BLUE WATER INDUSTRIES

BWI ETN LLC

NPDES RENEWAL APPLICATION WITH MODIFICATION

for

BWI Midway, LLC – Quarry
NPDES Permit # TN0031089

Approximate Permitted Acreage: ± 491.17 Acres

Location:
36° 03' 49.4" N Lat. 83° 43' 17.5" W Long.
9600 Mascot Road, Mascot, Knox County, Tennessee 37806

Date:
October 2022

Corporate Official Responsible for Quarry:

Jeff Ferrell
General Manager – BWI ETN LLC

Application Prepared by:

Ryan Maloney, P.E.
Professional Engineer
Griggs & Maloney, Incorporated

RYAN WILLIAM MALONEY REGISTERED ENGINEER AGRICULTURE COMMERCE No. 110401 STATE OF TENNESSEE
9/29/2022

Curtis Broadbent
Project Engineer
Griggs and Maloney, Incorporated

Curtis Broadbent

Application Prepared & Signed by:

Walt Hillis, Environmental Manager
Blue Water Industries

Walt Hillis

BLUE WATER INDUSTRIES

BWI Midway, LLC - Quarry
NPDES Renewal Application with Modification
October 2022

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1.0

NPDES Permit Application Cover Letter

BLUE WATER INDUSTRIES

9509 Diggs Gap Road, Heiskell, TN 37754

865-573-7625 Fax 865-512-1492

Electronically via TDEC.Mining@tn.gov

October 4, 2022

Bryan Epperson, Director
Tennessee Department of Environment & Conservation
Division of Mineral and Geologic Resources
3711 Middlebrook Pike
Knoxville, TN 37921-6538

Re: Blue Water Industries, BWI Midway, LLC - Quarry TN0031089
Application for NPDES Permit Renewal with Modification

Dear Mr. Epperson:

Enclosed please find the NPDES Permit Application for the BWI Midway Quarry located in Knox County, Tennessee. This application is for the renewal of the permit for a new five (5) year term with two (2) modifications listed below.

1. BWI is requesting 156.17 acres be added to the permit.

2. BWI is requesting the addition of one discharge monitoring point (DMP002) be added to the permit that will be associated with the new drainage area being included in the permit.

If you have any questions concerning this correspondence, please contact me at 865-512-7628 or whillis@bluewaterindustries.com.

Sincerely,

Walt Hillis

Walt Hillis
Environmental Manager
Blue Water Industries

Cc: Daniel Lawrence, TDEC-DMGR

2.0

TDEC-Permit Contact Information Form CN-1090

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Water-Based Systems
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243-1102

PERMIT CONTACT INFORMATION

Please complete all sections. If one person serves multiple functions, please repeat this information in each section.

PERMIT NUMBER: TN0031089 **DATE:** 10/4/2022

PERMITTED FACILITY: BWI Midway, LLC - Quarry **COUNTY:** Knox

OFFICIAL PERMIT CONTACT:

(The permit signatory authority, e.g. responsible corporate officer, principle executive officer or ranking elected official)

Official Contact: Walt Hillis	Title or Position: Environmental Manager			
Mailing Address: 9509 Diggs Gap Road	City: Heiskell	State: TN	Zip: 37754	
Phone number(s): 865-512-7628	E-mail: whillis@bluewaterindustries.com			

PERMIT BILLING ADDRESS (where invoices should be sent):

Billing Contact: AP Dept: Anna Detkova	Title or Position: AP Supervisor		
Mailing Address: 200 W Forsyth Street, Suite 1200	City: Jacksonville	State: FL	Zip: 32202
Phone number(s): 904-512-7714	E-mail: apdept@bluewaterindustries.com		

FACILITY LOCATION (actual location of permit site and local contact for site activity):

Facility Location Contact: Rusty Cain	Title or Position: Plant Manager		
Facility Location (physical street address): 9600 Mascot Road	City: Mascot	State: TN	Zip: 37806
Phone number(s): 865-475-8943	E-mail: rcain@bluewaterindustries.com		

Alternate Contact (if desired): Walt Hillis	Title or Position: Environmental Manager		
Mailing Address: 9509 Diggs Gap Road	City: Heiskell	State: TN	Zip: 37754
Phone number(s): 865-512-7628	E-mail: whillis@bluewaterindustries.com		

FACILITY REPORTING (Discharge Monitoring Report (DMR) or other reporting):

Cognizant Official authorized for permit reporting: Walt Hillis	Title or Position: Environmental Manager		
Mailing Address: 9509 Diggs Gap Road	City: Heiskell	State: TN	Zip: 37754
Phone number(s): 865-512-7628	E-mail: whillis@bluewaterindustries.com		
Fax number for reporting: 865-512-1492	Does the facility have interest in starting electronic DMR reporting? Yes No Yes		

3.0

EPA Form 1, USGS 8.5x11 Topographic Location Map (Map 1), and Water Well Data

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110015632485	TN0031089	BWI Midway, LLC - Quarry	

Form 1 NPDES

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

GENERAL INFORMATION

SECTION 1. ACTIVITIES REQUIRING AN NPDES PERMIT (40 CFR 122.21(f) and (f)(1))

Activities Requiring an NPDES Permit

1.1 Applicants *Not Required* to Submit Form 1

1.1.1	Is the facility a new or existing **publicly owned treatment works**? If yes, STOP. Do NOT complete Form 1. Complete Form 2A. ☑ No	1.1.2	Is the facility a new or existing **treatment works treating domestic sewage**? If yes, STOP. Do NOT complete Form 1. Complete Form 2S. ☑ No

1.2 Applicants *Required* to Submit Form 1

1.2.1	Is the facility a **concentrated animal feeding operation** or a **concentrated aquatic animal production facility?** ☐ Yes ➔ Complete Form 1 ***and*** Form 2B. ☑ No	1.2.2	Is the facility an **existing** manufacturing, commercial, mining, or silvicultural **facility** that **is currently discharging process wastewater**? ☑ Yes ➔ Complete Form 1 ***and*** Form 2C. ☐ No
1.2.3	Is the facility a **new** manufacturing, commercial, mining, or silvicultural **facility** that has **not yet commenced to discharge**? ☐ Yes ➔ Complete Form 1 ***and*** Form 2D. ☑ No	1.2.4	Is the facility a **new or existing** manufacturing, commercial, mining, or silvicultural **facility** that **discharges only nonprocess wastewater**? ☐ Yes ➔ Complete Form 1 ***and*** Form 2E. ☑ No
1.2.5	Is the facility a **new or existing facility** whose discharge is composed entirely of **stormwater associated with industrial activity** or whose discharge is composed of **both stormwater and non-stormwater**? ☐ Yes ➔ Complete Form 1 ***and*** Form 2F unless exempted by 40 CFR 122.26(b)(14)(x) or (b)(15). ☑ No		

SECTION 2. NAME, MAILING ADDRESS, AND LOCATION (40 CFR 122.21(f)(2))

Name, Mailing Address, and Location

2.1 Facility Name

BWI Midway Quarry

2.2 EPA Identification Number

110015632485

2.3 Facility Contact

Name (first and last)	Title	Phone number
Walt Hillis	Environmental Manager	(865) 512-7628

Email address
whillis@bluewaterindustries.com

2.4 Facility Mailing Address

Street or P.O. box
9509 Diggs Gap Road

City or town	State	ZIP code
Heiskell	TN	37754

Name, Mailing Address, and Location Continued

2.5 **Facility Location**

Street, route number, or other specific identifier: 9600 Mascot Road

County name	County code (if known)	
Knox	47093	

City or town	State	ZIP code
Mascot	Tennessee	37806

SECTION 3. SIC AND NAICS CODES (40 CFR 122.21(f)(3))

SIC and NAICS Codes

3.1

SIC Code(s)	**Description** (optional)
1422	Crushed and Broken Limestone

3.2

NAICS Code(s)	**Description** (optional)
212312	Crushed and Broken Limestone Mining and Quarrying

SECTION 4. OPERATOR INFORMATION (40 CFR 122.21(f)(4))

Operator Information

4.1 **Name of Operator**

BWI ETN LLC d/b/a Blue Water Industries

4.2 Is the name you listed in Item 4.1 also the owner?

☑ Yes ☐ No

4.3 **Operator Status**

☐ Public—federal ☐ Public—state ☐ Other public (specify)_____

☑ Private ☐ Other (specify) _____

4.4 **Phone Number of Operator**

(865) 573-7625

Operator Information Continued

4.5 **Operator Address**

Street or P.O. Box: 9509 Diggs Gap Road

City or town	State	ZIP code
Heiskell	Tennessee	37745

Email address of operator: whillis@bluewaterindustries.com

SECTION 5. INDIAN LAND (40 CFR 122.21(f)(5))

Indian Land

5.1 Is the facility located on Indian Land?

☐ Yes ☑ No

SECTION 6. EXISTING ENVIRONMENTAL PERMITS (40 CFR 122.21(f)(6))

Existing Environmental Permits

6.1 **Existing Environmental Permits** (check all that apply and print or type the corresponding permit number for each)

☑ NPDES (discharges to surface water) TN0031089	☐ RCRA (hazardous wastes)	☑ UIC (underground injection of fluids) KNX0000064 (Class V well)
☐ PSD (air emissions)	☐ Nonattainment program (CAA)	☐ NESHAPs (CAA)
☐ Ocean dumping (MPRSA)	☐ Dredge or fill (CWA Section 404)	☑ Other (specify) Knox Co. DAQ No. 18-0120

SECTION 7. MAP (40 CFR 122.21(f)(7))

Map

7.1 Have you attached a topographic map containing all required information to this application? (See instructions for specific requirements.)

☑ Yes ☐ No ☐ CAFO—Not Applicable (See requirements in Form 2B.)

SECTION 8. NATURE OF BUSINESS (40 CFR 122.21(f)(8))

Nature of Business

8.1 Describe the nature of your business.

Limestone/dolomite quarry with drilling, blasting, excavating, and in-pit truck haulage to processing plant. Crushing, screening, conveying, stockpiling of various product sizes, pugmill operation, wet and dry manufactured sand manufacturing. Loadout and sales of aggregates products to public, construction companies, and governmental agencies.

Third parites located on site:

Harrison Construction Company (an Oldcastle Materials Incorporated Company) leases a portion of property where their Mascot Asphalt Plant resides. Water from this operation doesn't commingle with discharges from the Aggregates USA Quarry operations and Harrison has there own TMSP TNR053465.

Ready Mix USA (a CEMEX Company) leases a portion of property for operations of a ready-mixed concrete plant. Currently and for several years now there hasn't actually been a plant located on the property.

SECTION 9. COOLING WATER INTAKE STRUCTURES (40 CFR 122.21(f)(9))

Cooling Water Intake Structures

9.1 Does your facility use cooling water?

☐ Yes ☑ No ➔ SKIP to Item 10.1.

9.2 Identify the source of cooling water. (Note that facilities that use a cooling water intake structure as described at 40 CFR 125, Subparts I and J may have additional application requirements at 40 CFR 122.21(r). Consult with your NPDES permitting authority to determine what specific information needs to be submitted and when.)

N/A

SECTION 10. VARIANCE REQUESTS (40 CFR 122.21(f)(10))

Variance Requests

10.1 Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(m)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)

☐ Fundamentally different factors (CWA Section 301(n))	☐ Water quality related effluent limitations (CWA Section 302(b)(2))
☐ Non-conventional pollutants (CWA Section 301(c) and (g))	☐ Thermal discharges (CWA Section 316(a))
☑ Not applicable	

SECTION 11. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

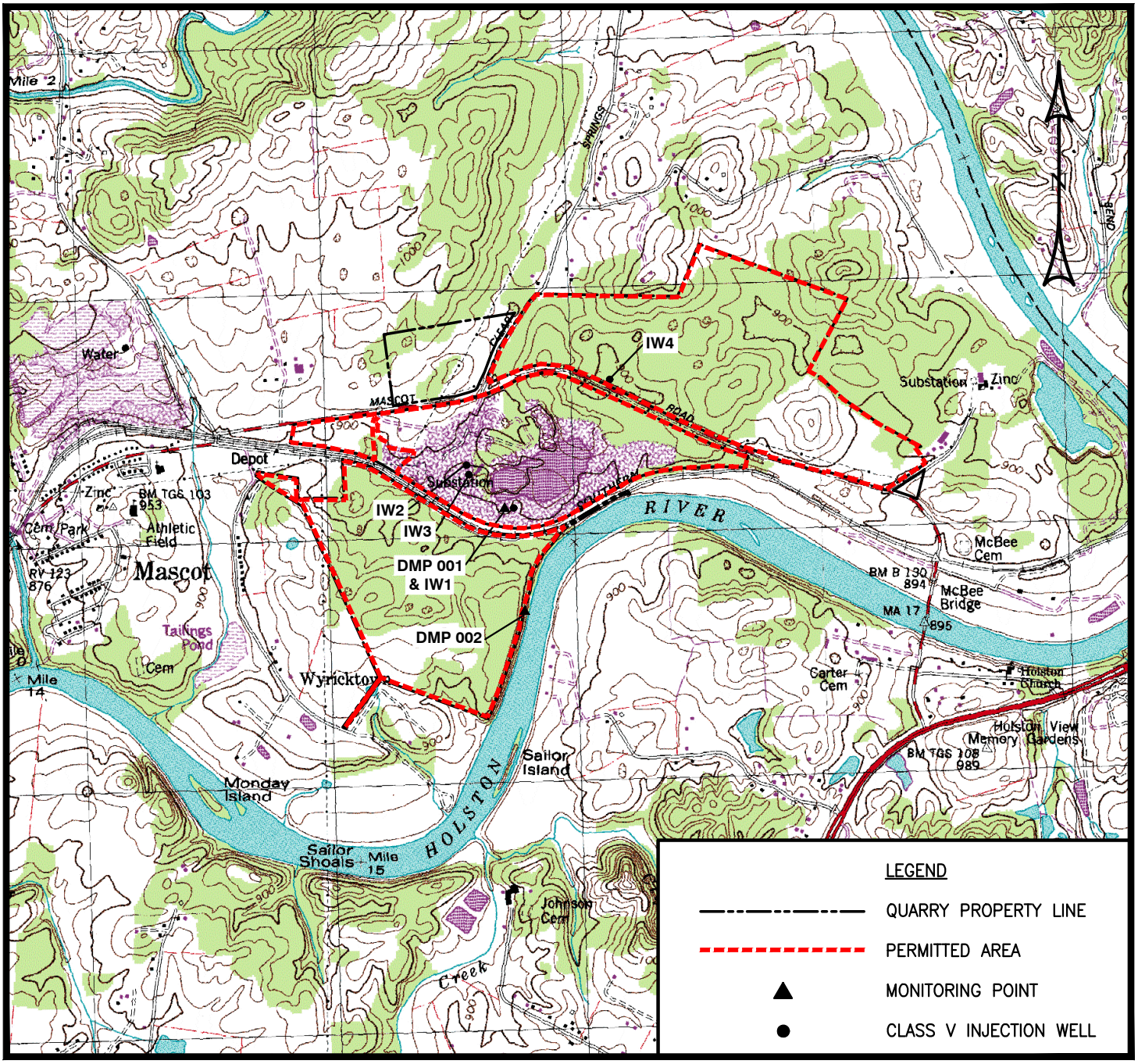
11.1 In Column 1 below, mark the sections of Form 1 that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2
☑ Section 1: Activities Requiring an NPDES Permit	☑ w/ attachments
☑ Section 2: Name, Mailing Address, and Location	☐ w/ attachments
☑ Section 3: SIC Codes	☐ w/ attachments
☑ Section 4: Operator Information	☐ w/ attachments
☑ Section 5: Indian Land	☐ w/ attachments
☑ Section 6: Existing Environmental Permits	☐ w/ attachments
☑ Section 7: Map	☑ w/ topographic map ☑ w/ additional attachments
☑ Section 8: Nature of Business	☐ w/ attachments
☑ Section 9: Cooling Water Intake Structures	☐ w/ attachments
☑ Section 10: Variance Requests	☐ w/ attachments
☑ Section 11: Checklist and Certification Statement	☐ w/ attachments

11.2 **Certification Statement**

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 fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Walt Hillis	Environmental Manager
Signature	**Date signed**
Walt Hillis	10/04/2022



2000 0 2000 4000 6000

SCALE: 1"=2000'

Taken from: U.S.G.S.
7.5 Minute Series (Topographic)
Mascot Quadrangle
LAT. 36°-03'-49.4"N and LONG. 83°-43'-17.5"W

GRIGGS & MALONEY
INCORPORATED
Engineering & Environmental Consulting
P.O. BOX 2968, MURFREESBORO, TN 37133-2968
(615) 895-8221 * FAX (615) 895-0632

FILE NAME: L: \Engineering\963\963-68\Drawings\963-68 Location Map - Map 1.dwg

Location Map - Map 1

BWI Midway, LLC - Quarry
Lat. 36°-03'-49.4"N and Long. 83°-43'-17.5"W
Knox County, Tennessee
Permit Area: 491.17 Acres
Date: October 2022

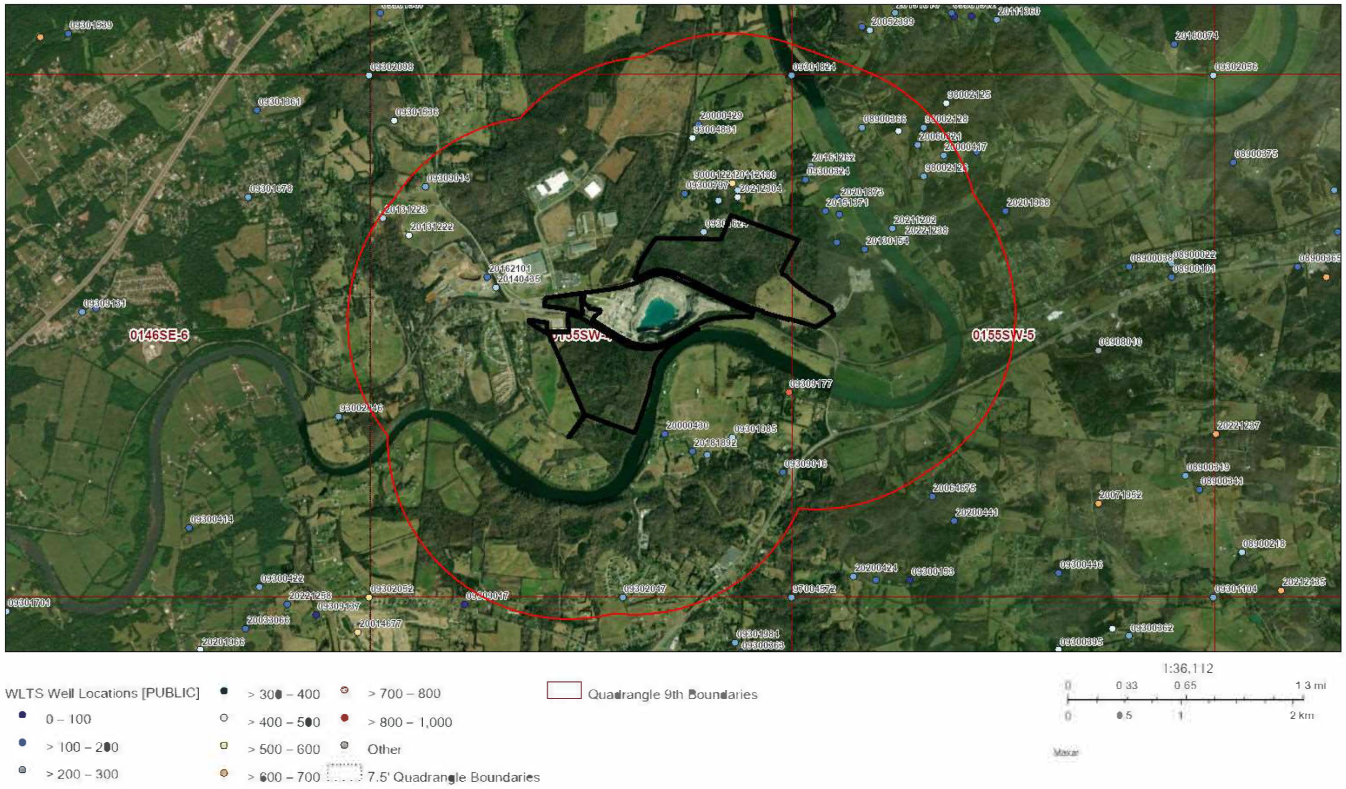
BWI Midway LLC - Quarry Water Well Survey

Area of Interest (AOI) Information

Area : 5,602.68 acres

Oct 4 2022 15:11:08 Eastern Daylight Time

Tabloid ANSI B Landscape



Survey radius of 1 mile from boundary.

Summary

Name	Count	Area(acres)	Length(mi)
WLTS Well Locations [PUBLIC]	97	N/A	N/A

WLTS Well Locations [PUBLIC]

#	Well Number:	Driller Tag:	Inspection Tag:	Date Completed:	Total Depth (Ft):	Finish Type:	Finish From (Ft):	Finish To (Ft):
1	94000927	D0002888	----	3/16/1994	860	Open Hole	87	860.00
2	93004742	----	----	10/13/1993	641	Open Hole	109	641.00
3	93004831	D0006402	008284	10/19/1993	485	Open Hole	41	485.00
4	94000284	D0006411	----	1/5/1994	185	Open Hole	42	185.00
5	95001497	D0008589	----	4/23/1995	310	Open Hole	41	310.00
6	95003726	D0014178	----	7/24/1995	225	Open Hole	84	225.00
7	94005047	D0007856	025375	12/13/1994	241	Open Hole	127	241.00
8	98000758	D0028905	----	2/20/1998	145	Open Hole	63	145.00
9	97001135	D0017501	----	3/22/1997	210	Open Hole	126	210.00
10	96003696	D0018652	----	8/3/1996	140	Open Hole	62	140.00
11	97000269	D0022931	----	12/29/1996	305	Open Hole	104	305.00
12	99000606	D0035956	----	1/18/1999	465	Open Hole	125	465.00
13	99004861	D0040806	----	9/30/1999	265	Open Hole	125	265.00
14	99003977	D0040806	----	8/11/1999	360	Open Hole	42	360.00
15	98003636	D0035926	----	8/17/1998	205	Open Hole	130	205.00
16	98002126	D0031399	018945	6/1/1998	210	Open Hole	41	210.00
17	98002128	D0031402	018961	6/10/1998	250	Open Hole	41	250.00
18	98003929	D0029875	----	9/8/1998	255	Open Hole	21	255.00
19	92004274	----	----	11/16/1992	365	Open Hole	98	365.00
20	91002474	----	----	6/8/1991	500	Open Hole	41	500.00
21	91002656	----	----	8/6/1991	512	Open Hole	42	512.00
22	92000765	----	----	2/12/1992	225	Open Hole	62	225.00
23	92001693	----	----	4/24/1992	240	Open Hole	62	240.00
24	92001695	----	----	4/22/1992	140	Open Hole	41	140.00
25	92003381	----	----	8/14/1992	340	Open Hole	104	340.00
26	92003559	----	----	8/9/1992	278	Open Hole	41	278.00
27	09301813	----	----	5/23/1985	600	Open Hole	200	600.00
28	09301815	----	----	4/28/1985	460	Open Hole	54	460.00
29	09301824	----	----	7/10/1985	430	Open Hole	63	430.00
30	09300164	----	----	2/14/1965	100	----	----	----

31	09300204	----	----	9/12/1965	335	----	----	----
32	09300324	----	----	2/9/1967	185	----	----	----
33	09301856	----	----	12/15/1985	320	Open Hole	165	320.00
34	09301871	----	----	3/30/1986	220	Open Hole	84	220.00
35	09309177	----	----	----	710	----	----	----
36	90000135	----	----	11/23/1989	308	Open Hole	83	308.00
37	90000785	----	----	2/14/1990	300	Open Hole	56	300.00
38	90001221	----	002586	4/18/1990	440	Open Hole	293	440.00
39	90003326	----	----	9/19/1990	740	Open Hole	84	740.00
40	90003329	----	----	7/15/1990	320	Open Hole	185	320.00
41	91000691	----	----	2/27/1991	300	Open Hole	----	----
42	09301338	----	----	5/19/1979	710	----	----	----
43	09301369	----	----	10/29/1979	310	----	----	----
44	09301930	----	----	5/14/1986	300	Open Hole	145	300.00
45	09301985	----	----	5/15/1987	320	Open Hole	186	320.00
46	09301986	----	----	5/19/1987	220	Open Hole	116	220.00
47	09300613	----	----	8/14/1970	163	----	----	----
48	09300627	----	----	2/15/1971	180	----	----	----
49	09301582	----	----	4/29/1982	380	----	----	----
50	09302040	----	----	11/15/1987	220	Open Hole	170	220.00
51	09302047	----	----	7/2/1987	290	Open Hole	74	290.00
52	09302055	----	----	2/7/1988	240	Open Hole	84	240.00
53	09301624	----	----	----	400	----	----	----
54	09302081	----	----	7/17/1988	126	Open Hole	----	----
55	09302094	----	----	9/15/1988	380	Open Hole	103	380.00
56	09302121	----	----	11/13/1988	260	Open Hole	125	260.00
57	09302127	----	----	3/19/1989	200	Open Hole	75	200.00
58	09302128	----	----	3/9/1989	77	Open Hole	0	77.00
59	09302148	----	----	9/28/1989	350	Open Hole	42	350.00
60	08900366	----	----	3/30/1969	260	----	----	----
61	09300797	----	002587	2/23/1973	153	----	----	----

62	09302152	----	----	7/26/1988	420	Open Hole	84	420.00
63	09309014	----	----	----	252	----	----	----
64	09309016	----	----	----	105	----	----	----
65	09301745	----	----	6/25/1984	400	Open Hole	84	400.00
66	09301750	----	----	8/2/1984	200	Open Hole	135	200.00
67	20000417	D0039079	025613	11/23/1999	205	Open Hole	41	205.00
68	20000429	D0043526	025615	11/25/1999	165	Open Hole	84	165.00
69	20000430	D0043527	025374	12/1/1999	125	Open Hole	105	125.00
70	20014781	D0049982	----	11/22/2001	540	Open Hole	146	540.00
71	20012136	D0050361	----	5/1/2001	310	Open Hole	125	310.00
72	20051681	D0071119	----	5/24/2005	20	Open Hole	41	560.00
73	20014326	D0049976	----	10/9/2001	500	Open Hole	280	500.00
74	20052504	D0071130	----	7/20/2005	560	Open Hole	41	560.00
75	20073224	D0078645	----	7/8/2007	405	Open Hole	0	405.00
76	20060821	D0074718	----	12/20/2005	205	Open Hole	20	205.00
77	20070257	D0076764	----	12/18/2006	240	Open Hole	83	240.00
78	20130087	D0099814	055983	12/13/2012	180	Slotted	135	156.00
79	20112188	D0094948	----	9/21/2011	505	Open Hole	0	505.00
80	20181892	D0113461	064370	8/22/2018	200	Open Hole	83	200.00
81	20162101	D0108169	----	10/19/2016	185	Open Hole	----	----
82	20130154	D0093769	055982	12/6/2012	200	Open Hole	41	200.00
83	20140435	D0100498	----	2/28/2014	345	Open Hole	----	----
84	20140448	D0103616	057158	2/16/2014	105	Open Hole	62	105.00
85	20131222	D0093794	056577	5/22/2013	440	Open Hole	125	440.00
86	20131223	D0093795	056578	5/28/2013	400	Open Hole	83	400.00
87	20131224	D0093796	056579	6/11/2013	200	Open Hole	62	200.00
88	20140532	D0101943	057159	3/26/2014	225	Open Hole	62	225.00
89	20212304	D0122063	----	9/13/2021	500	Open Hole	145	500.00
90	20181148	D0112016	064321	6/21/2018	420	Open Hole	126	420.00
91	20151371	D0106229	059796	7/19/2015	125	Open Hole	41	125.00
92	20161262	D0108151	061800	7/18/2016	265	----	----	----

93	20161263	D0108152	----	7/20/2016	565	Open Hole	3	10.00
94	20181531	D0113507	064344	7/17/2018	305	Open Hole	62	305.00
95	20211202	D0120039	063485	5/26/2021	245	Open Hole	83	245.00
96	20201873	D0119236	----	9/30/2020	160	Open Hole	104	160.00
97	20221238	D0124733	----	5/3/2022	345	Open Hole	20	345.00

#	Estimated Yield (gpm):	Static Level (Ft-bgs):	Water Quality:	Casing Type:	Casing Depth (Ft-bgs):	Quadrangle Name:	Quadrangle Number:	Quadrangle Ninth:
1	1.00	----	----	Steel	87	MASCOT	0155SW	1
2	4.00	80	----	Steel	109	MASCOT	0155SW	1
3	50.00	54	Unknown	Steel	41	MASCOT	0155SW	4
4	2.00	5	Unknown	Steel	42	MASCOT	0155SW	1
5	1.00	50	Unknown	Steel	41	MASCOT	0155SW	1
6	6.00	110	Good	Steel	84	MASCOT	0155SW	1
7	20.00	----	----	Steel	127	MASCOT	0155SW	4
8	10.00	50	Unknown	Steel	63	MASCOT	0155SW	1
9	2.00	40	----	Steel	126	MASCOT	0155SW	1
10	30.00	20	Unknown	Steel	62	MASCOT	0155SW	1
11	25.00	50	Unknown	Steel	104	MASCOT	0155SW	1
12	10.00	200	Unknown	Steel	125	MASCOT	0155SW	1
13	15.00	80	Unknown	Steel	125	MASCOT	0155SW	1
14	2.00	85	Unknown	Steel	42	MASCOT	0155SW	1
15	10.00	80	Unknown	Steel	129	MASCOT	0155SW	1
16	8.00	50	Good	Steel	41	MASCOT	0155SW	5
17	12.00	60	Good	Steel	41	MASCOT	0155SW	5
18	200.00	48	Unknown	Steel	21	MASCOT	0155SW	1
19	40.00	150	Unknown	Steel	98	MASCOT	0155SW	1
20	7.00	80	Good	Steel	41	MASCOT	0155SW	1
21	1.00	120	Good	Steel	42	MASCOT	0155SW	1
22	15.00	80	Iron	Steel	62	MASCOT	0155SW	1
23	4.00	45	Good	Steel	62	MASCOT	0155SW	1
24	20.00	25	Good	Steel	41	MASCOT	0155SW	1
25	10.00	80	Good	Steel	104	MASCOT	0155SW	1
26	25.00	60	Unknown	Steel	41	MASCOT	0155SW	1
27	1.00	80	----	Steel	200	MASCOT	0155SW	1
28	----	----	----	Steel	54	MASCOT	0155SW	1
29	25.00	----	----	Steel	63	MASCOT	0155SW	1
30	18.00	60	----	Steel	42	MASCOT	0155SW	----

31	3.00	50	----	----	----	MASCOT	0155SW	----
32	15.00	110	Good	Steel	13	MASCOT	0155SW	----
33	5.00	----	----	Steel	165	MASCOT	0155SW	1
34	12.00	----	----	Steel	84	MASCOT	0155SW	1
35	3.00	60	----	Steel	----	MASCOT	0155SW	----
36	10.00	0	Good	Steel	83	MASCOT	0155SW	1
37	25.00	----	----	Steel	56	MASCOT	0155SW	1
38	31.00	118	Good	Steel	293	MASCOT	0155SW	4
39	1.00	60	----	Steel	84	MASCOT	0155SW	1
40	3.00	----	----	Steel	185	MASCOT	0155SW	1
41	5.00	70	Good	Steel	62	MASCOT	0155SW	1
42	3.00	60	----	Steel	328	MASCOT	0155SW	----
43	15.00	----	Good	Steel	70	MASCOT	0155SW	----
44	5.00	----	----	----	----	MASCOT	0155SW	1
45	8.00	----	----	Steel	186	MASCOT	0155SW	4
46	10.00	----	----	Steel	116	MASCOT	0155SW	1
47	10.00	----	----	Steel	42	MASCOT	0155SW	----
48	5.00	----	----	Steel	48	MASCOT	0155SW	----
49	6.00	90	Good	Steel	74	MASCOT	0155SW	----
50	5.00	----	----	Steel	170	MASCOT	0155SW	1
51	15.00	----	Good	Steel	73	----	----	----
52	150.00	----	----	Steel	84	MASCOT	0155SW	1
53	15.00	200	----	Steel	346	MASCOT	0155SW	----
54	8.00	----	----	Steel	58	MASCOT	0155SW	1
55	8.00	180	----	Steel	103	MASCOT	0155SW	1
56	5.00	----	Good	Steel	125	MASCOT	0155SW	1
57	----	----	----	Steel	75	MASCOT	0155SW	1
58	----	----	----	Steel	77	MASCOT	0155SW	1
59	1.00	120	Good	Steel	42	MASCOT	0155SW	1
60	8.00	----	----	Steel	95	MASCOT	0155SW	----
61	14.00	80	Good	Steel	82	MASCOT	0155SW	----

62	2.00	----	----	Steel	84	MASCOT	0155SW	1
63	----	----	Good	----	----	MASCOT	0155SW	----
64	----	----	Good	----	----	MASCOT	0155SW	----
65	10.00	90	----	Steel	84	MASCOT	0155SW	1
66	50.00	----	----	Steel	135	MASCOT	0155SW	1
67	75.00	40	Clear	Steel	41	MASCOT	0155SW	5
68	30.00	50	----	Steel	84	MASCOT	0155SW	4
69	28.00	25	Cloudy	Steel	105	MASCOT	0155SW	4
70	30.00	180	Dingy	Steel	146	MASCOT	0155SW	1
71	30.00	----	Clear	Steel	125	MASCOT	0155SW	1
72	15.00	----	Clear	Steel	41	MASCOT	0155SW	1
73	15.00	220	Clear	Steel	168	MASCOT	0155SW	1
74	1.00	40	Clear	Steel	41	MASCOT	0155SW	1
75	20.00	----	Clear	Steel	62	MASCOT	0155SW	1
76	10.00	50	Clear	Steel	20	MASCOT	0155SW	5
77	20.00	80	Dingy	Steel	83	MASCOT	0155SW	1
78	50.00	100	Clear	Steel	41	MASCOT	0155SW	5
79	20.00	100	Clear	Steel	185	MASCOT	0155SW	4
80	40.00	60	Clear	Steel	83	MASCOT	0155SW	4
81	35.00	93	Clear	Steel	82	MASCOT	0155SW	4
82	35.00	25	Dingy	Steel	41	MASCOT	0155SW	5
83	30.00	30	Clear	Steel	65	MASCOT	0155SW	4
84	45.00	65	Clear	Steel	62	MASCOT	0155SW	5
85	25.00	180	Dingy	Steel	125	MASCOT	0155SW	4
86	30.00	90	Dingy	Steel	83	MASCOT	0155SW	4
87	20.00	30	Iron	Steel	62	MASCOT	0155SW	5
88	20.00	10	Clear	Steel	62	MASCOT	0155SW	5
89	30.00	220	Cloudy	Steel	145	MASCOT	0155SW	4
90	10.00	60	Clear	Steel	124	MASCOT	0155SW	5
91	25.00	40	Clear	Steel	41	MASCOT	0155SW	5
92	25.00	50	Clear	Steel	83	MASCOT	0155SW	5

93	6.50	70	Clear	Steel	41	MASCOT	0155SW	5
94	2.00	180	Clear	Steel	62	MASCOT	0155SW	4
95	20.00	30	Clear	Steel	83	MASCOT	0155SW	5
96	30.00	25	Dingy	Steel	104	MASCOT	0155SW	5
97	60.00	30	Good	Steel	20	MASCOT	0155SW	5

#	Latitude (DD.dd):	Longitude (DD.dd):	County:	Owner (when completed):	Address:	Date Inspected:	Driller License:	Accuracy Code:
1	36.08333	-83.70833	KNOX	CHRIS MAYFIELD	4330 IDUMAE	----	385	----
2	36.08333	-83.70833	KNOX	MR ED WRIGHT	3501 HUDSON	----	385	----
3	36.07833	-83.71806	KNOX	ROBERT DOCKERY	2312CLEARSPRGS	4/6/1994, 8:00 PM	684	S
4	36.08333	-83.70833	KNOX	STUART BOYER	IDUMEA RD 4501	----	684	----
5	36.08333	-83.70833	KNOX	EDWARD EARL	IDUMEA	----	684	----
6	36.08333	-83.70833	KNOX	DONNA FIELDS	HOWELL RD	----	564	----
7	36.05306	-83.71667	KNOX	JAY PALMER	9700 CLIFT ROAD	2/8/2000, 7:00 PM	385	F
8	36.08333	-83.70833	KNOX	MIKE SMILEY	RICHLAND 10811	----	684	----
9	36.08333	-83.70833	KNOX	ODIE BROWN	OLD RUTLEDGE PI	----	115	----
10	36.08333	-83.70833	KNOX	KIM HOLDEN	3615 STRONG RD	----	684	----
11	36.08333	-83.70833	KNOX	ROBERT WATKINS	STRONG RD 3712	----	684	----
12	36.08333	-83.70833	KNOX	TONYA MARTIN	STRONG 4004	----	684	----
13	36.08333	-83.70833	KNOX	BERNICE WOODS	RUTLEDGE PIKE	----	684	----
14	36.08333	-83.70833	KNOX	BERNICE WOODS	10404 RUTLEDGE PIKE	----	684	----
15	36.08333	-83.70833	KNOX	CARL MITCELL	RUTLEDGE PIKE	----	684	----
16	36.07528	-83.69528	JEFFERSON	DIANE WHEELER	FORTENBERRY LN	6/2/1998, 8:00 PM	719	F
17	36.07917	-83.69528	JEFFERSON	LOUIS GREER	FORTENBERRY LN	6/21/1998, 8:00 PM	719	F
18	36.08333	-83.70833	KNOX	GEORGE AKAN	OLD RUTLEDGE 10027	----	536	----
19	36.08333	-83.70833	KNOX	MARGRET PINKSTON	3417 CLEAR SPRINGS RD	----	684	----
20	36.08333	-83.70833	KNOX	NINA PERRY	4313 VARNARD LN	----	692	----
21	36.08333	-83.70833	KNOX	R C FEE	DOCKERY	----	645	----
22	36.08333	-83.70833	KNOX	SID DAVIS	OLD RUTLEDGE P	----	684	----
23	36.08333	-83.70833	KNOX	CRAIG LAXTON	9830 OLD RUTLEDGE PK	----	692	----
24	36.08333	-83.70833	KNOX	BRUCE JOHNSON	9820 OLD RUTLEDGE PK	----	692	----
25	36.08333	-83.70833	KNOX	RONNIE BERRY	3420 DOCKERY DR	----	692	----

26	36.08333	-83.70833	KNOX	JOHN ALEXANDER	STRONG	----	437	----
27	36.08333	-83.70833	KNOX	GEORGE YARDLEY	RUTLEDGE PK	----	138	----
28	36.08333	-83.70833	KNOX	EDDIE MOORE	IDUMAE	----	138	----
29	36.08333	-83.70833	KNOX	GEORGE YARDLEY	RUTLEDGE PK	----	138	----
30	36.08333	-83.70833	KNOX	----	WILLIAMS	----	152	----
31	36.08333	-83.70833	KNOX	----	----	----	138	----
32	36.07500	-83.70694	KNOX	----	----	----	138	S
33	36.08333	-83.70833	KNOX	RAY CHANDLER	STRONG	----	138	----
34	36.08333	-83.70833	KNOX	GLEN SUFFRIDGE	STRONG	----	138	----
35	36.05806	-83.70861	KNOX	----	----	----	138	S
36	36.08333	-83.70833	KNOX	JOHN SPURLING	RUTLEDGE PIKE	----	564	----
37	36.08333	-83.70833	KNOX	ED SLAGLE	STRONG 4325	----	138	----
38	36.07472	-83.71806	KNOX	GARLAND CUNNINGHAM	ARNOLD LANE	5/15/1990, 8:00 PM	622	S
39	36.08333	-83.70833	KNOX	RANDY DEW	IDUMAE	----	138	----
40	36.08333	-83.70833	KNOX	PAUL MCDANIEL	3707 STRONG RD	----	138	----
41	36.08333	-83.70833	KNOX	JOHN VINEYARD	OLD RUTLEDGE PK 10633	----	692	----
42	36.05806	-83.70861	KNOX	----	----	----	138	S
43	36.08333	-83.70833	KNOX	----	----	----	264	----
44	36.08333	-83.70833	KNOX	CARSON ATKIN	HOWELL	----	138	----
45	36.05444	-83.71417	KNOX	BRODUS HUBBS	CLIFT LN	11/16/1987, 7:00 PM	138	F
46	36.08333	-83.70833	KNOX	RICHARD SMITH	RICHLAND RD	----	138	----
47	36.08333	-83.70833	KNOX	----	11W US	----	157	----
48	36.08333	-83.70833	KNOX	SLAGLE	IDUMEA	----	138	----
49	36.07333	-83.71556	KNOX	----	----	----	138	S
50	36.08333	-83.70833	KNOX	CHARLES EDMONDS	HOWELL	----	138	----
51	36.04167	-83.72500	KNOX	JEANNE MADDUX	----	----	264	----
52	36.08333	-83.70833	KNOX	RAY MYERS	STRONG	----	138	----

53	36.07083	-83.71694	KNOX	----	----	----	740	S
54	36.08333	-83.70833	KNOX	EDD SHIPLEY	HOWELL	----	104	----
55	36.08333	-83.70833	KNOX	G L NICELY	STRONG	----	437	----
56	36.08333	-83.70833	KNOX	PAUL MICKLES	DOCKERY	----	138	----
57	36.08333	-83.70833	KNOX	CHRIS HAIRE	IDUMAE	----	138	----
58	36.08333	-83.70833	KNOX	MARK SEATES	IDUMAE	----	138	----
59	36.08333	-83.70833	KNOX	R C FEE	DOCKERY RD	----	645	----
60	36.07917	-83.70139	JEFFERSON	----	----	----	138	S
61	36.07389	-83.71889	KNOX	MARY MAYS	ARNOLD LN10117	5/15/1990, 8:00 PM	144	S
62	36.08333	-83.70833	KNOX	FRED WILLIAMS	IDUMA	----	138	----
63	36.07444	-83.74444	KNOX	----	----	----	740	S
64	36.05167	-83.70917	KNOX	----	----	----	740	S
65	36.08333	-83.70833	KNOX	WALTER MINTON	OLD RUTLEDGE PK	----	138	----
66	36.08333	-83.70833	KNOX	RON NEASE	STRONG 4304	----	138	----
67	36.07694	-83.69333	JEFFERSON	DIANE WHEELER	FORTENBERRY LN.	3/7/2000, 7:00 PM	719	F
68	36.07944	-83.71750	KNOX	DARRELL BRADEN	2528 CLEAR SPRINGS RD.	3/7/2000, 7:00 PM	719	F
69	36.05472	-83.72083	KNOX	TERRY WILLIAMS	CLIFT LN.	2/8/2000, 7:00 PM	719	F
70	36.08333	-83.70833	KNOX	VICKI UNDERWOOD	3956 STRONG RD	----	684	----
71	36.08333	-83.70833	KNOX	JAMES WITT	3416 DOCKERY RD	----	726	----
72	36.08333	-83.70833	KNOX	ARLIE LUSK	10129 RUTLEDGE PK.	----	684	----
73	36.08333	-83.70833	KNOX	MARGARET E PINKSTON	3417 CLEAR SPRINGS RD	----	684	----
74	36.08333	-83.70833	KNOX	KYLE LANE	3000 CLEAR SPRINGS RD.	----	684	----
75	36.08333	-83.70833	KNOX	JOHNNIE NORTON	3219 HOWELL RD	----	726	----
76	36.07778	-83.69583	JEFFERSON	FRANK FORTENBERRY	440 FORTENBERRY ROAD	----	536	----
77	36.08333	-83.70833	KNOX	PENNY WOOD	3334 DOCKERY RD	----	684	----

78	36.07000	-83.70389	KNOX	----	ARNOLD LN 10546?	12/25/2012, 7:00 PM	707	S
79	36.07472	-83.71417	KNOX	JAMES E. COBB	ARNOLD LANE	----	536	----
80	36.05333	-83.71806	KNOX	CHARLIE ZAVELS	9664 CLIFT RD	9/10/2018, 8:00 PM	684	S
81	36.06722	-83.73833	KNOX	CLAIBORNE HAULING	2151 MINE RD.	----	850	----
82	36.06944	-83.70111	KNOX	CALVIN GREENE	10554 ARNOLD LN	12/25/2012, 7:00 PM	684	S
83	36.06639	-83.73750	KNOX	----	0 MINE RD	----	850	----
84	36.07361	-83.70389	KNOX	MATTHEW & SUZANNE GREENLEE	10517 ARNOLD LN	3/31/2014, 8:00 PM	707	S
85	36.07056	-83.74611	KNOX	ROD WILLIAMS	2315 MINE RD	6/10/2013, 8:00 PM	684	S
86	36.07194	-83.74861	KNOX	ROD WILLIAMS	2315 MASCOT RD	6/10/2013, 8:00 PM	684	S
87	36.07222	-83.70361	KNOX	MICKEY ROGERS	10533 ARNOLD LN	6/10/2013, 8:00 PM	684	S
88	36.07583	-83.70389	KNOX	----	10501 ARNOLD LANE	3/31/2014, 8:00 PM	609	S
89	36.07361	-83.71361	KNOX	ZACK SLAGLE	10272 ARNOLD LN	----	684	----
90	36.07889	-83.69778	JEFFERSON	RICHARD GOINS	450 BIG BEND RD	6/25/2018, 8:00 PM	959	S
91	36.07250	-83.70500	KNOX	JULIE COLBERT	10525 ARNOLD LN	7/20/2015, 8:00 PM	707	S
92	36.07611	-83.70639	KNOX	LEON SHERROD	10465 ARNOLD LN	8/18/2016, 8:00 PM	850	S
93	36.07583	-83.70639	KNOX	----	622 RUNNING BROOK DR	----	850	----
94	36.07417	-83.71361	KNOX	MATT JOHNSON	10261 ARNOLD LN	7/23/2018, 8:00 PM	707	S
95	36.07111	-83.69833	JEFFERSON	TYLER MCDANIEL	3425 STONE HILL WAY	5/26/2021, 8:00 PM	850	S
96	36.07333	-83.70361	KNOX	BEN & DARSI SIRKNEN	10511 ARNOLD LN	----	684	----
97	36.07028	-83.69722	JEFFERSON	STEVEN JOHNSON	3405 STONE HILL WAY	----	850	----

#	Intended Use:	Log Available:	Potential Orphan Well:	Count
1	Residential	N	Yes	1
2	Residential	N	Yes	1
3	Residential	N	----	1
4	Residential	N	Yes	1
5	Residential	N	Yes	1
6	Residential	N	Yes	1
7	Residential	N	----	1
8	Residential	N	Yes	1
9	Residential	N	Yes	1
10	----	N	Yes	1
11	Residential	N	Yes	1
12	Residential	N	Yes	1
13	Residential	N	Yes	1
14	Residential	N	Yes	1
15	Residential	N	Yes	1
16	Residential	N	----	1
17	Residential	N	----	1
18	Residential	N	Yes	1
19	Residential	N	Yes	1
20	Residential	N	Yes	1
21	Residential	N	Yes	1
22	Residential	N	Yes	1
23	Residential	N	Yes	1
24	Residential	N	Yes	1
25	Residential	N	Yes	1
26	Residential	N	Yes	1
27	----	N	Yes	1
28	Residential	N	Yes	1
29	Residential	N	Yes	1
30	Residential	N	Yes	1

31	Residential	N	Yes	1
32	----	N	----	1
33	Residential	N	Yes	1
34	Residential	N	Yes	1
35	Residential	N	----	1
36	Residential	N	Yes	1
37	Residential	N	Yes	1
38	Residential	N	----	1
39	Residential	N	Yes	1
40	Residential	N	Yes	1
41	Residential	N	Yes	1
42	Residential	N	----	1
43	Residential	N	Yes	1
44	Residential	N	Yes	1
45	Residential	N	----	1
46	Residential	N	Yes	1
47	Residential	N	Yes	1
48	Residential	N	Yes	1
49	Residential	N	----	1
50	Residential	N	Yes	1
51	Residential	N	Yes	1
52	Residential	N	Yes	1
53	Residential	N	----	1
54	Residential	N	Yes	1
55	Residential	N	Yes	1
56	Residential	N	Yes	1
57	Residential	N	Yes	1
58	Residential	N	Yes	1
59	Residential	N	Yes	1
60	----	N	----	1
61	Residential	N	----	1

62	Residential	N	Yes	1
63	Residential	N	----	1
64	Residential	N	----	1
65	Residential	N	Yes	1
66	Residential	N	Yes	1
67	Residential	Y	----	1
68	Residential	Y	----	1
69	Residential	Y	----	1
70	Residential	Y	Yes	1
71	Residential	Y	Yes	1
72	Residential	Y	Yes	1
73	Residential	Y	Yes	1
74	Residential	Y	Yes	1
75	Residential	Y	Yes	1
76	Residential	Y	----	1
77	Residential	Y	Yes	1
78	Residential	Y	----	1
79	Residential	Y	----	1
80	Residential	Y	----	1
81	----	Y	----	1
82	Residential	Y	----	1
83	----	Y	----	1
84	Residential	Y	----	1
85	Residential	Y	----	1
86	Residential	Y	----	1
87	Residential	Y	----	1
88	Residential	Y	----	1
89	Residential	Y	----	1
90	Residential	Y	----	1
91	Residential	Y	----	1
92	Residential	Y	----	1

93	----	Y	----	1
94	Residential	Y	----	1
95	Residential	Y	----	1
96	Residential	Y	----	1
97	Residential	Y	----	1

Well Data Disclaimer:

These data should not be used as an endpoint for decision making purposes in instances such as spill response or the locating of a well in proximity to other features (e.g., property lines, septic systems, buildings etc.). All well locations should be field verified by the user before decisions are made.

There may be records in the State's water well database that do not contain reliable locational information, specifically with respect to the reported latitude and longitude. The database includes entries reported as far back as the 1920s and the accuracy of locational information depends on the type of instruments (e.g., topographic map, address, GPS, etc.) used to record/report the location as well as the diligence of the reporting entity. Some wells are located only to the quadrangle ninth. The user will notice these wells mapped in the southeast (lower right) corner of the corresponding quadrangle ninth polygon. It is suggested that the user review the data using the provided coordinates in conjunction with the location/address, and the well owner's name.

Municipal well locations are considered confidential under Tenn. Code Ann. § 10-7-504 (a)(21)(A) and Tenn. Comp. R. & Regs. 0400-01-01-.01(4)(c), so the location of those data have been redacted from the records provided. A request can be made for an evaluation of these features in an area of interest by e-mailing the Division of Water Resources at the address listed below. Once a request is made, we will provide information pertaining to the presence or absence of these features for an area of interest.

E-mail us at Richard.Rogers@TN.gov with questions regarding Tennessee Water Wells.

4.0

EPA Form 2C, Site Water Flow Schematic (Drawing A), DMR Data, and Request for Waiver EPA Form 2C

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110015632485	TN0031089	BWI Midway, LLC - Quarry	

Form 2C NPDES

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location

1.1 Provide information on each of the facility's outfalls in the table below.

Outfall Number	Receiving Water Name	Latitude	Longitude
001	Karst topography near RM16 of Holston River	36° 3′ 45″ N	83° 43′ 23″ W
002	Holston River	36° 3′ 36.4″ N	83° 43′ 19.81″ W
		° ′ ″	° ′ ″

SECTION 2. LINE DRAWING (40 CFR 122.21(g)(2))

Line Drawing

2.1 Have you attached a line drawing to this application that shows the water flow through your facility with a water balance? (See instructions for drawing requirements. See Exhibit 2C–1 at end of instructions for example.)

☑ Yes ☐ No

SECTION 3. AVERAGE FLOWS AND TREATMENT (40 CFR 122.21(g)(3))

Average Flows and Treatment

3.1 For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.

****Outfall Number**** 001

Operations Contributing to Flow

Operation	Average Flow
Quarry sump pump out and storm water runoff from the	0-1.44 mgd
plant area along with wet suppression water and sand	mgd
plant wash water	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-2	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
Settling in quarry sump prior to discharge	1-F, 1-U, 4-C, 4-D	5-P, overburden area

Average Flows and Treatment Continued

3.1 cont.

****Outfall Number**** 002

Operations Contributing to Flow

Operation	Average Flow
Stormwater runoff	0-0.0144 mgd
(OUTFALL NOT CONSTRUCTED)	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-2	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
Best Management Practices (filter berms, check dams, etc.)	1-F, 1-U, 4-A	5-P, overburden area

****Outfall Number**** _____

Operations Contributing to Flow

Operation	Average Flow
	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-2	Final Disposal of Solid or Liquid Wastes Other Than by Discharge

System Users

3.2 Are you applying for an NPDES permit to operate a privately owned treatment works?

☐ Yes ☑ No ➔ SKIP to Section 4.

3.3 Have you attached a list that identifies each user of the treatment works?

☐ Yes ☐ No

SECTION 4. INTERMITTENT FLOWS (40 CFR 122.21(g)(4))

Intermittent Flows

4.1 Except for storm runoff, leaks, or spills, are any discharges described in Sections 1 and 3 intermittent or seasonal?

☑ Yes ☐ No ➔ SKIP to Section 5.

4.2 Provide information on intermittent or seasonal flows for each applicable outfall. Attach additional pages, if necessary.

Outfall Number	Operation (list)	Frequency		Flow Rate		Duration
		Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	
001	Quarry pit pumping &	5 days/week	12 months/year	0.48 mgd	0.72 mgd	1-3 days
	Storm water runoff &	days/week	months/year	mgd	mgd	days
	Excess wash water	days/week	months/year	mgd	mgd	days
002	Stormwater runoff	1-3 days/week	0-3 months/year	0.0001 mgd	0.014 mgd	1-3 days
	(NOT CONSTRUCTED)	days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days

SECTION 5. PRODUCTION (40 CFR 122.21(g)(5))

Applicable ELGs

5.1 Do any effluent limitation guidelines (ELGs) promulgated by EPA under Section 304 of the CWA apply to your facility?

☑ Yes ☐ No ➔ SKIP to Section 6.

5.2 Provide the following information on applicable ELGs.

ELG Category	ELG Subcategory	Regulatory Citation
Part 436 Mineral Mining &	Subpart B-Crushed Stone Subcategory	436.22
Processing Point Source Category		

Production-Based Limitations

5.3 Are any of the applicable ELGs expressed in terms of production (or other measure of operation)?

☐ Yes ☑ No ➔ SKIP to Section 6.

5.4 Provide an actual measure of daily production expressed in terms and units of applicable ELGs.

Outfall Number	Operation, Product, or Material	Quantity per Day	Unit of Measure

SECTION 6. IMPROVEMENTS (40 CFR 122.21(g)(6))

Upgrades and Improvements

6.1 Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application?

☐ Yes ☑ No ➔ SKIP to Item 6.3.

6.2 Briefly identify each applicable project in the table below.

Brief Identification and Description of Project	Affected Outfalls (list outfall number)	Source(s) of Discharge	Final Compliance Dates	
			Required	Projected

6.3 Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? *(optional item)*

☐ Yes ☐ No ☑ Not applicable

SECTION 7. EFFLUENT AND INTAKE CHARACTERISTICS (40 CFR 122.21(g)(7))

Effluent and Intake Characteristics

See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.

Table A. Conventional and Non-Conventional Pollutants

7.1 Are you requesting a waiver from your NPDES permitting authority for one or more of the Table A pollutants for any of your outfalls?

☑ Yes ☐ No ➔ SKIP to Item 7.3.

7.2 If yes, indicate the applicable outfalls below. Attach waiver request and other required information to the application.

Outfall Number 001 Outfall Number 002 Outfall Number _____

7.3 Have you completed monitoring for all Table A pollutants at each of your outfalls for which a waiver has not been requested and attached the results to this application package?

☑ Yes ☐ No; a waiver has been requested from my NPDES permitting authority for all pollutants at all outfalls.

Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants

7.4 Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories listed in Exhibit 2C-3? (See end of instructions for exhibit.)

☐ Yes ☑ No ➔ SKIP to Item 7.8.

7.5 Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B?

☐ Yes ☑ No

7.6 List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3.

Primary Industry Category	Required GC/MS Fraction(s) (Check applicable boxes.)			
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide

Effluent and Intake Characteristics Continued

7.7	Have you checked "Testing Required" for all required pollutants in Sections 2 through 5 of Table B for each of the GC/MS fractions checked in Item 7.6? ☐ Yes ☑ No
7.8	Have you checked "Believed Present" or "Believed Absent" for all pollutants listed in Sections 1 through 5 of Table B where testing is not required? ☑ Yes ☐ No
7.9	Have you provided (1) quantitative data for those Section 1, Table B, pollutants for which you have indicated testing is required or (2) quantitative data or other required information for those Section 1, Table B, pollutants that you have indicated are "Believed Present" in your discharge? ☐ Yes ☑ No
7.10	Does the applicant qualify for a small business exemption under the criteria specified in the instructions? ☐ Yes ➔ Note that you qualify at the top of Table B, then SKIP to Item 7.12. ☑ No
7.11	Have you provided (1) quantitative data for those Sections 2 through 5, Table B, pollutants for which you have determined testing is required or (2) quantitative data or an explanation for those Sections 2 through 5, Table B, pollutants you have indicated are "Believed Present" in your discharge? ☐ Yes ☑ No
Table C. Certain Conventional and Non-Conventional Pollutants	
7.12	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed on Table C for all outfalls? ☑ Yes ☐ No
7.13	Have you completed Table C by providing (1) quantitative data for those pollutants that are limited either directly or indirectly in an ELG and/or (2) quantitative data or an explanation for those pollutants for which you have indicated "Believed Present"? ☐ Yes ☑ No
Table D. Certain Hazardous Substances and Asbestos	
7.14	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed in Table D for all outfalls? ☑ Yes ☐ No
7.15	Have you completed Table D by (1) describing the reasons the applicable pollutants are expected to be discharged and (2) by providing quantitative data, if available? ☐ Yes ☑ No
Table E. 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)	
7.16	Does the facility use or manufacture one or more of the 2,3,7,8-TCDD congeners listed in the instructions, or do you know or have reason to believe that TCDD is or may be present in the effluent? ☐ Yes ➔ Complete Table E. ☑ No ➔ SKIP to Section 8.
7.17	Have you completed Table E by reporting *qualitative* data for TCDD? ☐ Yes ☐ No

SECTION 8. USED OR MANUFACTURED TOXICS (40 CFR 122.21(g)(9))

Used or Manufactured Toxics

8.1	Is any pollutant listed in Table B a substance or a component of a substance used or manufactured at your facility as an intermediate or final product or byproduct? ☐ Yes ☑ No ➔ SKIP to Section 9.
8.2	List the pollutants below.

1.	4.	7.
2.	5.	8.
3.	6.	9.

SECTION 9. BIOLOGICAL TOXICITY TESTS (40 CFR 122.21(g)(11))

Biological Toxicity Tests

9.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made within the last three years on (1) any of your discharges or (2) on a receiving water in relation to your discharge?

☐ Yes ☑ No ➔ SKIP to Section 10.

9.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	

SECTION 10. CONTRACT ANALYSES (40 CFR 122.21(g)(12))

Contract Analyses

10.1 Were any of the analyses reported in Section 7 performed by a contract laboratory or consulting firm?

☑ Yes ☐ No ➔ SKIP to Section 11.

10.2 Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm	Microbac Lab Inc.		
Laboratory address	505 East Broadway Ave. Maryville, TN 37804-5744		
Phone number	(865) 977-1200		
Pollutant(s) analyzed	TSS pH as necessary		

SECTION 11. ADDITIONAL INFORMATION (40 CFR 122.21(g)(13))

Additional Information

11.1 Has the NPDES permitting authority requested additional information?

☐ Yes ☑ No ➔ SKIP to Section 12.

11.2 List the information requested and attach it to this application.

1.	4.
2.	5.
3.	6.

SECTION 12. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

12.1 In Column 1 below, mark the sections of Form 2C that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.

Column 1	Column 2	
☑ Section 1: Outfall Location	☑ w/ attachments	
☑ Section 2: Line Drawing	☑ w/ line drawing	☐ w/ additional attachments
☑ Section 3: Average Flows and Treatment	☐ w/ attachments	☐ w/ list of each user of privately owned treatment works
☑ Section 4: Intermittent Flows	☐ w/ attachments	
☐ Section 5: Production	☐ w/ attachments	
☐ Section 6: Improvements	☐ w/ attachments	☐ w/ optional additional sheets describing any additional pollution control plans
☑ Section 7: Effluent and Intake Characteristics	☑ w/ request for a waiver and supporting information ☐ w/ small business exemption request ☐ w/ Table A ☐ w/ Table C ☐ w/ Table E	☐ w/ explanation for identical outfalls ☐ w/ other attachments ☐ w/ Table B ☐ w/ Table D ☑ w/ analytical results as an attachment
☐ Section 8: Used or Manufactured Toxics	☐ w/ attachments	
☐ Section 9: Biological Toxicity Tests	☐ w/ attachments	
☑ Section 10: Contract Analyses	☐ w/ attachments	
☐ Section 11: Additional Information	☐ w/ attachments	
☑ Section 12: Checklist and Certification Statement	☐ w/ attachments	

12.2 **Certification Statement**

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 fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Walt Hillis	Environmental Manager
Signature	**Date signed**
Walt Hillis	10/04/2022

EPA Form 2C – DMP001

Request for Waiver
Testing and/or Monitoring of Effluent
EPA Application Form 2C

[Requirements found in *40 CFR 122.21 (g) or (k)*]

Company BWI ETN LLC dba Blue Water Industries

Minename MIdway Quarry

NPDES TN00 31089

Only one sample needs to be collected from outfalls where effluent quality is substantially identical. However, where effluent quality varies, additional samples must be collected.

Check the boxes that apply and fill in the information, where applicable.
Submit three copies. One copy must have the original signature of the permittee.

☐ Outfall effluent quality varies. Samples were collected and tested for outfalls:

_____.

Outfalls _____ have substantially identical effluent quality.

Outfalls _____ have substantially identical effluent quality.

Outfalls _____ have substantially identical effluent quality.

☐ This is my request to the Director to allow the testing of one outfall. Outfalls for my facility have substantially identical effluent quality.

☑ This is my request to the Director for a waiver from the testing and reporting of the parameters: Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Organic Carbon (TOC), Ammonia (as N), and Temperature. Testing and reporting of these parameters do not provide information essential to NPDES permit issuance.

Signature Walt Hillis	10	4	2022
	Mo.	Day	Year
Title Environmental Manager	Date Signed		

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110015632485	TN0031089	BWI Midway, LLC - Quarry	001

Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii)) [1]

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent				Intake (Optional)	
					Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you have applied to your NPDES permitting authority for a waiver for *all* of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD_5)	☑	Concentration							
			Mass							
2.	Chemical oxygen demand (COD)	☑	Concentration							
			Mass							
3.	Total organic carbon (TOC)	☑	Concentration							
			Mass							
4.	Total suspended solids (TSS)	☐	Concentration	mg/l	5.0	N/A	5.0	4		
			Mass							
5.	Ammonia (as N)	☑	Concentration							
			Mass							
6.	Flow	☐	Rate	GPM	1700		570	4		
7.	Temperature (winter)	☑	°C	°C						
	Temperature (summer)	☑	°C	°C						
8.	pH (minimum)	☐	Standard units	s.u.	7.6			4		
	pH (maximum)	☐	Standard units	s.u.	8.57			4		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.											
Section 1. Toxic Metals, Cyanide, and Total Phenols												
1.1	Antimony, total (7440-36-0)	☐	☐	☑	Concentration							
					Mass							
1.2	Arsenic, total (7440-38-2)	☐	☐	☑	Concentration							
					Mass							
1.3	Beryllium, total (7440-41-7)	☐	☐	☑	Concentration							
					Mass							
1.4	Cadmium, total (7440-43-9)	☐	☐	☑	Concentration							
					Mass							
1.5	Chromium, total (7440-47-3)	☐	☐	☑	Concentration							
					Mass							
1.6	Copper, total (7440-50-8)	☐	☐	☑	Concentration							
					Mass							
1.7	Lead, total (7439-92-1)	☐	☐	☑	Concentration							
					Mass							
1.8	Mercury, total (7439-97-6)	☐	☐	☑	Concentration							
					Mass							
1.9	Nickel, total (7440-02-0)	☐	☐	☑	Concentration							
					Mass							
1.10	Selenium, total (7782-49-2)	☐	☐	☑	Concentration							
					Mass							
1.11	Silver, total (7440-22-4)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
1.12	Thallium, total (7440-28-0)	☐	☐	☑	Concentration							
					Mass							
1.13	Zinc, total (7440-66-6)	☐	☐	☑	Concentration							
					Mass							
1.14	Cyanide, total (57-12-5)	☐	☐	☑	Concentration							
					Mass							
1.15	Phenols, total	☐	☐	☑	Concentration							
					Mass							
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☐	☐	☑	Concentration							
					Mass							
2.2	Acrylonitrile (107-13-1)	☐	☐	☑	Concentration							
					Mass							
2.3	Benzene (71-43-2)	☐	☐	☑	Concentration							
					Mass							
2.4	Bromoform (75-25-2)	☐	☐	☑	Concentration							
					Mass							
2.5	Carbon tetrachloride (56-23-5)	☐	☐	☑	Concentration							
					Mass							
2.6	Chlorobenzene (108-90-7)	☐	☐	☑	Concentration							
					Mass							
2.7	Chlorodibromomethane (124-48-1)	☐	☐	☑	Concentration							
					Mass							
2.8	Chloroethane (75-00-3)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	☐	☐	☑	Concentration							
					Mass							
2.10	Chloroform (67-66-3)	☐	☐	☑	Concentration							
					Mass							
2.11	Dichlorobromomethane (75-27-4)	☐	☐	☑	Concentration							
					Mass							
2.12	1,1-dichloroethane (75-34-3)	☐	☐	☑	Concentration							
					Mass							
2.13	1,2-dichloroethane (107-06-2)	☐	☐	☑	Concentration							
					Mass							
2.14	1,1-dichloroethylene (75-35-4)	☐	☐	☑	Concentration							
					Mass							
2.15	1,2-dichloropropane (78-87-5)	☐	☐	☑	Concentration							
					Mass							
2.16	1,3-dichloropropylene (542-75-6)	☐	☐	☑	Concentration							
					Mass							
2.17	Ethylbenzene (100-41-4)	☐	☐	☑	Concentration							
					Mass							
2.18	Methyl bromide (74-83-9)	☐	☐	☑	Concentration							
					Mass							
2.19	Methyl chloride (74-87-3)	☐	☐	☑	Concentration							
					Mass							
2.20	Methylene chloride (75-09-2)	☐	☐	☑	Concentration							
					Mass							
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	☐	☐	☑	Concentration							
					Mass							
2.23	Toluene (108-88-3)	☐	☐	☑	Concentration							
					Mass							
2.24	1,2-trans-dichloroethylene (156-60-5)	☐	☐	☑	Concentration							
					Mass							
2.25	1,1,1-trichloroethane (71-55-6)	☐	☐	☑	Concentration							
					Mass							
2.26	1,1,2-trichloroethane (79-00-5)	☐	☐	☑	Concentration							
					Mass							
2.27	Trichloroethylene (79-01-6)	☐	☐	☑	Concentration							
					Mass							
2.28	Vinyl chloride (75-01-4)	☐	☐	☑	Concentration							
					Mass							
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☐	☐	☑	Concentration							
					Mass							
3.2	2,4-dichlorophenol (120-83-2)	☐	☐	☑	Concentration							
					Mass							
3.3	2,4-dimethylphenol (105-67-9)	☐	☐	☑	Concentration							
					Mass							
3.4	4,6-dinitro-o-cresol (534-52-1)	☐	☐	☑	Concentration							
					Mass							
3.5	2,4-dinitrophenol (51-28-5)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	☐	☐	☑	Concentration							
					Mass							
3.7	4-nitrophenol (100-02-7)	☐	☐	☑	Concentration							
					Mass							
3.8	p-chloro-m-cresol (59-50-7)	☐	☐	☑	Concentration							
					Mass							
3.9	Pentachlorophenol (87-86-5)	☐	☐	☑	Concentration							
					Mass							
3.10	Phenol (108-95-2)	☐	☐	☑	Concentration							
					Mass							
3.11	2,4,6-trichlorophenol (88-05-2)	☐	☐	☑	Concentration							
					Mass							
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☐	☐	☑	Concentration							
					Mass							
4.2	Acenaphthylene (208-96-8)	☐	☐	☑	Concentration							
					Mass							
4.3	Anthracene (120-12-7)	☐	☐	☑	Concentration							
					Mass							
4.4	Benzidine (92-87-5)	☐	☐	☑	Concentration							
					Mass							
4.5	Benzo (a) anthracene (56-55-3)	☐	☐	☑	Concentration							
					Mass							
4.6	Benzo (a) pyrene (50-32-8)	☐	☐	☑	Concentration							
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110015632485	TN0031089	BWI Midway, LLC - Quarry	001

Form Approved 03/05/19
OMB No. 2040-0004

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	☐	☐	☑	Concentration							
					Mass							
4.8	Benzo (ghi) perylene (191-24-2)	☐	☐	☑	Concentration							
					Mass							
4.9	Benzo (k) fluoranthene (207-08-9)	☐	☐	☑	Concentration							
					Mass							
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☐	☐	☑	Concentration							
					Mass							
4.11	Bis (2-chloroethyl) ether (111-44-4)	☐	☐	☑	Concentration							
					Mass							
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☐	☐	☑	Concentration							
					Mass							
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☐	☐	☑	Concentration							
					Mass							
4.14	4-bromophenyl phenyl ether (101-55-3)	☐	☐	☑	Concentration							
					Mass							
4.15	Butyl benzyl phthalate (85-68-7)	☐	☐	☑	Concentration							
					Mass							
4.16	2-chloronaphthalene (91-58-7)	☐	☐	☑	Concentration							
					Mass							
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☐	☐	☑	Concentration							
					Mass							
4.18	Chrysene (218-01-9)	☐	☐	☑	Concentration							
					Mass							
4.19	Dibenzo (a,h) anthracene (53-70-3)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	☐	☐	☑	Concentration							
					Mass							
4.21	1,3-dichlorobenzene (541-73-1)	☐	☐	☑	Concentration							
					Mass							
4.22	1,4-dichlorobenzene (106-46-7)	☐	☐	☑	Concentration							
					Mass							
4.23	3,3-dichlorobenzidine (91-94-1)	☐	☐	☑	Concentration							
					Mass							
4.24	Diethyl phthalate (84-66-2)	☐	☐	☑	Concentration							
					Mass							
4.25	Dimethyl phthalate (131-11-3)	☐	☐	☑	Concentration							
					Mass							
4.26	Di-n-butyl phthalate (84-74-2)	☐	☐	☑	Concentration							
					Mass							
4.27	2,4-dinitrotoluene (121-14-2)	☐	☐	☑	Concentration							
					Mass							
4.28	2,6-dinitrotoluene (606-20-2)	☐	☐	☑	Concentration							
					Mass							
4.29	Di-n-octyl phthalate (117-84-0)	☐	☐	☑	Concentration							
					Mass							
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☐	☐	☑	Concentration							
					Mass							
4.31	Fluoranthene (206-44-0)	☐	☐	☑	Concentration							
					Mass							
4.32	Fluorene (86-73-7)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	☐	☐	☑	Concentration							
					Mass							
4.34	Hexachlorobutadiene (87-68-3)	☐	☐	☑	Concentration							
					Mass							
4.35	Hexachlorocyclopentadiene (77-47-4)	☐	☐	☑	Concentration							
					Mass							
4.36	Hexachloroethane (67-72-1)	☐	☐	☑	Concentration							
					Mass							
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☐	☐	☑	Concentration							
					Mass							
4.38	Isophorone (78-59-1)	☐	☐	☑	Concentration							
					Mass							
4.39	Naphthalene (91-20-3)	☐	☐	☑	Concentration							
					Mass							
4.40	Nitrobenzene (98-95-3)	☐	☐	☑	Concentration							
					Mass							
4.41	N-nitrosodimethylamine (62-75-9)	☐	☐	☑	Concentration							
					Mass							
4.42	N-nitrosodi-n-propylamine (621-64-7)	☐	☐	☑	Concentration							
					Mass							
4.43	N-nitrosodiphenylamine (86-30-6)	☐	☐	☑	Concentration							
					Mass							
4.44	Phenanthrene (85-01-8)	☐	☐	☑	Concentration							
					Mass							
4.45	Pyrene (129-00-0)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.46	1,2,4-trichlorobenzene (120-82-1)	☐	☐	☑	Concentration							
					Mass							
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	☐	☐	☑	Concentration							
					Mass							
5.2	α-BHC (319-84-6)	☐	☐	☑	Concentration							
					Mass							
5.3	β-BHC (319-85-7)	☐	☐	☑	Concentration							
					Mass							
5.4	γ-BHC (58-89-9)	☐	☐	☑	Concentration							
					Mass							
5.5	δ-BHC (319-86-8)	☐	☐	☑	Concentration							
					Mass							
5.6	Chlordane (57-74-9)	☐	☐	☑	Concentration							
					Mass							
5.7	4,4'-DDT (50-29-3)	☐	☐	☑	Concentration							
					Mass							
5.8	4,4'-DDE (72-55-9)	☐	☐	☑	Concentration							
					Mass							
5.9	4,4'-DDD (72-54-8)	☐	☐	☑	Concentration							
					Mass							
5.10	Dieldrin (60-57-1)	☐	☐	☑	Concentration							
					Mass							
5.11	α-endosulfan (115-29-7)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	☐	☐	☑	Concentration							
					Mass							
5.13	Endosulfan sulfate (1031-07-8)	☐	☐	☑	Concentration							
					Mass							
5.14	Endrin (72-20-8)	☐	☐	☑	Concentration							
					Mass							
5.15	Endrin aldehyde (7421-93-4)	☐	☐	☑	Concentration							
					Mass							
5.16	Heptachlor (76-44-8)	☐	☐	☑	Concentration							
					Mass							
5.17	Heptachlor epoxide (1024-57-3)	☐	☐	☑	Concentration							
					Mass							
5.18	PCB-1242 (53469-21-9)	☐	☐	☑	Concentration							
					Mass							
5.19	PCB-1254 (11097-69-1)	☐	☐	☑	Concentration							
					Mass							
5.20	PCB-1221 (11104-28-2)	☐	☐	☑	Concentration							
					Mass							
5.21	PCB-1232 (11141-16-5)	☐	☐	☑	Concentration							
					Mass							
5.22	PCB-1248 (12672-29-6)	☐	☐	☑	Concentration							
					Mass							
5.23	PCB-1260 (11096-82-5)	☐	☐	☑	Concentration							
					Mass							
5.24	PCB-1016 (12674-11-2)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.25	Toxaphene (8001-35-2)	☐	☐	☑	Concentration							
					Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)	Effluent				Intake (Optional)	
		Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you believe all pollutants on Table C to be ***present*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.									
☑	Check here if you believe all pollutants on Table C to be ***absent*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.									
1.	Bromide (24959-67-9)	☐	☐	Concentration						
				Mass						
2.	Chlorine, total residual	☐	☐	Concentration						
				Mass						
3.	Color	☐	☐	Concentration						
				Mass						
4.	Fecal coliform	☐	☐	Concentration						
				Mass						
5.	Fluoride (16984-48-8)	☐	☐	Concentration						
				Mass						
6	Nitrate-nitrite	☐	☐	Concentration						
				Mass						
7.	Nitrogen, total organic (as N)	☐	☐	Concentration						
				Mass						
8.	Oil and grease	☐	☐	Concentration						
				Mass						
9.	Phosphorus (as P), total (7723-14-0)	☐	☐	Concentration						
				Mass						
10.	Sulfate (as SO_4) (14808-79-8)	☐	☐	Concentration						
				Mass						
11.	Sulfide (as S)	☐	☐	Concentration						
				Mass						

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
12.	Sulfite (as SO_3) (14265-45-3)	☐	☐	Concentration							
				Mass							
13.	Surfactants	☐	☐	Concentration							
				Mass							
14.	Aluminum, total (7429-90-5)	☐	☐	Concentration							
				Mass							
15.	Barium, total (7440-39-3)	☐	☐	Concentration							
				Mass							
16.	Boron, total (7440-42-8)	☐	☐	Concentration							
				Mass							
17.	Cobalt, total (7440-48-4)	☐	☐	Concentration							
				Mass							
18.	Iron, total (7439-89-6)	☐	☐	Concentration							
				Mass							
19.	Magnesium, total (7439-95-4)	☐	☐	Concentration							
				Mass							
20.	Molybdenum, total (7439-98-7)	☐	☐	Concentration							
				Mass							
21.	Manganese, total (7439-96-5)	☐	☐	Concentration							
				Mass							
22.	Tin, total (7440-31-5)	☐	☐	Concentration							
				Mass							
23.	Titanium, total (7440-32-6)	☐	☐	Concentration							
				Mass							

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24.	**Radioactivity**										
	Alpha, total	☐	☐	Concentration							
				Mass							
	Beta, total	☐	☐	Concentration							
				Mass							
	Radium, total	☐	☐	Concentration							
				Mass							
	Radium 226, total	☐	☐	Concentration							
				Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
1.	Asbestos	☐	☑		
2.	Acetaldehyde	☐	☑		
3.	Allyl alcohol	☐	☑		
4.	Allyl chloride	☐	☑		
5.	Amyl acetate	☐	☑		
6.	Aniline	☐	☑		
7.	Benzonitrile	☐	☑		
8.	Benzyl chloride	☐	☑		
9.	Butyl acetate	☐	☑		
10.	Butylamine	☐	☑		
11.	Captan	☐	☑		
12.	Carbaryl	☐	☑		
13.	Carbofuran	☐	☑		
14.	Carbon disulfide	☐	☑		
15.	Chlorpyrifos	☐	☑		
16.	Coumaphos	☐	☑		
17.	Cresol	☐	☑		
18.	Crotonaldehyde	☐	☑		
19.	Cyclohexane	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
20.	2,4-D (2,4-dichlorophenoxyacetic acid)	☐	☑		
21.	Diazinon	☐	☑		
22.	Dicamba	☐	☑		
23.	Dichlobenil	☐	☑		
24.	Dichlone	☐	☑		
25.	2,2-dichloropropionic acid	☐	☑		
26.	Dichlorvos	☐	☑		
27.	Diethyl amine	☐	☑		
28.	Dimethyl amine	☐	☑		
29.	Dintrobenzene	☐	☑		
30.	Diquat	☐	☑		
31.	Disulfoton	☐	☑		
32.	Diuron	☐	☑		
33.	Epichlorohydrin	☐	☑		
34.	Ethion	☐	☑		
35.	Ethylene diamine	☐	☑		
36.	Ethylene dibromide	☐	☑		
37.	Formaldehyde	☐	☑		
38.	Furfural	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
39.	Guthion	☐	☑		
40.	Isoprene	☐	☑		
41.	Isopropanolamine	☐	☑		
42.	Kelthane	☐	☑		
43.	Kepone	☐	☑		
44.	Malathion	☐	☑		
45.	Mercaptodimethur	☐	☑		
46.	Methoxychlor	☐	☑		
47.	Methyl mercaptan	☐	☑		
48.	Methyl methacrylate	☐	☑		
49.	Methyl parathion	☐	☑		
50.	Mevinphos	☐	☑		
51.	Mexacarbate	☐	☑		
52.	Monoethyl amine	☐	☑		
53.	Monomethyl amine	☐	☑		
54.	Naled	☐	☑		
55.	Naphthenic acid	☐	☑		
56.	Nitrotoluene	☐	☑		
57.	Parathion	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
58.	Phenolsulfonate	☐	☑		
59.	Phosgene	☐	☑		
60.	Propargite	☐	☑		
61.	Propylene oxide	☐	☑		
62.	Pyrethrins	☐	☑		
63.	Quinoline	☐	☑		
64.	Resorcinol	☐	☑		
65.	Strontium	☐	☑		
66.	Strychnine	☐	☑		
67.	Styrene	☐	☑		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	☐	☑		
69.	TDE (tetrachlorodiphenyl ethane)	☐	☑		
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]	☐	☑		
71.	Trichlorofon	☐	☑		
72.	Triethanolamine	☐	☑		
73.	Triethylamine	☐	☑		
74.	Trimethylamine	☐	☑		
75.	Uranium	☐	☑		
76.	Vanadium	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
77.	Vinyl acetate	☐	☑		
78.	Xylene	☐	☑		
79.	Xylenol	☐	☑		
80.	Zirconium	☐	☑		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	☐	☐	☑	

EPA NPDES OUTFALL DATA - FORM 2C ATTACHMENT

QUARRY NAME: BWI MONTEREY SAND - PREPARATION PLANT
PERMIT ID: TN0062910
OUTFALL ID: 002
MONITORING PERIOD: START 09/30/2018
END 07/31/2022

	Flow (GPM)	TSS (mg/L)	pH (s.u.)
MAX	1700	5	8.57
MIN	5	< 5.0	7.6
AVG	570	5.0	
NO. SAMPLES COLLECTED DURING PERIOD			4

Month/Year	Flow, in conduit or thru treatment plant Mon gal/min DAILY MX	Flow, in conduit or thru treatment plant Mon gal/min VALUE	Solids, total suspended 40 mg/L DAILY MX	Solids, total suspended 40 mg/L MAXIMUM	pH 6 SU MINIMUM	pH 9 SU MAXIMUM
09/30/2018	No Discharge					
10/31/2018	No Discharge					
11/30/2018	No Discharge					
12/31/2018	<= 1700	<= 1700	< 5	< 5	8.57	8.57
01/31/2019	No Discharge					
02/28/2019	No Discharge					
03/31/2019	No Discharge					
04/30/2019	No Discharge					
05/31/2019	No Discharge					
06/30/2019	No Discharge					
07/31/2019	No Discharge					
08/31/2019	No Discharge					
09/30/2019	No Discharge					
10/31/2019	No Discharge					
11/30/2019	No Discharge					
12/31/2019	No Discharge					
01/31/2020	No Discharge					
02/29/2020	No Discharge					
03/31/2020	No Discharge					
04/30/2020	No Discharge					
05/31/2020	No Discharge					
06/30/2020	No Discharge					
07/31/2020	No Discharge					
08/31/2020	No Discharge					
09/30/2020	No Discharge					
10/31/2020	No Discharge					
11/30/2020	No Discharge					
12/31/2020	<= 5	<= 5	<= 5	<= 5	7.86	8.56
01/31/2021	No Discharge					
02/28/2021	No Discharge					
03/31/2021	No Discharge					
04/30/2021	No Discharge					
05/31/2021	No Discharge					
06/30/2021	No Discharge					
07/31/2021	No Discharge					
08/31/2021	No Discharge					
09/30/2021	No Discharge					
10/31/2021	No Discharge					
11/30/2021	No Discharge					
12/31/2021	No Discharge					
01/31/2022	No Discharge					
02/28/2022	No Discharge					
03/31/2022	<= 5	<= 5	< 5	< 5	7.6	7.6
04/30/2022	No Discharge					
05/31/2022	No Discharge					
06/30/2022	No Discharge					
07/31/2022	No Discharge					
8/31/2022	No Discharge					

BWI Midway, LLC - Quarry

EPA Form 2 – DMP002

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110015632485	TN0031089	BWI Midway, LLC - Quarry	002

Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii)) [1]

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent				Intake (Optional)	
					Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you have applied to your NPDES permitting authority for a waiver for *all* of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD_5)	☑	Concentration							
			Mass							
2.	Chemical oxygen demand (COD)	☑	Concentration							
			Mass							
3.	Total organic carbon (TOC)	☑	Concentration							
			Mass							
4.	Total suspended solids (TSS)	☐	Concentration	New	Outfall	Not Constructed	No Data	Collected		
			Mass							
5.	Ammonia (as N)	☑	Concentration							
			Mass							
6.	Flow	☐	Rate							
7.	Temperature (winter)	☑	°C	°C						
	Temperature (summer)	☑	°C	°C						
8.	pH (minimum)	☐	Standard units	s.u.						
	pH (maximum)	☐	Standard units	s.u.						

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110015632485	TN0031089	BWI Midway, LLC - Quarry	001

Form Approved 03/05/19
OMB No. 2040-0004

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.											
Section 1. Toxic Metals, Cyanide, and Total Phenols												
1.1	Antimony, total (7440-36-0)	☐	☐	☑	Concentration							
					Mass							
1.2	Arsenic, total (7440-38-2)	☐	☐	☑	Concentration							
					Mass							
1.3	Beryllium, total (7440-41-7)	☐	☐	☑	Concentration							
					Mass							
1.4	Cadmium, total (7440-43-9)	☐	☐	☑	Concentration							
					Mass							
1.5	Chromium, total (7440-47-3)	☐	☐	☑	Concentration							
					Mass							
1.6	Copper, total (7440-50-8)	☐	☐	☑	Concentration							
					Mass							
1.7	Lead, total (7439-92-1)	☐	☐	☑	Concentration							
					Mass							
1.8	Mercury, total (7439-97-6)	☐	☐	☑	Concentration							
					Mass							
1.9	Nickel, total (7440-02-0)	☐	☐	☑	Concentration							
					Mass							
1.10	Selenium, total (7782-49-2)	☐	☐	☑	Concentration							
					Mass							
1.11	Silver, total (7440-22-4)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
1.12	Thallium, total (7440-28-0)	☐	☐	☑	Concentration							
					Mass							
1.13	Zinc, total (7440-66-6)	☐	☐	☑	Concentration							
					Mass							
1.14	Cyanide, total (57-12-5)	☐	☐	☑	Concentration							
					Mass							
1.15	Phenols, total	☐	☐	☑	Concentration							
					Mass							
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☐	☐	☑	Concentration							
					Mass							
2.2	Acrylonitrile (107-13-1)	☐	☐	☑	Concentration							
					Mass							
2.3	Benzene (71-43-2)	☐	☐	☑	Concentration							
					Mass							
2.4	Bromoform (75-25-2)	☐	☐	☑	Concentration							
					Mass							
2.5	Carbon tetrachloride (56-23-5)	☐	☐	☑	Concentration							
					Mass							
2.6	Chlorobenzene (108-90-7)	☐	☐	☑	Concentration							
					Mass							
2.7	Chlorodibromomethane (124-48-1)	☐	☐	☑	Concentration							
					Mass							
2.8	Chloroethane (75-00-3)	☐	☐	☑	Concentration							
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	☐	☐	☑	Concentration							
					Mass							
2.10	Chloroform (67-66-3)	☐	☐	☑	Concentration							
					Mass							
2.11	Dichlorobromomethane (75-27-4)	☐	☐	☑	Concentration							
					Mass							
2.12	1,1-dichloroethane (75-34-3)	☐	☐	☑	Concentration							
					Mass							
2.13	1,2-dichloroethane (107-06-2)	☐	☐	☑	Concentration							
					Mass							
2.14	1,1-dichloroethylene (75-35-4)	☐	☐	☑	Concentration							
					Mass							
2.15	1,2-dichloropropane (78-87-5)	☐	☐	☑	Concentration							
					Mass							
2.16	1,3-dichloropropylene (542-75-6)	☐	☐	☑	Concentration							
					Mass							
2.17	Ethylbenzene (100-41-4)	☐	☐	☑	Concentration							
					Mass							
2.18	Methyl bromide (74-83-9)	☐	☐	☑	Concentration							
					Mass							
2.19	Methyl chloride (74-87-3)	☐	☐	☑	Concentration							
					Mass							
2.20	Methylene chloride (75-09-2)	☐	☐	☑	Concentration							
					Mass							
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	☐	☐	☑	Concentration							
					Mass							
2.23	Toluene (108-88-3)	☐	☐	☑	Concentration							
					Mass							
2.24	1,2-trans-dichloroethylene (156-60-5)	☐	☐	☑	Concentration							
					Mass							
2.25	1,1,1-trichloroethane (71-55-6)	☐	☐	☑	Concentration							
					Mass							
2.26	1,1,2-trichloroethane (79-00-5)	☐	☐	☑	Concentration							
					Mass							
2.27	Trichloroethylene (79-01-6)	☐	☐	☑	Concentration							
					Mass							
2.28	Vinyl chloride (75-01-4)	☐	☐	☑	Concentration							
					Mass							
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☐	☐	☑	Concentration							
					Mass							
3.2	2,4-dichlorophenol (120-83-2)	☐	☐	☑	Concentration							
					Mass							
3.3	2,4-dimethylphenol (105-67-9)	☐	☐	☑	Concentration							
					Mass							
3.4	4,6-dinitro-o-cresol (534-52-1)	☐	☐	☑	Concentration							
					Mass							
3.5	2,4-dinitrophenol (51-28-5)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	☐	☐	☑	Concentration							
					Mass							
3.7	4-nitrophenol (100-02-7)	☐	☐	☑	Concentration							
					Mass							
3.8	p-chloro-m-cresol (59-50-7)	☐	☐	☑	Concentration							
					Mass							
3.9	Pentachlorophenol (87-86-5)	☐	☐	☑	Concentration							
					Mass							
3.10	Phenol (108-95-2)	☐	☐	☑	Concentration							
					Mass							
3.11	2,4,6-trichlorophenol (88-05-2)	☐	☐	☑	Concentration							
					Mass							
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☐	☐	☑	Concentration							
					Mass							
4.2	Acenaphthylene (208-96-8)	☐	☐	☑	Concentration							
					Mass							
4.3	Anthracene (120-12-7)	☐	☐	☑	Concentration							
					Mass							
4.4	Benzidine (92-87-5)	☐	☐	☑	Concentration							
					Mass							
4.5	Benzo (a) anthracene (56-55-3)	☐	☐	☑	Concentration							
					Mass							
4.6	Benzo (a) pyrene (50-32-8)	☐	☐	☑	Concentration							
					Mass							

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	☐	☐	☑	Concentration							
					Mass							
4.8	Benzo (ghi) perylene (191-24-2)	☐	☐	☑	Concentration							
					Mass							
4.9	Benzo (k) fluoranthene (207-08-9)	☐	☐	☑	Concentration							
					Mass							
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☐	☐	☑	Concentration							
					Mass							
4.11	Bis (2-chloroethyl) ether (111-44-4)	☐	☐	☑	Concentration							
					Mass							
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☐	☐	☑	Concentration							
					Mass							
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☐	☐	☑	Concentration							
					Mass							
4.14	4-bromophenyl phenyl ether (101-55-3)	☐	☐	☑	Concentration							
					Mass							
4.15	Butyl benzyl phthalate (85-68-7)	☐	☐	☑	Concentration							
					Mass							
4.16	2-chloronaphthalene (91-58-7)	☐	☐	☑	Concentration							
					Mass							
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☐	☐	☑	Concentration							
					Mass							
4.18	Chrysene (218-01-9)	☐	☐	☑	Concentration							
					Mass							
4.19	Dibenzo (a,h) anthracene (53-70-3)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	☐	☐	☑	Concentration							
					Mass							
4.21	1,3-dichlorobenzene (541-73-1)	☐	☐	☑	Concentration							
					Mass							
4.22	1,4-dichlorobenzene (106-46-7)	☐	☐	☑	Concentration							
					Mass							
4.23	3,3-dichlorobenzidine (91-94-1)	☐	☐	☑	Concentration							
					Mass							
4.24	Diethyl phthalate (84-66-2)	☐	☐	☑	Concentration							
					Mass							
4.25	Dimethyl phthalate (131-11-3)	☐	☐	☑	Concentration							
					Mass							
4.26	Di-n-butyl phthalate (84-74-2)	☐	☐	☑	Concentration							
					Mass							
4.27	2,4-dinitrotoluene (121-14-2)	☐	☐	☑	Concentration							
					Mass							
4.28	2,6-dinitrotoluene (606-20-2)	☐	☐	☑	Concentration							
					Mass							
4.29	Di-n-octyl phthalate (117-84-0)	☐	☐	☑	Concentration							
					Mass							
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☐	☐	☑	Concentration							
					Mass							
4.31	Fluoranthene (206-44-0)	☐	☐	☑	Concentration							
					Mass							
4.32	Fluorene (86-73-7)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	☐	☐	☑	Concentration							
					Mass							
4.34	Hexachlorobutadiene (87-68-3)	☐	☐	☑	Concentration							
					Mass							
4.35	Hexachlorocyclopentadiene (77-47-4)	☐	☐	☑	Concentration							
					Mass							
4.36	Hexachloroethane (67-72-1)	☐	☐	☑	Concentration							
					Mass							
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☐	☐	☑	Concentration							
					Mass							
4.38	Isophorone (78-59-1)	☐	☐	☑	Concentration							
					Mass							
4.39	Naphthalene (91-20-3)	☐	☐	☑	Concentration							
					Mass							
4.40	Nitrobenzene (98-95-3)	☐	☐	☑	Concentration							
					Mass							
4.41	N-nitrosodimethylamine (62-75-9)	☐	☐	☑	Concentration							
					Mass							
4.42	N-nitrosodi-n-propylamine (621-64-7)	☐	☐	☑	Concentration							
					Mass							
4.43	N-nitrosodiphenylamine (86-30-6)	☐	☐	☑	Concentration							
					Mass							
4.44	Phenanthrene (85-01-8)	☐	☐	☑	Concentration							
					Mass							
4.45	Pyrene (129-00-0)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.46	1,2,4-trichlorobenzene (120-82-1)	☐	☐	☑	Concentration							
					Mass							
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	☐	☐	☑	Concentration							
					Mass							
5.2	α-BHC (319-84-6)	☐	☐	☑	Concentration							
					Mass							
5.3	β-BHC (319-85-7)	☐	☐	☑	Concentration							
					Mass							
5.4	γ-BHC (58-89-9)	☐	☐	☑	Concentration							
					Mass							
5.5	δ-BHC (319-86-8)	☐	☐	☑	Concentration							
					Mass							
5.6	Chlordane (57-74-9)	☐	☐	☑	Concentration							
					Mass							
5.7	4,4'-DDT (50-29-3)	☐	☐	☑	Concentration							
					Mass							
5.8	4,4'-DDE (72-55-9)	☐	☐	☑	Concentration							
					Mass							
5.9	4,4'-DDD (72-54-8)	☐	☐	☑	Concentration							
					Mass							
5.10	Dieldrin (60-57-1)	☐	☐	☑	Concentration							
					Mass							
5.11	α-endosulfan (115-29-7)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	☐	☐	☑	Concentration							
					Mass							
5.13	Endosulfan sulfate (1031-07-8)	☐	☐	☑	Concentration							
					Mass							
5.14	Endrin (72-20-8)	☐	☐	☑	Concentration							
					Mass							
5.15	Endrin aldehyde (7421-93-4)	☐	☐	☑	Concentration							
					Mass							
5.16	Heptachlor (76-44-8)	☐	☐	☑	Concentration							
					Mass							
5.17	Heptachlor epoxide (1024-57-3)	☐	☐	☑	Concentration							
					Mass							
5.18	PCB-1242 (53469-21-9)	☐	☐	☑	Concentration							
					Mass							
5.19	PCB-1254 (11097-69-1)	☐	☐	☑	Concentration							
					Mass							
5.20	PCB-1221 (11104-28-2)	☐	☐	☑	Concentration							
					Mass							
5.21	PCB-1232 (11141-16-5)	☐	☐	☑	Concentration							
					Mass							
5.22	PCB-1248 (12672-29-6)	☐	☐	☑	Concentration							
					Mass							
5.23	PCB-1260 (11096-82-5)	☐	☐	☑	Concentration							
					Mass							
5.24	PCB-1016 (12674-11-2)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.25	Toxaphene (8001-35-2)	☐	☐	☑	Concentration							
					Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)	Effluent				Intake (Optional)	
		Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you believe all pollutants on Table C to be ***present*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.									
☑	Check here if you believe all pollutants on Table C to be ***absent*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.									
1.	Bromide (24959-67-9)	☐	☐	Concentration						
				Mass						
2.	Chlorine, total residual	☐	☐	Concentration						
				Mass						
3.	Color	☐	☐	Concentration						
				Mass						
4.	Fecal coliform	☐	☐	Concentration						
				Mass						
5.	Fluoride (16984-48-8)	☐	☐	Concentration						
				Mass						
6	Nitrate-nitrite	☐	☐	Concentration						
				Mass						
7.	Nitrogen, total organic (as N)	☐	☐	Concentration						
				Mass						
8.	Oil and grease	☐	☐	Concentration						
				Mass						
9.	Phosphorus (as P), total (7723-14-0)	☐	☐	Concentration						
				Mass						
10.	Sulfate (as SO_4) (14808-79-8)	☐	☐	Concentration						
				Mass						
11.	Sulfide (as S)	☐	☐	Concentration						
				Mass						

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
12.	Sulfite (as SO_3) (14265-45-3)	☐	☐	Concentration							
				Mass							
13.	Surfactants	☐	☐	Concentration							
				Mass							
14.	Aluminum, total (7429-90-5)	☐	☐	Concentration							
				Mass							
15.	Barium, total (7440-39-3)	☐	☐	Concentration							
				Mass							
16.	Boron, total (7440-42-8)	☐	☐	Concentration							
				Mass							
17.	Cobalt, total (7440-48-4)	☐	☐	Concentration							
				Mass							
18.	Iron, total (7439-89-6)	☐	☐	Concentration							
				Mass							
19.	Magnesium, total (7439-95-4)	☐	☐	Concentration							
				Mass							
20.	Molybdenum, total (7439-98-7)	☐	☐	Concentration							
				Mass							
21.	Manganese, total (7439-96-5)	☐	☐	Concentration							
				Mass							
22.	Tin, total (7440-31-5)	☐	☐	Concentration							
				Mass							
23.	Titanium, total (7440-32-6)	☐	☐	Concentration							
				Mass							

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24.	**Radioactivity**										
	Alpha, total	☐	☐	Concentration							
				Mass							
	Beta, total	☐	☐	Concentration							
				Mass							
	Radium, total	☐	☐	Concentration							
				Mass							
	Radium 226, total	☐	☐	Concentration							
				Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
1.	Asbestos	☐	☑		
2.	Acetaldehyde	☐	☑		
3.	Allyl alcohol	☐	☑		
4.	Allyl chloride	☐	☑		
5.	Amyl acetate	☐	☑		
6.	Aniline	☐	☑		
7.	Benzonitrile	☐	☑		
8.	Benzyl chloride	☐	☑		
9.	Butyl acetate	☐	☑		
10.	Butylamine	☐	☑		
11.	Captan	☐	☑		
12.	Carbaryl	☐	☑		
13.	Carbofuran	☐	☑		
14.	Carbon disulfide	☐	☑		
15.	Chlorpyrifos	☐	☑		
16.	Coumaphos	☐	☑		
17.	Cresol	☐	☑		
18.	Crotonaldehyde	☐	☑		
19.	Cyclohexane	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
20.	2,4-D (2,4-dichlorophenoxyacetic acid)	☐	☑		
21.	Diazinon	☐	☑		
22.	Dicamba	☐	☑		
23.	Dichlobenil	☐	☑		
24.	Dichlone	☐	☑		
25.	2,2-dichloropropionic acid	☐	☑		
26.	Dichlorvos	☐	☑		
27.	Diethyl amine	☐	☑		
28.	Dimethyl amine	☐	☑		
29.	Dintrobenzene	☐	☑		
30.	Diquat	☐	☑		
31.	Disulfoton	☐	☑		
32.	Diuron	☐	☑		
33.	Epichlorohydrin	☐	☑		
34.	Ethion	☐	☑		
35.	Ethylene diamine	☐	☑		
36.	Ethylene dibromide	☐	☑		
37.	Formaldehyde	☐	☑		
38.	Furfural	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
39.	Guthion	☐	☑		
40.	Isoprene	☐	☑		
41.	Isopropanolamine	☐	☑		
42.	Kelthane	☐	☑		
43.	Kepone	☐	☑		
44.	Malathion	☐	☑		
45.	Mercaptodimethur	☐	☑		
46.	Methoxychlor	☐	☑		
47.	Methyl mercaptan	☐	☑		
48.	Methyl methacrylate	☐	☑		
49.	Methyl parathion	☐	☑		
50.	Mevinphos	☐	☑		
51.	Mexacarbate	☐	☑		
52.	Monoethyl amine	☐	☑		
53.	Monomethyl amine	☐	☑		
54.	Naled	☐	☑		
55.	Naphthenic acid	☐	☑		
56.	Nitrotoluene	☐	☑		
57.	Parathion	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
58.	Phenolsulfonate	☐	☑		
59.	Phosgene	☐	☑		
60.	Propargite	☐	☑		
61.	Propylene oxide	☐	☑		
62.	Pyrethrins	☐	☑		
63.	Quinoline	☐	☑		
64.	Resorcinol	☐	☑		
65.	Strontium	☐	☑		
66.	Strychnine	☐	☑		
67.	Styrene	☐	☑		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	☐	☑		
69.	TDE (tetrachlorodiphenyl ethane)	☐	☑		
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]	☐	☑		
71.	Trichlorofon	☐	☑		
72.	Triethanolamine	☐	☑		
73.	Triethylamine	☐	☑		
74.	Trimethylamine	☐	☑		
75.	Uranium	☐	☑		
76.	Vanadium	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
77.	Vinyl acetate	☐	☑		
78.	Xylene	☐	☑		
79.	Xylenol	☐	☑		
80.	Zirconium	☐	☑		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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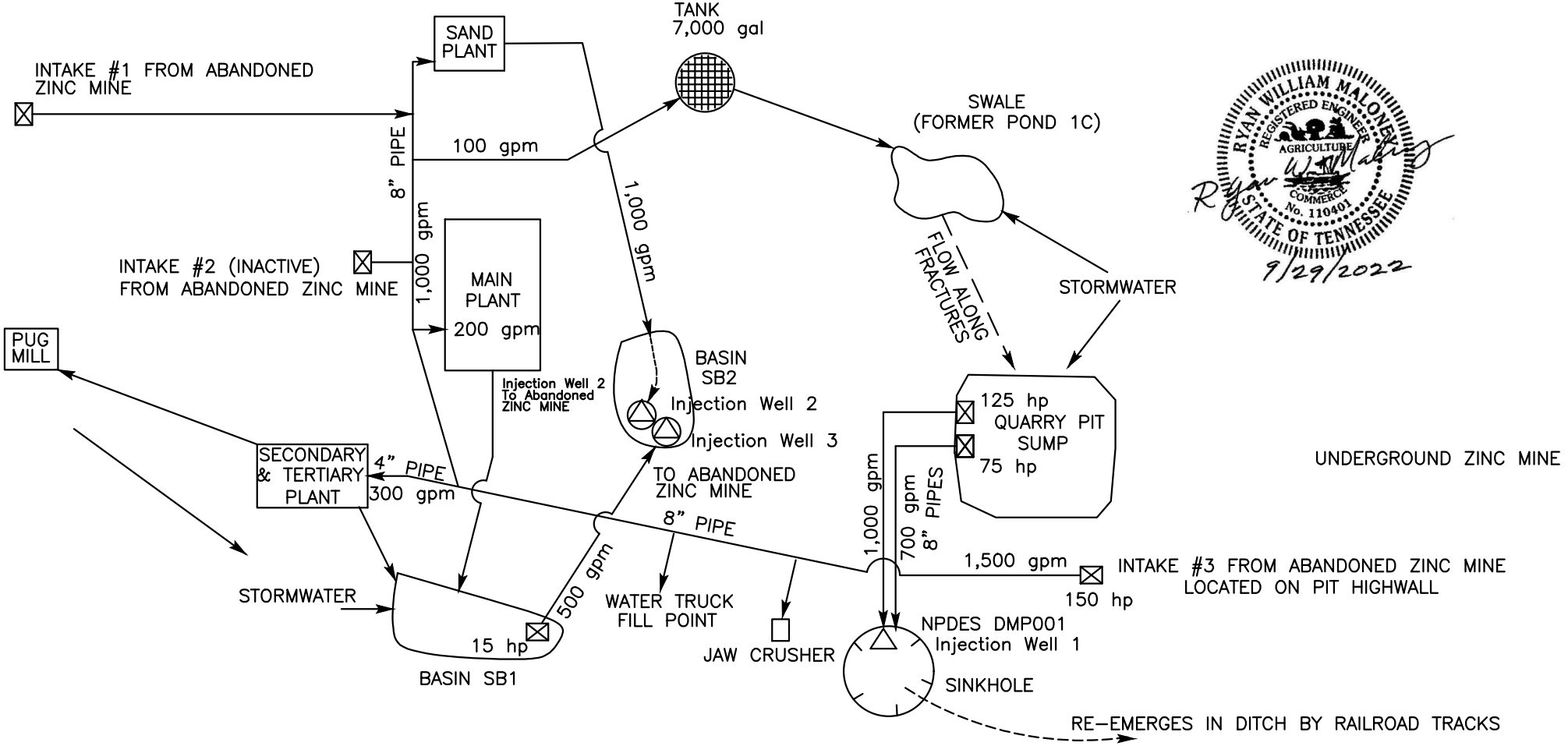
TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	☐	☐	☑	



RYAN WILLIAM MALONEY
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 110401
STATE OF TENNESSEE
9/29/2022

NOTE:
ALL FLOW RATES SHOWN ARE MAXIMUM RATED PUMP CAPACITIES. ACTUAL FLOW RATES ARE LESS.

DRAWING A – EPA Form 2C Water Flow Line Drawing	
MIDWAY QUARRY – KNOX CO., TN.	
BWI MIDWAY, LLC – QUARRY	
36° 3' 49.9" N 83° 43' 17.5" W	OCTOBER 2022

BWI MIDWAY, LLC - QUARRY

5.0

Antidegradation Information

Antidegradation Statement Guidance

To Be Used When Administering Tennessee's Antidegradation Statement as Associated with Obtaining a National Pollutant Discharge Elimination System (NPDES) Permit

The Antidegradation Statement Guidance document is to be used in accordance with the *Tennessee's Antidegradation Statement Rule 0400-40-03-.06* as it pertains to completing the application requirements for a NPDES permit. This document may be used as equivalent information for the EPA Worksheets (A, G, O, R, V, W, X, Y, Z, and AB for the private sector and O, P, Q, S, T, U, and AA for the public sector).

Specifically the document is divided into five parts. Parts 1 - 2 are general information regarding the facility and receiving water. Part 3 characterizes the level of degradation and the alternatives analysis (including social, economic, and environmental considerations of each alternative). Parts 4 – 5 detail the social and economic justification required to demonstrate that the degradation associated with the proposed discharge to an Exceptional Tennessee water (ETW) is justified. All permit applicants must complete, at a minimum, Parts 1-3 of this document. If you propose to discharge to an ETW, you must complete the document in its entirety.

Part 1. Contact Information	
1. Company name:	BWI ETN LLC dba Blue Water Industries
2. NPDES No.: TN00	31089
3. Facility or mine name:	Midway Quarry
4. County:	Knox

Part 2. Mine and Stream Information

1. Please select the type of mine.

   Noncoal

   - [x] Limestone
   - [ ] Sand and gravel
   - [ ] Ball Clay
   - [ ] Industrial sand
   - [ ] Zinc
   - [ ] Marble
   - [ ] Dimension stone
   - [ ] Quartzite
   - [ ] Other

Coal

☐ Reclamation
☐ Active mining
☐ Post mining
☐ Prep plants / associated areas
☐ Tipple / load out

2. Please select the type of permit activity requested.

☐ Renewal of permit based on currently approved plans
■ Renewal and modification of permit
☐ Modification of permit
☐ New permit

3. Please list each outfall number, the name of receiving stream(s) and the corresponding stream designation (either Outstanding National Resource Water (ONRW), Exceptional Tennessee Water (ETW), or Non Exceptional Tennessee Water (Non ETW). Use separate paper if necessary.

Outfall(s)	Receiving Stream(s)	Stream Designation		
		ONRW	ETW	NON ETW
001	Drain to karst topography of Holston River	☐	☒	☐
	near river mile 16	☐	☐	☐
002	Holston River	☐	☒	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

Part 3. Characterize the Level of Degradation in the Proposed Activity and Analysis of Alternatives.

Please select one of the following levels and support your conclusion in the space that follows. Finally, complete the Alternatives Analysis.

Part 3-A- Level of Degradation

☐ The proposed activity is to renew an existing permit.
No changes to the acreage size, the number or location of outfall(s), or the volume of the existing discharge are proposed at this time. Renewal of the permit does not cause degradation above what is already permitted. (If this applies, skip to Part 3-B.)

☐ The proposed activity will cause no measurable degradation.
Activities causing no measurable degradation are defined as those activities that do not cause a measurable increase in levels of a given parameter in the receiving water.

■ The proposed activity will cause de minimis degradation.
Activities causing de minimis degradation are defined as those activities that cause degradation of a small magnitude as described in *Rule 0400-40-03-.04 (4)(a).* De minimis activities are described as single discharges that use less than five percent of the available assimilative capacity of the substance being discharged.

*Note, this option is not applicable if the 7Q10 of the receiving water is zero or if the receiving water has unavailable parameters for the pollutant to be discharged.

☐ The proposed activity will cause **more** than de minimis degradation.
Applications for activities causing degradation above the level of de minimis must analyze all reasonable alternatives and describe the level of degradation caused by each of the feasible alternatives. Analysis of each of these alternatives should also discuss the social and economic consequences of each alternative. Applicants must also demonstrate that the proposed degradation will not violate the water quality criteria for existing uses in the receiving waters and is necessary to accommodate important economic and social development in the area.

Attach additional pages as needed

This application is for the modification and renewal of an existing permit with a daily maximum discharge limitation of 40 mg/L for TSS. The current permitted levels of discharge are protective of the receiving stream.

This application is for the renewal of the permit for a new five (5) year term with two (2) modifications listed below.

1. BWI is requesting 156.17 acres be added to the permit. There are no plans to for any activity to occur in this area within the next permit cycle of 5 years, but BWI would like to add this acreage into the permit boundary as part of long-term planning at the site.

2. BWI is requesting the addition of one discharge monitoring point (DMP002) be added to the permit that will be associated with the new drainage area being included in the permit.

Part 3-B - Alternatives Analysis

The following are examples of alternatives relative to natural resource extraction that are to be considered by applicants under Tennessee's *Antidegradation Statement 0400-40-03-.06*. Please check which treatment option(s) are currently used or will be used at the facility.

☒ Connect to existing treatment system

☐ Use over-sized ponds to increase treatment ability and holding capacity beyond the 10yr/24hr design storm.
Design capacity of the pollution control system
Current capacity of the system (%)

☒ Divert drainage from non-disturbed areas away from treatment structures, separating storm water from mine wastewater – i.e. diversion berm, ditches, other BMPs.

☐ Use pit as primary treatment and/or storage to increase ability to hold water on site during storm events.

☒ Use ponds in series, forebays, and/or baffles to increase treatment and retention time.

☒ Use chemical treatment for pH adjustment or treatment of solids.

☒ Reuse/recycle treated process water to reduce discharge frequency. What percentage is already or will be recycled?

☐ Create no-discharge system.

☐ Use concurrent reclamation with mining activity.

☐ Land application of treated wastewater.

If treatment option used is not listed, please describe in space below.

2) Based on the alternatives indicated above, describe the level of degradation caused by each, as well as the social and economic consequences of each alternative. Examples of social and economic consequences may include but are not limited to, improved infrastructure such as road projects, housing development, as well as increasing local tax revenue and employment opportunities.

No measurable degradation is anticipated because no change in the permitted Daily Max TSS level will occur with this permit process.

3) Can the level of treatment achievable at the facility ensure that water quality criteria will not be violated? Please explain.

The level of treatment available based on all current known technology and site conditions does allow the facility to maintain water quality standards.

4) Is there another discharge location that would have less impact on the watershed?

No, all water in the area eventually flows to the Holston River via surface flow or karst topography.

5) Evaluate the mining technique used at the site. Would another technique result in a reduction in quantity or improvement in quality of the discharge from the site?

No, the site is an aggregate quarry, processing plant, and sales facility. There is no known other techniques that would result in a material change to discharge quality.

6) Were other locations for the facility evaluated? Describe the reasons why other locations were selected or rejected.

The site was opened in the early 1960's by American Limestone Company a subsidiary of ASARCO to both process coarse tailings from the zinc mines and to quarry via open pit on the property. When CSR America/Rinker Materials, Inc. (predecessor to BWI) acquired the site in 2000 it was acquired based on the proximity to markets in the geographic area and the presence of quality stone from the open pit and zinc mines to meet the market demands.

7) If this is an existing site, how long has the company mined at this location? If the option to mine has been reserved through payments to the owner or lessor of the rights, how long has that option been reserved? What is the projected life of the mine?

BWI and its predecessors have owned the land for decades and operated on the property since the early 1960's. The property controlled by BWI is approximately 550 acres of which approximately 280 acres is currently permitted and additional 55 proposed for renewal and modification totaling 335 acres. The life of the operation which is based on market demands is estimated in excess of fifty years.

Part 4. Economic Justification

If you are applying for a new or expanded permit that discharges to Exceptional Tennessee Waters (ETW), complete Parts 4 and 5.

The following section shows economic/financial information for the facility. This information is necessary to determine if the applicant can afford to implement appropriate pollution control measures to protect water quality in the receiving water. Attach additional pages as needed.

1. Annual cost of operation and maintenance of pollution control project (including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration, and replacement).	$
2. Annual earnings without pollution control project costs	$
3. Annual earnings with pollution control project costs	$

Part 5. Social Justification

The following section shows social justification of the proposed degradation within the community where the facility is located. Attach additional pages as needed.

1. Define the affected community in this case; what areas are included?	
2. What is the current unemployment rate in affected community (if available)?	
3. What is the current national unemployment rate?	

4. How many jobs will the facility provide in the affected community?	
5. What is the average salary of these jobs?	
6. What is the median household income in affected community?	$
7. What is the total number of households in affected community?	$
8. What are the current total tax revenues in the affected community?	
9. What amount of tax revenues will be paid by the private entity to the affected community?	$

6.0

NPDES Permit Application Narrative

APPLICATION NARRATIVE

Reason for Application

The current NPDES Permit (TN0031089) for the Blue Water Industries (BWI) Midway, LLC – Quarry expires on April 20, 2023. This application is for the renewal of the permit for a new five (5) year term with two (2) modifications listed below.

1. BWI is requesting 156.17 acres be added to the permit. There are no plans to for any activity to occur in this area within the next permit cycle of 5 years, but BWI would like to add this acreage into the permit boundary as part of long-term planning at the site.

2. BWI is requesting the addition of one discharge monitoring point (DMP002) be added to the permit that will be associated with the new drainage area being included in the permit.

Operational Information

The Midway Quarry, which opened in the early 1960's is an open pit limestone quarry with an associated processing plant consisting of crushing, conveying, screening, pugmill operations, stockpiling and aggregates sales load out. The quarry also processes limestone tailings from the various zinc mines in the area. The current permitted activities consist of approximately 335 acres.

Unlike the typical quarry site, there can be significant amounts of rock brought on site via truck for processing rather than getting all stone from the quarry pit. The rock is the coarse (typically 2" and down) tailings form the Nyrstar East Tennessee Mines (Young Mine) located in Strawberry Plains, Tennessee. This material is placed directly in a distinct surge pile and directed feed to the finishing sand plant or can be dumped into the primary feeder and feed into the sizing plant. Historically as a result of this process all activities in the pit cease for certain periods of time and the water level in the pit is allowed to rise. During extended periods the pit has been allowed to fill and stabilize at around 838 feet MSL, representing the same elevation as the nearby Holston River surface. This elevation appears to represent the average water table in the area.

Third Party Facilities

On property but excluded from the NPDES Permit permitted area is the tenant Harrison Construction Company (an Oldcastle Company) Mascot Asphalt Plant. The asphalt plant is covered under its own TMSP No. TNR053465. Storm water from the asphalt plant exists the asphalt plant area along the rail road tracks and doesn't mix with quarry pit pump out via DMP001.

Traversing through the property but excluded from the NPDES Permit Permitted area is the Norfolk-Southern (NS) railroad and associated sidings. Aggregates USA, LLC doesn't have a siding of its own and doesn't load, ship, or receive stone or other commodities via rail at this site. Previously in site inspections the Division has noted potential issues related to ag-lime washing from doors and holes in rail cars temporarily stored on the sidings. This material doesn't belong to and isn't associated with the Midway Quarry operations. It belongs to and is the responsibility of the NS and the shipper.

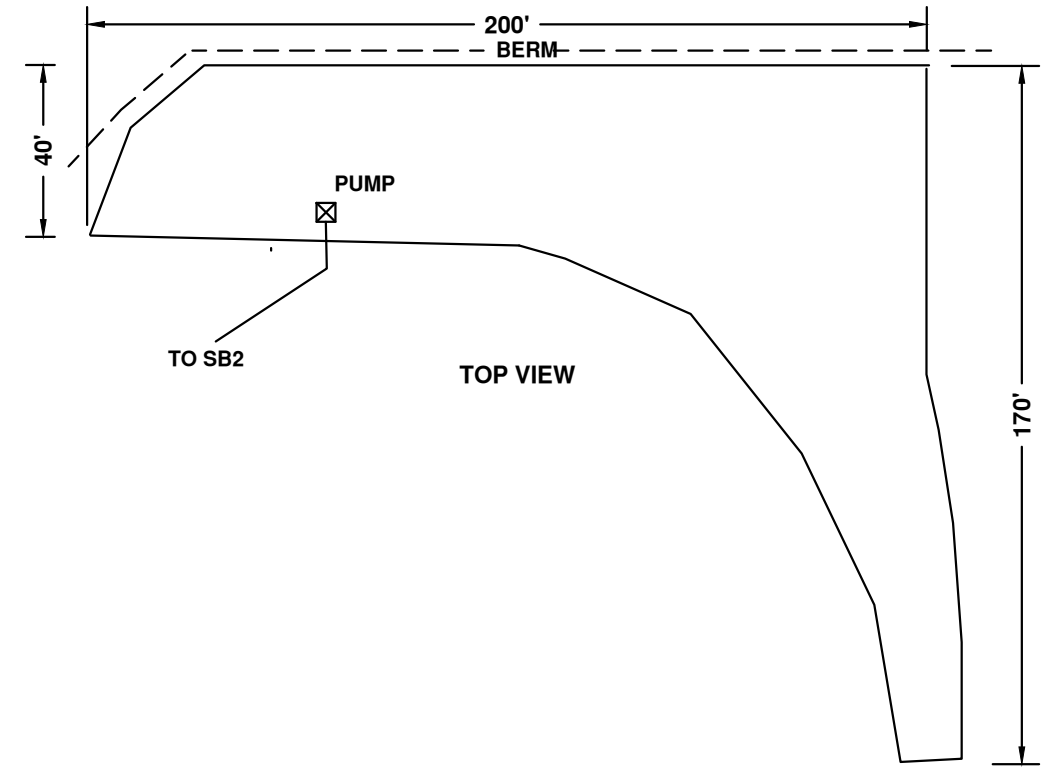
Monitoring Proposal

Discharges from DMP001 & DMP002 will be sampled during the first discharge during the first half of the month and during the first discharge of the second half of the month if a discharge occurs. Sample type will be grab and will be analyzed for pH and total suspended solids. Flow rate at the point of discharge will be estimated. Water is recycled as much as possible. Storm water from the access road will be monitored and sampled once annually if a point discharge occurs at each designated location.

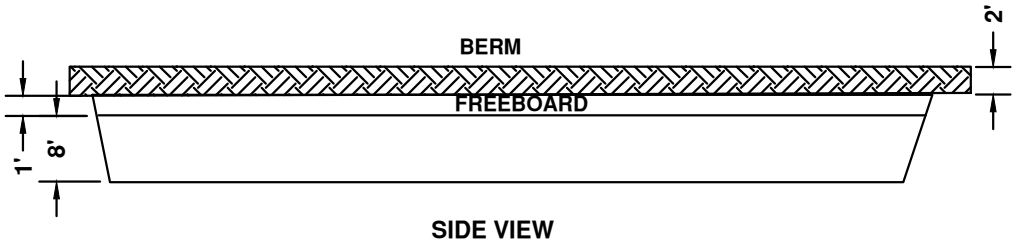
7.0

NPDES Permit Application Drainage Narrative w/Hydrologic Calculations, Drawing B

AS-BUILT SCHEMATIC - SETTLING POND SP-1



TOP VIEW



SIDE VIEW

NOTE: (1) DRAWING NOT TO SCALE;
(2) DRAWING DOES NOT REPRESENT EXACT SHAPE OF POND;
(3) DIMENSIONS REPRESENT AVERAGE LENGTHS

DRAWING B - SEDIMENTATION POND SP-1 CROSS SECTIONS		
MIDWAY QUARRY - MASCOT, KNOX COUNTY, TN		
BWI MIDWAY, LLC - QUARRY		
34° 03' 49.4" N 83° 43' 17.5" W	NOVEMBER 2022	NPDES TN0031089
9600 MASCOT ROAD, MASCOT, TN 37806		

FILE NAME: L: \Engineering\963\963-68\Drawings\963-68 Drawing B - Injection Well Cross Sections.dwg

Table 2-2a Runoff curve numbers for urban areas [1/]

Cover description		Curve numbers for hydrologic soil group			
Cover type and hydrologic condition	Average percent impervious area [2/]	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3/]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4/]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5/]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

1 Average runoff condition, and $I_a = 0.2S$.

2 The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

3 CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

4 Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

5 Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

NOAA Atlas 14, Volume 2, Version 3
Location name: Mascot, Tennessee, USA*
Latitude: 36.0648°, Longitude: -83.721°
Elevation: 804 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.314** (0.285-0.348)	**0.371** (0.336-0.411)	**0.440** (0.400-0.488)	**0.499** (0.451-0.552)	**0.579** (0.520-0.639)	**0.642** (0.573-0.706)	**0.708** (0.627-0.779)	**0.775** (0.680-0.853)	**0.866** (0.750-0.955)	**0.943** (0.808-1.04)
10-min	**0.501** (0.455-0.556)	**0.593** (0.538-0.658)	**0.705** (0.641-0.781)	**0.798** (0.722-0.882)	**0.922** (0.828-1.02)	**1.02** (0.912-1.13)	**1.13** (0.996-1.24)	**1.23** (1.08-1.35)	**1.37** (1.19-1.51)	**1.49** (1.27-1.64)
15-min	**0.627** (0.569-0.696)	**0.745** (0.676-0.827)	**0.892** (0.810-0.988)	**1.01** (0.913-1.12)	**1.17** (1.05-1.29)	**1.29** (1.16-1.42)	**1.42** (1.26-1.57)	**1.55** (1.36-1.71)	**1.73** (1.49-1.90)	**1.86** (1.60-2.06)
30-min	**0.859** (0.780-0.954)	**1.03** (0.934-1.14)	**1.27** (1.15-1.40)	**1.46** (1.32-1.62)	**1.73** (1.56-1.91)	**1.95** (1.74-2.15)	**2.18** (1.93-2.40)	**2.41** (2.12-2.66)	**2.75** (2.38-3.02)	**3.02** (2.59-3.33)
60-min	**1.07** (0.973-1.19)	**1.29** (1.17-1.43)	**1.63** (1.48-1.80)	**1.91** (1.72-2.11)	**2.31** (2.07-2.54)	**2.64** (2.36-2.91)	**3.00** (2.66-3.30)	**3.38** (2.97-3.73)	**3.94** (3.41-4.34)	**4.41** (3.77-4.87)
2-hr	**1.25** (1.14-1.38)	**1.50** (1.37-1.66)	**1.88** (1.71-2.08)	**2.21** (2.00-2.44)	**2.67** (2.40-2.94)	**3.07** (2.74-3.38)	**3.50** (3.10-3.84)	**3.96** (3.48-4.35)	**4.63** (4.00-5.10)	**5.20** (4.44-5.73)
3-hr	**1.35** (1.23-1.49)	**1.61** (1.47-1.78)	**2.00** (1.83-2.21)	**2.35** (2.13-2.58)	**2.83** (2.55-3.10)	**3.25** (2.91-3.56)	**3.69** (3.28-4.05)	**4.18** (3.67-4.58)	**4.88** (4.22-5.35)	**5.46** (4.66-6.01)
6-hr	**1.66** (1.53-1.82)	**1.97** (1.81-2.15)	**2.41** (2.21-2.64)	**2.80** (2.56-3.05)	**3.35** (3.05-3.65)	**3.82** (3.46-4.16)	**4.32** (3.88-4.70)	**4.86** (4.32-5.29)	**5.63** (4.93-6.14)	**6.27** (5.43-6.86)
12-hr	**2.06** (1.90-2.24)	**2.44** (2.25-2.66)	**2.97** (2.74-3.23)	**3.42** (3.15-3.72)	**4.06** (3.72-4.39)	**4.58** (4.18-4.96)	**5.13** (4.65-5.56)	**5.71** (5.14-6.19)	**6.51** (5.80-7.08)	**7.16** (6.32-7.80)
24-hr	**2.51** (2.33-2.72)	**2.99** (2.77-3.24)	**3.65** (3.38-3.96)	**4.22** (3.89-4.58)	**5.06** (4.62-5.52)	**5.77** (5.21-6.33)	**6.54** (5.82-7.25)	**7.39** (6.46-8.29)	**8.64** (7.36-9.90)	**9.72** (8.07-11.3)
2-day	**3.02** (2.79-3.29)	**3.61** (3.33-3.93)	**4.43** (4.08-4.82)	**5.12** (4.70-5.58)	**6.12** (5.55-6.72)	**6.97** (6.23-7.73)	**7.89** (6.94-8.85)	**8.89** (7.69-10.1)	**10.4** (8.71-12.1)	**11.6** (9.52-13.8)
3-day	**3.25** (3.01-3.52)	**3.87** (3.59-4.20)	**4.73** (4.38-5.13)	**5.45** (5.01-5.92)	**6.48** (5.90-7.09)	**7.34** (6.60-8.09)	**8.27** (7.32-9.23)	**9.27** (8.06-10.5)	**10.7** (9.07-12.4)	**11.9** (9.87-14.1)
4-day	**3.47** (3.22-3.75)	**4.14** (3.84-4.47)	**5.04** (4.67-5.44)	**5.78** (5.33-6.25)	**6.85** (6.25-7.45)	**7.72** (6.97-8.46)	**8.65** (7.70-9.60)	**9.65** (8.44-10.9)	**11.1** (9.44-12.7)	**12.3** (10.2-14.4)
7-day	**4.24**	**5.06**	**6.14**	**7.01**	**8.22**	**9.19**	**10.2**	**11.3**	**12.8**	**14.0**

	(3.95-4.57)	(4.72-5.45)	(5.71-6.61)	(6.49-7.56)	(7.54-8.88)	(8.36-10.0)	(9.19-11.2)	(10.00-12.5)	(11.0-14.5)	(11.8-16.1)
10-day	**4.89** (4.58-5.25)	**5.81** (5.44-6.23)	**6.99** (6.53-7.50)	**7.94** (7.39-8.53)	**9.25** (8.54-9.98)	**10.3** (9.42-11.2)	**11.4** (10.3-12.5)	**12.5** (11.2-13.9)	**14.1** (12.3-16.0)	**15.4** (13.2-17.7)
20-day	**6.83** (6.43-7.25)	**8.07** (7.60-8.57)	**9.49** (8.92-10.1)	**10.6** (9.92-11.3)	**12.0** (11.2-12.8)	**13.1** (12.1-14.0)	**14.1** (13.0-15.3)	**15.2** (13.8-16.5)	**16.5** (14.8-18.2)	**17.5** (15.5-19.5)
30-day	**8.44** (8.02-8.89)	**9.91** (9.41-10.4)	**11.4** (10.8-12.0)	**12.5** (11.8-13.2)	**13.9** (13.1-14.7)	**15.0** (14.0-15.9)	**16.0** (14.9-17.1)	**16.9** (15.6-18.2)	**18.1** (16.6-19.7)	**18.9** (17.2-20.8)
45-day	**10.6** (10.1-11.2)	**12.4** (11.9-13.0)	**14.1** (13.4-14.8)	**15.3** (14.6-16.1)	**16.8** (16.0-17.8)	**18.0** (17.0-19.0)	**19.0** (17.9-20.3)	**20.0** (18.7-21.4)	**21.2** (19.6-22.9)	**22.1** (20.2-24.1)
60-day	**12.8** (12.2-13.4)	**14.9** (14.2-15.6)	**16.8** (16.0-17.7)	**18.3** (17.4-19.2)	**20.0** (19.0-21.1)	**21.3** (20.1-22.5)	**22.4** (21.1-23.9)	**23.5** (22.0-25.1)	**24.8** (23.0-26.8)	**25.7** (23.6-27.9)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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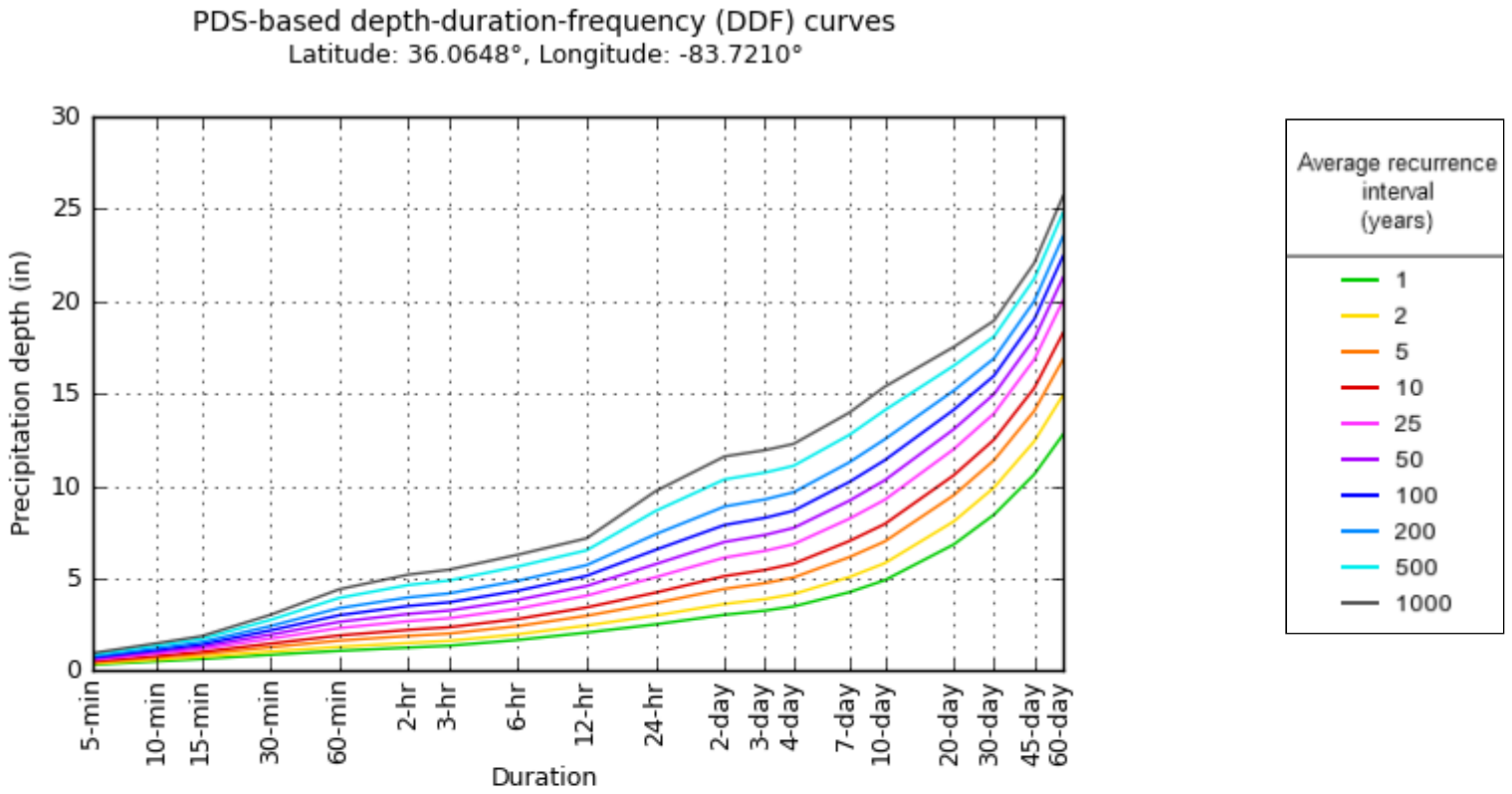
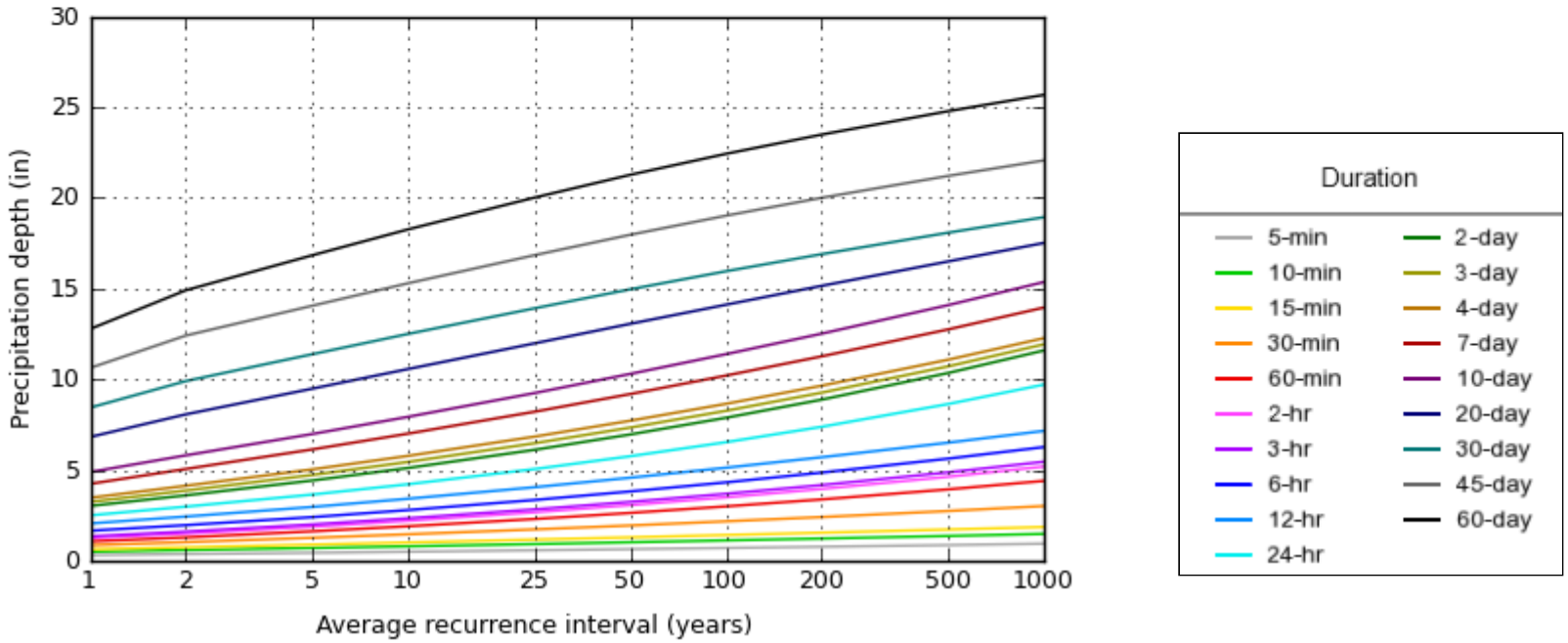
PF graphical





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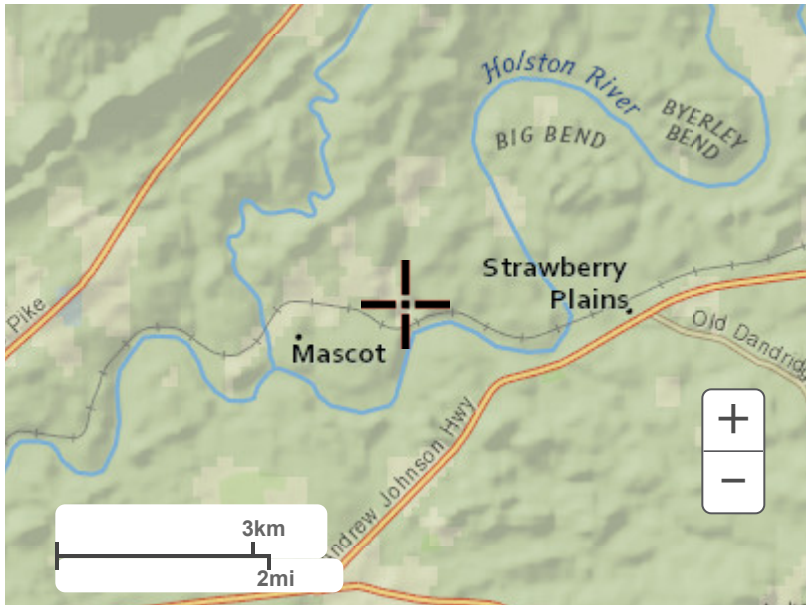
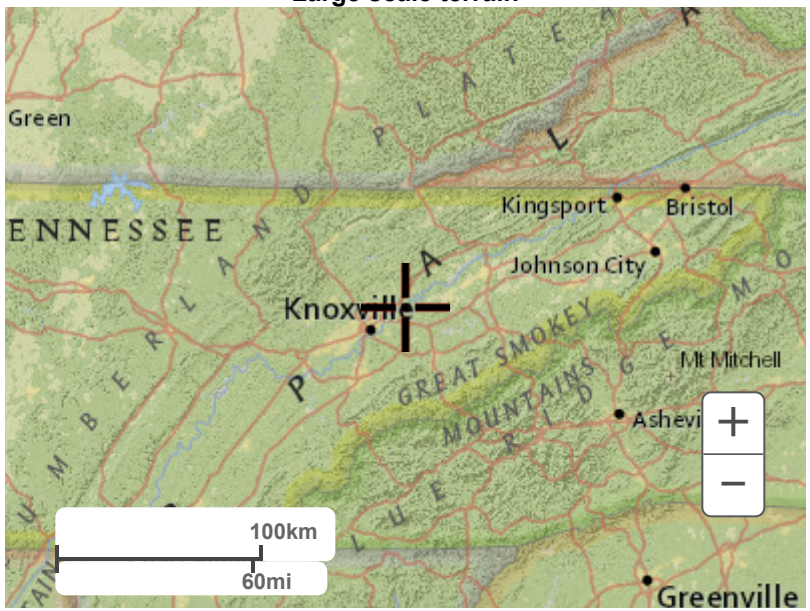
Maps & aerials

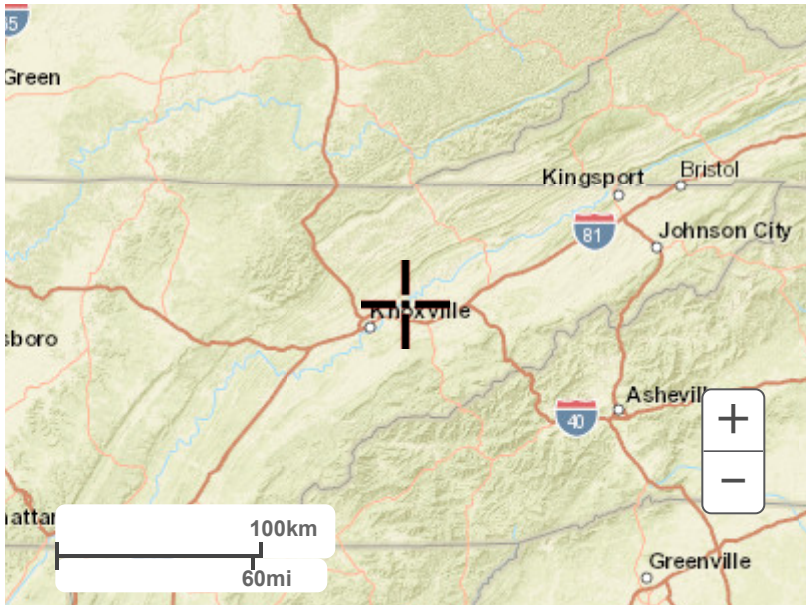
Small scale terrain



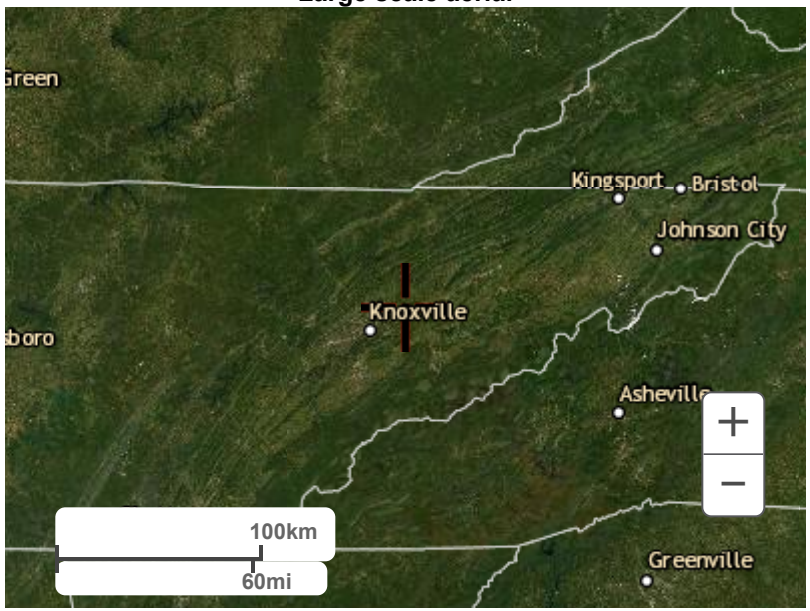
Large scale terrain



Large scale map



Large scale aerial



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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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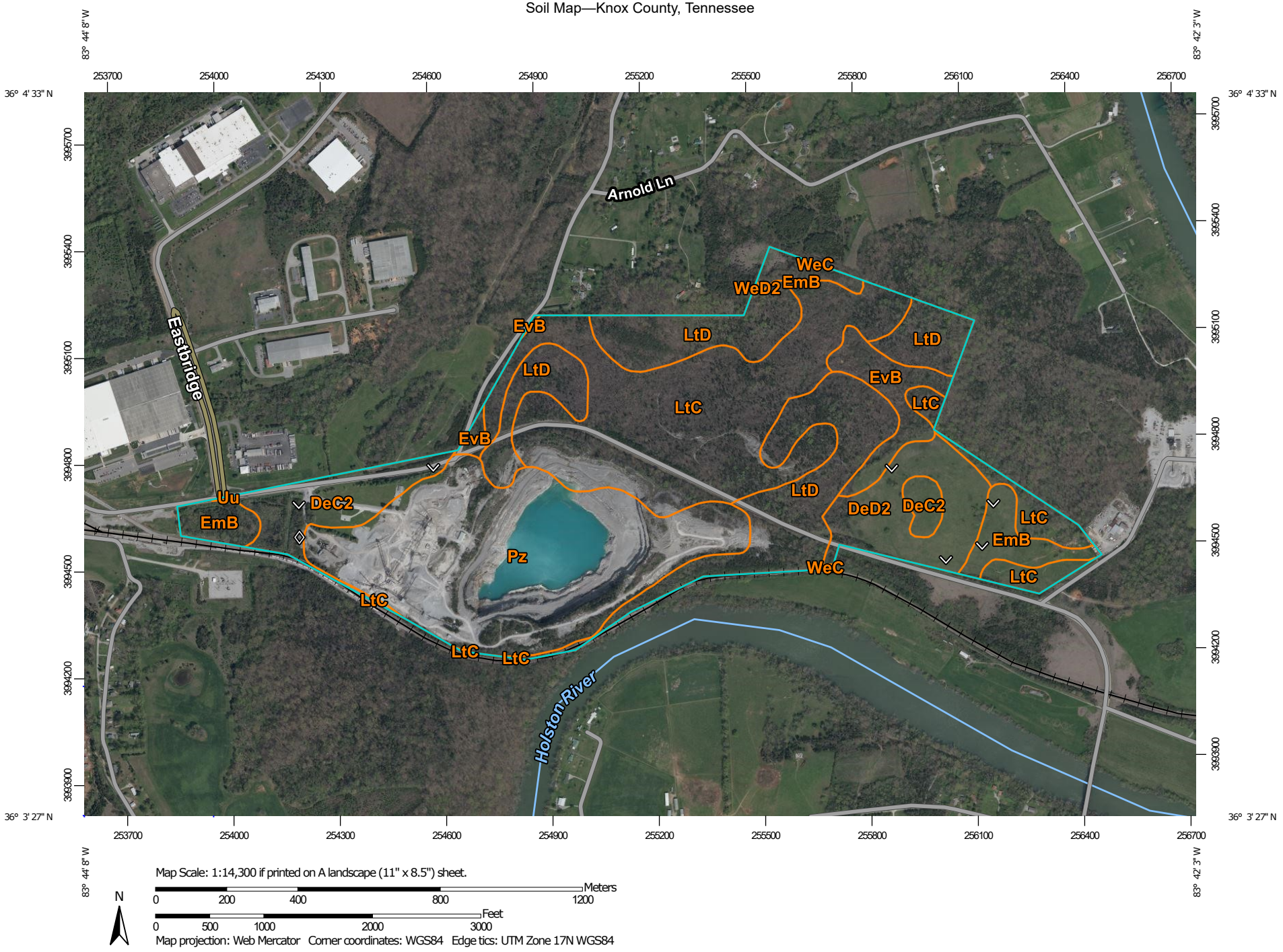

Map Scale: 1:14,300 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 200 400 800 1200

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

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.

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: Knox County, Tennessee
Survey Area Data: Version 17, Sep 10, 2021

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

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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

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DeC2	Dewey silt loam, 6 to 15 percent slopes, eroded	22.4	6.2%
DeD2	Dewey silt loam, 15 to 25 percent slopes, eroded	25.0	6.9%
EmB	Emory silt loam, 2 to 5 percent slopes	19.2	5.3%
EvB	Etowah-Minvale complex, 2 to 5 percent slopes	14.4	4.0%
LtC	Loyston-Talbott-Rock outcrop complex, 2 to 15 percent slopes	103.7	28.7%
LtD	Loyston-Talbott-Rock outcrop complex, 15 to 50 percent slopes	75.7	21.0%
Pz	Pits, Mines, and Dumps	100.3	27.8%
Uu	Urban land-Udorthents complex	0.1	0.0%
WeC	Waynesboro loam, 6 to 15 percent slopes	0.2	0.0%
WeD2	Waynesboro loam, 15 to 25 percent slopes, eroded	0.1	0.0%
Totals for Area of Interest		**361.1**	**100.0%**

Figure 15–4 Velocity versus slope for shallow concentrated flow

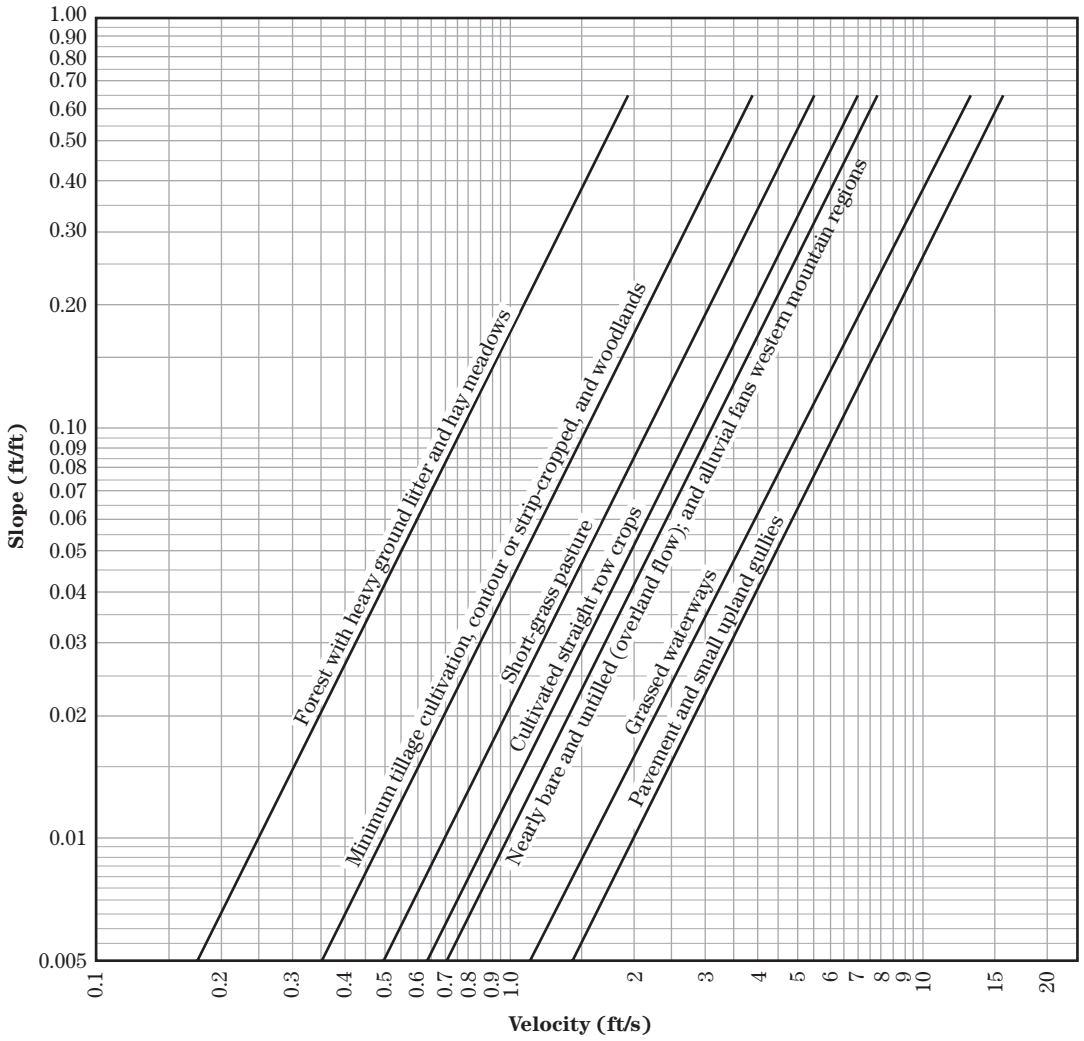


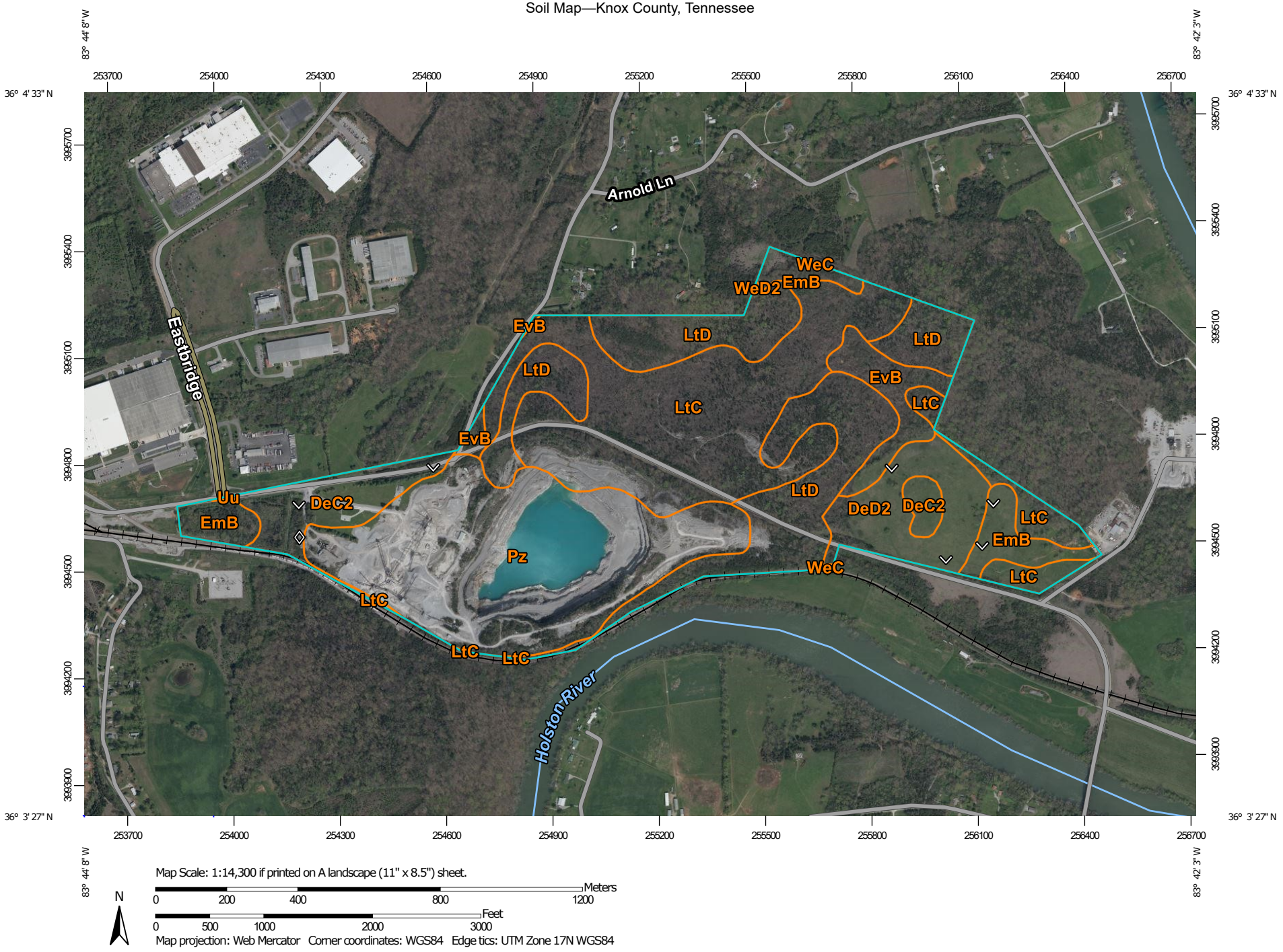
Table 15–3 Equations and assumptions developed from figure 15–4

Flow type	Depth (ft)	Manning's *n*	Velocity equation (ft/s)
Pavement and small upland gullies	0.2	0.025	$V = 20.328(s)^{0.5}$
Grassed waterways	0.4	0.050	$V = 16.135(s)^{0.5}$
Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions	0.2	0.051	$V = 9.965(s)^{0.5}$
Cultivated straight row crops	0.2	0.058	$V = 8.762(s)^{0.5}$
Short-grass pasture	0.2	0.073	$V = 6.962(s)^{0.5}$
Minimum tillage cultivation, contour or strip-cropped, and woodlands	0.2	0.101	$V = 5.032(s)^{0.5}$
Forest with heavy ground litter and hay meadows	0.2	0.202	$V = 2.516(s)^{0.5}$

TABLE 1 (Drainage Map 3)

MIDWAY QUARRY - WATERSHEDS IN AFFECTED AREAS

NOTE: Time of concentration (Tc and other data for all watersheds except B, C, and F were not calculated since these watersheds are not affected by major mining activities, although parts may be within the permit/fee area boundary.



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WeD2	Waynesboro loam, 15 to 25 percent slopes, eroded	0.1	0.0%
Totals for Area of Interest		**361.1**	**100.0%**

DRAINAGE NARRATIVE

The Drainage Map (Map 3) is drawn on the same 1-inch = 350-foot base map used for the Site Map (Map 2). Data plotted on this map and additional information is as follows:

A. Area to be disturbed including topsoil, spoil placement and stockpiles:

Stockpile areas are shown on the Drainage Map in an orange hatched pattern.

Overburden placement areas are shown in a yellow hatched pattern.

The present quarry area and area to potentially be quarried are shaded in a tan hatched pattern.

The total affected area which is or may be disturbed by quarrying, overburden disposal, stockpiling, maintenance areas, ponds, concrete plant, and traffic movement is outlined in black.

B. Present drainage patterns:

Present drainage patterns are shown with dark blue arrows and dark blue dashed and dotted lines on the Drainage Map.

Due to the presence of extensive karst, the map is divided into a series of non-interconnected drainage basins, shown by solid purple lines and lettered "A" through "ZZ" on the Drainage Map. Data for these basins is shown in Table 1. This data include area of the drainage basin in acres, area of the basin within the affected/permitted boundary, and area within the basin to be disturbed by mining or associated activity within the next five years. This information is listed in Table 1.

C. Expected drainage patterns, during mining and after reclamation, including location of discharge points:

Not all of the watersheds are in Bluewater Industries's (BWI) affected area.

Expected drainage patterns for the next five years are shown with light blue arrows on the Drainage Map. Quarry life is expected to exceed 20 years, therefore final drainage patterns after reclamation are impossible to determine with certainty at this time, however, potential final drainage patterns are shown with green arrows.

Discharge Monitoring Point 001 (DMP001) and 002 are shown with black bordered arrows in contact with a triangle.

Discharge Point 002 (DMP002) is not yet constructed. DMP002 is intended to serve two parcels, 193.14 and 195.71, which are located south of the railroad. As shown on Map 3, this area is to be mined in the future. DMP002 will be utilized when the Quarry Pit 3 (QP3) is developed and stormwater is pumped out of the pit.

These parcels drain mainly to where DMP002 is indicated on Drainage Map - Map 3. The rest of the area's stormwater flow is directed by berms to DMP002. DMP002 is to discharge over riprap to the Holston River.

Upon termination of mining, discharge at Discharge Point 001 and 002 would cease. Injection Wells (IW), IW1 – IW4, are shown with a black circle. These points are permitted by the Division of Water Supply. Upon termination of mining, discharges at these points would cease.

DRAINAGE AREAS

Drainage basins A, B, C, D, E, F, G, H, L, M, N, R, and S are the drainage basins affected or expected to be affected by mining and associated activities of BWI in the next five years. Their characteristics have not changed appreciably and are still as follows:

Watershed "A"

Watershed A contains a total of 13.9 acres with 13.1 acres within the permitted/affected boundary. South of Mascot Road the watershed contains a 400 foot long stretch of paved entrance road for the quarry, a portion of APAC's asphalt plant site, and woodlands and grass lands. The watershed drains to a sinkhole adjacent to the Norfolk-Southern railroad tracks.

BWI's property within the permit/affected area boundary is 13.1 acres, with 0.55 acres affected by the entrance road. The remaining acreage is grassland and woods and is not expected to be developed in the next five years.

Watershed "B"

Watershed B is 21.2 acres in total area. Of the 21.2 acres, 19.7 acres will be within the proposed permit/affected area outline. Watershed B is primarily a neatly maintained grass area near the scale house. The remaining areas are comprised of access roads, the stone and sand plant facilities, stockpiles, office, and Sediment Basin 1 (SB1).

SB1 is in the lowest part of the watershed. Stormwater in the northern part of the watershed is conveyed by sheetflow and that which does not run-off, infiltrates into the ground. Only stormwater from the roads, and stormwater and process water from the stone plant reach SB1. This water is pumped from SB1 to Sediment Basin 2 (SB2) for discharge into the old Mascot Zinc Mine and IW2. The basin has been lined with clay and the surrounding berm raised to cope with heavy rains and prevent unpermitted discharges.

Watershed "C"

Watershed C contains a total of 3.47 acres which are all within the permit/affected area boundary. The area is currently affected by quarry related activity, mainly stormwater runoff from part of the shop area, access roads, and stockpiles. It contains SB2, which receives water pumped from a part of the sand plant and pumped from SB1. Water flowing into SB2 discharges at IW2 by gravity down an old air shaft into the old Mascot Zinc Mine.

A bore hole was constructed in Watershed C adjacent to the shop building and is used as IW3 to the old zinc mine.

Watershed "D"

Watershed D contains a total of 2.31 acres, all within the permit/affected area boundary and currently affected by quarry activity. Water drains into a depression containing the jaw crusher, and percolates into the ground and through fractures to the quarry pit.

Watershed "E"

Watershed E is located south of Watershed C and west of Watershed G. Watershed E is 6.57 acres in size, 4.71 acres within the permit/ affected area boundary, and is affected by stockpiling and access road activity. The watershed is bermed along its boundary, with Watershed G holding rainwater and directing it to a broad low area where the water evaporates and/or percolates slowly into the ground.

Watershed "F"

Watershed F is 49.8 acres in extent and contains the present quarry pit, boneyard, and much of the current overburden placement area. Present and future flows will go into the pit. At the present time the pit contains a sump which collects stormwater and groundwater for pump out to Discharge Point 001, a sinkhole on the southwest rim of the pit. The sump and pit floor forms a holding area for settling of sediments. Pumping can be suspended during periods of high sediment influx to the sump in order to allow for adequate settling before discharge. IW1 is located next to Discharge Point 001 within this watershed.

Watershed "G"

Watershed G contains 20.0 acres, all south of Mascot Road. About 13.5 acres are within the permit/affected area boundary, and are expected to be impacted by quarry related activity in the next five years. Much of the watershed is comprised of woodlands. The overburden placement area is located on the west side of the watershed.

To control runoff from the overburden area, the area will be graded to direct stormwater to Watershed F. The outslopes of the overburden placement area will be seeded with grasses in inactive areas. Active area runoff will be controlled by hay bales along the toe of the overburden.

Much of BWI's land within the affected area consists of grassed outslopes from the bone yard and woodland areas.

Watershed "H"

Watershed H contains 17.2 acres of the entire 20.58 acre area is within the permitted area, and is located south of Mascot Road. As the quarry is developed south of Mascot Road, the water flows will be directed into the pit, enlarging Watershed F. There is a small cave in the north-northeast wall of the present quarry which flows during rainfall events and for a time afterward. This cave and drainage may convey surface water from Watersheds M and S via the sinkholes. These flows of water should not affect detention or discharge rates for Watershed F.

Watershed "L"

Watershed L contains a total of 10 acres, all within the permit/affected area boundary. Of the total acreage, 3 acres are expected to be affected within the next five years. This wooded area drains to a large sinkhole on the eastern edge of the watershed.

Watershed "M"

Watershed M is 75.9 acres in total area. The watershed is composed of wooded and pasture covered low, rolling hills and is cut into three subareas by Mascot Road and Clear Springs Road. Of the 75.9 acres, 25.8 acres will be within the proposed permit/affected area outline.

Only a 17.5 acre area south of Mascot Road is expected to be affected by mining and associated activities in the next five years. This area is currently occupied by a ready mix concrete plant, aggregate stockpiles, a small wooded area east of the concrete plant, and a drainage swale.

The swale is a depression which receives dust suppression water and truck wash water from the ready mix concrete plant. It also receives stormwater runoff from the parts of the watershed north of Mascot Road through culverts under the road. In order to prevent flooding during times of heavy precipitation, a "French Drain" was constructed to the quarry by blasting a line of drill holes. This allows for the slow percolation of water to the quarry in Watershed F. This flow has not been calculated or factored into the Watershed F hydrologic calculations because discharge from Watershed F is controlled by pump out.

Watershed "N"

Watershed N contains a total of 25.1 acres, 22.2 acres are within the permit/affected area boundary. Of the total acreage, 2.93 acres are expected to be affected within the next five years. This wooded area drains to two separate sinkholes within the watershed.

Watershed "R"

Watershed R contains a total of 10.4 acres, all within the permit/affected area boundary. Of the total acreage, 2.58 acres are expected to be affected within the next five years. This watershed is a wooded area containing as its lowest point, a large sinkhole. The only potential development to affect this watershed in the next five years may be limited quarrying on the southeastern fringe. Appropriate measures will be taken to minimize the introduction of contaminated water into the sinkhole.

Watershed "S"

Watershed S contains a total of 38.8 acres, 34.6 acres within the permit/affected area boundary. Of the total acreage, 16.6 acres are expected to be affected within the next five years. This watershed is a wooded area containing as its lowest point, a large sinkhole. It also contains IW4.

Watersheds “T”, “U”, “V”, “W”, & “Y”

Watersheds T, U, V, W, and Y presently drain to kerst features (sinkholes) winthin their basin or to adjacent basins. Prior to overburden placement, new injection wells or sediment basins will be permitted if drainage is not routed to existing injection wells or the quarry pit.

Watersheds “I”, “J”, “K”, “O”, “P”, “Q”, & ‘“X”

Watersheds I, J, K, O, P, Q, and X will not be affected by mining activities in the next five years.

Watershed "Z"

Watershed Z contains a total of 78.12 acres, all within the permit/affected area boundary. This watershed is a wooded area containing the future Quarry Pit 3 that will be pumped to DMP 002.

Watershed "ZZ"

Watershed ZZ contains a total of 56.7 acres, all within the permit/affected area boundary. This watershed is a wooded area containing boundary berms that direct stormwater to DMP 002.

D. Location, type, and size of any culverts which may be installed:

There are no plans to install any culverts in the next five years. Should culverts be installed which change water flow directions, supplemental plans will be submitted.

E. Descriptions of drainways through disturbed areas, over highwalls, along benches, and across outslopes to include dimensions, bedding materials, construction methods, calculations and method of sizing drainway:

Storm water flow and equipment wash water flow in the plant area occurs as sheet run-off and as flow in unconstructed swales. These waters are collected in SB1 and pumped to SB2 where they are discharged by gravity (IW2) into the abandoned Mascot zinc mine to the quarry sump. The quarry pumps out at Discharge Point 001 into a sinkhole on the southwest rim of the pit. The discharge at IW3 is pumped via a pipeline from SB1 into a air shaft at the edge of SB2, into a stope in the abandoned Mascot #2 zinc mine.

F. Descriptions of sediment control structures, including plans for construction, exact location, size, and capacity:

A schematic diagram of water usage, distribution, and discharge is shown in Drawing A.

The stone plant at Midway uses "fresh" water pumped from the abandoned Mascot zinc mine and sent through the dust suppression system to spray points, sand sizing circuits, and plant wash down hoses.

Water from the sand plant's sand sizing circuit is piped to SB2 for settling before flowing at IW3 into an old air shaft and bore into a stope in the abandoned Mascot #2 zinc mine.

Water used in the dust suppression system is applied at a rate such that all water is normally adsorbed onto the aggregate during crushing and screening. Excess water dust suppression, plant cleaning, the pug mill, and plant area stormwater flows by sheet flow and swales into SB1 where coarse particulates are settled. This water is then pumped to an injection well at the southern edge of SB2, where it is pumped down a bore at IW3 into the abandoned Mascot #2 zinc mine.

By disposing of suspended fines in the abandoned zinc mine, construction and maintenance of a large settling basin has not been necessary.

General pond, basin, and sump information is as follows:

1. **Quarry Pit and Sump:** The area of the quarry pit normally used for water storage is a sump of approximately 25,499 ft² and about 8 feet deep. An average freeboard of 3-6 feet is normally maintained. When the quarry is inactive for longer than one to two months the pumps are shut down. The area allowed to collect water is then about 882,867 ft² and averages 80 feet deep. The normal sump is shown with light blue wavy lines on the Drainage Map.

2. **Sediment Basin 1 (SB1):** This basin has a surface area of about 8,922 ft² and averages 8 feet deep when cleaned out. Normal average depth is about 6 feet. This basin is shown with light blue wavy lines on the Drainage Map.

3. **Sediment Basin 2 (SB2)**: This basin has a surface area of about 7,736 ft² and averages 8 feet deep when cleaned out. Normal average depth is about 6 feet. Water from this pond discharges by gravity down the air shaft into the abandoned Mascot zinc mine. This basin is shown with light blue wavy lines on the Drainage Map.

4. **Quarry Pit 3:** This pit is yet to be developed. It is estimated that the surface area of Quarry Pit 3 will be 685,850 ft2. It will average 75 feet in depth. Water from this quarry pit will be discharged into the Holston River via pump. This basin is located on the south side of the train tracks. This basin is shown in pink cross hatch on Map 3.

G. Expected drainage control measures along haul roads to include design and calculation of ditches:

At the present there are no designed ditches to control drainage along haul roads. Water flows by sheet flow into the plant and grassed areas. Within the quarry water flows by sheet run-off to the quarry sump for settling and pump out. No ditches are engineered in the plant or stockpile areas because of the constantly changing of the shape and placement of stockpiles.

H. Location of diversion ditches (temporary or permanent); design and calculation used in designing the ditches:

No diversion ditches are present or planned for the site in the next five year period.

SEDIMENT CONTROL STRUCTURES

The Drainage Map (Map 3) submitted with this document shows the location of sedimentation ponds and the quarry sump which are used to treat surface water runoff from disturbed areas. The map also shows watersheds in and connecting to the affected areas. Each watershed's area, weighted Curve Number (CN), and time of concentration (Tc) were inputs to calculate the Peak Flow (Q) using WinTR-55 and the SCS Curve Method. A table summary and printouts of data inputs and hydrologic calculations for undeveloped and developed conditions for watersheds expected to be impacted by mining and associated activities are included in Appendix E. Analysis and sediment basin design information submitted with this document are based on a 10-year 24-hour storm event.

Factors affecting the drainage and runoff at this site are complex. The major factor affecting runoff and water control and handling is the karst nature of the area. The topographic map shows numerous sinkholes within and outside of the proposed affected areas. These sinkholes are assumed to connect to a fracture and cave system that connects to the Holston River. There are no large named caves in the immediate area. The sinkholes appear to mainly be developed in the Lenoir Formation and Mosheim member. There is a cave opening in the northeast wall of the quarry which flows during heavy rains. It is logical that this cave connects to a large sinkhole adjacent to and north of Mascot Road, although no specific hydrological testing (dye tracers, etc.) has been done to confirm this.

QUARRY SUMP

Pond design data for rainfall amounts from a 24-hour storm based on 10-year frequency:

Rainfall (NOAA Atlas 14)	4.22 inches
Drainage area (Watershed A)	70.4 acres (Watersheds F & H)
Hydrologic Groupings	D
Runoff Curve Number (CN)	93
Slope	Steep to Moderate
Land Use	Quarry; adjoining areas are woodlands
Peak Discharge (Q*)	297.97 cu. ft./sec

The volume of runoff from a 4.22 inch rainfall in this watershed based on the SCS hydrograph is 25.3 acre feet or 8,257,805 gallons of water.

SURFACE AREA CALCULATION
(Stokes Law Settling)

$$\text{Stokes Law} = Vs = \frac{g}{18u}(S\text{-}1)D^2$$

Where u = Kinematic viscosity at 4°C
D = Particle diameter of 0.004 cm
S = Specific gravity = 2.6 for sandstone/limestone
g = Constant = 981

hence $Vs = \frac{981}{18(0.018)} (2.6-1)(0.004)^2$

Vs = 0.078 cm/sec. Vs = 0.078 cm/sec. x 0.0321 = 0.0026 ft./sec.

To determine the surface area needed for settling in the Quarry sump in accordance with Stokes Law Velocity, the continuity equation is used where:

A = Q/Vs

A = 297.97/0.0026

A = 114,603 ft²

The total area for the quarry sump is:

Pond surface area = 25,499 ft²

Average depth = 8 ft

Total volume = 203,992 ft³
= 1,525,966 gal.

The stormwater inflow into the quarry sump is greater than the sump capacity. The sump capacity, the quarry floor area, and the quarry depth, however, greatly exceeds any possible storm inflow. These factors allow for sufficient time and capacity for settling before pump out in case of a major storm event. Pumping can be halted until sufficient time has elapsed for settling before resuming pumping. Deepening and widening of the sump will be recommended to quarry personnel.

SEDIMENT BASIN 1 (SB1)

SB1 is south of the crushing and screening plant, constructed at the lowest point in the plant area adjacent to the Norfolk Southern Railroad right-of-way. It receives process water and storm water from the plant area. Pond capacity data for is for rainfall amounts from a 24-hour storm based on 10-year frequency

Rainfall (NOAA Atlas 14)	4.22 inches
Drainage area (Watershed A)	35.10 acres (Watersheds A & B)
Hydrologic Groupings	B,C

Runoff Curve Number (CN)	78
Slope	Moderate
Land Use	Stockpiles
Peak Discharge (Q*)	74.61 cu. ft./sec

The volume of runoff from a 4.22 inch rainfall in this watershed base is 343,660 cubic feet or 2,570,579 gallons of water.

SURFACE AREA CALCULATION
(Stokes Law Settling)

Stokes Law = $Vs = \frac{g}{18u}(S-1)D^2$

Where u = Kinematic viscosity at 4°C
D = Particle diameter of 0.004 cm
S = Specific gravity = 2.6 for sandstone/limestone
g = Constant = 981

hence $Vs = \frac{981}{18(0.018)}(2.6-1)(0.004)^2$

Vs = 0.078 cm/sec. Vs = 0.078 cm/sec. x 0.0321 = 0.0026 ft./sec.

To determine the surface area needed for settling in the Quarry sump in accordance with Stokes Law Velocity, the continuity equation is used where:

$A = Q/Vs$

$A = 74.61/0.0026$

$A = 28{,}696\ ft^2$

The total area for the quarry sump is:

Sump surface area = 8,922 ft²

Average depth = 8 ft

Total volume = 71,376 ft³
= 553,930 gal.

The storm water inflow into SB1 is more than the basin capacity. The primary function of this pond is the settling out of coarse sediments from plant wash down, dust suppression, and storm water runoff. It is kept pumped down in normal circumstances and is sufficient to handle average storm events. The pump is rated at about 500 gpm. While this rate would not keep up with peak discharge of a 10-year storm if the pond was full, the pump should be able to keep water pumped to SB2 where it is discharged down a bore into the abandoned Mascot #2 zinc mine. Enlarging of the settling pond or construction of an interceptor basin will be examined. At this time, no emergency spillway is proposed for this pond.

General construction details are shown in Drawing D.

SEDIMENT BASIN 2 (SB2)

SB2 is east and uphill of the crushing and screening plant, constructed at and around an old air shaft to the now abandoned Mascot zinc mine. It receives process water and storm water from the sand plant area. Water and minor fines discharge at IW3 by gravity into the mine through the old air shaft and a bore. Pond capacity data for is for rainfall amounts from a 24-hour storm based on 10-year frequency:

Rainfall (NOAA Atlas 14)	4.22 inches
Drainage area (Watershed A)	26.98 acres (Watersheds B, C, & D)
Hydrologic Groupings	D
Runoff Curve Number (CN)	91
Slope	Gentle
Land Use	Sediment Basin and Water Discharge Point
Peak Discharge (Q*)	141.17 cu. ft./sec

The volume of runoff from a 4.22 inch rainfall in this watershed based on the SCS hydrograph is 48,248 cubic feet or 360,898 gallons of water.

SURFACE AREA CALCULATION
(Stokes Law Settling)

Stokes Law = $Vs = \frac{g}{18u}(S-1)D^2$

Where u = Kinematic viscosity at 4°C
D = Particle diameter of 0.004 cm
S = Specific gravity = 2.6 for sandstone/limestone
g = Constant = 981

hence $Vs = \frac{981}{18(0.018)}(2.6-1)(0.004)^2$

Vs = 0.078 cm/sec. Vs = 0.078 cm/sec. x 0.0321 = 0.0026 ft./sec.

To determine the surface area needed for settling in the Quarry sump in accordance with Stokes Law Velocity, the continuity equation is used where:

A = Q/Vs

A = 141.17/0.0026

A = 54,296 ft^2

The total area for the quarry sump is:

Sump surface area = 7,736 ft^2

Average depth = 8 ft

Total volume = 61,888 ft^3
= 462,954 gal.

The storm water inflow into SB2 is greater than the basin capacity. The primary function of this pond is the settling out of fine sediments pumped from the sand plant prior to being discharged down an old air shaft and bore into the abandoned Mascot #2 zinc mine.

QUARRY PIT 3 (QP3)

QP3 is proposed to be located on the south side of the railroad. It receives runoff from drainage area Z. Quarry Pit 3 is not yet constructed. Basin capacity data is for rainfall amounts from a 24-hour storm based on a 10-year frequency.

Rainfall (NOAA Atlas 14)	4.22 inches
Drainage area (Watershed A)	78.12 acres (Watershed Z)
Hydrologic Groupings	D
Runoff Curve Number (CN)	93
Slope	Moderatte
Land Use	Quarry Pit and Water Discharge Point
Peak Discharge (Q*)	422.83 cu. ft./sec

The volume of runoff from a 4.22 inch rainfall in this watershed based on the SCS hydrograph is 1,144,022 cubic feet or 8,557,878 gallons of water.

SURFACE AREA CALCULATION
(Stokes Law Settling)

Stokes Law = $V_S = \frac{g}{18u}(S-1)D^2$

Where u = Kinematic viscosity at 4°C
D = Particle diameter of 0.004 cm
S = Specific gravity = 2.6 for sandstone/limestone
g = Constant = 981

hence $V_S = \frac{981}{18(0.018)}(2.6-1)(0.004)^2$

V_S = 0.078 cm/sec.

V_S = 0.078 cm/sec. x 0.0321 = 0.0026 ft./sec.

To determine the surface area needed for settling in QP3 in accordance with Stokes Law Velocity, the continuity equation is used where:

$A = Q/V_S$

A = 422.83/0.0026

A = 162,627 ft²

The total area for Quarry Pit 3 is:

Pond surface area = 685,850 ft²

Average depth = 75 ft

Total volume = 31,166,450 ft^3
= 233,125,046 gal..

The storm water inflow into QP3 is less than the volume of QP3. The volume of extra space in QP3 greatly exceeds the storm inflow from the 10-year 24-hour storm runoff from Watershed Z. A sump will provide a basin to pump from during periodic dewatering. This will be discharged into the Holston River from DMP002.

MIDWAY QUARRY DRAINAGE AREA B
SB1 VOLUME CALCULATIONS

Drainage Area:

Total Runoff Area: 1,529,500 ft^2

$$\frac{1\ ft^2}{43{,}560\ ft^2} = \text{acres} = \mathbf{35.1}$$

COVER DESCRIPTION	SOIL TYPE (A, B, C, or D)	% OF AREA	TOTAL AREA
AREA I (GRAVEL)	C	59%	20.7 acres
AREA II (GRASS)	B	12%	4.2 acres
AREA II (WOODS)	B	29%	10.2 acres
			35.1 acres

RAINFALL (P_{10}):

STORM EVENT TYPE	RAINFALL AMOUNT FROM NOAA ATLAS 14 Vol. 2 (ATTACHED)
10 YEAR - 24 HOUR	4.22 in
25 YEAR - 24 HOUR	5.06 in

CURVE NUMBER ($C_{weighted}$):

COVER DESCRIPTION	CN FROM FIGURE III (ATTACHED)	ACRES
AREA I (GRAVEL)	91	20.7
AREA II (GRASS)	61	4.2
AREA II (WOODS)	60	10.2

$$\frac{\sum(CN*Area)}{\sum(Area)} = C_{weighted} = 78$$

POTENTIAL MAXIMUM RETENTION (S):

$$\frac{1000}{CN} - 10 = S = 2.75 \text{ in}$$

RUNOFF (Q):

$$\frac{[P-(0.2)*(S)]^2}{P+(0.8)*S} = Q = 2.10 \text{ in}$$

VOLUME (V_{10}):

$$(Q)*(area)*\left(\frac{1''}{12''}\right) = V_{10} = 6.13 \text{ ac-ft}$$

SEDIMENT STORAGE (V_{sed}):

$$(0.05ft)*(disturbed\_acreage) = V_{sed} = 1.76 \text{ ac-ft}$$

VOLUME ($V_{subtotal}$):

$$V_{10}+V_{sed} = V_{subtotal} = 7.89 \text{ ac-ft}$$

VOLUME (V_{total}):

$$V_{subtotal} * \frac{43{,}560ft^{2'}}{1ac} = V_{total} = 343{,}660\ ft^3 \quad 2{,}570{,}579 \text{ gallons}$$

CREDITS FOR MULTIPLE UNITS (V_{credit}):

$$(20\%)*V_{total} = V_{credit} = -\ ft^3$$

VOLUME ($V_{required}$):

$$V_{total} - V_{credit} = V_{required} = \mathbf{343{,}660}\ ft^3 \quad 2{,}570{,}579 \text{ gallons}$$

VOLUME PROVIDED:

The stormwater inflow into SB1 is more than the basin capacity. The primary function of this pond is settiling out of coarse from plant wash down, dust supression, and storm water runoff. It is kept pumped down to SB2 in normal circumstances a to handle average storm events. At this time no emergency spillway is proposed for this sediment basin.

MIDWAY QUARRY DRAINAGE AREA B
SB1 PEAK FLOW CALCULATIONS

RUNOFF COEFICIENT (C) CALCULATIONS:

	C FACTOR	% OF AREA	TOTAL
C for gravel	0.91	59%	0.54
C for grass	0.61	12%	0.07
C for woods	0.60	29%	0.17
	C FACTOR FOR THE DRAINAGE AREA =		0.78

TIME OF CONCENTRATION (T_c):

TOTAL AREA = 35.11 acres
MAXIMUM TRAVEL LENGTH (L) = 1900 ft
CHANGE IN ELEVATION (H) = 9.5 ft
TIME OF CONCENTRATION (T_c) FROM TDOT GRAPH (ATTACHED) = 36.36 minutes

RAINFALL INTENSITIES (I) FROM NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES (ATTACHED):

10 YEAR-24 HOUR STORM EVENT (I_{10}) = 2.7 in/hr
25 YEAR-24 HOUR STORM EVENT (I_{25}) = 3.2 in/hr

PEAK FLOW (Q) CALCULATIONS:

PEAK FLOW (Q) = C(I)(A)

10 YEAR-24 HOUR STORM EVENT PEAK FLOW (Q_{10}) = 74.61 cfs
25 YEAR-24 HOUR STORM EVENT PEAK FLOW (Q_{25}) = **88.65** cfs

MIDWAY QUARRY DRAINAGE AREA C
SB2 VOLUME CALCULATIONS

AREAS:

Total Runoff Area: 1,175,249 ft^2

$$\frac{ft^2}{43{,}560\ ft^2} = \text{acres} = \mathbf{26.98}$$

COVER DESCRIPTION	SOIL TYPE (A, B, C, or D)	% OF AREA	TOTAL AREA
AREA I (GRAVEL)	D	100%	26.98 acres
			26.98 acres

RAINFALL (P_{10}):

STORM EVENT TYPE	RAINFALL AMOUNT FROM NOAA Atlas 14 Vol. 2 (ATTACHED)
10 YEAR - 24 HOUR	4.22 in
25 YEAR - 24 HOUR	5.06 in

CURVE NUMBER ($C_{weighted}$):

COVER DESCRIPTION	CURVE NUMBER	ACRES
AREA I (GRAVEL)	91	26.98

$$\frac{\sum(CN*Area)}{\sum(Area)} = C_{weighted} = 91$$

POTENTIAL MAXIMUM RETENTION (S):

$$\frac{1000}{CN} - 10 = S = 0.99 \text{ in}$$

RUNOFF (Q):

$$\frac{[P-(0.2)*(S)]^2}{P+(0.8)*S} = Q = 3.23 \text{ in}$$

VOLUME (V_{10}):

$$(Q)*(area)*\left(\frac{1''}{12''}\right) = V_{10} = 7.26 \text{ ac-ft}$$

SEDIMENT STORAGE (V_{sed}):

$$(0.05ft)*(disturbed\_acreage) = V_{sed} = 1.35 \text{ ac-ft}$$

VOLUME ($V_{subtotal}$):

$$V_{10}+V_{sed} = V_{subtotal} = 8.61 \text{ ac-ft}$$

VOLUME (V_{total}):

$$V_{subtotal} * \frac{43{,}560ft^{2'}}{1ac} = V_{total} = 374{,}941 \ ft^3 \quad 2{,}804{,}561 \text{ gallons}$$

CREDITS FOR MULTIPLE UNITS (V_{credit}):

$$(20\%)*V_{total} = V_{credit} = - \ ft^3$$

VOLUME ($V_{required}$):

$$V_{total} - V_{credit} = V_{required} = \mathbf{374{,}941} \ ft^3 \quad 2{,}804{,}561 \text{ gallons}$$

VOLUME PROVIDED:

	Surface Area	Depth	Volume
TOTAL VOLUME PROVIDED BY SB2 =	7,736 ft^2	8 ft	**61,888** ft^3

THEREFORE, ADEQUATE FOR 10YR-24HR STORM EVENT

MIDWAY QUARRY DRAINAGE AREA C
SB2 PEAK FLOW CALCULATIONS

RUNOFF COEFICIENT (C) CALCULATIONS:

	C FACTOR	% OF AREA	TOTAL
C for gravel	0.91	100%	0.91
		C FACTOR FOR THE DRAINAGE AREA =	0.91

TIME OF CONCENTRATION (T_c):

TOTAL AREA = 26.98 acres
MAXIMUM TRAVEL LENGTH (L) = 1000 ft
CHANGE IN ELEVATION (H) = 30 ft
TIME OF CONCENTRATION (T_c) FROM TDOT GRAPH (ATTACHED) = 6.0 minutes

RAINFALL INTENSITIES (I) FROM NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES (ATTACHED):

10 YEAR-24 HOUR STORM EVENT (I_{10}) = 5.8 in/hr
25 YEAR-24 HOUR STORM EVENT (I_{25}) = 6.7 in/hr

PEAK FLOW (Q) CALCULATIONS:

PEAK FLOW (Q) = C(I)(A)

10 YEAR-24 HOUR STORM EVENT PEAK FLOW (Q_{10}) = 141.17 cfs
25 YEAR-24 HOUR STORM EVENT PEAK FLOW (Q_{25}) = **164.50** cfs

MIDWAY QUARRY DRAINAGE AREA F
QUARRY SUMP PIT VOLUME CALCULATIONS

AREAS:

Total Runoff Area: 3,067,373 ft^2

$$\frac{ft^2}{43{,}560\ ft^2} = \text{acres} = \mathbf{70.4}$$

COVER DESCRIPTION	SOIL TYPE (A, B, C, or D)	% OF AREA	TOTAL AREA
AREA I (GRAVEL)	C	100%	70.4 acres
			70.4 acres

RAINFALL (P_{10}):

STORM EVENT TYPE	RAINFALL AMOUNT FROM NOAA Atlas 14 Vol. 2 (ATTACHED)
10 YEAR - 24 HOUR	4.22 in
25 YEAR - 24 HOUR	5.06 in

CURVE NUMBER ($C_{weighted}$):

COVER DESCRIPTION	CURVE NUMBER	ACRES
AREA I (GRAVEL)	93	70.4

$$\frac{\sum(CN*Area)}{\sum(Area)} = C_{weighted} = 93$$

POTENTIAL MAXIMUM RETENTION (S):

$$\frac{1000}{CN} - 10 = S = 0.75 \text{ in}$$

RUNOFF (Q):

$$\frac{[P-(0.2)*(S)]^2}{P+(0.8)*S} = Q = 3.43 \text{ in}$$

VOLUME (V_{10}):

$$(Q)*(area)*\left(\frac{1'''}{12''}\right) = V_{10} = 20.15 \text{ ac-ft}$$

SEDIMENT STORAGE (V_{sed}):

$$(0.05ft)*(disturbed\_acreage) = V_{sed} = 3.52 \text{ ac-ft}$$

VOLUME ($V_{subtotal}$):

$$V_{10}+V_{sed} = V_{subtotal} = 23.67 \text{ ac-ft}$$

VOLUME (V_{total}):

$$V_{subtotal} * \frac{43{,}560ft^{2'}}{1ac} = V_{total} = 1{,}031{,}215\ ft^3$$

CREDITS FOR MULTIPLE UNITS (V_{credit}):

$$(20\%)*V_{total} = V_{credit} = - \ ft^3$$

VOLUME ($V_{required}$):

$$V_{total} - V_{credit} = V_{required} = \mathbf{1{,}031{,}215}\ ft^3$$

VOLUME PROVIDED:

Surface Area	Depth	Volume
25,409 ft^2	8 ft	**203,272** ft^3

TOTAL VOLUME PROVIDED BY QP =

The stormwater inflow into the quarry sump is greater than the sump capacity. However, the sump capacity, the quarry floor area, and the qua depth greatly exceeds any possible storm inflow. These factors allow for sufficient time and capacity for settling before pump out.

MIDWAY QUARRY DRAINAGE AREA F
QUARRY SUMP PIT PEAK FLOW CALCULATIONS

RUNOFF COEFICIENT (C) CALCULATIONS:

	C FACTOR	% OF AREA	TOTAL
C for gravel	0.93	100%	0.93
		C FACTOR FOR THE DRAINAGE AREA =	0.93

TIME OF CONCENTRATION (T_c):

TOTAL AREA = 70.4 acres
MAXIMUM TRAVEL LENGTH (L) = 2000 ft
CHANGE IN ELEVATION (H) = 64 ft
TIME OF CONCENTRATION (T_c) FROM TDOT GRAPH (ATTACHED) = 11.58 minutes

RAINFALL INTENSITIES (I) FROM NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES (ATTACHED):

10 YEAR-24 HOUR STORM EVENT (I_{10}) = 4.6 in/hr
25 YEAR-24 HOUR STORM EVENT (I_{25}) = 5.3 in/hr

PEAK FLOW (Q) CALCULATIONS:

PEAK FLOW (Q) = C(I)(A)

10 YEAR-24 HOUR STORM EVENT PEAK FLOW (Q_{10}) = 297.97 cfs
25 YEAR-24 HOUR STORM EVENT PEAK FLOW (Q_{25}) = **344.47** cfs

MIDWAY QUARRY DRAINAGE AREA Z
FUTURE QUARRY PIT 3 VOLUME CALCULATIONS

AREAS:

Total Runoff Area: 3,402,920 ft^2

$$\frac{ft^2}{43{,}560\ ft^2} = \text{acres} = \mathbf{78.12}$$

COVER DESCRIPTION	SOIL TYPE (A, B, C, or D)	% OF AREA	TOTAL AREA
AREA I (GRAVEL)	C	100%	78.12 acres
			78.12 acres

RAINFALL (P_{10}):

STORM EVENT TYPE	RAINFALL AMOUNT FROM NOAA Atlas 14 Vol. 2 (ATTACHED)
10 YEAR - 24 HOUR	4.22 in
25 YEAR - 24 HOUR	5.06 in

CURVE NUMBER ($C_{weighted}$):

COVER DESCRIPTION	CURVE NUMBER	ACRES
AREA I (GRAVEL)	93	78.12

$$\frac{\sum(CN*Area)}{\sum(Area)} = C_{weighted} = 93$$

POTENTIAL MAXIMUM RETENTION (S):

$$\frac{1000}{CN} - 10 = S = 0.75 \text{ in}$$

RUNOFF (Q):

$$\frac{[P-(0.2)*(S)]^2}{P+(0.8)*S} = Q = 3.43 \text{ in}$$

VOLUME (V_{10}):

$$(Q)*(area)*\left(\frac{1'''}{12"}\right) = V_{10} = 22.36 \text{ ac-ft}$$

SEDIMENT STORAGE (V_{sed}):

$$(0.05ft)*(disturbed\_acreage) = V_{sed} = 3.91 \text{ ac-ft}$$

VOLUME ($V_{subtotal}$):

$$V_{10}+V_{sed} = V_{subtotal} = 26.26 \text{ ac-ft}$$

VOLUME (V_{total}):

$$V_{subtotal} * \frac{43{,}560ft^{2'}}{1ac} = V_{total} = 1{,}144{,}022\ ft^3$$

CREDITS FOR MULTIPLE UNITS (V_{credit}):

$$(20\%)*V_{total} = V_{credit} = -\ ft^3$$

VOLUME ($V_{required}$):

$$V_{total} - V_{credit} = V_{required} = \mathbf{1{,}144{,}022}\ ft^3$$

VOLUME PROVIDED:

Total estimated volume of Quarry Pit 3 and Quarry Sump 3 = 31,341,110 ft3. This will store the volume of the 10 year 24 hour rainfall event.

TOTAL VOLUME PROVIDED BY QS 3=

Surface Area	Depth	Volume
22,500 ft2	10 ft	174,660 ft3

TOTAL (estimated) VOLUME PROVIDED BY QP 3 =

Surface Area	Depth	Volume
685,350 ft2	75 ft	**31,166,450 ft3**

MIDWAY QUARRY DRAINAGE AREA Z
QUARRY SUMP PIT PEAK FLOW CALCULATIONS

RUNOFF COEFICIENT (C) CALCULATIONS:

	C FACTOR	% OF AREA	TOTAL
C for gravel	0.93	100%	0.93
		C FACTOR FOR THE DRAINAGE AREA =	0.93

TIME OF CONCENTRATION (T_c):

TOTAL AREA = 78.12 acres
MAXIMUM TRAVEL LENGTH (L) = 350 ft
CHANGE IN ELEVATION (H) = 20 ft
TIME OF CONCENTRATION (T_c) FROM TDOT GRAPH (ATTACHED) = 5.70 minutes

RAINFALL INTENSITIES (I) FROM NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES (ATTACHED):

10 YEAR-24 HOUR STORM EVENT (I_{10}) = 5.8 in/hr
25 YEAR-24 HOUR STORM EVENT (I_{25}) = 6.8 in/hr

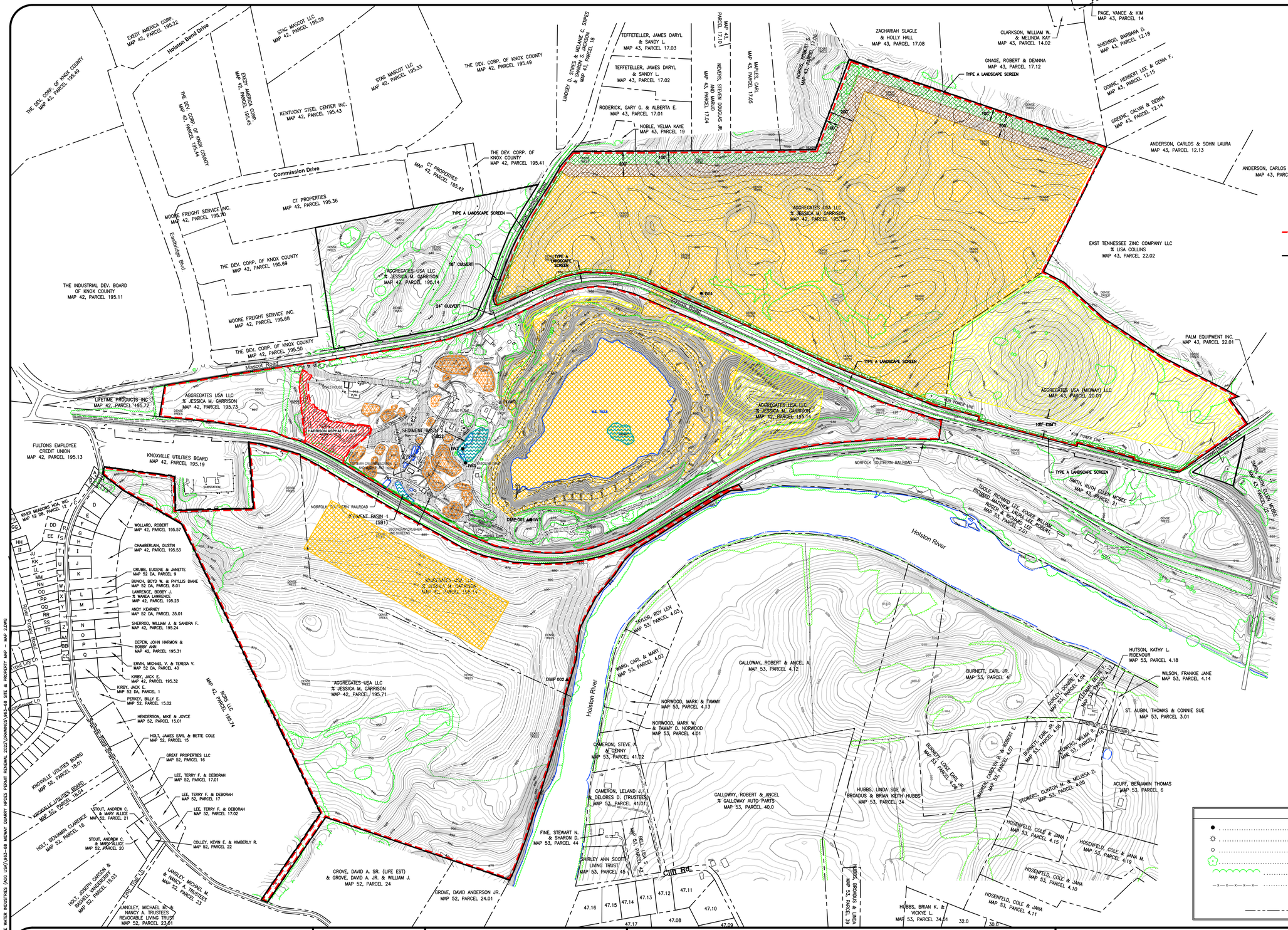
PEAK FLOW (Q) CALCULATIONS:

PEAK FLOW (Q) = C(I)(A)

10 YEAR-24 HOUR STORM EVENT PEAK FLOW (Q_{10}) = 422.83 cfs
25 YEAR-24 HOUR STORM EVENT PEAK FLOW (Q_{25}) = **490.40** cfs

8.0

Site and Property Map (Map 2)



SYMBOL LEGEND			
●	POWER POLE	○FP	FLAGPOLE
☼	LIGHT POLE	○	POST
○	SIGN		SPOT ELEVATION
○	TREE		WATER LINES
	TREE LINES		RAILROADS
–x–x–x–x–x–	FENCES		GUARDRAILS

RIGHT–OF–WAY/ADJOINER PROPERTY LINE

GRIGGS & MALONEY INCORPORATED
Engineering & Environmental Consulting
P.O. BOX 2968, MURFREESBORO, TN 37133–2968
(615) 895–8221 * FAX (615) 895–0632

RYAN WILLIAM MALONEY — REGISTERED ENGINEER — AGRICULTURE — No. 110401 — STATE OF TENNESSEE
9/29/2022

SUBMITTALS AND REVISIONS

DATE	BY	NO.	DESCRIPTION
9/7/22	LAF	1	UPDATE PERMIT AREA
9/28/22	LAF	2	UPDATE LEGEND; BERMS; MINING AREA

BLUE WATER INDUSTRIES

BWI MIDWAY, LLC – QUARRY
LAT. 36–03–49.4N AND LONG. 83–43–17.5W
KNOX COUNTY, TENNESSEE

SITE & PROPERTY MAP – MAP 2

PROJECT NO. 963–68
DATE: NOVEMBER 2022
SCALE: AS NOTED
DRAWN BY: DSM
CHECKED BY: RWM
APPROVED BY: RWM

FILE NAME: L:\ENGINEERING\JAS BLUE WATER INDUSTRIES (AZ) USA\JAS-68 MIDWAY QUARRY MPDES PERMIT RENEWAL 2022\DWG\MPDES JAS-68 SITE & PROPERTY MAP – MAP 2.DWG

9.0

Drainage Map (Map 3)

TABLE 1 (Drainage Map 3)
MIDWAY QUARRY - WATERSHEDS IN AFFECTED AREAS

Watershed Designator	Acres in Affected ("Permit/Fee") Area	Acreages to be Affected by Plant Activities in the Next 5 Years	Total Area (Acres)	Length of Travel Lt (ft)	Height of Travel Ht (ft)	Curve Number	Time of Concentration Tc (min)
A	13.10	13.10	13.90	-	-	-	-
B	19.70	19.70	21.20	1900	9.5	88	36.36
C	3.47	3.47	3.47	1000	30	91	6.0
D	2.31	2.31	2.31	-	-	-	-
E	4.71	4.71	6.57	-	-	-	-
F	49.80	49.80	49.80	2000	64	93	11.58
G	13.50	13.50	20.00	-	-	-	-
H	17.20	17.20	20.58	-	-	-	-
I	-	-	3.40	-	-	-	-
J	-	-	5.52	-	-	-	-
K	4.00	-	7.07	-	-	-	-
L	10.00	3.00	10.00	-	-	-	-
M	25.80	17.50	75.90	-	-	-	-
N	22.20	2.93	25.10	-	-	-	-
O	9.50	-	17.00	-	-	-	-
P	23.20	-	23.90	-	-	-	-
Q	6.52	-	6.52	-	-	-	-
R	10.40	2.58	10.40	-	-	-	-
S	34.60	16.60	38.80	-	-	-	-
T	11.10	-	11.30	-	-	-	-
U	10.40	-	11.70	-	-	-	-
V	10.30	-	10.30	-	-	-	-
W	5.04	-	6.36	-	-	-	-
X	8.20	-	13.60	-	-	-	-
Y	20.20	-	20.40	-	-	-	-
Z	78.12	-	78.12				
ZZ	56.70	-	56.70				

NOTE: The parcles in the permit located south of the railroad tracks are included in Table 1, but those parcels are not planned to be mined within five years.

NOTE: Time of concentration (Tc and other data for all watersheds except B, C, and F were not calculated since these watersheds are not affected by major mining activities, although parts may be within the permit/fee area boundary.

MERIDIAN BASIS:
TN.STATE PLANE
NAD 83

350 0 350 700 1050
SCALE IN FEET

LEGEND

- Permit Area (Area = 491.17 Acres)
- Site Property Line (Area = 550 Acres)
- Access Roads
- Stockpiles
- Process Water Impoundments
- Overburden Placement
- Type A Landscape Screening (Minimum 15' in Width)
- Site Berms (As Necessary)
- Other BMPs - e.g. Site Fence, Straw Bales, Fiber Rolls, Tubes/Wattles, Check Dams, and Mulching
- Potential Mining Areas - Next 5-Years
- Future Mining Areas Beyond 5-Years
- Asphalt Plant Exclusion Area
- DMP 001 ▲ DMP 002 — Discharge and Monitoring Point Commingled Storm & Process Water
- IW1, IW2, IW3, and IW4 ● — Class V Injection Wells
- Drainage Area Boundaries
- P — Present Drainage Pattern
- F — Expected Drainage Pattern - Next 5-Years
- R — Projected Drainage Pattern After Reclamation

SYMBOL LEGEND

POWER POLE	FLAGPOLE
LIGHT POLE	POST
SIGN	SPOT ELEVATION
TREE	WATER LINES
TREE LINES	RAILROADS
FENCES	GUARDRAILS

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9/29/2022

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11/03/22	LAF	3	ADDED DA Z & ZZ; ADDED MINING AREA

BLUE WATER INDUSTRIES

BWI MIDWAY, LLC – QUARRY
LAT. 36-03-49.4N AND LONG. 83-43-17.5W
KNOX COUNTY, TENNESSEE

DRAINAGE MAP – MAP 3

PROJECT NO. 963-68

DATE: NOVEMBER 2022
SCALE: AS NOTED
DRAWN BY: DSM
CHECKED BY: RWM
APPROVED BY: RWM

FILE NAME: L:\ENGINEER\WORK\BLUE WATER INDUSTRIES (ACC)\BWI\963-68 MIDWAY QUARRY\MPDES PERMIT\PERMIT 2022\DRAWINGS\963-68 DRAINAGE MAP - MAP 3.DWG

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

ENVIRONMENTAL FIELD OFFICE

3711 Middlebrook Pike
Knoxville, TN 37921

(865)594-6035 STATEWIDE 1-888-891-8332 (865)594-6105

Receipt: EAC-K-12639 **Date of Receipt:** 06-Oct-2022 9:45 am **Created By:** Kara Blevins (BG57008)

County: Knox **EFO/Office:** Knoxville Field Office

Received From: Alisa Hatmaker

Company/Affiliation: Blue Water Indust- BWI MTN II

Recipient Address: 200 W. Forsyth Street # 1200
JACKSONVILLE, FL- 32202

Amount Received: $250.00 **Method of Payment:** 3 **Check Number:**

Comments: TN0031089 Modification Plans Review fee BWI Midway Quarry

Division	Description	TDEC Code	Quantity	Unit Price	Line Total
WPC	WPC-MS - $250 NPDES Plans Review	43.340.F15	1	$250.00	$250.00

Receipt Total: **$250.00**

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