

APPLICATION REVIEW ROUTER

WA ECY CRO Water Quality

Date:

Facility Name:

Facility Manager:

New Facility: YES ☐ NO ☐

Submitted via:

STEP	ACTION	DATE
1. Permit Coordinator	Stamp Received:	
	Send Official Receipt:	
	Upload to Sharepoint:	
	Update OneNote:	
	Notify Reviewer:	
2. Lead Reviewer	Reviewer:	
	Due Date:	
	ACCEPT:	
	REJECT:	
2. Secondary Reviewer (If Necessary)	Reviewer:	
	Due Date:	
3. Permit Coordinator	Inform Applicant:	
	Upload to PARIS:	
	Closeout Sharepoint	
	Closeout OneNote	



Application for a State Waste Discharge Permit to Discharge Industrial Wastewater to Ground Water by Land Treatment or Application

This application is for a state waste discharge permit as required by Chapter 90.48 RCW and Chapter 173-216 WAC. Permit applications provide Ecology with information on pollutants in the waste stream, materials that may enter the waste stream, the flow characteristics of the discharge, and the site characteristics at the point of discharge.

Ecology may request additional information to clarify the conditions of this discharge. The applicant should reference information previously submitted to Ecology that applies to this application in the appropriate section.

SECTION A. GENERAL INFORMATION

1. Applicant name: Mikel Hansen, Chief Operating Officer Sabey Corp.
2. Facility name:
(if different from applicant) Intergate Columbia - Buildings A, B, D & E
3. Applicant mail address: 12201 Tukwila International Blvd. 4th Floor
Street
Seattle, WA 98168
City/State Zip
4. Facility location
address:
(if different from above) 4405 Grant Road
Street
East Wenatchee, WA 98802
City/State Zip
5. UBI No. 6026388
91
6027122
37
Sometimes called a registration, tax, "C," or resale number, the Unified Business Identifier (UBI) number is a nine-digit number used to identify persons engaging in business activities. The number is assigned when a person completes a [Master Business Application](#) to register with or obtain a license from state agencies. The Departments of Revenue, Licensing, Employment Security, Labor and Industries, and the Corporations Division of the Secretary of State are among the state agencies participating in the UBI program.
6. Latitude/longitude of the processing facility as decimal degrees (NAD83/WGS84):
47.407645 / -120.188758

FOR ECOLOGY USE ONLY

Check One

New/Renewal ☐ Modification ☐

Date application received

Application/Permit no.

Date application accepted

Date fee paid

7. Person to contact who is familiar with the information contained in this application:

John N. Smith, P.E.

Name

Vice President/Civil Engineer

Title

425-405-1509

Telephone number

Fax number

8. Check One:



Permit renewal (including renewal of temporary permits authorized by RCW 90.48.200)

Does this application request a greater amount of wastewater discharge, a greater amount of pollutant discharge, or a discharge of different pollutants than specified in the last permit application for this facility? ☒ YES ☐ NO

For permit renewals, the current permit is an attachment, by reference, to this application.



Permit modification



Existing

unpermitted discharge



Proposed discharge

Anticipated date of discharge: TBD

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and/or imprisonment for knowing violations.

Mikel Hansen

Mikel Hansen (Apr 8, 2022 13:59 PDT)

Signature*

4/8/2022

Date

Chief Operating Officer Sabey Corp

Title

Mikel Hansen

Printed name

*Applications must be signed as follows: Corporations, by a principal executive officer of at least the level of vice-president; partnership, by a general partner; sole proprietorship, by the proprietor. If these titles do not apply to your organization, the person who makes budget decisions for this facility must sign the application.

The application signatory may delegate signature authority for submittals required by the permit, such as monthly reports, to a suitable employee. You can delegate this authority to a qualified individual or to a position, which you expect to fill with a qualified individual. If you wish to delegate signature authority, please complete the following:

Devlin Walt

Devlin Walt (Apr 11, 2022 11:32 PDT)

Signature of delegated employee

4/8/2022

Date

Building Engineer

Title or function at the facility

Devlin Walt

Printed name

SECTION B. PRODUCT INFORMATION

- Briefly describe all manufacturing processes and products, and/or commercial activities at this facility. Provide the applicable Standard Industrial Category (SIC) and the North American Industry Classification System (NAICS) Code(s) for each activity (see *North American Industrial Classification System*, 2007 ed.). You can find the 1997 NAICS codes and the corresponding 1987 Standard Industry Category (SIC) codes at (<http://www.census.gov/epcd/naics/frames3.htm>).

Description: DATA CENTER
 COMPUTER FACILITIES MANAGEMENT SERVICES
 SIC 7376
 NAICS 541513

- List raw materials and products:

Type	RAW MATERIALS
<i>Potatoes (Example)</i>	<i>20 million tons per year</i>
N/A	

Type	PRODUCTS
<i>French fries (Example)</i>	<i>10 million pounds per year</i>
N/A	

SECTION C. PLANT OPERATIONAL CHARACTERISTICS

- For each process listed in B.1 that generates wastewater, list the process, assign the waste stream a name and ID #, and describe whether it is a batch or continuous flow.

Process	Waste Stream Name	Waste Stream ID#	Batch (B) or Continuous (C) Process
NON CONTACT COOLING WATER	DUMP (TO POTW)	#1	BATCH
NON CONTACT COOLING WATER	DUMP (NURSERY SPRAYFIELD)	#2	BATCH
NON CONTACT COOLING WATER	DUMP (LANDSCAPE SPRAYFIELD)	#3	BATCH

- On a separate sheet, produce a schematic drawing showing production processes and water flow through the facility and wastewater treatment devices (*label as attachment C2*). The drawing should indicate the source of intake water and the operations contributing wastewater to the effluent and should label the treatment units. Construct the water balance by showing average flows between intakes, operations, treatment units, and points of discharge to land. If a water balance cannot be determined (*e.g., for certain mining activities*), provide a description of the nature and amount of any sources of water and any collection or treatment measures.
- What is the highest daily discharge flow from the processing facility:
(Specify the time period for the value given)

What is the highest daily discharge flow to the sprayfields/infiltration basin:
(Specify the time period for the value given)

What is the highest average monthly discharge flow (daily flows averaged over a month) from the processing facility:
(Specify the time period for the value given)

What is the highest average monthly discharge flow to the sprayfields:
(Specify the time period for the value given)

112,000 gallons per DAY

inches/acre/month OR
82,000 gallons per day

112,000 gallons/day?

inches/acre/month OR
28,000 gallons per day
- Describe any planned wastewater treatment or sprayfield/infiltration improvements and the schedule for the improvements or changes. (*Use additional sheets, if necessary and label as attachment C4.*)

Sewage stream is to be split from condensate discharge stream. Only condensate discharge shall be used for irrigation purposes. Proposed schedule for sprayfield improvements to be determined.

5. If production processes are subject to seasonal variations, provide the following information. List discharge for each wastestream in gallons or million gallons per month. The combined value for each month should equal the estimated total monthly flow. Please indicate the proper unit by checking one of the following boxes:

☒ gallons per day ☐ gallons per month ☐ million gallons per month

Waste Stream ID#	MONTHS											
	J	F	M	A	M	J	J	A	S	O	N	D
#1	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
#2				28,000	28,000	28,000	28,000	28,000	28,000	28,000		
#3				27,000	54,000	54,000	54,000	54,000	54,000	27,000		
Estimated Total Monthly Flow (GPD)	30,000	30,000	30,000	85,000	112,000	112,000	112,000	112,000	112,000	85,000	30,000	30,000

6. If this is a discharge from the processing facility to a storage or evaporative lagoon, what is the size of the lagoon (give square footage for the bottom of the lagoon and the total volume of the lagoon at full operating depth). 10,000 square feet; 10 million gallons (Example)

7. Check the applicable box. Is this a discharge to a sprayfield ☒ or an infiltration bed ☐? Provide the average gallons per acre per day proposed for each month in the following table.

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept.	Oct	Nov	Dec
Estimated gallons per acre per day				2,291	3,416	3,416	3,416	3,416	3,416	2,291		

8. How many hours a day does this facility typically operate? 24
 How many days a week does this facility typically operate? 7
 How many weeks per year does this facility typically operate? 52
9. List all incidental materials such as oil, paint, grease, solvents, and cleaners that are used or stored on site (list only those with quantities greater than 10 gallons for liquids and 50 pound quantities for solids). For solvents and solvent-based cleaners, include a copy of the material safety data sheet for each material and estimate the quantity used. *Use additional sheets, if necessary and label as attachment C.7.)*

Materials/Quantity Stored: NONE.

- | | | Yes | No |
|-----|---|-------------------------------------|-------------------------------------|
| 10. | Some types of facilities are required to have spill or waste control plans. Does this facility have: | | |
| a. | A spill prevention, control, and countermeasure plan (40 CFR 112)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. | An Oil Spill Contingency Plan (chapter 173-182 WAC)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. | An emergency response plan (per WAC 173-303-350)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. | A runoff, spillage, or leak control plan (per WAC 173-216-110(f))? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e. | Any spill or pollution prevention plan required by local, state or federal authorities? If yes specify: _____ | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f. | A solid waste control plan? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SECTION D. WATER CONSUMPTION AND WATER LOSS

1. Potable water source(s):
- ☒ ☐ Public system (Specify name) East Wenatchee Water District
- ☐ ☐ Private well ☐ Surface water (Specify name of water body) _____
- a. Water right permit number: N/A
- b. Legal description of water source:
- SE $\frac{1}{4}$ S, SW $\frac{1}{4}$ S, 10, Section, 22N TWN, 21E R
2. Potable water use
- a. Indicate total water use:
- | | |
|---------------------------|----------------|
| Gallons per day (average) | <u>102,400</u> |
| Gallons per day (maximum) | <u>198,400</u> |
- b. Is water metered? ☒ YES ☐ NO
3. Supplemental Irrigation water source(s):
- ☒ ☐ Public system or Irrigation District (Specify name) East Wenatchee Water District
- ☐ ☐ Private well ☐ Surface water (Specify name of water body) _____
- a. Water right permit number: N/A
- b. Legal description of water source:
- _____ $\frac{1}{4}$ S, _____ $\frac{1}{4}$ S, _____, Section, _____ TWN, _____ R

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SECTION E. WASTEWATER INFORMATION

1. How are the water intake and effluent flows measured?

Intake: METERED

Effluent METERED

2. Describe the collection method for the samples analyzed below. (*i.e.*, grab, 24-hour composite). Applicants must collect grab samples (not composites) for analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including *E. coli*), and Enterococci (previously known as fecal streptococcus at § 122.26 (d)(2)(iii)(A)(3)), or volatile organics.

GRAB SAMPLES

3. Has the effluent been analyzed for any other parameters than those identified in question E.4.? ☒ YES ☐ NO
If yes, attach results and label as attachment E.4. This data must clearly show the date, method and location of sampling. (*Note: Ecology may require additional testing.*)
4. Provide measurements or range of measurements for treated wastewater prior to discharge to the POTW for the parameters with an "X" in the left column. If you obtain the application from the internet, contact Ecology's regional office to see if testing for a subset of these parameters is permissible. All analyses (except pH) must be conducted by a laboratory registered or accredited by Ecology (WAC 173-216-125). If this is an application for permit renewal, provide data for the last year for those parameters that are routinely measured. For parameters measured only for this application, place the values under "Maximum." Report the values with units as specified in the parameter name or in the detection level.

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table unless Ecology approves an alternate method **or the method used produces measurable results in the sample and EPA has listed it as an EPA approved method in 40 CFR Part 136. If the Permittee uses an alternative method as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.**

X	Parameter	Measurement Values			Number of Analyses	Analytical Method Std. Methods 19 th , 20 th edition or EPA	Detection Limit/Quantitation Level
		Minimum	Maximum	Average			
X	BOD (5 day)			<2 mg/L	8	SM 5210 B	/2 mg/l
	COD					SM 5220 D	/10 mg/l
X	Total suspended solids			4.07 mg/L	8	SM 2540 D	/5 mg/l
	Fixed Dissolved Solids					SM 2540 E	
	Total dissolved solids					SM 2540 C	
	Conductivity (micromhos/cm)					SM 2510 B	
	Ammonia-N as N					SM 4500-NH ₃ C	/0.3 mg/L
X	pH			7.86	8	SM 4500-H	0.1 standard units
	Fecal coliform (organisms/100 mL)					SM 9221 E or 9222 D	
	Total coliform (organisms/100 mL)					SM 9221 B or 9222 B	
	Dissolved oxygen					SM 4500-O C/G	
	Nitrate + nitrite-N as N					SM 4500-NO ₃ E	100 µg/L
	Total kjeldahl N as N					SM 4500-N _{org} C/E/FG	300 µg/l
	Ortho-phosphate-P as P					SM 4500-P E/F	10 µg/l
	Total-phosphorous-P as P					SM 4500-P E/P/F	10 µg/l
	Total Oil & grease					EPA 1664A	1.4/5 mg/l
	NWTPH - Dx					Ecology NWTPH Dx	250/250 µg/l
	NWTPH - Gx					Ecology NWTPH Gx	250/250 µg/l
	Calcium					EPA 200.7	10 µg/l
	Chloride					SM 4500-Cl C	0.15 µg/l
	Fluoride					SM 4500-F E	.025/0.1 mg/l
	Magnesium					EPA 200.7	10/50 µg/l
	Potassium					EPA 200.7	700/ µg/l
	Sodium					EPA 200.7	29/ µg/l
	Sulfate					SM 4500-SO ₄ C/D	/200 µg/l
	Alkalinity as CaCO ₃					SM 2320 B	/5 mg/L as CaCO ₃

X	Parameter	Measurement Values			Number of Analyses	Analytical Method Std. Methods 19 th , 20 th edition or EPA	Detection Limit/Quantitation Level
		Minimum	Maximum	Average			
	Arsenic(total)					EPA 200.8	0.1/0.5 µg/l
	Barium (total)					EPA 200.8	0.5/2 µg/l
	Cadmium (total)					EPA 200.8	.05/.25 µg/l
	Chromium (total)					EPA 200.8	0.2/1 µg/l
	Copper (total)					EPA 200.8	0.4/2 µg/l
	Iron (total)					EPA 200.7	12.5/50 µg/l
	Lead (total)					EPA 200.8	0.1/.5 µg/l
	Manganese (total)					EPA 200.8	0.1/0.5 µg/l
	Mercury (total) pg/L					EPA 1631E	0.2/0.5 pg/l
	Molybdenum(total)					EPA 200.8	0.1/0.5 µg/l
	Nickel(total)					EPA 200.8	0.1/0.5 µg/l
	Selenium (total)					EPA 200.8	1/1 µg/l
	Silver (total)					EPA 200.8	.04/.2 µg/l
	Zinc (total)					EPA 200.8	0.5/2.5 µg/l

Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.

Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to $(1, 2, \text{ or } 5) \times 10^n$, where n is an integer. (64 FR 30417).

ALSO GIVEN AS:

The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

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5. Does this facility use any of the following chemicals as raw materials in production, produce them as part of the manufacturing process, or are they present in the wastewater? (*The number following the chemical name is the Chemical Abstract Service (CAS) reference number to aid in identifying the compound.*) ☐ YES ☒ NO

If yes, specify how the chemical is used and the quantity used or produced (*Use additional sheets, if necessary and label as attachment E5.*):

Acrylamide/79-06-1
Acrylonitrile/107-13-1
Aldrin/309-00-2
Aniline/62-53-3
Aramite/140-57-8
Arsenic/7440-38-2
Azobenzene/103-33-3
Benzene/71-43-2
Benzidine/92-87-5
Benzo(a)pyrene/50-32-8
Benzotrichloride/98-07-7
Benzyl chloride/100-44-7
Bis(chloroethyl)ether/111-44-4
Bis(chloromethyl)ether/542-88-1
Bis(2-ethylhexyl) phthalate/ 117-81-7
Bromodichloromethane/75-27-4
Bromoform/75-25-2
Carbazole/86-74-8
Carbon tetrachloride/56-23-5
Chlordane/57-74-9
Chlorodibromomethane/124-48-1
Chloroform/67-66-3
Chlorthalonil/1897-45-6
2,4-D/94-75-7
DDT/50-29-3
Diallate/2303-16-4
1,2 Dibromoethane/106-93-4
1,4 Dichlorobenzene/106-46-7
3,3' Dichlorobenzidine/91-94-1
1,1 Dichloroethane/75-34-3
1,2 Dichloroethane/107-06-2

Nitrofurazone/59-87-0
N-nitrosodiethanolamine/ 1116-54-7
N-nitrosodiethylamine/55-18-5
N-nitrosodimethylamine/62-75-9
N-nitrosodiphenylamine/86-30-6
N-nitroso-di-n-propylamine/ 621-64-7
N-nitrosopyrrolidine/930-55-2
N-nitroso-di-n-butylamine/ 924-16-3
N-nitroso-n-methylethylamine/
10595-95-6
PAH/NA
PBBs/NA
PCBs/1336-36-3
1,2 Dichloropropane/78-87-5
1,3 Dichloropropene/542-75-6
Dichlorvos/62-73-7
Dieldrin/60-57-1
3,3' Dimethoxybenzidine/119-90-4
3,3 Dimethylbenzidine/119-93-7
1,2 Dimethylhydrazine/540-73-8
2,4 Dinitrotoluene/121-14-2
2,6 Dinitrotoluene/606-20-2
1,4 Dioxane/123-91-1
1,2 Diphenylhydrazine/122-66-7
Endrin/72-20-8
Epichlorohydrin/106-89-8
Ethyl acrylate/140-88-5
Ethylene dibromide/106-93-4
Ethylene thiourea/96-45-7
Folpet/133-07-3
Furmecyclo/60568-05-0

Heptachlor/76-44-8
Heptachlor epoxide/1024-57-3
Hexachlorobenzene/118-74-1
Hexachlorocyclohexane (alpha)/
319-84-6
Hexachlorocyclohexane (tech.)/
608-73-1
Hexachlorodibenzo-p-dioxin,
mix/19408-74-3
Hydrazine/hydrazine sulfate/ 302-01-2
Lindane/58-89-9
2 Methylaniline/100-61-8
2 Methylaniline hydrochloride/
636-21-5
4,4' Methylene
bis(N,N- dimethyl)aniline/101-61-1
Methylene chloride
(dichloromethane)/75-09-2
Mirex/2385-85-5
O-phenylenediamine/106-50-3
Propylene oxide/75-56-9
2,3,7,8-Tetrachlorodibenzo-p-dioxin/
1746-01-6
Tetrachloroethylene/127-18-4
2,4 Toluenediamine/95-80-7
o-Toluidine/95-53-4
Toxaphene/8001-35-2
Trichloroethylene/79-01-6
2,4,6-Trichlorophenol/88-06-2
Trimethyl phosphate/512-56-1
Vinyl chloride/75-01-4

6. Are any other pesticides, herbicides, or fungicides used at this facility? ☒ YES ☐ NO
If yes, specify the material and quantity used.

See list E.6. below for list of pesticides and herbicides used onsite.

7. Are there other pollutants that you know of or believe to be present? ☐ YES ☒ NO

If yes, specify the pollutants and their concentration if known (attach laboratory analyses if available). ☐ DON'T KNOW

E6.

Sabey East

Active ingredients	Quantity	UOM	Purpose
18-0-2	139.2	Gal	Fertilizer Phos Free
Imidacloprid	38	oz	Insecticide
Mineral oil	0.75	gal	Insecticide
E-2 (39.53% 2,4-D, 5.90% Flurooxpyr, 4.10% Dicamba)	48	oz	Broadleaf Herbicide
Prodiamine	2.1	lbs	Preemergent herbicide
10-0-0 4% iron	58	lbs	Nutrient
Flumioxazan	28	oz	Preemergent herbicide
Horsepower (48.99% MCPA, 5.59% Triclopyr, 4.82% Dicamba)	116	oz	Broadleaf Herbicide
Bifenthrin	13.2	oz	Insecticide
Quinclorac	96	oz	Boadleaf/Grass herbicide
Clopyrolid	8	oz	Broadleaf Herbicide
Glyphosate	8	gal	Non selective herbicide
Dithiopyr	150	lbs	Preemergent herbicide
Piper (Flumioxazan 33.5%, Pyroxasulfone 42.5%)	30	oz	Preemergent herbicide

X	Parameter	Measurement Values			Number of Analyses	Analytical Method Std. Methods 19 th , 20 th edition or EPA	Detection Limit/Quantitation Level
		Minimum	Maximum	Average			
	Arsenic(total)					EPA 200.8	0.1/0.5 µg/l
	Barium (total)					EPA 200.8	0.5/2 µg/l
	Cadmium (total)					EPA 200.8	.05/.25 µg/l
	Chromium (total)					EPA 200.8	0.2/1 µg/l
	Copper (total)					EPA 200.8	0.4/2 µg/l
	Iron (total)					EPA 200.7	12.5/50 µg/l
	Lead (total)					EPA 200.8	0.1/.5 µg/l
	Manganese (total)					EPA 200.8	0.1/0.5 µg/l
	Mercury (total) pg/L					EPA 1631E	0.2/0.5 pg/l
	Molybdenum(total)					EPA 200.8	0.1/0.5 µg/l
	Nickel(total)					EPA 200.8	0.1/0.5 µg/l
	Selenium (total)					EPA 200.8	1/1 µg/l
	Silver (total)					EPA 200.8	.04/.2 µg/l
	Zinc (total)					EPA 200.8	0.5/2.5 µg/l

Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.

Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to $(1, 2, \text{ or } 5) \times 10^n$, where n is an integer. (64 FR 30417).

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SECTION F. GROUND WATER INFORMATION

Provide available data measurements or range of measurements from monitoring wells or supply wells in the area of discharge. Provide the analytical method and detection limit, if known. Provide the location of each well on the map required in G.3 below. Attach well logs when available. Copy this page as necessary for each well. Provide the latitude and longitude in decimal format.

Ecology Well Tag ID # No Well Tag ID is available. (example AAB123)

Well ID # 142616 (Well Log ID) (example MW-1)

Latitude: 47.40742

Longitude: -120.19474

Well Elevation (to the nearest 0.01 feet) UNKNOWN Check the appropriate box; the elevation measurement is relative to: the NAVD88 standard ☐ mean sea level ☐

Parameter	Units	Range of Measurements	Number of Analyses	Analytical Method	Detection Limit
BOD (5 day)	mg/L				
COD	mg/L				
Total organic carbon	mg/L				
Total dissolved solids	mg/L				
Dissolved Fixed Solids	mg/L				
pH	Standard units				
Conductivity	(micromhos/cm)				
Alkalinity	mg/L as CaCO ₃				
Total hardness	mg/L				
Fecal coliform	organisms/100mL				
Total coliform	organisms/100mL				
Dissolved oxygen	mg/L				
Ammonia-N	mg/L				
Nitrate + nitrite-N, nitrate as N	mg/L				
Total kjeldahl N as N	mg/L				
Ortho-phosphate-P as P	mg/L				
Total-phosphate-P as P	mg/L				
Total Oil and Grease	mg/L				
Total petroleum hydrocarbon	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Calcium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Chloride	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Fluoride	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Magnesium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Potassium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Sodium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Sulfate	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Barium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Cadmium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Chromium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Copper	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Iron	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Lead	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Manganese	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				

Parameter	Units	Range of Measurements	Number of Analyses	Analytical Method	Detection Limit
Mercury	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Selenium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Silver	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Zinc	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Depth to water level (to the nearest .01 feet)					

SECTION G. SITE ASSESSMENT

The local library and local city or county planning offices may be helpful in providing the information required in this section. You may consult the Department of Ecology Water Resources Program to help identify wells within one mile of your site.

1. Land Application Sites: Provide the information below for each land application site. Provide the latitude/longitude (approximate center of the site; NAD83/WGS84 reference datum.) Attach a copy of the contract(s) authorizing use of any private land(s) used for each treatment site. Add table rows as necessary.

Legal Description (section/township/range) SW 1/4 OF SW 1/4 OF S10 T22N R21E			
Latitude	Longitude	Acreage	Owner
Legal Description (section/township/range)			
Latitude	Longitude	Acreage	Owner
Legal Description (section/township/range)			
Latitude	Longitude	Acreage	Owner
Legal Description (section/township/range)			
Latitude	Longitude	Acreage	Owner

2. If this is a new discharge, list all environmental control permits or approvals needed for this project; for example, SEPA review, engineering reports, hydrogeologic reports, , , or air emissions permits.

(INSERT THIS INFORMATION IN TABLE ABOVE)

LAT /LONG = 47.407572, 120.194631

ACREAGE = 53.86

OWNER = INTERGATE.COLUMBIA LLC

3. Attach an original United States Geological Survey (USGS) 7.5 minute topographic map and aerial photograph(s) from an internet mapping site that shows the processing facility and sprayfield site(s). **USGS topographical maps are available from the Department of Natural Resources (360 902-1234), Metsker Maps (206 588-5222), some local bookstores, and internet sites.** Show the following on this map:
 - a. Location and name of internal and adjacent streets.
 - b. Surface water drainage systems within ¼ mile of the site.
 - c. All wells within 1 mile of the site.
 - d. Wastewater discharge points.
 - e. Land uses and zoning adjacent to the wastewater application site.
 - f. Groundwater gradient.
4. Describe the soils on the site using information from local soil survey reports. **Soils information is available from your local County Conservation District or from information contained in the sites hydrogeologic report.** *(Submit on separate sheet and label as attachment G.4.)*
5. Describe the local geology and hydrogeology within one mile of the site. Include any groundwater quality data. **The local library or local Soil Conservation Service may have this information.** *(Submit on separate sheet and label as attachment G.5.)*
6. List the names and addresses of contractors or consultants who provided information and cite sources of information by title and author.

SECTION H. STORMWATER

1. Do you have coverage under the Washington State Industrial Stormwater NPDES General permit? ☐ YES ☒ NO
If yes, please list the permit number here. _____

If no, have you applied for coverage under the Washington State Industrial Stormwater NPDES general permit? ☐ YES ☒ NO

Note: If you answered "no" to both questions above, complete the following questions 2 through 8.

2. Describe the size of the stormwater collection area.
- a. Unpaved area 175,000 sq.ft.
 - b. Paved area 527,000 sq.ft.
 - c. Other collection areas (roofs) 617,500 sq.ft.
3. Does your facility's stormwater discharge to: *(Check all that apply)*
- ☐ Storm sewer system; name of storm sewer system *(operator)*:
☐ Sanitary sewer
 - ☐ Directly to surface waters of Washington State *(e.g., river, lake, creek, estuary, ocean)*.
Specify waterbody name _____
 - ☐ Indirectly to surface waters of Washington State *(i.e., flows over adjacent properties first)*.
 - ☒ Directly to ground waters of Washington State via:
 - ☐ Dry well
 - ☐ Drainfield
 - ☒ Other
4. Areas with industrial activities at facility: *(check all that apply)*
- ☐ Manufacturing building
 - ☐ Material handling
 - ☐ Material storage
 - ☐ Hazardous waste treatment, storage, or disposal *(refers to RCRA, Subtitle C facilities only)*
 - ☐ Waste treatment, storage, or disposal
 - ☐ Application or disposal of wastewaters
 - ☐ Storage and maintenance of material handling equipment
 - ☐ Vehicle maintenance
 - ☐ Areas where significant materials remain
 - ☐ Access roads and rail lines for shipping and receiving
 - ☒ Other Data Center

5. Material handling/management practices

a. Types of materials handled and/or stored outdoors: *(check all that apply)*

☐ Solvents

☐ Hazardous wastes

☐ Scrap metal

☐ Acids or alkalies

☒ Petroleum or petrochemical products

☐ Paints/coatings

☐ Plating products

☐ Woodtreating products

☐ Pesticides

☐ Other *(please list)*: _____

b. Identify existing management practices employed to reduce pollutants in industrial storm water discharges: *(check all that apply)*

☒ Oil/water separator

☒ Detention facilities

☒ Containment

☒ Infiltration basins

☒ Spill prevention

☒ Operational BMPs

☐ Surface leachate collection

☒ Vegetation management

☐ Overhead coverage

☐ Other *(please list)*: _____

6. Attach a map showing stormwater drainage/collection areas, disposal areas and discharge points. This may be a hand drawn map if no other site map is available. Label this as attachment H.8.

SECTION I. OTHER INFORMATION

1. Describe liquid or solid wastes generated that are not disposed of in the waste stream(s) and describe the method of disposal. For each type of waste, provide type of waste, name, address, and phone number of hauler.

None.

2. Describe any storage areas used for raw materials, products, and wastes.

None.

Summary of attachments that may be required for this application:

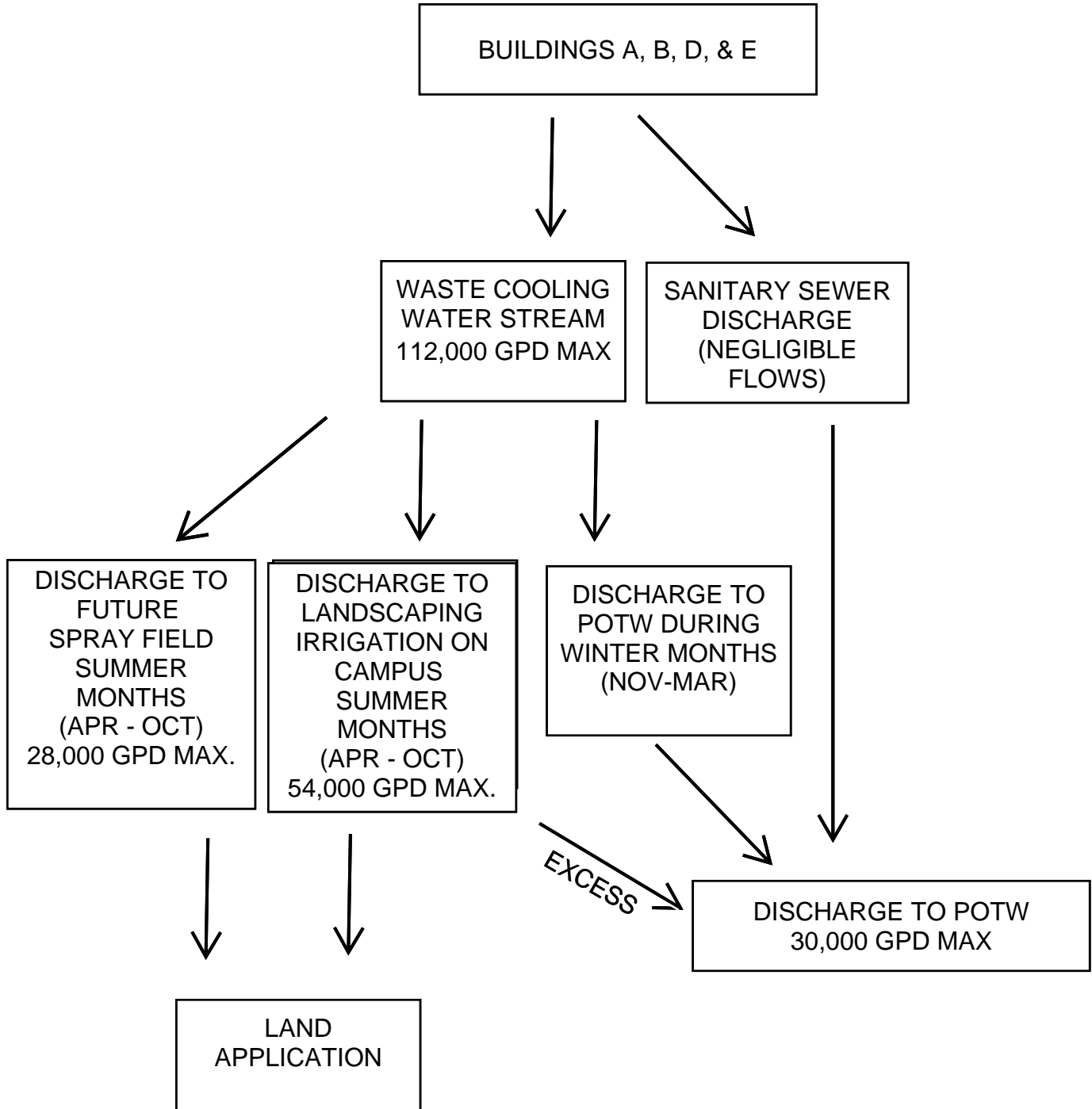
(Please check those attachments that are included)

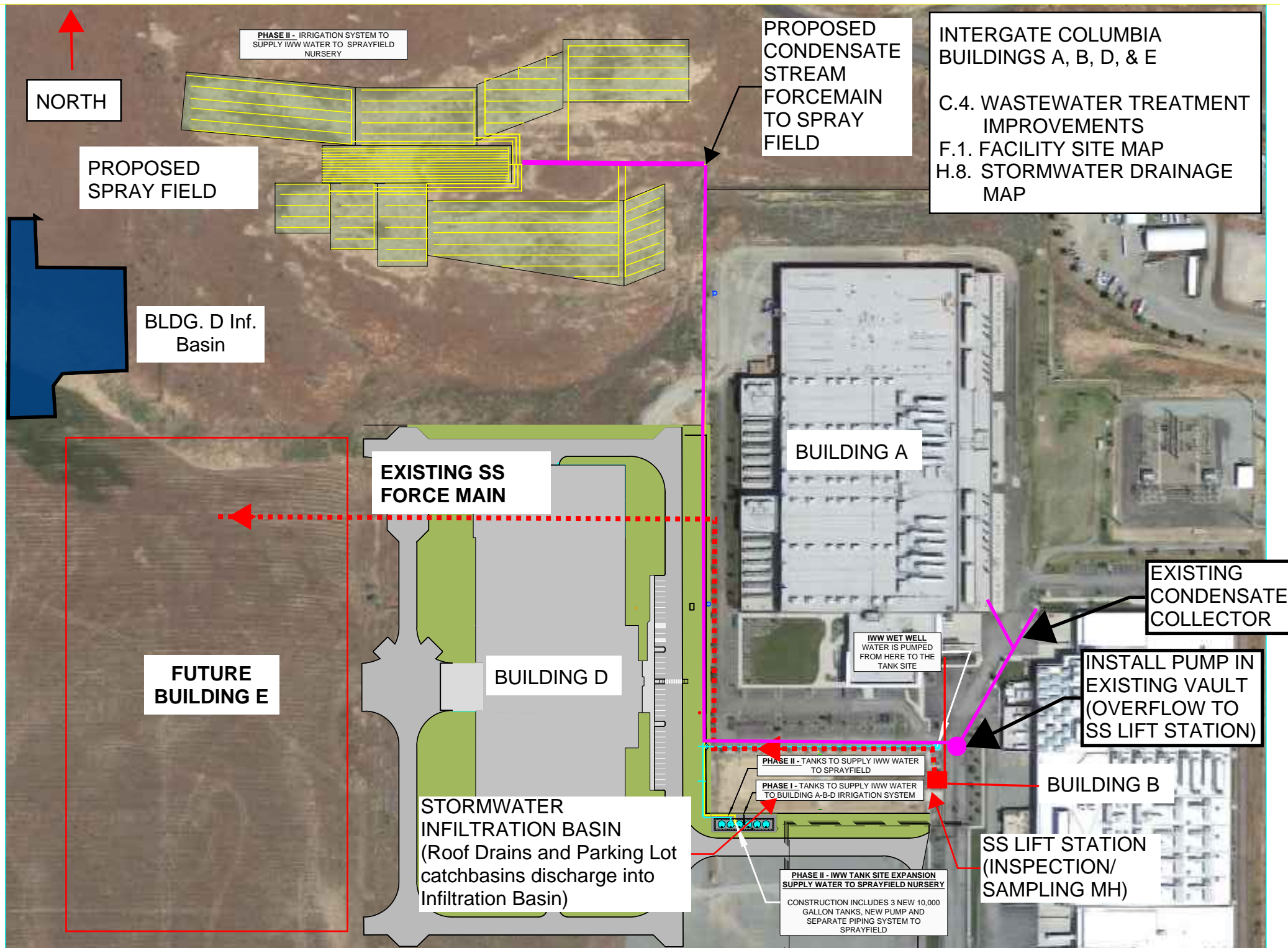
- ☒ C.2. Production schematic flow diagram and water balance
- ☒ C.4. Wastewater treatment improvements
- ☐ C.7. Additional incidental materials
- ☒ E.4. Additional results of effluent testing
- ☐ G.1. Copies of land use contracts
- ☒ G.3. USGS topographical map
- ☒ G.4. Soils description
- ☒ G.5. Local geology and hydrology
- ☒ H.8. Stormwater drainage map

If you need this document in a format for the visually impaired, call the Water Quality Program at 360-407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

INTERGATE COLUMBIA
BUILDINGS A, B, D & E

C.2. PRODUCTION SCHEMATIC FLOW DIAGRAM AND WATER BALANCE





E7. Additional Herbicide/Pesticides

Sabey East

Active ingredients	Quantity	UOM	Purpose
18-0-2	139.2	Gal	Fertilizer Phos Free
Imidacloprid	38	oz	Insecticide
Mineral oil	0.75	gal	Insecticide
E-2 (39.53% 2,4-D, 5.90% Flurooxpyr, 4.10% Dicamba)	48	oz	Broadleaf Herbicide
Prodiamine	2.1	lbs	Preemergent herbicide
10-0-0 4% iron	58	lbs	Nutrient
Flumioxazan	28	oz	Preemergent herbicide
Horsepower (48.99% MCPA, 5.59%Triclopyr, 4.82% Dicamba)	116	oz	Broadleaf Herbicide
Bifenthrin	13.2	oz	Insecticide
Quinclorac	96	oz	Boadleaf/Grass herbicide
Clopyolid	8	oz	Broadleaf Herbicide
Glyphosate	8	gal	Non selective herbicide
Dithiopyr	150	lbs	Preemergent herbicide
Piper (Flumioxazan 33.5%, Pyroxasulfone 42.5%)	30	oz	Preemergent herbicide



1-800-545-4206

(509) 662-1888
Fax: (509) 662-8183
3019 G. S. Center Road
Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98958

Batch: 232921
Client: Sabey Data Centers
Account: 19636
Sampler: Calen Tanner
PO Number:

ATTACHMENT E.4
EFFLUENT TESTING

--- Water Analytical Report ---

Sabey Data Centers
4405 Grant RD
E Wenatchee, WA 98802

Report Date: 1/27/22

Laboratory Number: 22-E000622

Sample Identification: IGC

Date Received: 1/21/22

Date Sampled: 1/21/22

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
pH	7.72			SM 4500-H+ B	1/21/22	
Total Suspended Solids	< 1	mg/l	1.0	SM 2540-D	1/24/22	
Biological Oxygen Demand	< 2	mg/L	2	SM 5210 B	1/21/22	

Approved For: Kyle Johnson

Signature:

Function: Business Unit Manager

Eurofins-Cascade Analytical uses procedures established by EPA, AOAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) as received by the laboratory. Eurofins-Cascade Analytical liability to the client as a result of use of the test results shall be limited to a sum equal to the fees paid by the client to Eurofins-Cascade Analytical for analysis. PLEASE REVIEW YOUR DATA IN A TIMELY MANNER. DATA GAPS OR ERRORS AFTER ONE MONTH WILL NOT BE OUR RESPONSIBILITY. THOUGH WE DO KEEP ALL ANALYTICAL DATA FOR SEVERAL YEARS, SAMPLES ARE DISPOSED OF AFTER SIX WEEKS.

Page: 1 of 1



3019 G. S. Center Rd.
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Fax: (509) 662-8183
1-800-545-4206

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

WATER ANALYSIS ORDER FORM

Batch# 232921

SEND RESULTS TO

1) Client 2) Billing 3) Both

SAMPLE REPRESENTS

1) Irrigation 2) Waste Water 3) Other

SAMPLE BY

1) Client 2) Quality Control 3) Cascade 4) Other

SAMPLE #

1	2	3	4	5

New Acct. #

SAMPLE #

(see legend on back)

CLIENT NAME/ADDRESS
<u>SABEY DATA CENTERS</u>
<u>4405 GRANT ROAD</u>
<u>EAST WENATCHEE, WA 98802</u>
SAMPLER'S NAME
<u>CALEN TANNER</u>

BILLING NAME/ADDRESS
<u>SABEY DATA CENTERS</u>
<u>12201 TUKWILA BLVD. 6TH FLOOR</u>
<u>SEATTLE, WA 98168</u>
PHONE
<u>(509) 699-3030</u>

E-mail CALENT@SABEY.COM

E-mail

RELINQUISHED BY: (Signature) 1	DATE	RELINQUISHED BY: (Signature) 2	DATE	RELINQUISHED BY: (Signature) 3	DATE
<u>Calen Tanner</u>	<u>01/21/22</u>				
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME
<u>CALEN TANNER</u>					
RECEIVED BY: (Signature)	DATE	RECEIVED BY: (Signature)	DATE	RECEIVED FOR LAB BY: (Signature)	DATE
				<u>Desiree Ay</u>	<u>1-21-22</u>
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME
					<u>16:02</u>

FORM MUST BE COMPLETED BEFORE ANALYSIS WILL BE PERFORMED.

<u>22-E00622</u>	<u>IGC</u>	Sample Date	<u>01-21-22</u>
		Sample Time	<u>2:15 PM</u>
		Sample Date	
		Sample Time	
		Sample Date	
		Sample Time	
		Sample Date	
		Sample Time	
		Sample Date	
		Sample Time	

*METALS - circle type of analysis - T=total or D=dissolved

Total N package = TKN, NO₃, NO₂, NH₃

Sample container received by client was sealed Yes ☐ No ☐

Sample container received by laboratory was sealed Yes ☐ No ☐

Disclaimer:

Cascade Analytical, Inc., makes no warranty of any kind, expressed or implied, and customer assumes all risk and liability from the use of Cascade's test results. Cascade neither assumes nor authorizes any person to assume for Cascade any other liability in connection with the testing done by Cascade Analytical, Inc., and there are no other oral agreements or warranties collateral to or affecting this agreement.

Cascade Analytical Inc.'s liability to customer as a result of customers use of Cascade's test results shall be limited to a sum equal to the fees paid by customer to Cascade Analytical, Inc. for the testing work.

Customer Signature: Calen Tanner

Date 01-21-2022

This form also serves as "Chain of Custody."

CAICOF - 03

ATTACHMENT E.4
EFFLUENT TESTING

REV. 04/26/2013

IRRIGATION WATER	1	2	3	4	5
Standard					
GENERAL CHEMISTRY					
1135 pH		X			
1140 Conductivity					
1200 Solids-Dis. (TDS)					
1230 Solids-Susp. (TSS)		X			
1240 Tot. Phosphorus					
1250 Orthophosphate					
1260 Kjeldahl Nitrogen (TKN)					
1170 Nitrate+Nitrite					
1265 NO ₃ (As N)					
1280 Ammonia					
1300 Biol. Oxy. Demand		X			
1310 Chem. Oxy. Demand					
1190 Sulfate (SO ₄)					
1180 Chloride (Cl)					
1150 Turbidity					
1320 Hexane Ext. Mat.					
1340 Alkalinity					
217 Total N Pkg					
MICROBIOLOGY					
10040 Total Coliform MF					
10010 Fecal Coliform MF					
10041 Total Coliform MPN					
10011 Fecal Coliform MPN					
METALS - TOTAL OR DISSOLVED					
1391 Antimony (Sb)					
1011 Arsenic (As)					
1025 Barium (Ba)					
1405 Beryllium (Be)					
1031 Cadmium (Cd)					
1045 Chromium (Cr)					
1215 Copper (Cu)					
1065 Iron (Fe)					
1075 Manganese (Mn)					
1081 Mercury (Hg)					
1435 Molybdenum (Mo)					
1051 Lead (Pb)					
1335 Nickel (Ni)					
1091 Selenium (Se)					
1105 Silver (Ag)					
1381 Thallium (TI)					
1225 Zinc (Zn)					
MINERALS					
1120 Calcium (Ca)					
1130 Magnesium (Mg)					
1115 Potassium (K)					
1110 Sodium (Na)					



Sample Receipt Form

Date Received: 1/21/22 Time Received: 1520 Initials: LJ

Client Name: SABEY DATA CENTERS Project Name: WW

Temperature of cooler upon receipt: 7 °C Thermometer ID: #7

Custody seals: Intact Broken None N/A

Chain of Custody Completed:

Client name, address, and phone number;	<u>Yes</u>	No
Date and time of sampling;	<u>Yes</u>	No
Test requests clear;	<u>Yes</u>	No
Completed in ink;	<u>Yes</u>	No
Signed by client;	<u>Yes</u>	No

All samples received: Yes No

All samples intact: Yes No

Sample ID's match COC form: Yes No

Appropriate containers used: Yes No

Sufficient amount of sample for analysis: Yes No

Correct preservative verified: N/A Yes No

Air bubbles in VOC, TTHM, or HAA5 samples: N/A Yes No

Sample(s) exceed hold time: Yes No

Type of coolant: Ice Blue Ice None Other Comment: _____

Shipping Method: FedEx UPS USPS Brett & Sons Hand Delivered CAI Sampled

Shipping Container: E-CA Cooler E-CA Cooler Box Client's Cooler None Other _____

Samples accepted for analysis: Yes No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: _____



March 31, 2022

Sabey Data Centers
Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

RE: Monthly Waste Water
Associated Work Orders: W22C615

Enclosed are the results of analyses for samples received at the laboratory on 3/23/2022. Sample analysis was performed according to Eurofins-Cascade Analytical's quality assurance program.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Kyle Johnson'.

Kyle Johnson For Brianna Buschbach
Quality Manager

Eurofins-Cascade Analytical uses procedures established by EPA, AOAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) received by the laboratory. This analytical report must be reproduced in its entirety. Please review your data in a timely manner. Data gaps or errors will not be the responsibility of the laboratory. Though we do keep all analytical data for several years, samples are disposed of after six weeks.

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Cascade Analytical

**ATTACHMENT E.4
EFFLUENT TESTING**

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Sabey Data Centers

Reported:
03/31/2022 08:10

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
W22C615-01	IGC	Water	03/23/2022	03/23/2022



Cascade Analytical

**ATTACHMENT E.4
EFFLUENT TESTING**

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(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Sabey Data Centers

Reported:
03/31/2022 08:10

Sample Results

Sample: IGC
W22C615-01 (Water)

Sample Date/Time: 03/23/2022 13:00

Analyte	Result Qual	Reporting Limit	Units	Date Analyzed	Analyst Initials	Method
---------	-------------	-----------------	-------	---------------	------------------	--------

Inorganics

BOD	ND	2.00	mg/L	03/24/2022	AYE5	SM 5210 B
pH	7.99		pH Units	03/23/2022	CSE2	SM 4500 H+ B
TSS	5.43	1.00	mg/L	03/24/2022	CSE2	SM 2540 D



Cascade Analytical

ATTACHMENT E.4
EFFLUENT TESTING1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Sabey Data Centers**Reported:**
03/31/2022 08:10

Quality Control

Inorganics

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCC0541 - Inorganics									
Reference (BCC0541-SRM1)				Prepared & Analyzed: 3/23/2022					
pH	6.85		pH Units	6.86		99.9	85-115		
Batch: BCC0549 - BOD									
Blank (BCC0549-BLK1)				Prepared & Analyzed: 3/24/2022					
BOD	ND	2.00	mg/L						
Reference (BCC0549-SRM1)				Prepared & Analyzed: 3/24/2022					
BOD	199		mg/L	198		100	85-115		
Batch: BCC0552 - Inorganics									
Blank (BCC0552-BLK3)				Prepared & Analyzed: 3/24/2022					
TSS	ND	1.00	mg/L						
Duplicate (BCC0552-DUP1)				Prepared & Analyzed: 3/24/2022					
TSS	1.50	1.00	mg/L		1.50			0.00	20
Duplicate (BCC0552-DUP2)				Prepared & Analyzed: 3/24/2022					
TSS	5.50	1.00	mg/L		5.50			0.00	20
Duplicate (BCC0552-DUP3)				Prepared & Analyzed: 3/24/2022					
TSS	31.3	1.00	mg/L		29.7			5.46	20
Reference (BCC0552-SRM1)				Prepared & Analyzed: 3/24/2022					
TSS	480		mg/L	500		96.0	85-115		



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**ATTACHMENT E.4
EFFLUENT TESTING**1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Sabey Data Centers**Reported:**
03/31/2022 08:10**Quality Control
(Continued)****Inorganics (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	-------------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

Batch: BCC0552 - Inorganics (Continued)**Reference (BCC0552-SRM2)**

TSS	482		mg/L	500		96.4	85-115		
-----	-----	--	------	-----	--	------	--------	--	--

Prepared & Analyzed: 3/24/2022

Reference (BCC0552-SRM3)

TSS	484		mg/L	500		96.8	85-115		
-----	-----	--	------	-----	--	------	--------	--	--

Prepared & Analyzed: 3/24/2022



Cascade Analytical

**ATTACHMENT E.4
EFFLUENT TESTING**1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Sabey Data Centers**Reported:**
03/31/2022 08:10**Certified Analyses included in this Report**

Analyte	CAS #	Certifications
SM 2540 D in Water		
TSS		W_WA
SM 4500 H+ B in Water		
pH		W_WA
SM 5210 B in Water		
BOD		W_WA

List of Certifications

Code	Description	Number	Expires
Y_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
W_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
Y_WA	WA State DOE	WA01194/C858-21	05/28/2022
W_WA	WA State DOE	WA00077/C564-21	08/28/2022

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

ATTACHMENT E.4 EFFLUENT TESTING

3019 G. S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183
1-800-545-4206

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

WATER ANALYSIS ORDER FORM



W22C615

Batch#

SEND RESULTS TO
1) Client 2) Billing 3) E
SAMPLE REPRESENTS
1) Irrigation 2) Waste Wa
SAMPLE BY
1) Client 2) Quality Control

SAMPLE #

1 2 3 4 5

CASCADE ANALYTICAL
A EUROFINIS COMPANY

CLIENT NAME/ADDRESS
SABEY DATA CENTERS
4405 GRANT ROAD
EAST WENATCHEE, WA 98802
SAMPLER'S NAME
CALEN TANNER

BILLING NAME/ADDRESS
SABEY DATA CENTERS
12201 TUKWILA BLVD. 6TH FLOOR
SEATTLE, WA 98168
PHONE
(509) 699-3030

E-mail CALENT@SABEY.COM

E-mail

RELINQUISHED BY: (Signature) 1	DATE	RELINQUISHED BY: (Signature) 2	DATE	RELINQUISHED BY: (Signature) 3	DATE
<i>Calen Tanner</i>	03/23/22				
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME
CALEN TANNER					
RECEIVED BY: (Signature)	DATE	RECEIVED BY: (Signature)	DATE	RECEIVED FOR LAB BY: (Signature)	DATE
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME

FORM MUST BE COMPLETED BEFORE ANALYSIS WILL BE PERFORMED.

W22C615-01	IGC	Sample Date 03-23-22
		Sample Time 1:00 PM
2		Sample Date
		Sample Time
3		Sample Date
		Sample Time
4		Sample Date
		Sample Time
5		Sample Date
		Sample Time

*METALS - circle type of analysis - T=total or D=dissolved

Total N package = TKN, NO₃, NO₂, NH₃

Sample container received by client was sealed Yes ☐ No ☐

Sample container received by laboratory was sealed Yes ☐ No ☐

Disclaimer:

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Cascade Analytical Inc.'s liability to customer as a result of customers use of Cascade's test results shall be limited to a sum equal to the fees paid by customer to Cascade Analytical, Inc. for the testing work.

Customer Signature: *Calen Tanner*

Date 03-23-2022

This form also serves as "Chain of Custody."

CAICOF - 03

(see legend on back)

SAMPLE #

IRRIGATION WATER	1	2	3	4	5
Standard					
GENERAL CHEMISTRY					
1135 pH	X				
1140 Conductivity					
1200 Solids-Dis. (TDS)					
1230 Solids-Susp. (TSS)	X				
1240 Tot. Phosphorus					
1250 Orthophosphate					
1260 Kjeldahl Nitrogen (TKN)					
1170 Nitrate+Nitrite					
1265 NO ₃ (As N)					
1280 Ammonia					
1300 Biol. Oxy. Demand	X				
1310 Chem. Oxy. Demand					
1190 Sulfate (SO ₄)					
1180 Chloride (Cl)					
1150 Turbidity					
1320 Hexane Ext. Mat.					
1340 Alkalinity					
217 Total N Pkg					

MICROBIOLOGY

10040 Total Coliform MF					
10010 Fecal Coliform MF					
10041 Total Coliform MPN					
10011 Fecal Coliform MPN					

METALS - TOTAL OR DISSOLVED

1391 Antimony (Sb)					
1011 Arsenic (As)					
1025 Barium (Ba)					
1405 Beryllium (Be)					
1031 Cadmium (Cd)					
1045 Chromium (Cr)					
1215 Copper (Cu)					
1065 Iron (Fe)					
1075 Manganese (Mn)					
1081 Mercury (Hg)					
1435 Molybdenum (Mo)					
1051 Lead (Pb)					
1335 Nickel (Ni)					
1091 Selenium (Se)					
1105 Silver (Ag)					
1381 Thallium (Tl)					
1225 Zinc (Zn)					

MINERALS

1120 Calcium (Ca)					
1130 Magnesium (Mg)					
1115 Potassium (K)					



W22C615

Sample Receipt Form

Date Received: 3/23/22 Time Received: 1430 Initials: LJClient Name: Sabey Project Name: WWTemperature of cooler upon receipt: 12 °C Thermometer ID: #7Custody seals: Intact Broken None N/A

Chain of Custody Completed:

Client name, address, and phone number;	<u>Yes</u>	No
Date and time of sampling;	<u>Yes</u>	No
Test requests clear;	<u>Yes</u>	No
Completed in ink;	<u>Yes</u>	No
Signed by client;	<u>Yes</u>	No

All samples received: Yes NoAll samples intact: Yes NoSample ID's match COC form: Yes NoAppropriate containers used: Yes NoSufficient amount of sample for analysis: Yes NoCorrect preservative verified: N/A Yes NoAir bubbles in VOC, TTHM, or HAA5 samples: N/A Yes NoSample(s) exceed hold time: Yes NoType of coolant: Ice Blue Ice None Other Comment: _____Shipping Method: FedEx UPS USPS Brett & Sons Hand Delivered CAI SampledShipping Container: E-CA Cooler E-CA Cooler Box Client's Cooler None Other _____Samples accepted for analysis: Yes No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: 1 x 1L



April 28, 2022

Calen Tanner
Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

RE: Monthly Waste Water
Associated Work Orders: WCD0583

Enclosed are the results of analyses for samples received at the laboratory on 4/21/2022. Sample analysis was performed according to Eurofins-Cascade Analytical's quality assurance program.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Kyle Johnson'.

Kyle Johnson For Brianna Buschbach
Quality Manager

Eurofins-Cascade Analytical uses procedures established by EPA, AOAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) received by the laboratory. This analytical report must be reproduced in its entirety. Please review your data in a timely manner. Data gaps or errors will not be the responsibility of the laboratory. Though we do keep all analytical data for several years, samples are disposed of after six weeks.

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ATTACHMENT E.4
EFFLUENT TESTING

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers

12201 Tukwila Inter Blvd 4 flo

Seattle, WA 98168

Project: Monthly Waste Water

Project Number:

Project Manager: Calen Tanner

Reported:

04/28/2022 11:39

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
WCD0583-01	IGC	Water	04/21/2022	04/21/2022



Cascade Analytical

**ATTACHMENT E.4
EFFLUENT TESTING**1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
04/28/2022 11:39**Sample Results****Sample: IGC**
WCD0583-01 (Water)

Sample Date/Time: 04/21/2022 13:45

Analyte	Result Qual	Reporting Limit	Units	Date Analyzed	Analyst Initials	Method
---------	-------------	-----------------	-------	---------------	------------------	--------

Inorganics

BOD	ND	2.00	mg/L	04/27/2022	AYE5	SM 5210 B
pH	7.99		pH Units	04/21/2022	AYE5	SM 4500 H+ B
TSS	2.00	1.00	mg/L	04/25/2022	AYE5	SM 2540 D



Cascade Analytical

ATTACHMENT E.4 EFFLUENT TESTING

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Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
04/28/2022 11:39

Quality Control

Inorganics

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	-------------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

Batch: BCD0494 - Inorganics

Reference (BCD0494-SRM1)

pH 6.85 pH Units 6.86 99.9 85-115 Prepared & Analyzed: 4/21/2022

Batch: BCD0510 - Solids

Blank (BCD0510-BLK1)

TSS ND 1.00 mg/L Prepared: 4/22/2022 Analyzed: 4/25/2022

Duplicate (BCD0510-DUP1)

TSS 8.50 1.00 mg/L 9.50 11.1 20 Source: WCD0566-01 Prepared: 4/22/2022 Analyzed: 4/25/2022

Reference (BCD0510-SRM1)

TSS 504 mg/L 500 101 85-115 Prepared: 4/22/2022 Analyzed: 4/25/2022

Batch: BCD0520 - BOD

Blank (BCD0520-BLK1)

BOD ND 2.00 mg/L Prepared: 4/22/2022 Analyzed: 4/27/2022

Reference (BCD0520-SRM1)

BOD 202 mg/L 198 102 85-115 Prepared: 4/22/2022 Analyzed: 4/27/2022

**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
04/28/2022 11:39**Certified Analyses included in this Report**

Analyte	CAS #	Certifications
SM 2540 D in Water		
TSS		W_WA
SM 4500 H+ B in Water		
pH		W_WA
SM 5210 B in Water		
BOD		W_WA

List of Certifications

Code	Description	Number	Expires
Y_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
W_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
Y_WA	WA State DOE	WA01194/C858-21	05/28/2022
W_WA	WA State DOE	WA00077/C564-21	08/28/2022

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

(see legend on back)		SAMPLE #				
IRRIGATION WATER		1	2	3	4	5
	Standard					
GENERAL CHEMISTRY						
1135	pH	X				
1140	Conductivity					
1200	Solids-Dis. (TDS)					
1230	Solids-Susp. (TSS)	X				
1240	Tot. Phosphorus					
1250	Orthophosphate					
1260	Kjeldahl Nitrogen (TKN)					
1170	Nitrate+Nitrite					
1265	NO ₃ (As N)					
1280	Ammonia					
1300	Biol. Oxy. Demand	X				
1310	Chem. Oxy. Demand					
1190	Sulfate (SO ₄)					
1180	Chloride (Cl)					
1150	Turbidity					
1320	Hexane Ext. Mat.					
1340	Alkalinity					
217	Total N Pkg					
MICROBIOLOGY						
10040	Total Coliform MF					
10010	Fecal Coliform MF					
10041	Total Coliform MPN					
10011	Fecal Coliform MPN					
METALS - TOTAL OR DISSOLVED						
1391	Antimony (Sb)					
1011	Arsenic (As)					
1025	Barium (Ba)					
1405	Beryllium (Be)					
1031	Cadmium (Cd)					
1045	Chromium (Cr)					
1215	Copper (Cu)					
1065	Iron (Fe)					
1075	Manganese (Mn)					
1081	Mercury (Hg)					
1435	Molybdenum (Mo)					
1051	Lead (Pb)					
1335	Nickel (Ni)					
1091	Selenium (Se)					
1105	Silver (Ag)					
1381	Thallium (Tl)					
1225	Zinc (Zn)					
MINERALS						
1120	Calcium (Ca)					
1130	Magnesium (Mg)					
1115	Potassium (K)					



WCD0583

Sample Receipt Form

Date Received: 4/21/22 Time Received: 4:05 Initials: G.S

Client Name: Sabey Project Name: W.W

Temperature of cooler upon receipt: 10 °C Thermometer ID: 5

Custody seals: Intact Broken None N/A

Chain of Custody Completed:

Client name, address, and phone number;	<u>Yes</u>	No
Date and time of sampling;	<u>Yes</u>	No
Test requests clear;	<u>Yes</u>	No
Completed in ink;	<u>Yes</u>	No
Signed by client;	<u>Yes</u>	No

All samples received: Yes No

All samples intact: Yes No

Sample ID's match COC form: Yes No

Appropriate containers used: Yes No

Sufficient amount of sample for analysis: Yes No

Correct preservative verified: N/A Yes No

Air bubbles in VOC, TTHM, or HAA5 samples: N/A Yes No

Sample(s) exceed hold time: Yes No

Type of coolant: Ice Blue Ice None Other Comment: _____

Shipping Method: FedEx UPS USPS Brett & Sons Hand Delivered CAI Sampled

Shipping Container: E-CA Cooler E-CA Cooler Box Client's Cooler None Other _____

Samples accepted for analysis: Yes No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: 1 x 1L



June 01, 2022

Calen Tanner
Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

RE: Monthly Waste Water
Associated Work Orders: WCE0687

Enclosed are the results of analyses for samples received at the laboratory on 5/24/2022. Sample analysis was performed according to Eurofins-Cascade Analytical's quality assurance program.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Kyle Johnson'.

Kyle Johnson For Brianna Buschbach
Quality Manager

Eurofins-Cascade Analytical uses procedures established by EPA, AOAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) received by the laboratory. This analytical report must be reproduced in its entirety. Please review your data in a timely manner. Data gaps or errors will not be the responsibility of the laboratory. Though we do keep all analytical data for several years, samples are disposed of after six weeks.

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**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
06/01/2022 11:07

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
WCE0687-01	IGC	Water	05/24/2022	05/24/2022



Cascade Analytical

**ATTACHMENT E.4
EFFLUENT TESTING**1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
06/01/2022 11:07**Sample Results****Sample: IGC**
WCE0687-01 (Water)

Sample Date/Time: 05/24/2022 13:30

Analyte	Result Qual	Reporting Limit	Units	Date Analyzed	Analyst Initials	Method
---------	-------------	-----------------	-------	---------------	------------------	--------

Inorganics

BOD	ND	2.00	mg/L	05/26/2022	AYE5	SM 5210 B
pH	8.06		pH Units	05/24/2022	CSE2	SM 4500 H+ B
TSS	1.80	1.00	mg/L	05/25/2022	CSE2	SM 2540 D



Cascade Analytical

ATTACHMENT E.4
EFFLUENT TESTING1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
06/01/2022 11:07

Quality Control

Inorganics

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCE0558 - Inorganics									
Reference (BCE0558-SRM1)									
pH	6.81		pH Units	6.86		99.3	85-115		
Batch: BCE0567 - Inorganics									
Blank (BCE0567-BLK1)									
TSS	ND	1.00	mg/L						
Duplicate (BCE0567-DUP1)									
Source: WCE0703-01									
TSS	3.20	1.00	mg/L	3.20				0.00	20
Duplicate (BCE0567-DUP2)									
Source: WCE0716-02									
TSS	ND	1.00	mg/L	ND					20
Reference (BCE0567-SRM1)									
TSS	486		mg/L	500		97.2	85-115		
Reference (BCE0567-SRM2)									
TSS	488		mg/L	500		97.6	85-115		
Batch: BCE0605 - BOD									
Blank (BCE0605-BLK1)									
BOD	ND	2.00	mg/L						
Reference (BCE0605-SRM1)									
BOD	214		mg/L	198		108	85-115		



Cascade Analytical

**ATTACHMENT E.4
EFFLUENT TESTING**1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
06/01/2022 11:07**Certified Analyses included in this Report**

Analyte	CAS #	Certifications
SM 2540 D in Water		
TSS		W_WA
SM 4500 H+ B in Water		
pH		W_WA
SM 5210 B in Water		
BOD		W_WA

List of Certifications

Code	Description	Number	Expires
Y_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
W_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
Y_WA	WA State DOE	WA01194/C858-21	05/28/2022
W_WA	WA State DOE	WA00077/C564-21	08/28/2022

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

ATTACHMENT E.4 EFFLUENT TESTING

3019 G. S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888



WCE0687

WATER ANALYSIS ORDER FORM

CASCADE ANALYTICAL
A EUROFINS COMPANY

Batch#	SAMPLE #				
SEND RESULTS TO	1	2	3	4	5
1) Client 2) Billing 3) Both					
SAMPLE REPRESENTS					
1) Irrigation 2) Waste Water 3) Other					
SAMPLE BY					
1) Client 2) Quality Control 3) Cascade 4) Other					

New Acct. #

(see legend on back)

SAMPLE #

CLIENT NAME/ADDRESS
SABEY DATA CENTERS
4405 GRANT ROAD
EAST WENATCHEE, WA 98802
SAMPLER'S NAME
CALLEN TANNER

BILLING NAME/ADDRESS
SABEY DATA CENTERS
12201 TUKWILA BLVD. 6TH FLOOR
SEATTLE, WA 98168
PHONE
(509) 699-3030

E-mail CALENT@SABEY.COM

E-mail

RELINQUISHED BY: (Signature) 1	DATE	RELINQUISHED BY: (Signature) 2	DATE	RELINQUISHED BY: (Signature) 3	DATE
<i>Calen Tanner</i>	05/24/22				
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME
CALLEN TANNER					
RECEIVED BY: (Signature)	DATE	RECEIVED BY: (Signature)	DATE	RECEIVED FOR LAB BY: (Signature)	DATE
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME

FORM MUST BE COMPLETED BEFORE ANALYSIS WILL BE PERFORMED.

WCE0687-01	IGC	Sample Date	05-24-22
		Sample Time	1:30 PM
2		Sample Date	
		Sample Time	
3		Sample Date	
		Sample Time	
4		Sample Date	
		Sample Time	
5		Sample Date	
		Sample Time	

*METALS - circle type of analysis - T=total or D=dissolved

Total N package = TKN, NO₃, NO₂, NH₃

Sample container received by client was sealed Yes _____ No _____

Sample container received by laboratory was sealed Yes _____ No _____

Disclaimer:

Cascade Analytical, Inc., makes no warranty of any kind, expressed or implied, and customer assumes all risk and liability from the use of Cascade's test results. Cascade neither assumes nor authorizes any person to assume for Cascade any other liability in connection with the testing done by Cascade Analytical, Inc., and there are no other oral agreements or warranties collateral to or affecting this agreement.

Cascade Analytical Inc.'s liability to customer as a result of customers use of Cascade's test results shall be limited to a sum equal to the fees paid by customer to Cascade Analytical, Inc. for the testing work.

Customer Signature: *Calen Tanner*

Date 05-24-2022

This form also serves as "Chain of Custody."

CAICOF - 03

IRRIGATION WATER	1	2	3	4	5
Standard					
GENERAL CHEMISTRY					
1135 pH	X				
1140 Conductivity					
1200 Solids-Dis. (TDS)					
1230 Solids-Susp. (TSS)	X				
1240 Tot. Phosphorus					
1250 Orthophosphate					
1260 Kjeldahl Nitrogen (TKN)					
1170 Nitrate+Nitrite					
1265 NO ₃ (As N)					
1280 Ammonia					
1300 Biol. Oxy. Demand	X				
1310 Chem. Oxy. Demand					
1190 Sulfate (SO ₄)					
1180 Chloride (Cl)					
1150 Turbidity					
1320 Hexane Ext. Mat.					
1340 Alkalinity					
217 Total N Pkg					
MICROBIOLOGY					
10040 Total Coliform MF					
10010 Fecal Coliform MF					
10041 Total Coliform MPN					
10011 Fecal Coliform MPN					
METALS - TOTAL OR DISSOLVED					
1391 Antimony (Sb)					
1011 Arsenic (As)					
1025 Barium (Ba)					
1405 Beryllium (Be)					
1031 Cadmium (Cd)					
1045 Chromium (Cr)					
1215 Copper (Cu)					
1065 Iron (Fe)					
1075 Manganese (Mn)					
1081 Mercury (Hg)					
1435 Molybdenum (Mo)					
1051 Lead (Pb)					
1335 Nickel (Ni)					
1091 Selenium (Se)					
1105 Silver (Ag)					
1381 Thallium (Tl)					
1225 Zinc (Zn)					
MINERALS					
1120 Calcium (Ca)					
1130 Magnesium (Mg)					
1115 Potassium (K)					



Cascade Analytical



WCE0687

ATTACHMENT E.4
EFFLUENT TESTING

Sample Receipt Form

Date Received: 5.24.22 Time Received: 1449 Initials: SJClient Name: Sabey Data Centers Project Name: WWTemperature of cooler upon receipt: 14 °C Thermometer ID: 5Custody seals: ☒ Intact ☐ Broken ☐ None ☐ N/A

Chain of Custody Completed:

Client name, address, and phone number;	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Date and time of sampling;	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Test requests clear;	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Completed in ink;	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Signed by client;	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

All samples received: ☒ Yes ☐ NoAll samples intact: ☒ Yes ☐ NoSample ID's match COC form: ☒ Yes ☐ NoAppropriate containers used: ☒ Yes ☐ NoSufficient amount of sample for analysis: ☒ Yes ☐ NoCorrect preservative verified: N/A ☒ Yes ☐ NoAir bubbles in VOC, TTHM, or HAA5 samples: N/A ☒ Yes ☐ NoSample(s) exceed hold time: ☐ Yes ☒ NoType of coolant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comment: _____Shipping Method: FedEx ☐ UPS ☐ USPS ☐ Brett & Sons ☐ Hand ☒ Delivered ☐ CAI SampledShipping Container: E-CA Cooler ☒ E-CA Cooler Box ☐ Client's Cooler ☐ None ☐ Other _____Samples accepted for analysis: ☒ Yes ☐ No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: 1x1L



June 30, 2022

Calen Tanner
Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

RE: Monthly Waste Water
Associated Work Orders: WCF0723

Enclosed are the results of analyses for samples received at the laboratory on 6/23/2022. Sample analysis was performed according to Eurofins-Cascade Analytical's quality assurance program.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Kyle Johnson'.

Kyle Johnson For Brianna Buschbach
Quality Manager

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**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

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Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
06/30/2022 08:46

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
WCF0723-01	IGC	Water	06/23/2022	06/23/2022

**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
06/30/2022 08:46**Sample Results****Sample: IGC**
WCF0723-01 (Water)

Sample Date/Time: 06/23/2022 14:30

Analyte	Result	Qual	Reporting Limit	Units	Date Analyzed	Analyst Initials	Method
---------	--------	------	--------------------	-------	------------------	---------------------	--------

Inorganics

BOD	2.49		2.00	mg/L	06/29/2022	AYE5	SM 5210 B
pH	7.74			pH Units	06/23/2022	CSE2	SM 4500 H+ B
TSS	10.4		1.00	mg/L	06/24/2022	AYE5	SM 2540 D



ATTACHMENT E.4 EFFLUENT TESTING

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
06/30/2022 08:46

Quality Control

Inorganics

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	-------------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

Batch: BCF0567 - Inorganics

Reference (BCF0567-SRM1)

pH 6.93 pH Units 6.86 101 85-115 Prepared & Analyzed: 6/23/2022

Batch: BCF0577 - BOD

Blank (BCF0577-BLK1)

BOD ND 2.00 mg/L Prepared: 6/24/2022 Analyzed: 6/29/2022

Reference (BCF0577-SRM1)

BOD 198 mg/L 198 100 85-115 Prepared: 6/24/2022 Analyzed: 6/29/2022

Batch: BCF0581 - Solids

Blank (BCF0581-BLK1)

TSS ND 1.00 mg/L Prepared & Analyzed: 6/24/2022

Blank (BCF0581-BLK2)

TSS ND 1.00 mg/L Prepared & Analyzed: 6/24/2022

Duplicate (BCF0581-DUP1)

TSS ND 1.00 mg/L Prepared & Analyzed: 6/24/2022 ND 20

Duplicate (BCF0581-DUP2)

TSS 9.20 1.00 mg/L Prepared & Analyzed: 6/24/2022 9.20 0.00 20

Reference (BCF0581-SRM1)

TSS 472 mg/L Prepared & Analyzed: 6/24/2022 500 94.4 85-115



Cascade Analytical

**ATTACHMENT E.4
EFFLUENT TESTING**

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
06/30/2022 08:46

**Quality Control
(Continued)**

Inorganics (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	-------------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

Batch: BCF0581 - Solids (Continued)

Reference (BCF0581-SRM2)

TSS	476	mg/L	500	95.2	85-115
-----	-----	------	-----	------	--------

**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
06/30/2022 08:46**Certified Analyses included in this Report**

Analyte	CAS #	Certifications
SM 2540 D in Water		
TSS		W_WA
SM 4500 H+ B in Water		
pH		W_WA
SM 5210 B in Water		
BOD		W_WA

List of Certifications

Code	Description	Number	Expires
Y_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
W_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
Y_WA	WA State DOE	WA01194/C858-21	05/28/2022
W_WA	WA State DOE	WA00077/C564-21	08/28/2022

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.



WCF0723

Sample Receipt Form

Date Received: 6/23/22 Time Received: 16:23 Initials: G.S.Client Name: Sabey Data Centers Project Name: W.WTemperature of cooler upon receipt: 10 °C Thermometer ID: 7Custody seals: Intact Broken None N/A

Chain of Custody Completed:

Client name, address, and phone number;	<u>Yes</u>	No
Date and time of sampling;	<u>Yes</u>	No
Test requests clear;	<u>Yes</u>	No
Completed in ink;	<u>Yes</u>	No
Signed by client;	<u>Yes</u>	No

All samples received: Yes NoAll samples intact: Yes NoSample ID's match COC form: Yes NoAppropriate containers used: Yes NoSufficient amount of sample for analysis: Yes NoCorrect preservative verified: N/A Yes NoAir bubbles in VOC, TTHM, or HAA5 samples: N/A Yes NoSample(s) exceed hold time: Yes NoType of coolant: Ice Blue Ice None Other Comment: _____Shipping Method: FedEx UPS USPS Brett & Sons Hand Delivered CAI SampledShipping Container: E-CA Cooler E-CA Cooler Box Client's Cooler None Other _____Samples accepted for analysis: Yes No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: 1x 1L1x 125

ATTACHMENT E.4 EFFLUENT TESTING

3019 G. S. Center Rd.
Wenatchee, WA 98801
(509) 662-1988



WCF0723

WATER ANALYSIS ORDER FORM

CASCADE ANALYTICAL
A EUROFINS COMPANY

Batch#

SEND RESULTS TO

1) Client 2) Billing 3) Both

SAMPLE REPRESENTS

1) Irrigation 2) Waste Water 3) Other

SAMPLE BY

1) Client 2) Quality Control 3) Cascade 4) Other

SAMPLE #

1 2 3 4 5

New Acct. #

(see legend on back)

SAMPLE #

1 2 3 4 5

CLIENT NAME/ADDRESS
SABEY DATA CENTERS
4405 GRANT ROAD
EAST WENATCHEE, WA 98802
SAMPLER'S NAME
CALEN TANNER

BILLING NAME/ADDRESS
SABEY DATA CENTERS
12201 TUKWILA BLVD. 6TH FLOOR
SEATTLE, WA 98168
PHONE
(509) 312-8973

E-mail CALENT@SABEY.COM

E-mail

RELINQUISHED BY: (Signature) 1	DATE	RELINQUISHED BY: (Signature) 2	DATE	RELINQUISHED BY: (Signature) 3	DATE
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME
CALEN TANNER	06/23/22				
RECEIVED BY: (Signature)	DATE	RECEIVED BY: (Signature)	DATE	RECEIVED FOR LAB BY: (Signature)	DATE
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME

FORM MUST BE COMPLETED BEFORE ANALYSIS WILL BE PERFORMED.

WCF072301	IGC	Sample Date	06-23-22
		Sample Time	2:30 PM
2		Sample Date	
		Sample Time	
3		Sample Date	
		Sample Time	
4		Sample Date	
		Sample Time	
5		Sample Date	
		Sample Time	

*METALS - circle type of analysis - T=total or D=dissolved

Total N package = TKN, NO₃, NO₂, NH₃

Sample container received by client was sealed Yes _____ No _____

Sample container received by laboratory was sealed Yes _____ No _____

Disclaimer:

Cascade Analytical, Inc., makes no warranty of any kind, expressed or implied, and customer assumes all risk and liability from the use of Cascade's test results. Cascade neither assumes nor authorizes any person to assume for Cascade any other liability in connection with the testing done by Cascade Analytical, Inc., and there are no other oral agreements or warranties collateral to or affecting this agreement.

Cascade Analytical Inc.'s liability to customer as a result of customers use of Cascade's test results shall be limited to a sum equal to the fees paid by customer to Cascade Analytical, Inc. for the testing work.

Customer Signature:

Date 06-23-2022

This form also serves as "Chain of Custody."

CAICOF - 03

IRRIGATION WATER	1	2	3	4	5
Standard					
GENERAL CHEMISTRY					
1135 pH	X				
1140 Conductivity					
1200 Solids-Dis. (TDS)					
1230 Solids-Susp. (TSS)	X				
1240 Tot. Phosphorus					
1250 Orthophosphate					
1260 Kjeldahl Nitrogen (TKN)					
1170 Nitrate+Nitrite					
1265 NO ₃ (As N)					
1280 Ammonia					
1300 Biol. Oxy. Demand	X				
1310 Chem. Oxy. Demand					
1190 Sulfate (SO ₄)					
1180 Chloride (Cl)					
1150 Turbidity					
1320 Hexane Ext. Mat.					
1340 Alkalinity					
217 Total N Pkg					
MICROBIOLOGY					
10040 Total Coliform MF					
10010 Fecal Coliform MF					
10041 Total Coliform MPN					
10011 Fecal Coliform MPN					
METALS - TOTAL OR DISSOLVED					
1391 Antimony (Sb)					
1011 Arsenic (As)					
1025 Barium (Ba)					
1405 Beryllium (Be)					
1031 Cadmium (Cd)					
1045 Chromium (Cr)					
1215 Copper (Cu)					
1065 Iron (Fe)					
1075 Manganese (Mn)					
1081 Mercury (Hg)					
1435 Molybdenum (Mo)					
1051 Lead (Pb)					
1335 Nickel (Ni)					
1091 Selenium (Se)					
1105 Silver (Ag)					
1381 Thallium (Tl)					
1225 Zinc (Zn)					
MINERALS					
1120 Calcium (Ca)					
1130 Magnesium (Mg)					
1115 Potassium (K)					



September 03, 2022

Calen Tanner
Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

RE: Monthly Waste Water
Associated Work Orders: WCH0793

Enclosed are the results of analyses for samples received at the laboratory on 8/23/2022. Sample analysis was performed according to Eurofins-Cascade Analytical's quality assurance program.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Kyle Johnson'.

Kyle Johnson For Brianna Buschbach
Quality Manager

Eurofins-Cascade Analytical uses procedures established by EPA, AOAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) received by the laboratory. This analytical report must be reproduced in its entirety. Please review your data in a timely manner. Data gaps or errors will not be the responsibility of the laboratory. Though we do keep all analytical data for several years, samples are disposed of after six weeks.

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Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
09/03/2022 18:14

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
WCH0793-01	IGC	Water	08/23/2022	08/23/2022



ATTACHMENT E.4
EFFLUENT TESTING

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
09/03/2022 18:14

Sample Results

Sample: IGC
WCH0793-01 (Water)

Sample Date/Time: 08/23/2022 15:30

Analyte	Result Qual	Reporting Limit	Units	Date Analyzed	Analyst Initials	Method
---------	-------------	-----------------	-------	---------------	------------------	--------

Inorganics

BOD	ND	2.00	mg/L	08/24/2022	AYE5/G9X J	SM 5210 B
pH	8.12		pH Units	08/23/2022	CSE2	SM 4500 H+ B
TSS	4.00	1.00	mg/L	08/25/2022	CSE2	SM 2540 D



ATTACHMENT E.4 EFFLUENT TESTING

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
09/03/2022 18:14

Quality Control

Inorganics

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCH0480 - Inorganics									
Reference (BCH0480-SRM1)				Prepared & Analyzed: 8/23/2022					
pH	6.03		pH Units	6.00		100	85-115		
Batch: BCH0496 - Inorganics									
Blank (BCH0496-BLK1)				Prepared & Analyzed: 8/25/2022					
TSS	ND	1.00	mg/L						
Duplicate (BCH0496-DUP1)				Source: WCH0775-02 Prepared & Analyzed: 8/25/2022					
TSS	7.50	1.00	mg/L		7.50			0.00	20
Duplicate (BCH0496-DUP2)				Source: YCH0379-01 Prepared & Analyzed: 8/25/2022					
TSS	6.40	1.00	mg/L		6.40			0.00	20
Reference (BCH0496-SRM1)				Prepared & Analyzed: 8/25/2022					
TSS	498		mg/L	500		99.6	85-115		
Reference (BCH0496-SRM2)				Prepared & Analyzed: 8/25/2022					
TSS	504		mg/L	500		101	85-115		
Batch: BCH0506 - BOD									
Blank (BCH0506-BLK1)				Prepared & Analyzed: 8/24/2022					
BOD	ND	2.00	mg/L						
LCS (BCH0506-BS1)				Prepared & Analyzed: 8/24/2022					
BOD	225		mg/L	198		114	84.4-116		

**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
09/03/2022 18:14**Certified Analyses included in this Report**

Analyte	CAS #	Certifications
SM 2540 D in Water		
TSS		W_WA
SM 4500 H+ B in Water		
pH		W_WA
SM 5210 B in Water		
BOD		W_WA

List of Certifications

Code	Description	Number	Expires
Y_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
W_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
Y_WA	WA State DOE	WA01194/C858-21	05/28/2022
W_WA	WA State DOE	WA00077/C564-21	08/28/2022

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.



WCH0793

1008 W. Antanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

WATER ANALYSIS ORDER FORM

CASCADE ANALYTICAL
A EUROFINS COMPANY

Batch#	SAMPLE #				
SEND RESULTS TO	1	2	3	4	5
1) Client 2) Billing 3) Both					
SAMPLE REPRESENTS					
1) Irrigation 2) Waste Water 3) Other					
SAMPLE BY					
1) Client 2) Quality Control 3) Cascade 4) Other					

New Acct. #

(see legend on back)

SAMPLE #

CLIENT NAME/ADDRESS	BILLING NAME/ADDRESS
SABEY DATA CENTERS	SABEY DATA CENTERS
4405 GRANT ROAD	12201 TUKWILA BLVD. 6 TH FLOOR
EAST WENATCHEE, WA 98802	SEATTLE, WA 98168
SAMPLER'S NAME	PHONE
CALEN TANNER	(509) 312-8973

E-mail CALENT@SABEY.COM

E-mail

RELINQUISHED BY: (Signature) [1]	DATE	RELINQUISHED BY: (Signature) [2]	DATE	RELINQUISHED BY: (Signature) [3]	DATE
	08/23/22				
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME
CALEN TANNER					
RECEIVED BY: (Signature)	DATE	RECEIVED BY: (Signature)	DATE	RECEIVED FOR LAB BY: (Signature)	DATE
	8/23/22				
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME

FORM MUST BE COMPLETED BEFORE ANALYSIS WILL BE PERFORMED.

WCH0793	1	IGC	Sample Date	08-23-22
01			Sample Time	3:30 PM
	2		Sample Date	
			Sample Time	
	3		Sample Date	
			Sample Time	
	4		Sample Date	
			Sample Time	
	5		Sample Date	
			Sample Time	

*METALS - circle type of analysis - T=total or D=dissolved

Total N package = TKN, NO₃, NO₂, NH₃

Sample container received by client was sealed Yes _____ No _____

Sample container received by laboratory was sealed Yes _____ No _____

Disclaimer:

Cascade Analytical, Inc., makes no warranty of any kind, expressed or implied, and customer assumes all risk and liability from the use of Cascade's test results. Cascade neither assumes nor authorizes any person to assume for Cascade any other liability in connection with the testing done by Cascade Analytical, Inc., and there are no other oral agreements or warranties collateral to or affecting this agreement.

Cascade Analytical Inc.'s liability to customer as a result of customers use of Cascade's test results shall be limited to a sum equal to the fees paid by customer to Cascade Analytical, Inc. for the testing work.

Customer Signature:

Date 08-23-2022

This form also serves as "Chain of Custody."

CAICOF - 03

IRRIGATION WATER	1	2	3	4	5
Standard					
GENERAL CHEMISTRY					
1135 pH	X				
1140 Conductivity					
1200 Solids-Dis. (TDS)					
1230 Solids-Susp. (TSS)	X				
1240 Tot. Phosphorus					
1250 Orthophosphate					
1260 Kjeldahl Nitrogen (TKN)					
1170 Nitrate+Nitrite					
1265 NO ₃ (As N)					
1280 Ammonia					
1300 Biol. Oxy. Demand	X				
1310 Chem. Oxy. Demand					
1190 Sulfate (SO ₄)					
1180 Chloride (Cl)					
1150 Turbidity					
1320 Hexane Ext. Mat.					
1340 Alkalinity					
217 Total N Pkg					
MICROBIOLOGY					
10040 Total Coliform MF					
10010 Fecal Coliform MF					
10041 Total Coliform MPN					
10011 Fecal Coliform MPN					
METALS - TOTAL OR DISSOLVED					
1391 Antimony (Sb)					
1011 Arsenic (As)					
1025 Barium (Ba)					
1405 Beryllium (Be)					
1031 Cadmium (Cd)					
1045 Chromium (Cr)					
1215 Copper (Cu)					
1065 Iron (Fe)					
1075 Manganese (Mn)					
1081 Mercury (Hg)					
1435 Molybdenum (Mo)					
1051 Lead (Pb)					
1335 Nickel (Ni)					
1091 Selenium (Se)					
1105 Silver (Ag)					
1381 Thallium (Tl)					
1225 Zinc (Zn)					
MINERALS					
1120 Calcium (Ca)					
1130 Magnesium (Mg)					
1115 Potassium (K)					



September 13, 2022

Calen Tanner
Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

RE: Monthly Waste Water
Associated Work Orders: WCH0793

Enclosed are the results of analyses for samples received at the laboratory on 8/23/2022. Sample analysis was performed according to Eurofins-Cascade Analytical's quality assurance program.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Kyle Johnson'.

Kyle Johnson For Brianna Buschbach
Quality Manager

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**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
09/13/2022 14:54

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
WCH0793-01	IGC	Water	08/23/2022	08/23/2022

**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
09/13/2022 14:54**Sample Results****Sample: IGC**
WCH0793-01 (Water)

Sample Date/Time: 08/23/2022 15:30

Analyte	Result	Qual	Reporting Limit	Units	Date Analyzed	Analyst Initials	Method
---------	--------	------	--------------------	-------	------------------	---------------------	--------

Inorganics

BOD	ND		2.00	mg/L	08/24/2022	AYE5/G9X J	SM 5210 B
pH	8.12			pH Units	08/23/2022	CSE2	SM 4500 H+ B
TSS	4.00		1.00	mg/L	08/25/2022	CSE2	SM 2540 D



ATTACHMENT E.4 EFFLUENT TESTING

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
09/13/2022 14:54

Quality Control

Inorganics

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCH0480 - Inorganics									
Reference (BCH0480-SRM1)				Prepared & Analyzed: 8/23/2022					
pH	6.03		pH Units	6.00		100	85-115		
Batch: BCH0496 - Inorganics									
Blank (BCH0496-BLK1)				Prepared & Analyzed: 8/25/2022					
TSS	ND	1.00	mg/L						
Duplicate (BCH0496-DUP1)				Source: WCH0775-02 Prepared & Analyzed: 8/25/2022					
TSS	7.50	1.00	mg/L	7.50				0.00	20
Duplicate (BCH0496-DUP2)				Source: YCH0379-01 Prepared & Analyzed: 8/25/2022					
TSS	6.40	1.00	mg/L	6.40				0.00	20
Reference (BCH0496-SRM1)				Prepared & Analyzed: 8/25/2022					
TSS	498		mg/L	500		99.6	85-115		
Reference (BCH0496-SRM2)				Prepared & Analyzed: 8/25/2022					
TSS	504		mg/L	500		101	85-115		
Batch: BCH0506 - BOD									
Blank (BCH0506-BLK1)				Prepared & Analyzed: 8/24/2022					
BOD	ND	2.00	mg/L						
LCS (BCH0506-BS1)				Prepared & Analyzed: 8/24/2022					
BOD	225		mg/L	198		114	84.4-116		

**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
09/13/2022 14:54**Certified Analyses included in this Report**

Analyte	CAS #	Certifications
SM 2540 D in Water		
TSS		W_WA
SM 4500 H+ B in Water		
pH		W_WA
SM 5210 B in Water		
BOD		W_WA

List of Certifications

Code	Description	Number	Expires
Y_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
W_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
Y_WA	WA State DOE	WA01194/C858-21	05/28/2022
W_WA	WA State DOE	WA00077/C564-21	08/28/2022

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.



WCH0793

1008 W. Antanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

WATER ANALYSIS ORDER FORM

CASCADE ANALYTICAL
A EUROFINS COMPANY

Batch#

SEND RESULTS TO

1) Client 2) Billing 3) Both

SAMPLE REPRESENTS

1) Irrigation 2) Waste Water 3) Other

SAMPLE BY

1) Client 2) Quality Control 3) Cascade 4) Other

SAMPLE #

1	2	3	4	5

New Acct. #

(see legend on back)

SAMPLE #

IRRIGATION WATER 1 2 3 4 5

Standard

GENERAL CHEMISTRY

1135	pH	X			
1140	Conductivity				
1200	Solids-Dis. (TDS)				
1230	Solids-Susp. (TSS)	X			
1240	Tot. Phosphorus				
1250	Orthophosphate				
1260	Kjeldahl Nitrogen (TKN)				
1170	Nitrate+Nitrite				
1265	NO ₃ (As N)				
1280	Ammonia				
1300	Biol. Oxy. Demand	X			
1310	Chem. Oxy. Demand				
1190	Sulfate (SO ₄)				
1180	Chloride (Cl)				
1150	Turbidity				
1320	Hexane Ext. Mat.				
1340	Alkalinity				
217	Total N Pkg				

MICROBIOLOGY

10040	Total Coliform MF				
10010	Fecal Coliform MF				
10041	Total Coliform MPN				
10011	Fecal Coliform MPN				

METALS - TOTAL OR DISSOLVED

1391	Antimony (Sb)				
1011	Arsenic (As)				
1025	Barium (Ba)				
1405	Beryllium (Be)				
1031	Cadmium (Cd)				
1045	Chromium (Cr)				
1215	Copper (Cu)				
1065	Iron (Fe)				
1075	Manganese (Mn)				
1081	Mercury (Hg)				
1435	Molybdenum (Mo)				
1051	Lead (Pb)				
1335	Nickel (Ni)				
1091	Selenium (Se)				
1105	Silver (Ag)				
1381	Thallium (Tl)				
1225	Zinc (Zn)				
MINERALS					
1120	Calcium (Ca)				
1130	Magnesium (Mg)				
1115	Potassium (K)				

CLIENT NAME/ADDRESS

SABEY DATA CENTERS

4405 GRANT ROAD

EAST WENATCHEE, WA 98802

SAMPLER'S NAME

CALEN TANNER

BILLING NAME/ADDRESS

SABEY DATA CENTERS

12201 TUKWILA BLVD. 6TH FLOOR

SEATTLE, WA 98168

PHONE

(509) 312-8973

E-mail CALENT@SABEY.COM

E-mail

RELINQUISHED BY: (Signature) [1]	DATE	RELINQUISHED BY: (Signature) [2]	DATE	RELINQUISHED BY: (Signature) [3]	DATE
	08/23/22				
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME
CALEN TANNER					
RECEIVED BY: (Signature)	DATE	RECEIVED BY: (Signature)	DATE	RECEIVED FOR LAB BY: (Signature)	DATE
	8/23/22				
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME

FORM MUST BE COMPLETED BEFORE ANALYSIS WILL BE PERFORMED.

WCH0793	1	IGC	Sample Date	08-23-22
01			Sample Time	3:30 PM
	2		Sample Date	
			Sample Time	
	3		Sample Date	
			Sample Time	
	4		Sample Date	
			Sample Time	
	5		Sample Date	
			Sample Time	

*METALS - circle type of analysis - T=total or D=dissolved

Total N package = TKN, NO₃, NO₂, NH₃

Sample container received by client was sealed Yes _____ No _____

Sample container received by laboratory was sealed Yes _____ No _____

Disclaimer:

Cascade Analytical, Inc., makes no warranty of any kind, expressed or implied, and customer assumes all risk and liability from the use of Cascade's test results. Cascade neither assumes nor authorizes any person to assume for Cascade any other liability in connection with the testing done by Cascade Analytical, Inc., and there are no other oral agreements or warranties collateral to or affecting this agreement.

Cascade Analytical Inc.'s liability to customer as a result of customers use of Cascade's test results shall be limited to a sum equal to the fees paid by customer to Cascade Analytical, Inc. for the testing work.

Customer Signature:

Date 08-23-2022

This form also serves as "Chain of Custody."

CAICOF - 03



Sample Receipt Form

Date Received: 8/23/22 Time Received: 4:51pm Initials: TWD

Client Name: Sabey Data Centers Project Name: WW

Temperature of cooler upon receipt: 17 °C Thermometer ID: #7

Custody seals: Intact Broken None N/A

Chain of Custody Completed:

Client name, address, and phone number;	<u>Yes</u>	No
Date and time of sampling;	<u>Yes</u>	No
Test requests clear;	<u>Yes</u>	No
Completed in ink;	<u>Yes</u>	No
Signed by client;	<u>Yes</u>	No

All samples received: Yes No

All samples intact: Yes No

Sample ID's match COC form: Yes No

Appropriate containers used: Yes No

Sufficient amount of sample for analysis: Yes No

Correct preservative verified: N/A Yes No

Air bubbles in VOC, TTHM, or HAA5 samples: N/A Yes No

Sample(s) exceed hold time: Yes No

Type of coolant: Ice Blue Ice None Other Comment: _____

Shipping Method: FedEx UPS USPS Brett & Sons Hand Delivered CAI Sampled

Shipping Container: E-CA Cooler E-CA Cooler Box Client's Cooler None Other _____

Samples accepted for analysis: Yes No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: 1 1000ml plastic (BOD, TSS)
1 125ml " (pH)



November 03, 2022

Calen Tanner
Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

RE: Monthly Waste Water
Associated Work Orders: WCJ0633

Enclosed are the results of analyses for samples received at the laboratory on 10/25/2022. Sample analysis was performed according to Eurofins-Cascade Analytical's quality assurance program.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Kyle Johnson'.

Kyle Johnson For Brianna Buschbach
Quality Manager

Eurofins-Cascade Analytical uses procedures established by EPA, AOAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) received by the laboratory. This analytical report must be reproduced in its entirety. Please review your data in a timely manner. Data gaps or errors will not be the responsibility of the laboratory. Though we do keep all analytical data for several years, samples are disposed of after six weeks.

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Work Document PDF	7



**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
11/03/2022 09:26

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
WCJ0633-01	IGC	Water	10/25/2022	10/25/2022

**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
11/03/2022 09:26**Sample Results****Sample: IGC**
WCJ0633-01 (Water)

Sample Date/Time: 10/25/2022 14:25

Analyte	Result Qual	Reporting Limit	Units	Date Analyzed	Analyst Initials	Method
---------	-------------	-----------------	-------	---------------	------------------	--------

Inorganics

BOD	ND	2.00	mg/L	10/26/2022	AYE5	SM 5210 B
pH	7.21		pH Units	10/25/2022	V8DZ	SM 4500 H+ B
TSS	4.00	1.00	mg/L	10/26/2022	Ronna Kenn	SM 2540 D



ATTACHMENT E.4 EFFLUENT TESTING

Cascade Analytical

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Union Gap, WA 98903
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Fax: (509) 452-7773

3019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183

Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168

Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner

Reported:
11/03/2022 09:26

Quality Control

Inorganics

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	-------------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

Batch: BCJ0498 - Inorganics

Duplicate (BCJ0498-DUP1)

Source: WCJ0620-01

Prepared & Analyzed: 10/25/2022

pH	8.26		pH Units		8.21			0.607	20
----	------	--	----------	--	------	--	--	-------	----

Reference (BCJ0498-SRM1)

pH	5.99		pH Units		6.00	99.8	85-115		
----	------	--	----------	--	------	------	--------	--	--

Batch: BCJ0509 - Inorganics

Blank (BCJ0509-BLK1)

Prepared & Analyzed: 10/26/2022

TSS	ND		1.00	mg/L					
-----	----	--	------	------	--	--	--	--	--

Duplicate (BCJ0509-DUP1)

Source: YCJ0482-01

Prepared & Analyzed: 10/26/2022

TSS	13.0		1.00	mg/L	13.0			0.00	20
-----	------	--	------	------	------	--	--	------	----

Reference (BCJ0509-SRM1)

TSS	482			mg/L	500	96.4	85-115		
-----	-----	--	--	------	-----	------	--------	--	--

Batch: BCJ0526 - BOD

Blank (BCJ0526-BLK1)

Prepared & Analyzed: 10/26/2022

BOD	ND		2.00	mg/L					
-----	----	--	------	------	--	--	--	--	--

LCS (BCJ0526-BS1)

BOD	223			mg/L	198	113	85-115		
-----	-----	--	--	------	-----	-----	--------	--	--

**ATTACHMENT E.4
EFFLUENT TESTING**

Cascade Analytical

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-77733019 G.S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183Sabey Data Centers
12201 Tukwila Inter Blvd 4 flo
Seattle, WA 98168Project: Monthly Waste Water
Project Number:
Project Manager: Calen Tanner**Reported:**
11/03/2022 09:26**Certified Analyses included in this Report**

Analyte	CAS #	Certifications
SM 2540 D in Water		
TSS		W_WA
SM 4500 H+ B in Water		
pH		W_WA
SM 5210 B in Water		
BOD		Y_WA

List of Certifications

Code	Description	Number	Expires
Y_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
W_ISO	ISO 17025:2017 + AOAC	L21-299	07/31/2023
Y_WA	WA State DOE	WA01194/C858-21	05/28/2022
W_WA	WA State DOE	WA00077/C564-21	08/28/2022

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.



WCJ0633

Sample Receipt Form 1525

Date Received: 10/25/22 Time Received: 1425 Initials: LJ

Client Name: Sabey Project Name: WW

Temperature of cooler upon receipt: 16 °C Thermometer ID: 7

Custody seals: Intact Broken None N/A

Chain of Custody Completed:

Client name, address, and phone number;	Yes	No
Date and time of sampling;	Yes	No
Test requests clear;	Yes	No
Completed in ink;	Yes	No
Signed by client;	Yes	No

All samples received: Yes No

All samples intact: Yes No

Sample ID's match COC form: Yes No

Appropriate containers used: Yes No

Sufficient amount of sample for analysis: Yes No

Correct preservative verified: N/A Yes No

Air bubbles in VOC, TTHM, or HAA5 samples: N/A Yes No

Sample(s) exceed hold time: Yes No

Type of coolant: Ice Blue Ice None Other Comment: _____

Shipping Method: FedEx UPS USPS Brett & Sons Hand Delivered CAI Sampled

Shipping Container: E-CA Cooler E-CA Cooler Box Client's Cooler None Other _____

Samples accepted for analysis: Yes No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: 1L = TSS
pour off 500mL = BOD
125mL = pH

ATTACHMENT E.4 EFFLUENT TESTING

3019 G. S. Center Rd.
Wenatchee, WA 98801
(509) 662-1888
Fax: (509) 662-8183
1-800-545-4206

1008 W. Ahtanum Rd.
Union Gap, WA 98903
(509) 452-7707
Fax: (509) 452-7773



SIS ORDER FORM

Bat

WCJ0633

SEN

1) C

SAMP

1) Irrigation 2) Waste Water 3) Other

SAMPLE BY

1) Client 2) Quality Control 3) Cascade 4) Other

New Acct. #

SAMPLE #

1 2 3 4 5

CASCADE ANALYTICAL

A EUROFINIS COMPANY

CLIENT NAME/ADDRESS

Sabey Data Centers
4405 Grant Road
East Wenatchee, WA 98802

SAMPLER'S NAME

Eric Coleman

BILLING NAME/ADDRESS

Sabey Data Centers
12201 Tukwila Blvd. 6th Floor
Seattle, WA 98168

PHONE

509-699-3030

E-mail CalenTC@sabey.com

E-mail

RELINQUISHED BY: (Signature) [1]	DATE	RELINQUISHED BY: (Signature) [2]	DATE	RELINQUISHED BY: (Signature) [3]	DATE
	10/25/22				
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME
Eric Coleman					
RECEIVED BY: (Signature)	DATE	RECEIVED BY: (Signature)	DATE	RECEIVED FOR LAB BY: (Signature)	DATE
	10/25/22				
(Printed)	TIME	(Printed)	TIME	(Printed)	TIME

FORM MUST BE COMPLETED BEFORE ANALYSIS WILL BE PERFORMED.

22 E00622	IGC	Sample Date	10-25-22
WCJ0633-01		Sample Time	2:25 PM
1		Sample Date	
2		Sample Time	
3		Sample Date	
4		Sample Time	
5		Sample Date	
		Sample Time	

*METALS - circle type of analysis - T=total or D=dissolved

Total N package = TKN, NO₃, NO₂, NH₃

Sample container received by client was sealed Yes _____ No _____

Sample container received by laboratory was sealed Yes _____ No _____

Disclaimer:

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Customer Signature:

Date 10-25-22

This form also serves as "Chain of Custody."

CAICOF - 03

(see legend on back)

SAMPLE #

1 2 3 4 5

IRRIGATION WATER

Standard

GENERAL CHEMISTRY

1135 pH

1140 Conductivity

1200 Solids-Dis. (TDS)

1230 Solids-Susp. (TSS)

1240 Tot. Phosphorus

1250 Orthophosphate

1260 Kjeldahl Nitrogen (TKN)

1170 Nitrate+Nitrite

1265 NO₃ (As N)

1280 Ammonia

1300 Biol. Oxy. Demand

1310 Chem. Oxy. Demand

1190 Sulfate (SO₄)

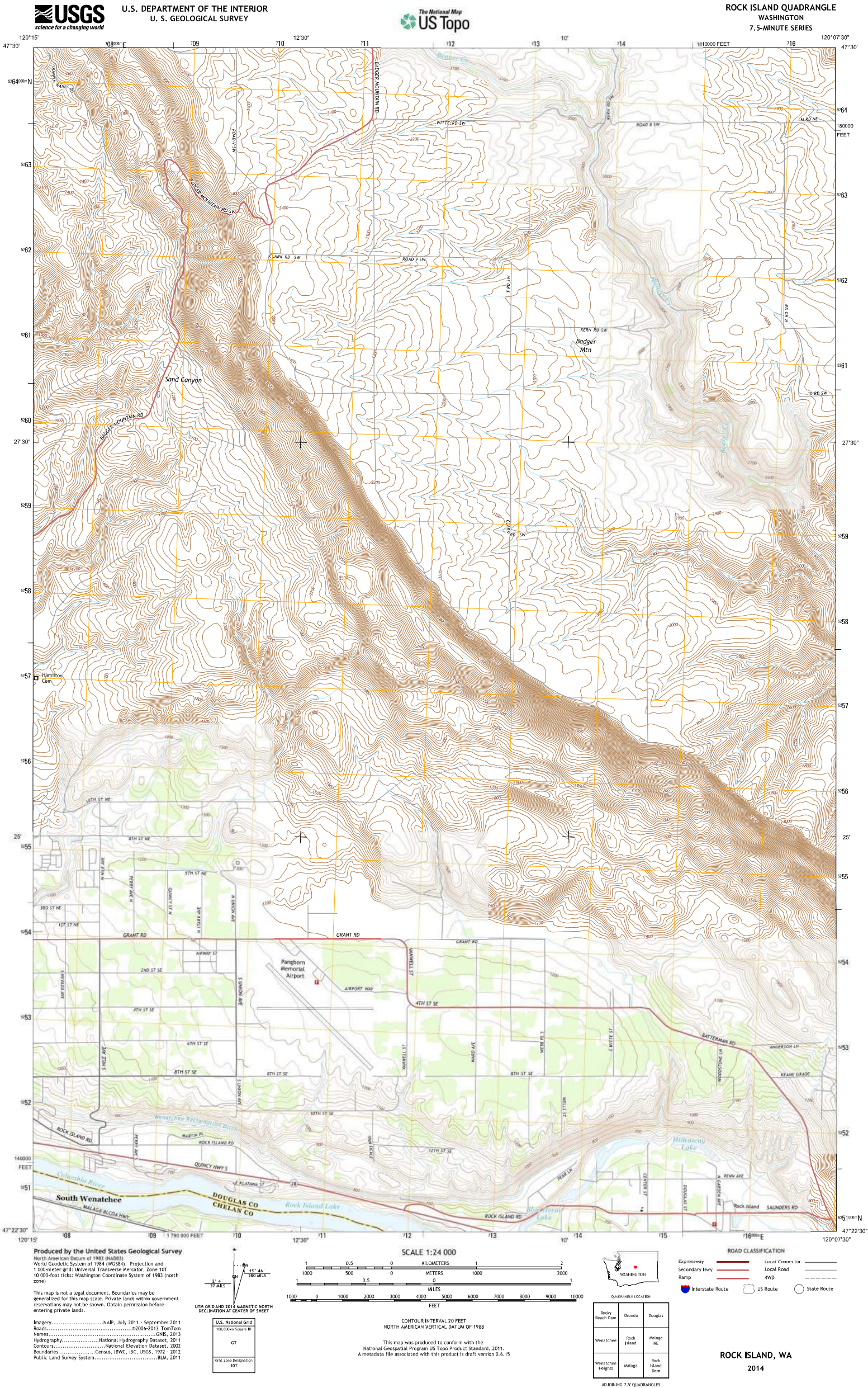
1180 Chloride (Cl)

1150 Turbidity

1320 Hexane Ext. Mat.

1340 Alkalinity

217 Total N Pkg



Well Logs Map Menu

[Search Options](#) [Legend/Layers](#) [Help](#)




Well Type Legend:

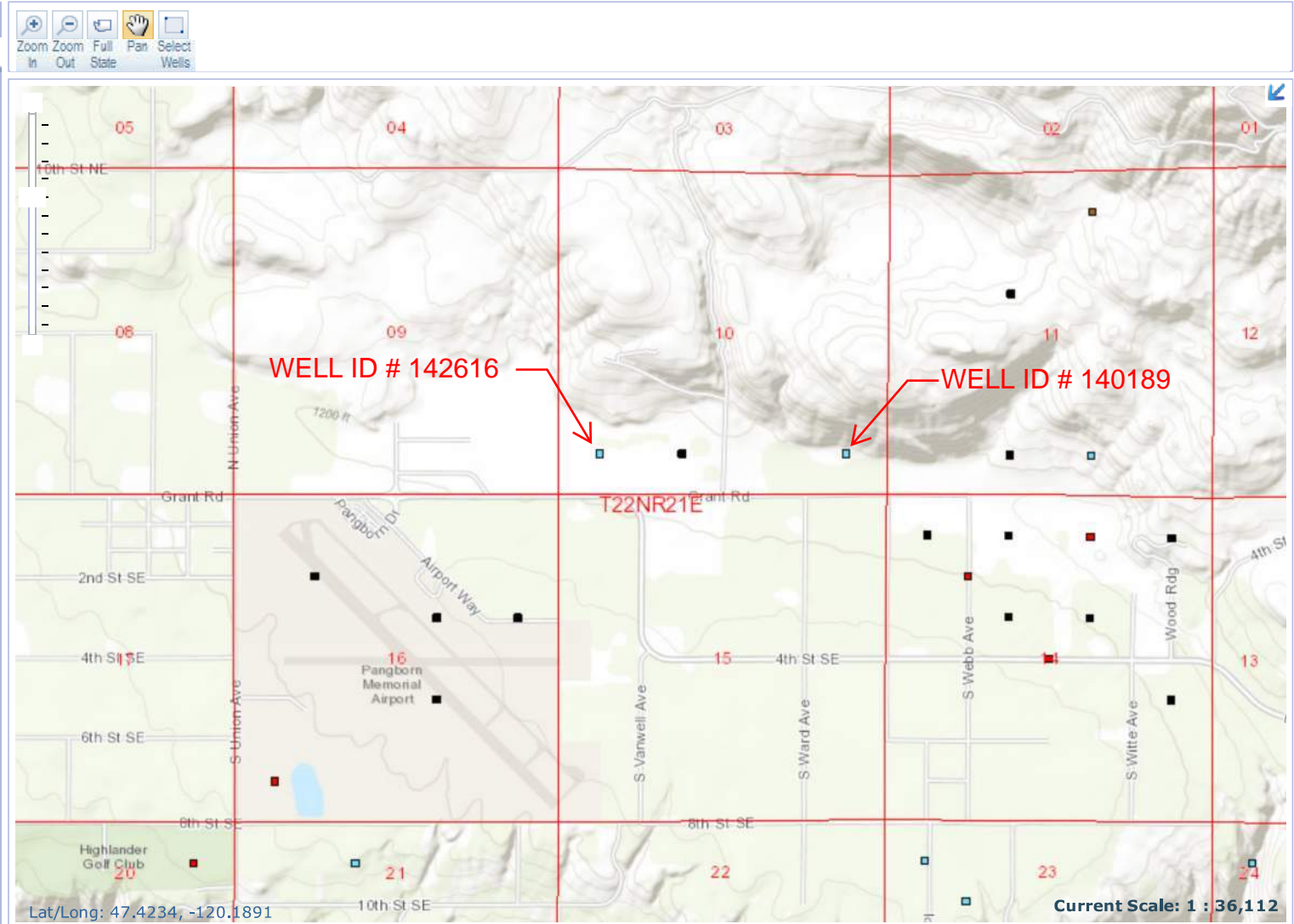
- Water Wells
- Resource Protection Wells
- Decommissioned Wells
- Multiple Well Types

Administrative Boundaries: (Turn layers on/off tip)

- ☒ Sections
- ☒ Townships
- ☐ Parcels
- ☐ Watersheds (WRIA)

Background Layers:

- ☒  USGS Topo Map
- ☐  Terrain Map
- ☐  Aerial Imagey



WELL LOG ID #142616

WATER WELL REPORT

STATE OF WASHINGTON

 Start Card No. W45071
 Unique Well I.D. #
 Water Right Permit No. 64-304328

 (1) OWNER: Name BATTERMAN, LEONARD Address P.O. BOX 1060 WENATCHEE, WA 98807-1060
 (2) LOCATION OF WELL: County DOUGLAS
 (2a) STREET ADDRESS OF WELL (or nearest address), - SW 1/4 SW 1/4 Sec 10 T 22 N., R 21 WM

(3) PROPOSED USE: IRRIGATION

(4) TYPE OF WORK: Owner's Number of well

DEEPEMED

(If more than one)

Method: ROTARY

 (5) DIMENSIONS: Diameter of well 8 inches
 Drilled 31 ft. Depth of completed well 221 ft.

(6) CONSTRUCTION DETAILS:

 Casing installed: 7 ft. Dia. from +2 ft. to 220 ft.
 WELDED Dia. from ft. to ft.
 Dia. from ft. to ft.

Perforations: YES

 Type of perforator used STAR
 Size of perforations 1 in. by 1/4 in.
 126 perforations from 170 ft. to 205 ft.
 perforations from ft. to ft.
 perforations from ft. to ft.

Screens: NO

Manufacturer's Name

Type

Model No.

Diam.

slot size

from

ft. to

ft.

Diam.

slot size

from

ft. to

ft.

Gravel packed: NO

Gravel placed from

Size of gravel
ft. to ft.

Surface seal: NO

Material used in seal

To what depth? ft.

Did any strata contain unusable water? NO

Type of water?

Depth of strata ft.

Method of sealing strata off

(7) PUMP: Manufacturer's Name

Type

H.P.

(8) WATER LEVELS:

Land-surface elevation

above mean sea level ... ft.

Static level 148 ft. below top of well Date 10/03/94

Artesian Pressure lbs. per square inch Date

Artesian water controlled by

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

Was a pump test made? NO If yes, by whom?

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

Recovery data

Time Water Level Time Water Level Time Water Level

Date of test / /

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

Air test 15 gal./min. w/ stem set at ft. for hrs.

Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? NO

(10) WELL LOG

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

MATERIAL

BASALT GRAVEL WITH WATER

BASALT GRAVEL CLAY

BASALT GRAVEL WITH WATER

BASALT GRAVEL

FROM

190

210

215

218

221

TO

210

215

218

221

NOV 8 1994

NOV - 2 1994

Work started 09/27/94

Completed 10/03/94

WELL CONSTRUCTOR CERTIFICATION:

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

NAME PONDEROSA DRILLING

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

ADDRESS E 6010 BROADWAY

[SIGNED] *Ryan W. Kuhlman* License No. 2095

Contractor's

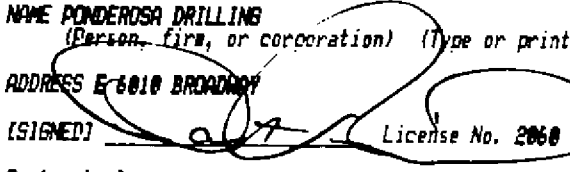
Registration No. PO-ND-KI*248JE

Date 10/10/94

JUL 29 1994

CORRECTED LOG
WATER WELL REPORT
STATE OF WASHINGTON

Start Card No. **W45071**
Unique Well I.D. #
Water Right Permit No. **64-384320**

(1) OWNER: Name BATTERMAN, LEONARD		Address P.O. BOX 1060 WENATCHEE, WA 98807-1060	
(2) LOCATION OF WELL: County DOUGLAS		- SW 1/4 SW 1/4 Sec 10 T 22 N., R 21E WM	
(3) PROPOSED USE: IRRIGATION		(10) WELL LOG	
(4) TYPE OF WORK:	Owner's Number of well (If more than one) 1 Method: ROTARY	Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.	
RECONDITIONED			
(5) DIMENSIONS:	Diameter of well 8 inches Drilled 0 ft. Depth of completed well 178 ft.	MATERIAL	
(6) CONSTRUCTION DETAILS:		FROM TO	
Casing installed:	* Dia. from ft. to ft. * Dia. from ft. to ft. * Dia. from ft. to ft.	OVERBORE 16" TO DEPTH OF 20 FEET	
Perforations: NO		SEAL CASING 10" TO 8" CASING	
Type of perforator used		CLEANED/DEVELOPED WELL TO 178'	
SIZE of perforations	in. by in.		
perforations from	ft. to ft.		
perforations from	ft. to ft.		
perforations from	ft. to ft.		
Screens: NO			
Manufacturer's Name	Model No.		
Type			
Diam. slot size	from ft. to ft.		
Diam. slot size	from ft. to ft.		
Gravel packed: NO	Size of gravel		
Gravel placed from	ft. to ft.		
Surface seal: NO YES	To what depth? 20 ft.		
Material used in seal BENTONITE			
Did any strata contain unusable water? NO			
Type of water?	Depth of strata ft.		
Method of sealing strata off			
(7) PUMP: Manufacturer's Name	Type H.P.		
(8) WATER LEVELS:	Land-surface elevation		
Static level 150	ft. below top of well Date 07/08/94		
Artesian Pressure	lbs. per square inch Date		
Artesian water controlled by			
Work started 07/07/94		Completed 07/08/94	
(9) WELL TESTS: Drawdown is amount water level is lowered below static level.	WELL CONSTRUCTOR CERTIFICATION:		
Was a pump test made? NO If yes, by whom?	I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.		
Yield: 60 gal./min with ft. drawdown after hrs.			
Recovery data			
Time Water Level Time Water Level Time Water Level	NAME PONDEROSA DRILLING		
	(Person, firm, or corporation) (Type or print)		
	ADDRESS E-6010 BROADWAY		
	(SIGNED)  License No. 2060		
Date of test / /	Contractor's		
Bailer test gal/min. ft. drawdown after hrs.	Registration No. PO-ND-EI-248JE Date 07/19/94		
Air test gal/min. w/ stem set at ft. for hrs.			
Artesian flow g.p.m. Date			
Temperature of water Was a chemical analysis made? NO			

WATER WELL REPORT

WELL LOG ID #140189

STATE OF WASHINGTON

Permit No.

(1) OWNER: Name George Bitterman, SR Address Wenatchee, Wash
(2) LOCATION OF WELL: County DOUGLAS COUNTY S.E. 1/4 S.E. 1/4 Sec. 10 T. 22 N. R. 21 W.M.
and distance from section or subdivision corner

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

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

(5) DIMENSIONS: Diameter of well 8 inches.
Drilled 337 ft. Depth of completed well 337 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: _____ " Diam. from _____ ft. to _____ ft.

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

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

Perforations: Yes ☐ No ☐

Type of perforator used _____

SIZE of perforations _____ in. by _____ in.

_____ perforations from _____ ft. to _____ ft.

_____ perforations from _____ ft. to _____ ft.

_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☐ No ☐

Manufacturer's Name _____

Type _____ Model No. _____

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

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

Gravel packed: Yes ☐ No ☐ Size of gravel: _____

Gravel placed from _____ ft. to _____ ft.

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

Material used in seal _____

Did any strata contain unusable water? Yes ☐ No ☐

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____

Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation _____ ft.

Static level NO WATER ft. below top of well Date _____

Artesian pressure _____ lbs. per square inch Date _____

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

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

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

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

" " " " " "

" " " " " "

" " " " " "

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

Time Water Level Time Water Level Time Water Level

_____ 14 1971

(10) WELL LOG:

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

MATERIAL	FROM	TO
Dirt and boulders	0	25
Sand and boulders	25	40
" " "	40	55
" " "	55	70
" " "	70	85
Clay and boulders	85	100
" " "	100	115
" " "	115	130
" " "	130	145
" " "	145	160
" " "	160	175
Gravel and clay	175	190
Gravel, boulders & clay	190	205
Clay	205	220
Boulders & clay	220	235
Clay	235	250
Clay	250	265
Clay	265	280
Clay	280	295
Black clay	295	310
Black clay & sand	310	325
Black clay	325	337

DRY NO WATER

SOME DAY WILL
DRILL DEEPER?

SECTION 22-21

SE 1/4 SE 1/4

WELL 440' 2" E LINE
336' 3"

Work started Sept. 1968 Completed Sept. 16, 1968

WELL DRILLER'S STATEMENT:

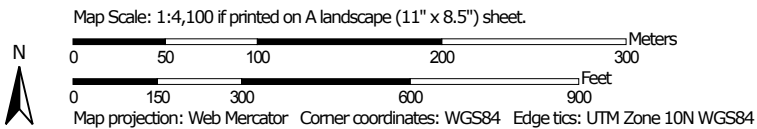
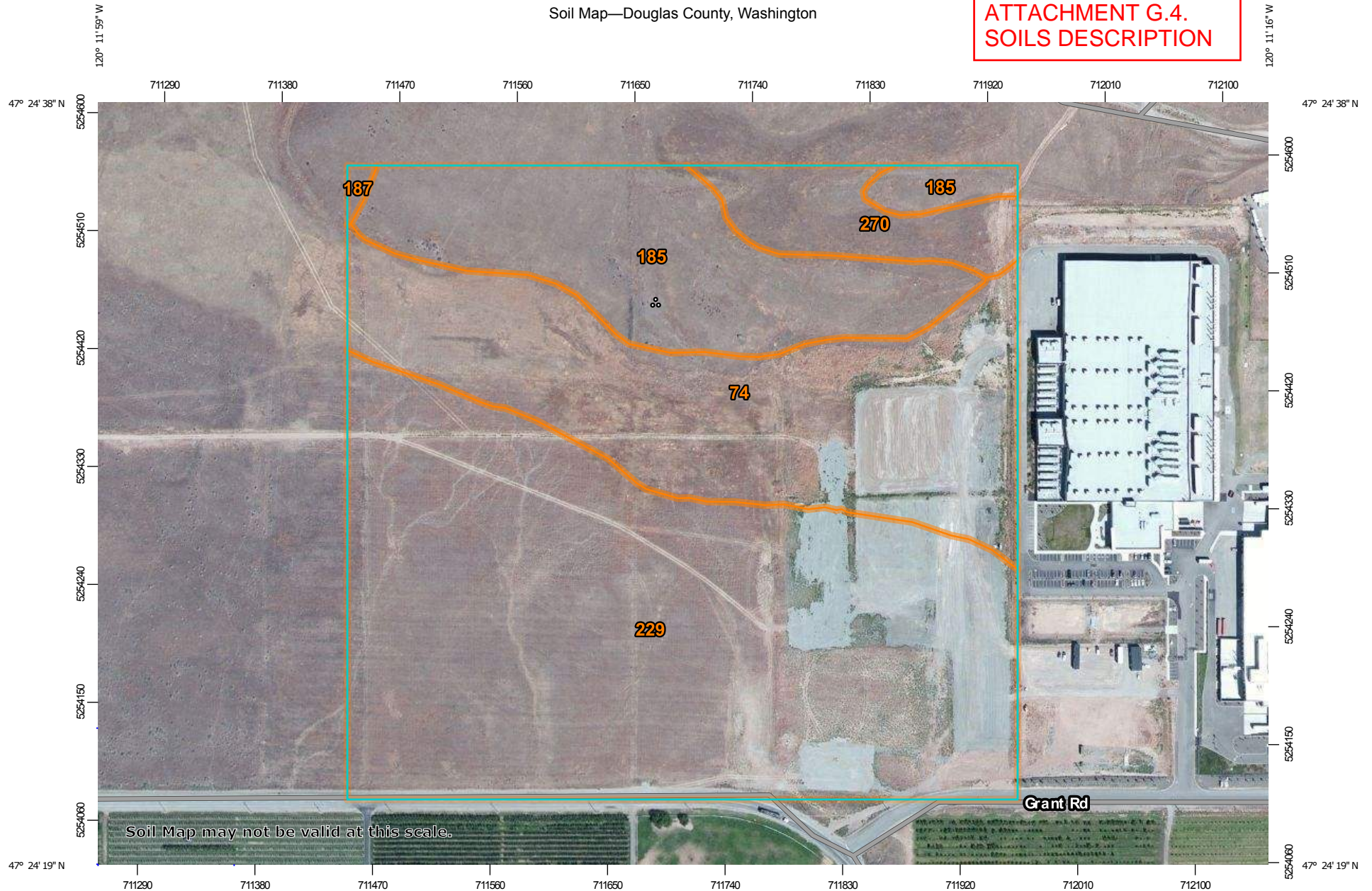
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME FOUR STAR DRILLING
(Person, firm, or corporation) (Type or print)

Address COULTEE CITY

[Signed] Robert L. Briae
(Well Driller)

License No. _____ Date Sept. 16, 1968



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils



Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Douglas County, Washington

Survey Area Data: Version 18, Sep 8, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

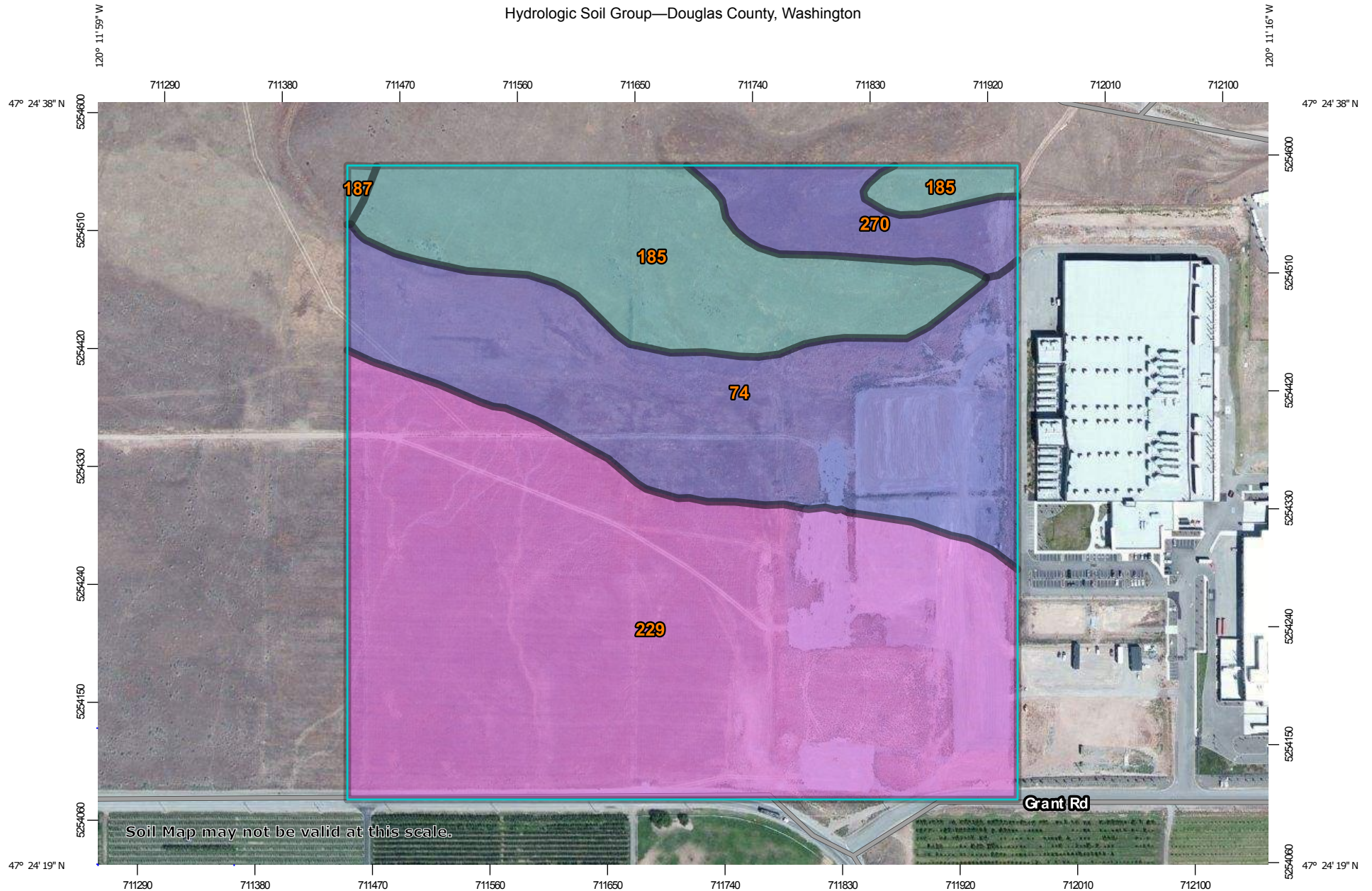
Date(s) aerial images were photographed: Jul 25, 2010—Oct 17, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

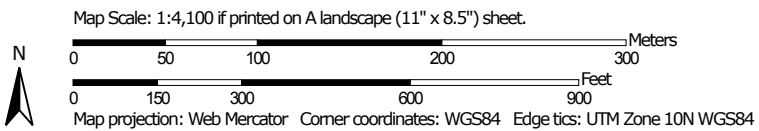
Map Unit Legend

Douglas County, Washington (WA017)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
74	Burch loam, 0 to 3 percent slopes	15.5	25.2%
185	Grinrod-Ralls-Argabak complex, 8 to 50 percent slopes	10.7	17.4%
187	Grinrod-Rock outcrop-Rubble land complex, 30 to 70 percent slopes	0.2	0.2%
229	Magallon fine sandy loam, 3 to 8 percent slopes	32.1	52.1%
270	Pogue loam, 8 to 15 percent slopes	3.1	5.1%
Totals for Area of Interest		61.6	100.0%

Hydrologic Soil Group—Douglas County, Washington



Soil Map may not be valid at this scale.



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

7/7/2017
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)









Area of Interest (AOI)

Soils

Soil Rating Polygons





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines


-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

Water Features

-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Douglas County, Washington
Survey Area Data: Version 18, Sep 8, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 25, 2010—Oct 17, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Douglas County, Washington (WA017)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
74	Burch loam, 0 to 3 percent slopes	B	15.5	25.2%
185	Grinrod-Ralls-Argabak complex, 8 to 50 percent slopes	C	10.7	17.4%
187	Grinrod-Rock outcrop-Rubble land complex, 30 to 70 percent slopes	C	0.2	0.2%
229	Magallon fine sandy loam, 3 to 8 percent slopes	A	32.1	52.1%
270	Pogue loam, 8 to 15 percent slopes	B	3.1	5.1%
Totals for Area of Interest			61.6	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (<http://soils.usda.gov>)

Report—Physical Soil Properties

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Physical Soil Properties—Douglas County, Washington														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
74—Burch loam, 0 to 3 percent slopes														
Burch	0-10	-46-	-42-	10-13- 15	1.15-1.25 -1.35	4.00-9.00-14.11	0.17-0.19-0. 20	0.0- 1.5- 2.9	1.0- 1.5- 2.0	.37	.37	5	5	56
	10-30	-45-	-41-	10-14- 18	1.30-1.40 -1.50	4.00-9.00-14.11	0.17-0.19-0. 20	0.0- 1.5- 2.9	0.5- 0.8- 1.0	.43	.43			
	30-60	-45-	-42-	8-13- 18	1.30-1.40 -1.50	4.00-9.00-14.11	0.17-0.19-0. 20	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.43	.43			

Physical Soil Properties--Douglas County, Washington														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
185—Grinrod-Ralls-Argabak complex, 8 to 50 percent slopes														
Grinrod	0-6	-31-	-57-	10-13- 15	1.15-1.25 -1.35	4.00-9.00-14.11	0.08-0.10-0.12	0.0- 1.5- 2.9	1.0- 1.5- 2.0	.15	.43	2	7	38
	6-10	-46-	-42-	10-13- 15	1.30-1.40 -1.50	4.00-9.00-14.11	0.08-0.11-0.13	0.0- 1.5- 2.9	1.0- 1.5- 2.0	.17	.49			
	10-22	-38-	-36-	18-27- 35	1.30-1.40 -1.50	4.00-9.00-14.11	0.07-0.10-0.12	0.0- 1.5- 2.9	0.5- 0.8- 1.0	.10	.37			
	22-32	—	—	—	—	—	—	—	—					
Ralls	0-7	-45-	-42-	8-13- 18	1.15-1.23 -1.30	4.00-9.00-14.11	0.07-0.10-0.12	0.0- 1.5- 2.9	1.0- 1.5- 2.0	.10	.32	5	7	38
	7-12	-34-	-38-	18-28- 35	1.25-1.35 -1.45	1.41-7.76-14.11	0.12-0.13-0.14	3.0- 4.5- 5.9	0.5- 0.8- 1.0	.15	.32			
	12-60	-34-	-38-	18-28- 35	1.25-1.35 -1.45	1.41-7.76-14.11	0.09-0.12-0.14	3.0- 4.5- 5.9	0.0- 0.3- 0.5	.10	.32			
Argabak	0-5	-44-	-41-	12-15- 18	1.20-1.33 -1.45	4.00-9.00-14.11	0.06-0.09-0.12	0.0- 1.5- 2.9	1.0- 1.5- 2.0	.15	.37	1	7	38
	5-9	-38-	-36-	18-27- 35	1.30-1.43 -1.55	1.41-7.76-14.11	0.06-0.10-0.14	3.0- 4.5- 5.9	1.0- 1.5- 2.0	.10	.37			
	9-13	—	—	—	—	—	—	—	—					

Physical Soil Properties—Douglas County, Washington														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
187—Grinrod-Rock outcrop-Rubble land complex, 30 to 70 percent slopes														
Grinrod	0-6	-31-	-57-	10-13- 15	1.15-1.25 -1.35	4.00-9.00-14.11	0.08-0.10-0.12	0.0- 1.5- 2.9	1.0- 1.5- 2.0	.15	.43	2	7	38
	6-10	-46-	-42-	10-13- 15	1.30-1.40 -1.50	4.00-9.00-14.11	0.08-0.11-0.13	0.0- 1.5- 2.9	1.0- 1.5- 2.0	.17	.49			
	10-22	-38-	-36-	18-27- 35	1.30-1.40 -1.50	4.00-9.00-14.11	0.07-0.10-0.12	0.0- 1.5- 2.9	0.5- 0.8- 1.0	.10	.37			
	22-32	—	—	—	—	—	—	—	—					
Rock outcrop	0-60	—	—	—	—	—	—	—	—					
Rubble land	0-60	—	—	—	—	—	—	—	—					
229—Magallon fine sandy loam, 3 to 8 percent slopes														
Magallon	0-10	-68-	-21-	8-11- 13	1.20-1.25 -1.30	14.11-28.23-42.34	0.12-0.13-0.14	0.0- 1.5- 2.9	1.0- 1.5- 2.0	.24	.24	2	3	86
	10-19	-68-	-21-	8-11- 13	1.35-1.43 -1.50	14.11-28.23-42.34	0.12-0.13-0.14	0.0- 1.5- 2.9	0.5- 0.8- 1.0	.32	.32			
	19-60	-97-	- 1-	0- 3- 5	1.40-1.48 -1.55	42.34-91.74-141.14	0.04-0.06-0.07	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.02	.02			

Physical Soil Properties—Douglas County, Washington														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
270—Pogue loam, 8 to 15 percent slopes														
Pogue	0-18	-47-	-45-	5- 8- 10	1.15-1.25 -1.35	4.00-9.00-14.11	0.14-0.15-0.16	0.0- 1.5- 2.9	1.0- 1.5- 2.0	.37	.37	3	5	56
	18-25	-47-	-45-	5- 8- 10	1.30-1.43 -1.55	4.00-23.29-42.34	0.10-0.13-0.15	0.0- 1.5- 2.9	0.5- 0.8- 1.0	.24	.49			
	25-60	-96-	- 2-	0- 3- 5	1.50-1.58 -1.65	141.14-141.14-141.14	0.02-0.03-0.04	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.02	.02			

Data Source Information

Soil Survey Area: Douglas County, Washington

Survey Area Data: Version 18, Sep 8, 2016

Chemical Soil Properties

This table shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. It is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced saturated hydraulic conductivity and aeration, and a general degradation of soil structure.

Report—Chemical Soil Properties

Chemical Soil Properties—Douglas County, Washington								
Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100g</i>	<i>meq/100g</i>	<i>pH</i>	<i>Pct</i>	<i>Pct</i>	<i>mmhos/cm</i>	
74—Burch loam, 0 to 3 percent slopes								
Burch	0-10	7.0-15	—	6.1-7.3	0	0	0.0-2.0	0
	10-30	7.0-16	—	6.6-7.8	0	0	0.0-2.0	0
	30-60	6.0-16	—	6.6-7.8	0-2	0	0.0-2.0	0
185—Grinrod-Ralls-Argabak complex, 8 to 50 percent slopes								
Grinrod	0-6	7.0-15	—	6.6-7.8	0	0	0.0-2.0	0
	6-10	7.0-15	—	6.6-7.8	0	0	0.0-2.0	0
	10-22	13-32	—	6.6-7.8	0	0	0.0-2.0	0
	22-32	—	—	—	—	—	—	—
Ralls	0-7	6.0-16	—	6.6-7.8	0	0	0.0-2.0	0
	7-12	13-32	—	7.4-8.4	0	0	0.0-2.0	0
	12-60	13-27	—	7.4-9.0	0	0	0.0-2.0	1-8
Argabak	0-5	10-18	—	6.6-7.8	0	0	0.0-2.0	0
	5-9	16-33	—	6.6-7.8	0	0	0.0-2.0	0
	9-13	—	—	—	—	—	—	—

Chemical Soil Properties--Douglas County, Washington								
Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100g</i>	<i>meq/100g</i>	<i>pH</i>	<i>Pct</i>	<i>Pct</i>	<i>mmhos/cm</i>	
187—Grinrod-Rock outcrop-Rubble land complex, 30 to 70 percent slopes								
Grinrod	0-6	7.0-15	—	6.6-7.8	0	0	0.0-2.0	0
	6-10	7.0-15	—	6.6-7.8	0	0	0.0-2.0	0
	10-22	13-32	—	6.6-7.8	0	0	0.0-2.0	0
	22-32	—	—	—	—	—	—	—
Rock outcrop	0-60	—	—	—	—	—	—	—
Rubble land	0-60	—	—	—	—	—	—	—
229—Magallon fine sandy loam, 3 to 8 percent slopes								
Magallon	0-10	6.0-14	—	6.1-7.8	0	0	0.0-2.0	0
	10-19	6.0-12	—	7.4-8.4	2-8	0	0.0-2.0	0-3
	19-60	0.0-4.0	—	7.4-9.0	2-10	0	0.0-2.0	0-5
270—Pogue loam, 8 to 15 percent slopes								
Pogue	0-18	4.0-11	—	6.1-7.8	0	0	0.0-2.0	0
	18-25	4.0-9.0	—	6.1-7.8	0	0	0.0-2.0	0
	25-60	0.0-4.0	—	6.6-8.4	0	0	0.0-2.0	0

Data Source Information

Soil Survey Area: Douglas County, Washington
 Survey Area Data: Version 18, Sep 8, 2016



Soil Features

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Local Geology and Hydrology Narrative

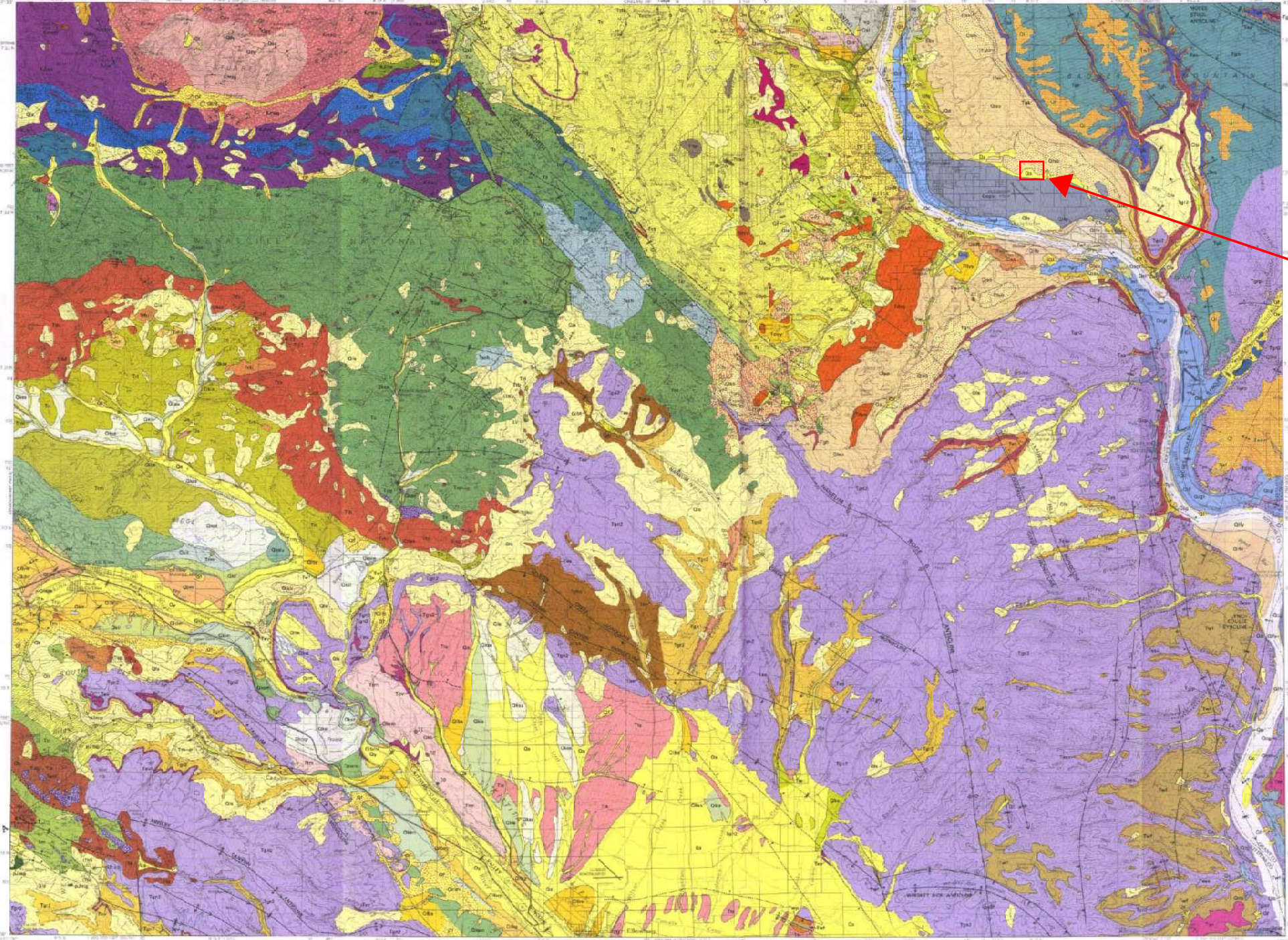
In accordance with the USGS Geologic Map of the Wenatchee 1:100,000 Quadrangle (see attached), the site is located within the Qs and Qlsb geologic areas.

Qs is defined as Sidestream Alluvium-Moderately sorted boulder-to-pebble gravel of the few rock types that crop out in relatively small drainage basins.

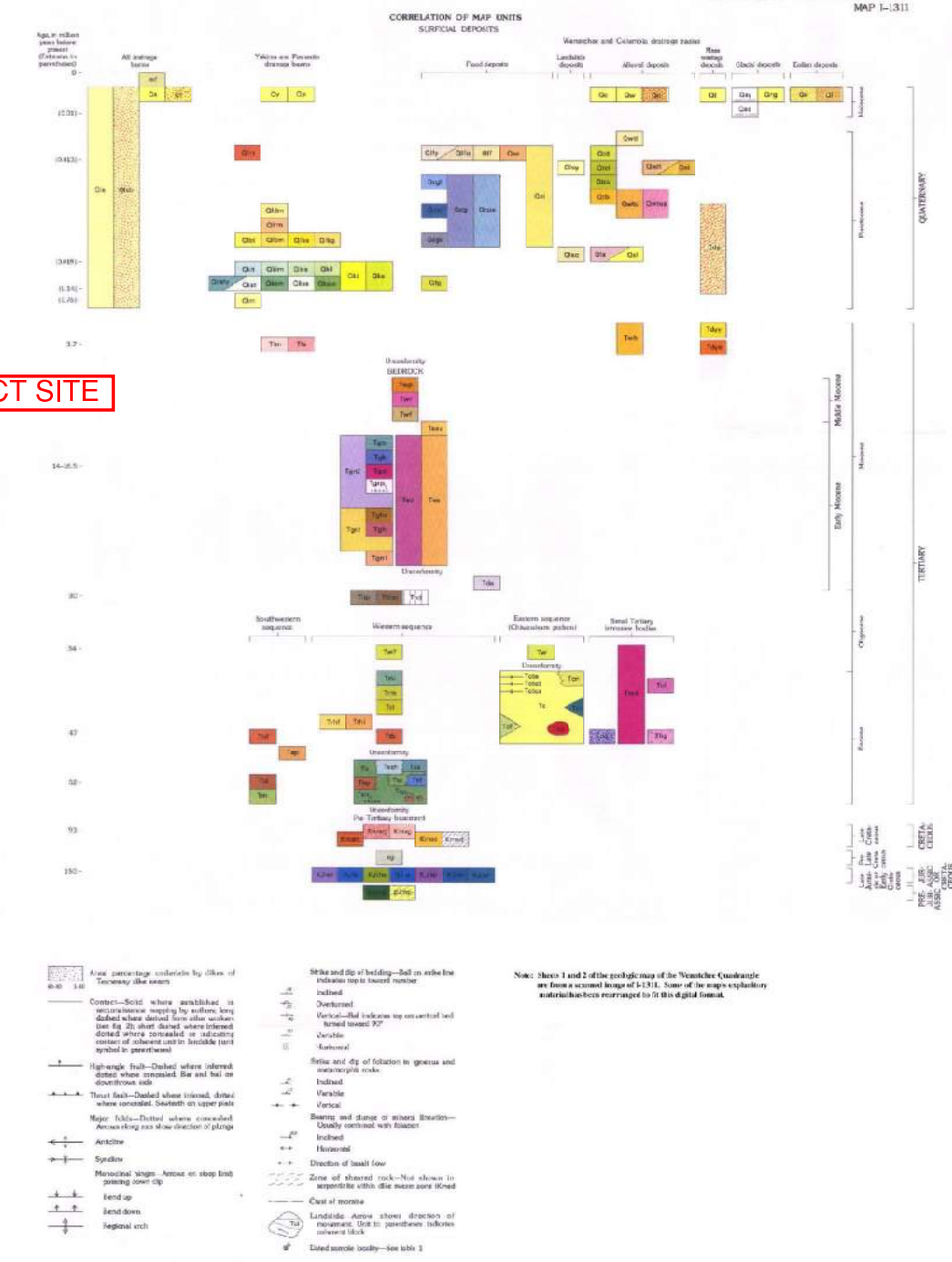
Qls is defined as Landslide of Large Blocks- Mainly large intact blocks whose original internal stratigraphy is partly to wholly preserved (where mapped, internal stratigraphy designated in parentheses); slides occur mainly as the headwater parts of large landslides derived from regional escarpment of the Yakima Basalt Subgroup; large incipient slide near Mission Peak includes nonrotated blocks, of which the largest, essentially in place, measures 2000 x 1000 x 150 m. Elsewhere blockslides are of older rock units.

The well located in the southwest portion of the site (Log ID #142616) provides a static water level of 148-150 feet below the ground surface. The ground surface is approximately 1185' within the well vicinity. This well log was taken in 1994. A second well located east of the property (Log ID #140189) was drilled in 1964 to a depth of 337 feet and did not encounter any water. Ground water in the area is assumed to flow south towards the Columbia River. The Columbia River is located 2 miles south of the site.

The USDA Web Soil Survey lists a 0% chance of flooding frequency or ponding frequency for the site. The Hydrologic Soil Groups for the proposed land application portion of the site is listed as Type B and C soils. Group B Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission. Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

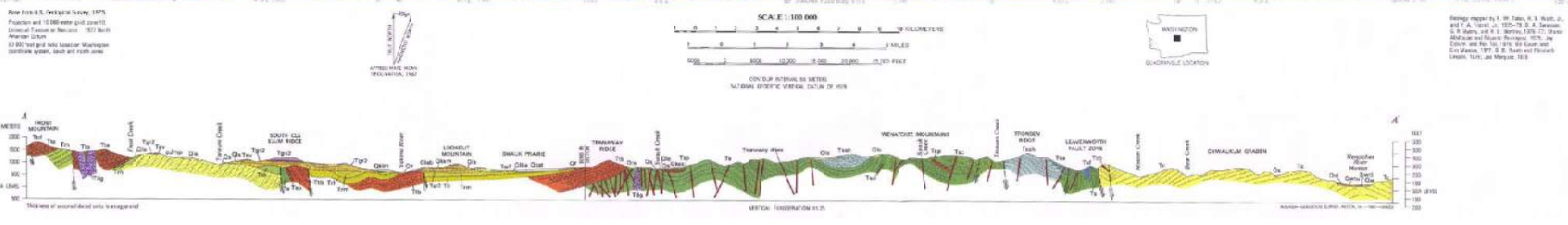


PROJECT SITE



GEOLOGIC MAP OF THE WENATCHEE 1:100,000 QUADRANGLE, CENTRAL WASHINGTON

By
R. W. Tabor, R. B. Waitt, Jr., V. A. Frizzell, Jr., D. A. Swanson,
G. R. Byerly, and R. D. Bentley
1982



DESCRIPTION OF MAP UNITS
[numbers in brackets are locations keyed to Figure 4 in pamphlet]

SURFICIAL DEPOSITS
All drainage basins

Qls LANDSLIDE DEPOSITS, UNDIFFERENTIATED—Poorly sorted deposits ranging from muddy boulder gravel to bouldery mud; clasts are angular and of only one or two local rock types; most slides have hummocky surfaces, bulbous toes, and moats at the head and margins; smaller slides generally head at theater-shaped scars; some large slides merge headward with block slides (Qlsb). Small slides designated by arrows only, showing direction of movement

Qlsb LANDSLIDE OF LARGE BLOCKS—Mainly large intact blocks whose original internal stratigraphy is partly to wholly preserved (where mapped, internal stratigraphy designated in parentheses); slides occur mainly as the headward parts of large landslides derived from regional escarpment of the Yakima Basalt Subgroup; large incipient slide near Mission Peak includes nonrotated blocks, of which the largest, essentially in place, measures 2000 x 1000 x 150 m. Elsewhere blockslides are of older rock units

mf MANMADE FILL AND MODIFIED LAND

Qs SIDESTREAM ALLUVIUM—Moderately sorted boulder-to-pebble gravel of the few rock types that crop out in relatively small drainage basins

Qf ALLUVIUM OF FANS—Poorly sorted boulder gravel to gravelly sand; subangular gravel clasts are generally of one or two rock types; forms fans of distinctly steeper gradient than floor of sidestream or trunk-stream valleys but in many places merging gradationally with deposits mapped as Qs, Qy, Qp, Qc, and Qw

Yakima and Peshastin drainage basins

Qy ALLUVIUM OF YAKIMA RIVER—Boulder to pebble gravel containing rounded stones: largely of volcanic and dike rocks, moderately of metamorphic and sedimentary rocks, and sparsely of intrusive rocks. No weathering or soil

Qp ALLUVIUM OF PESHASTIN CREEK—Subrounded cobble to boulder gravel of many rock types but dominantly amphibolite (KJia) and quartz diorite (Kmsq). No soil

LAKEDALE DRIFT—Divided into:

Qlht Hyak subdrift, till—Diamicton of angular to subrounded clasts in muddy sand matrix forming moraines and drift blanket near heads of valleys; clasts consist of several rock types; A-C soil about 0.75 m thick

Oldm Domerie subdrift, mainstream outwash—Gravel lithologically like Qy but forming terrace about 5 m above Yakima River near Cle Elum that grades upstream to moraines 9 to 30 km beyond western map boundary. A-C soil about 1 m thick

Qlrm Ronald subdrift, mainstream outwash—Cobble gravel lithologically similar to Qy but forming terrace near western map boundary lower than Bullfrog outwash surface (Qtbm) and roughly 12 m above modern Yakima flood plain. Grades upvalley to moraine 5 km beyond western boundary of map

Bullfrog subdrift-Divided into:

Qlbt Till—Poorly sorted muddy boulder diamicton forming moraine atop Lakedale terrace in Yakima River valley at western boundary of map; in Peshastin Creek valley, forms flat-topped mass at mouth of Ingalls Creek and crested moraines immediately downvalley; lithology of clasts similar to Qy or Qp; weak A-C soil. In upper Naneum Canyon, consists of angular clasts of Grande Ronde Basalt, a few of them vaguely striated; forms paired nested moraines in headwaters of Naneum Creek

Qlbn Mainstream alluvium—Mixed-lithology cobble gravel forming distinct terrace 50 m above Yakima River at upstream (western) map boundary, grading downvalley to 18 m above the river at southern map boundary; material identical to Qy but includes discontinuous mantle of loess as thick as 0.5 m and supports soil no thicker than 130 cm, no redder than 7.5 YR, and lacking an argillic B-horizon; grades from moraines (Qlbt) at western boundary of map. In Peshastin drainage, forms moraine lithologically like Qp and graded to Qlbt