hazardous waste properly (R315-9 of the Utah Administrative Code), contact Utah Division of Solid and Hazardous Waste at 801-536-0200.
- Report spills to Utah DEQ at 801-536-4123.

Storm Water

The goal of a Storm Water Pollution Prevention Plan (SWPPP) is to eliminate or minimize the discharge of pollutants in storm water runoff. Storm water can carry pollutants such as oils, solvents, and heavy metals directly into streams or other surface waters, causing harm to Utah's rivers and lakes. The plan:

- Describes the facility and its operations.
- Identifies potential sources of storm water pollution at the facility.
- Lists Best Management Practices (BMP) or pollution control measures to reduce the discharge of pollutants in storm water runoff.

For more information on SWPPP, select Storm Water at:

www.waterquality.utah.gov

Outdoor Loading/Unloading

To minimize the discharge of pollutants in storm water runoff, follow these practices in outdoor loading/unloading areas:

- Conduct loading and unloading in dry weather if possible.
- Cover designated loading/unloading areas or use building overhangs at loading docks to reduce exposure of materials to rain.
- Consider placing a seal or door skirt between delivery vehicles and buildings to prevent exposure to rain.
- Design loading/unloading area to prevent storm water runoff, including grading or berming the area and positioning roof downspouts to direct storm water away from loading/unloading areas.
- Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfers and while making and breaking connections.
- Pave loading areas with concrete instead of asphalt.
- Avoid placing storm drains in the loading/unloading area.

Vehicle and Equipment Fueling

Fueling-related releases are a major source for contamination of surface waters and aquifers. Proper design and operation of fueling facilities and systems should be an environmental priority.

- Post signs at the fuel dispenser or fuel island warning vehicle owners/operators against "topping off" of vehicle fuel tanks.
- Cover fueling area with an overhanging roof structure or canopy.
- If a covering is not feasible and the fuel island is surrounded by pavement, apply a suitable sealant that protects the asphalt from spilled fuels.

Solvents

Solvents offer a quick, easy way to clean grease, oil, and dirt off parts but many solvents are harmful to employees and the environment. Use the following practices to minimize impacts:

- Use solvents sparingly and use nonhazardous or less hazardous materials whenever possible.
- Store solvents in closed, labeled, and non-leaking container and dispose of properly.
- Use solvents at a centralized station only.
- Never dispose of any solvents into drains, on the ground, in the garbage, or by evaporating to the air.

Employee Training/Education

Train employees and contractors on proper storm water best management practices including:

- Procedures for loading and/or unloading.
- Proper cleanup and spill response procedures.
- Proper handling and disposal of engine fluids and waste materials.
- Proper fueling and cleanup procedures.
- Recordkeeping of significant spills and leaks of toxic or hazardous pollutants.