

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0096903
 APS ID 703875
 Authorization ID 1318009

Applicant and Facility Information

Applicant Name	<u>G & G Mobile Home Sales</u>	Facility Name	<u>Hidden Valley Estates</u>
Applicant Address	<u>23 Oakridge Heights Drive</u> <u>Oakdale, PA 15071-3914</u>	Facility Address	<u>1212 Sunset Drive</u> <u>Bulger, PA 15019</u>
Applicant Contact	<u>Paul Galbraith</u>	Facility Contact	<u></u>
Applicant Phone	<u>(724) 695-7910</u>	Facility Phone	<u></u>
Client ID	<u>43711</u>	Site ID	<u>256209</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Robinson Township</u>
Connection Status	<u></u>	County	<u>Washington</u>
Date Application Received	<u>June 17, 2020</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>July 1, 2020</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of a NPDES Permit for an existing discharge of domestic sewage from a non-municipal STP.</u>		

Summary of Review

The facility discharges treated domestic sewage from 75 homes in a mobile home park located in Robinson Township, Washington County.

No changes to discharge quantity or quality were proposed as part of this permit renewal.

The facility started using eDMR for reporting in February 2018.

There are currently no open violations listed in EFACTS for this permittee (3/16/2021)

Sludge use and disposal description and location(s): Sludge is hauled offsite by RMC Sanitation for further treatment prior to disposal.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		Adam Pesek Adam J. Pesek, E.I.T. / Environmental Engineering Specialist	March 17, 2021
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	March 25, 2021

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.009</u>
Latitude	<u>40° 24' 13"</u>	Longitude	<u>-80° 18' 12"</u>
Quad Name	<u>Clinton</u>	Quad Code	<u>01503</u>
Wastewater Description: <u>Treated domestic sewage</u>			
Receiving Waters	<u>Unnamed Tributary to Little Raccoon Run</u>	Stream Code	<u>33824</u>
NHD Com ID	<u>99688920</u>	RMI	<u>1.31</u>
Drainage Area	<u>3.6</u>	Yield (cfs/mi ²)	<u>0.04646</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.1672</u>	Q ₇₋₁₀ Basis	<u>Raccoon Crk @Moffatts Mill USGS #03108000</u>
Elevation (ft)	<u></u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>20-D</u>	Chapter 93 Class.	<u>WWF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u></u>		
Source(s) of Impairment	<u></u>		
TMDL Status	<u>Final (2/03/2005)</u>	Name	<u>Raccoon Creek Watershed</u>
Background/Ambient Data		Data Source	<u>7/27/09 sample at Monitoring Point #55810 on the receiving stream</u>
pH (SU)	<u>7.8</u>		<u>Default (WWF)</u>
Temperature (°C)	<u>25</u>		<u>Default</u>
Hardness (mg/L)	<u></u>		<u>Default</u>
Other: NH ₃ -N	<u>0.1</u>		<u>Default</u>
Nearest Downstream Public Water Supply Intake	<u>Midland Borough Municipal Authority</u>		
PWS Waters	<u>Ohio River</u>	Flow at Intake (cfs)	<u>4730</u>
PWS RMI	<u>36.2</u>	Distance from Outfall (mi)	<u></u>

Changes Since Last Permit Issuance: Stream yield was refined based on updated gage station data. Stream pH input refined based on actual stream sample result.

Other Comments: The Raccoon Creek Watershed TMDL is for Acid Mine Drainage (AMD) impairments in the watershed. Waste load allocations were assigned to past, present, and future mining operations.

Treatment Facility Summary				
Treatment Facility Name: Hidden Valley Estates MHP				
WQM Permit No.		Issuance Date		
6371418		Unknown		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration with sand filtration	Tablet chlorination	0.009
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.009	Unknown	Not Overloaded	Aerated Holding Tank	Other WWTP

Changes Since Last Permit Issuance: Treatment consists of a comminutor, an equalization tank, one aeration tank, one clarifier, a dosing tank, two sand filters, and tablet chlorination with a chlorine contact tank.

Other Comments:

Compliance History	
Summary of DMRs:	No reported effluent violations in the past permit term according to WMS.
Summary of Inspections:	Last facility inspection was conducted on 4/11/2019. The inspection report indicated that the plant was running well with maintenance being done well. Minor issues noted included keeping calibration records of the field-testing equipment, need to submit the Influent and Process Control supplemental report, and the need to eliminate a sink discharge to the ground outside the blower building.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
Flow (MGD) Average Monthly	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075
pH (S.U.) Minimum	6.7	6.7	6.5	6.5	6.5	6.7	6.7	6.8	6.7	6.7	6.7	6.7
pH (S.U.) Maximum	6.8	6.9	6.8	6.8	6.9	6.8	6.9	6.9	7.0	7.1	7.0	6.9
DO (mg/L) Minimum	7.1	7.1	6.2	7.4	6.5	6.1	5.9	6.3	5.9	7.0	7.1	6.8
TRC (mg/L) Average Monthly	0.19	0.19	0.19	0.129	0.16	0.196	0.235	0.17	0.177	0.2	0.255	0.248
TRC (mg/L) Instantaneous Maximum	0.4	0.4	0.5	0.3	0.5	0.6	1.2	0.8	0.5	0.8	0.8	0.6
CBOD5 (mg/L) Average Monthly	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4
CBOD5 (mg/L) Instantaneous Maximum	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4
TSS (mg/L) Average Monthly	< 5	6.25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
TSS (mg/L) Instantaneous Maximum	< 5	7.5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1	1.41	< 1	< 1
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2	< 1	< 1
Total Nitrogen (mg/L) Daily Maximum		< 1.25										
Ammonia (mg/L) Average Monthly	0.385	0.615	0.31	0.375	0.335	< 5	0.555	0.415	0.345	0.61	0.36	0.67
Ammonia (mg/L) Instantaneous Maximum	0.47	0.91	0.32	0.45	0.37	< 5	0.81	0.45	0.36	0.86	0.42	1.04
Total Phosphorus (mg/L) Daily Maximum		0.502										

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>0.009</u>
Latitude <u>40° 24' 13.00"</u>	Longitude <u>-80° 18' 12.00"</u>
Wastewater Description: <u>Sewage Effluent</u>	

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
CBOD ₅	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Ammonia Nitrogen May 1 - Oct 31	15	Average Monthly	WQM 7.0 Ver 1.0b
Total Residual Chlorine	1.6	IMAX	TRC Calc Spreadsheet

Comments: A seasonal multiplier of “3” is typically applied to ammonia nitrogen for the winter period. However, since that number exceeds 25 mg/l, a winter-time ammonia nitrogen limit of 25 mg/l will be placed in the permit in accordance with the Department’s SOP entitled “Establishing Effluent Limitations for Individual Sewage Permits.”

Best Professional Judgment (BPJ) Limitations

Comments: A dissolved oxygen limit of a minimum of 4.0 mg/l was placed in the permit in accordance with the Department’s SOP entitled “Establishing Effluent Limitations for Individual Sewage Permits.”

Other Considerations

Comments: Monitoring for total nitrogen and total phosphorus was placed in the permit in accordance with the Department’s SOP entitled “Establishing Effluent Limitations for Individual Sewage Permits.”

Monitoring for total aluminum, total iron and total manganese will be placed in the renewed permit. This is due to the discharge not having any waste load allocations assigned to it in the finalized TMDL in accordance with the Department’s SOP entitled “Establishing Effluent Limitations for Individual Sewage Permits” in order to provide data for possible future refinement of the TMDL

Anti-Backsliding

Comments: N/A

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Phase 1 through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/weekday	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/weekday	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/weekday	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	25.0	XXX	50	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	15.0	XXX	30	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Aluminum	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Outfall 001 , Continued (from Phase 1 through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Iron	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Manganese	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
<i>E. Coli (No./100 ml)</i>	XXX	XXX	XXX	XXX	XXX	<i>Report</i>	<i>1/year</i>	<i>Grab</i>

Compliance Sampling Location: Outfall 001 (after disinfection).

Comments: The permittee requested during the previous permit draft period that monitoring frequency for pH, D.O. and TRC be reduced from 1/day citing financial burden. As a result, the final permit was issued with monitoring frequency for these parameters of 1/weekday. The Department has determined that the existing monitoring frequencies can be retained in the proposed renewed permit as the Permittee has been in compliance with other permits and is achieving the effluent limitations for these parameters consistently since the past permit was issued.

E. Coli monitoring is being added in accordance with the Department's SOP for Establishing Effluent Limitations for Individual Sewage Permits and 92a.61. JCD

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20D	33824	Trib 33824 to Little Raccoon Run	1.310	1020.00	3.60	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.046	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.80	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
HiddenValleyEst	PA0096903	0.0090	0.0000	0.0000	0.000	20.00	6.80

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	7.54	0.00	0.00
NH3-N	25.00	0.10	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20D	33824	Trib 33824 to Little Raccoon Run	0.001	984.00	4.73	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.046	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.80	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
20D		33824				Trib 33824 to Little Raccoon Run						
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
1.310	0.17	0.00	0.17	.0139	0.00521	.39	7.6	19.46	0.06	1.309	24.62	7.57
Q1-10 Flow												
1.310	0.11	0.00	0.11	.0139	0.00521	NA	NA	NA	0.05	1.642	24.42	7.49
Q30-10 Flow												
1.310	0.23	0.00	0.23	.0139	0.00521	NA	NA	NA	0.07	1.115	24.71	7.62

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin **Stream Code** **Stream Name**
20D 33824 Trib 33824 to Little Raccoon Run

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.310	HiddenValleyEst	4.33	36.82	4.33	36.82	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.310	HiddenValleyEst	.96	15.03	.96	15.03	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
1.31	HiddenValleyEst	25	25	15.03	15.03	4	4	0	0

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>	
20D	33824	Trib 33824 to Little Raccoon Run	
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>
1.310	0.009	24.616	7.572
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>
7.596	0.390	19.460	0.061
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>
3.77	0.386	1.25	0.999
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>
7.268	21.205	Owens	5
<u>Reach Travel Time (days)</u>	Subreach Results		
1.309	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>
			<u>D.O. (mg/L)</u>
	0.131	3.54	1.09
	0.262	3.32	0.96
	0.393	3.12	0.84
	0.524	2.93	0.74
	0.655	2.76	0.65
	0.786	2.59	0.57
	0.916	2.43	0.50
	1.047	2.28	0.44
	1.178	2.15	0.38
	1.309	2.02	0.34

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>			
20D		33824		Trib 33824 to Little Raccoon Run			
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.310	HiddenValleyEst	PA0096903	0.009	CBOD5	25		
				NH3-N	15.03	30.06	
				Dissolved Oxygen			4

1A	B	C	D	E	F	G
2	TRC EVALUATION					
3	Input appropriate values in B4:B8 and E4:E7					
4	0.16725	= Q stream (cfs)		0.5	= CV Daily	
5	0.009	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		1	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)		0	=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	1.3.2.iii	WLA_afc = 3.851		1.3.2.iii	WLA_cfc = 3.747
12	PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373		5.1c	LTAMULT_cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc = 1.435		5.1d	LTA_cfc = 2.178
14						
15	Source	Effluent Limit Calculations				
16	PENTOXSD TRG	5.1f	AML_MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ	
18			INST MAX LIMIT (mg/l) = 1.635			
	WLA_afc	$(.019/e^{-k \cdot AFC_tc}) + [(AFC_Yc \cdot Qs \cdot .019 / Qd \cdot e^{-k \cdot AFC_tc}) \dots + Xd + (AFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$				
	LTAMULT_afc	$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$				
	LTA_afc	wla_afc * LTAMULT_afc				
	WLA_cfc	$(.011/e^{-k \cdot CFC_tc}) + [(CFC_Yc \cdot Qs \cdot .011 / Qd \cdot e^{-k \cdot CFC_tc}) \dots + Xd + (CFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$				
	LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2 / no_samples + 1)) - 2.326 \cdot LN(cvd^2 / no_samples + 1)^{0.5})$				
	LTA_cfc	wla_cfc * LTAMULT_cfc				
	AML_MULT	$EXP(2.326 \cdot LN((cvd^2 / no_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no_samples + 1))$				
	AVG MON LIMIT	MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc) * AML_MULT)				
	INST MAX LIMIT	1.5 * ((av_mon_limit / AML_MULT) / LTAMULT_afc)				

Hidden Valley Estates
 Robinson Township, Washington County
 NPDES# PA0096903

<u>Date</u>	<u>pH min</u>	<u>pH max</u>	<u>Ave (10[^]pH min</u>			
			<u>10[^]-pH min</u>	<u>10[^]-pH max</u>	<u>& pH max)</u>	<u>-Log (Ave pH)</u>
Jul-18	6.8		1.58E-07	1	0.5	0.3
Aug-18	6.7		2E-07	1	0.5	0.3
Sep-18	6.7		2E-07	1	0.5	0.3
Jul-19	6.7		2E-07	1	0.5	0.3
Aug-19	6.7		2E-07	1	0.5	0.3
Sep-19	6.8		1.58E-07	1	0.5	0.3
Jul-20	6.7		2E-07	1	0.5	0.3
Aug-20	6.7		2E-07	1	0.5	0.3
Sep-20	6.5		3.16E-07	1	0.5	0.3
Median:						0.3