

Delaware's Underground Injection Control (UIC) Program's Data Exchange Network Update

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History of Delaware's UIC Program

- 1974: Safe Drinking Water Act
- 1984: UIC Program delegated to Delaware
- Class V Wells only
- 2006: Began data base upgrades
- Approximately 1100 Class V Systems in Delaware
- Currently revising state UIC Regulations

Delaware's Class V Universe

- Aquifer Storage and Recovery Wells
- Large/Community On-site Wastewater Treatment and Disposal Facilities
- Geothermal Return Wells
- Storm Water Drainage Structures
- Industrial/Commercial discharges
- Ground Water Remediation Projects
- Recon Inspections (Floor Drains, Cesspools)

Delaware's UIC Data Base Genesis

- 1984-1995: Simple spreadsheets, the "Red Book", minimal information, links to paper files

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- 1995-2008: Proprietary "Non-Hazardous Waste Site" Access driven data base
 - Contained facility information, contacts, monitoring data, and tracked inspections
 - Ability to perform query's and graph data

Select System

Select Well

Cool Branch Mobile Home Park

MW #1

Date: 1/25/2007

Depth-To-Water (DTW)

6.15

Temperature (C)

13.5

pH

5.42

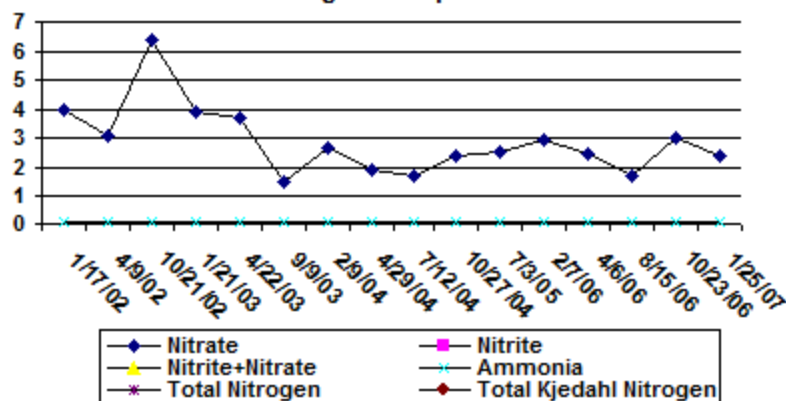
Conductivity

125

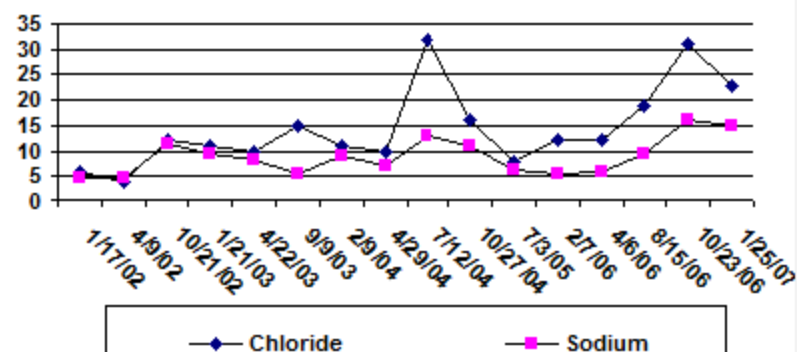
Received

2/27/2007

Nitrogen Compounds



Chloride & Sodium



General

Nutrients

Pathogens

Metals

Inorganics

Other

Sample Notes:

Data QA/Qc'd

Total Nitrogen (N)

=

Chloride (Cl)

= 23

Total Dissolved Solids (TDS)

=

Total Coliform

<

Nitrate (NO3)

= 2.41

Sodium (Na)

= 15

Total Suspended Solids (TSS)

N

Fecal Coliform

< 2

Ammonia (NH3)

< 0.05

Total Organic Carbon (TOC)

N

Organic Nitrogen

Influent/Effluent

Effluent Flow

Influent Flow

Total Residual Chlorine

Nitrogen Loading:



Close Form

Record: 1 of 16

No Filter

Search

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- 1995-2008: Proprietary "Non-Hazardous Waste Site" Access driven data base
 - Contained facility information, contacts, monitoring data, and tracked inspections
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- 2006 - Present: Migrate to Agency-wide Exchange Network data base with public access (Delaware Environmental Navigator – DEN)
 - Incorporating UIC Exchange Network (EN) requirements into DEN

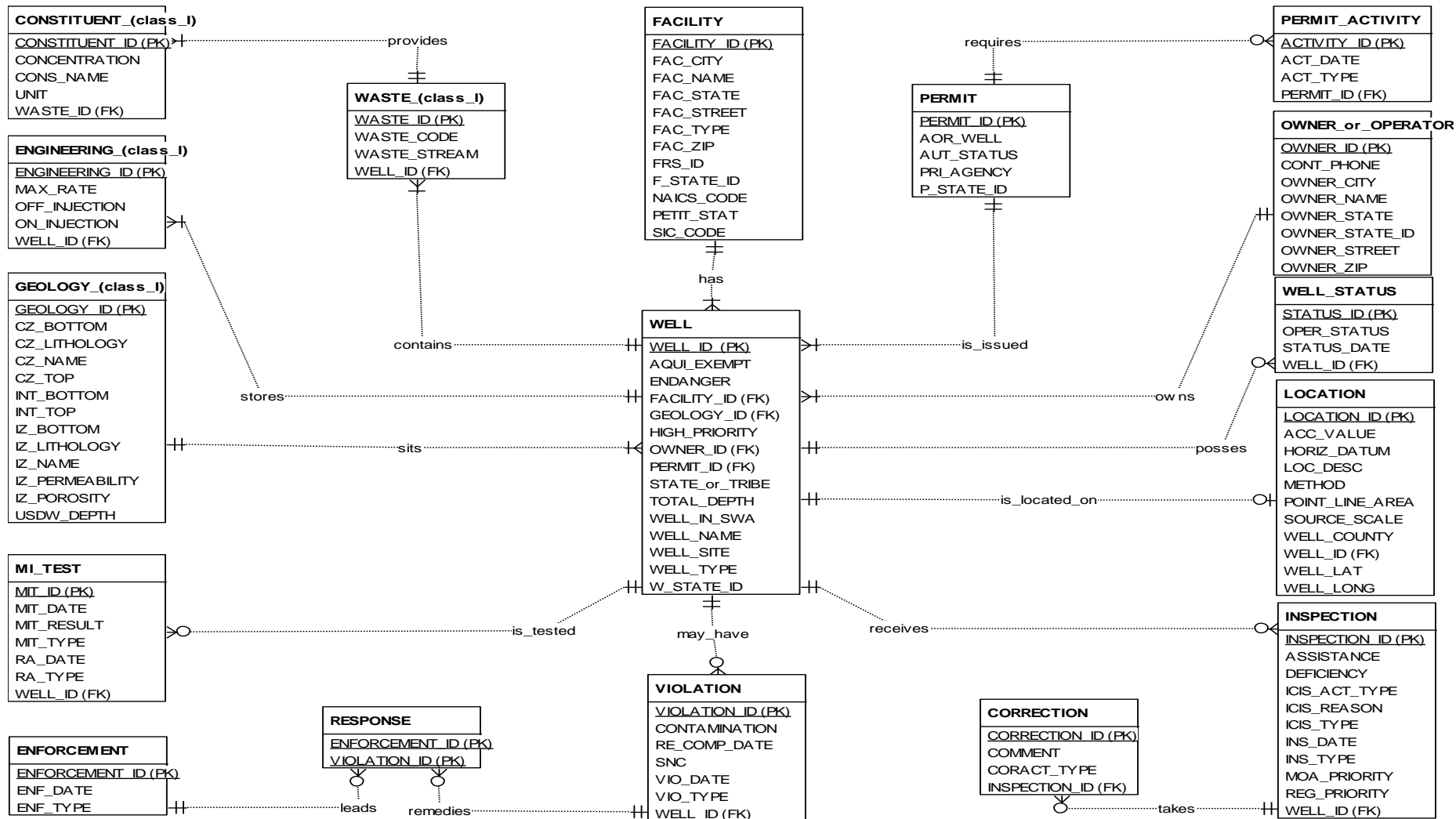
Delaware's UIC Data Base Genesis (cont.)

- **§ 6014. Regulatory and compliance information, facility performance and public information.**
- (a) The **Department shall develop an Environmental Information System** that will include general information about facilities and sites under the Department's regulatory jurisdiction as defined by Chapters 40, 60, 62, 63, 66, 70, 72, 74, 77, 78, and 91 of this title and Chapter 63 of Title 16. The Environmental Information System **shall include information on all such facilities and sites related to permitting requirements, emissions and discharge monitoring and reporting data, compliance inspections, violations and enforcement actions.** The System shall provide the public with information that indicates when a facility has been inspected, what violations are detected, when the facility comes into compliance, and any enforcement action that results from violations at the facility.

Delaware's Participation in the UIC Exchange Network (EN) Project

- Timing: Coordinate with the migration to DEN
- Some Grant funds available
- Delaware's unique status as a Class V state
- Opportunity: Have input on the UIC Data Model and required documentation
 - Linked violations to facility
 - Account for Recon inspections where no wells may be found

National UIC Data Model – Version 7.2



PK: Primary Key

FK: Foreign Key

: one-to-one relationship

: one-to-many relationship (min 0)

: one-to-many relationship (min 1)

Keys to Developing a Successful Exchange Network

- IT staff worked closely with Permitting staff
- Meetings conducted to identify needs
- Test data base developed
 - Feedback provided
 - Suggestions made
- Data Base revised based on user input
- Develop a User Manual
- Follow up meetings with IT staff

Site Information: Stonewater Creek

[Save](#) [Reset](#)

[Facility](#)
[Location](#)
[Contacts](#)
[DNREC Officials](#)
[GWD Notes](#)
[GPB Notes](#)
[Monitoring](#)
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DNREC Shared Facility Name:
 Stonewater Creek Subdivision

LOI #10061

Created By:
 UICNonHaz On: Jul 14 2008 2:14PM - Last
 Changed By:
 Kenneth.Glendon On: Feb 1 2011 4:01PM

* Site Name:
 Stonewater Creek

Date Originated:
 01/11/2005

County:
 Sussex

Other Names for Site (AKA's):	AKA Name/Type	AKA Start/End Date(s)	AKA Comment
			New AKA

Site Status: Operating *(To change modify Site Status history and save page.)*

Site Status History:	Status	Status Start Date	Regulatory Status Comment
Edit Delete	Active	10/03/2005	
			Add New

Operator Required: ☐
 Pre-Treat Method:
 Fluidyne ISAM

Flow: Period: ☒ Yearly ☐ Seasonal Design flow: 225000 GPD


Related Permits:	Permit #	Type	Status	Issued Date	Exp. Date	For	Description
Permit Detail	359269-02	Septic-UIC	Active	1/31/2007	1/31/2011	Const	
Permit Detail	202221-GP-C	Septic-UIC	Active	10/3/2005	10/3/2015	Op	
							New





























Note: Fields marked with * must be filled in.

[Save](#) [Reset](#)

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Injection Structure Systems						
Local ID	UIC Permit	Description	Disposal	Detail	Monitoring	
359269-UIC		UIC Injection structure system generated on data import	Infiltration Basin		<input type="text"/>	Edit
						Add System

Monitoring						
DNREC ID	Local ID	UIC Permit	Type	Permit Status	Detail	Description
	Effluent		Effluent Discharge Point			UIC Data import Influent or Effluent from tblSampling_Results Edit Del
	Influent		Influent Intake Point			UIC Data import Influent or Effluent from tblSampling_Results Edit Del
209175	MW-1		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209175	MW-1		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209176	MW-2		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209176	MW-2		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209177	MW-3		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209177	MW-3		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209178	MW-4		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209178	MW-4		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209179	OW-1		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209179	OW-1		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209180	OW-2		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209180	OW-2		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
209181	OW-3		Well	Active	 	Monitor-Standard 209175 On Parcel 2-34-16.00-0019.00 Edit Del
						Add Station

Test

Compliance Monitoring Activities(CMA)

Quick Links: Program Home



STONEWATER CREEK GROUNDWATER DISCHARGE-LARGE WASTEWATER SYSTEMS

Select the CMA to process or choose the Add New CMA button below:

10 CMAs

Date	ID	Type	Outcome	Lead Person	Violations(Viol.Number-Viol.Date-Sched.RTC-RTC)
03/16/11		Routine/Periodic Compliance Inspection	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾
02/01/11		Routine/Periodic Compliance Inspection	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾
01/13/11		Offsite File/Data Review	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾
12/01/10		Routine/Periodic Compliance Inspection	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾
11/05/10		Routine/Periodic Compliance Inspection	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾
10/29/10		Routine/Periodic Compliance Inspection	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾
09/10/10		Routine/Periodic Compliance Inspection	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾
04/23/10		Routine/Periodic Compliance Inspection	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾
06/03/09		Construction Inspection	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾
04/15/09		Routine/Periodic Compliance Inspection	NO Violation(s) Found	Glanden, Kenneth V	No violations linked to this CMA ▾

1

[Add New CMA](#) [Violations](#) [Enforcement Actions](#)

Test

Update CMA(Inspection)

Quick Links: Program Home



STONEWATER CREEK GROUNDWATER DISCHARGE-LARGE WASTEWATER SYSTEMS

Choose the Add Violations button below to add violatons to this CMA

CMA Details

Start Date*: 03/16/2011

End Date*: 03/16/2011

Activity Type*: Routine/Periodic Compliance Inspection (RP)

CMA Announced: ☐ Yes ☒ No ☐ Not Applicable

Outcome*: NO Violation(s) Found (N)

Lead Agency*: DNREC

Lead Person*: Glanden, Kenneth V

Reason*: ☒ Core Program ☐ Citizens Complaint ☐ Self-Reported ☐ Agency PriorityMulti Media ☐

Results/Comments:

Met operator on site. System operating well. Report filed.

remaining

Created By: Ronald.Graeber On: 3/16/2011 7:32:29 PM

Last Updated By: Ronald.Graeber On: 4/11/2011 9:48:27 AM

Update

Reset

Delete

Violations This CMA [CMA List](#)

Test

Add/Update Violation(s)

Quick Links: Program Home



STONEWATER CREEK GROUNDWATER DISCHARGE-LARGE WASTEWATER SYSTEMS

Inspection Date: 04/11/2011

Activity: Emergency Response/Complaint Response

Outcome: Violation(s) Found-All NOT Immediately Corrected

Lead: Graeber, Ronald E

Select the violation number to process or choose the Add New Violation button below.

Number	Date	Sched. RTC	Actual RTC	BasedOn	Citation(s)
0001	04/11/11	04/23/11	-		On-Site Waste Treatment and Disposal(Section 3) 3.10000

Edit

SELECTED VIOLATION DETAILS----

Violation Date*	04/11/2011	Sched. Rtn. to Compliance:	04/23/2011
Lead Agency*	DNREC	Lead Person*	Graeber, Ronald E
High Priority Viol.	<input type="radio"/> Yes <input checked="" type="radio"/> No		
Env. Impact	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Undetermined	Viol. Corrected:	<input type="radio"/> Yes <input checked="" type="radio"/> No
USDW Contamination:	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Undetermined		
Violation Type:	Unauthorized Injection/Discharge		
Nature Of Viol.	Test, no violation occurred. ---- No person shall dispose of wastewater at any location not authorized by the Department under applicable laws and regulations for such disposal.		
Comments:	test, no violation occurred		

Created By: Ronald.Graeber On: 4/11/2011 10:04:20 AM

Last Updated By: Ronald.Graeber On: 4/11/2011 10:07:07 AM

Update Reset

Test

Add Enforcement Action

Quick Links: Program Home

STONEWATER CREEK GROUNDWATER DISCHARGE-LARGE WASTEWATER SYSTEMS

Enforcement Details

Action Type*:	<input type="text"/>	Status:	<input type="text"/>
Prog. Assigned ID:	<input type="text"/>	DEN ID:	Not Assigned
Action Initiated:	<input type="text"/>	Action Served:	<input type="text"/>
Order No./Court Case:	<input type="text"/>		
Lead Agency*:	DNREC	Lead Person*:	<input type="text"/>
Attorney Assigned:	<input type="text"/>	Public Contact*:	<input type="text"/>
Comments:	<input type="text"/>		

Respondent

Respondent Type:	<input checked="" type="radio"/> Organization/Company <input type="radio"/> Person	Org Type:	Private Organization
Common Name*:	<input type="text"/> Required	Formal Name:	<input type="text"/>
First, Middle Name:	<input type="text"/>	Last Name*:	<input type="text"/>
Address 1:	<input type="text"/>	Address 2:	<input type="text"/>
City:	<input type="text"/> State: DE	Zip:	<input type="text"/>
Phone:	302 453 6901 Ext: <input type="text"/>	Fax:	<input type="text"/>

Created By: You On: 4/11/2011 10:11:37 AM

Last Updated By: Not in DEN On: -

Add Reset Exit w/o Save

[Link Violations](#) [Tracking\(General\)](#) [Tracking\(Penalty\)](#) [Link Enf Actions](#) [Enf Actions List](#)

Future Upgrades to DEN

- Hyperlinks to scanned documents
- Use of Electronic Equipment in field
 - Use of tablet PC's when performing inspections
 - Sink inspection reports directly to data base
- Electronic Reporting by facilities
- Inputting of historic files, documents

Accomplishments to Date

- Inventoried data from various program interests
- Full Payload successfully submitted to EPA
- Extracted all applicable “Well” data to EN
- Final testing stage for Recon Projects
- Drafted Trading Partner Agreement with Region III
- Drafting User Manual

Still to do

- Finalize Recon page
- Transfer all storm water structure data
 - Format and content
- Finalize User Manual
- Establish links to other available electronic data
- Integrate with Document Management System

Challenges we face

- Start up Frustration
 - Learning new system
 - More data to enter
 - Start up glitches
 - Lost data
 - Frequent revisions
 - Where did the data base developer go?
 - Maintaining duplicate information through testing
 - Cost \$,\$\$,,\$\$\$,\$\$\$\$\$



How Delaware will benefit from deployment of the EN

- Centralized data base for all UIC activities
- Additional data will be available (e.g., GPS locations)
- Eliminate/Replace submission of 7520 reports
- More powerful search engine; will be able to import all electronic documents relative to a site (maps, permits, monitoring data, etc.)
- Data available to public

How Delaware can assist other States

- Technical assistance for data base design and mapping
- Provide code; requires SQL Server and IIS as web server
- User's Manual
- Only germane to Class V systems

Delaware UIC IT Contact Info.

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Thank-you

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