



Department of  
Environmental  
Conservation

# Groundwater Study at Long Island Mines

## Pre-Mobilization Meeting

July 18, 2023

# Agenda

## Presentation

Robert Poczkański

## Scheduling Procedure Discussion

Simone Rodriguez

## Questions

Open Forum



# Pre-Mobilization Meeting for Groundwater Study at Long Island Mines

## Pre-Mobilization Meeting:

This meeting is to discuss key points of scheduling, sampling, and report submission so that data received are consistent and compatible. This is not a comprehensive review of sampling, testing, and reporting procedures. Please review Groundwater Study at Long Island Mines Work Plan and included appendices of referenced material.

## Pre-Mobilization Meeting:

- **Be Prepared!**
- **Minimize Surprises!**
- **Eliminate Errors!**

## Highlights of Groundwater Study:

- **Study Objective**
  - Collect data in a systematic fashion to determine the potential for impacts to groundwater quality resulting from sand mining on Long Island to help ensure the continued protection of the region's sole-source aquifer.
  - Upgradient vs. Downgradient sampling to determine impact of mining

## Highlights of Study Methodology:

- Quarterly groundwater monitoring events at all existing wells
  - Water level measurement and groundwater flow direction
  - Field parameters (DO, temperature, pH, ORP, conductivity, turbidity, etc.) during purging to ensure representative sample
    - Can help to explain interactions of groundwater chemistry
  - Low-flow sampling
    - Consistent with EPA 2017 Guidance
    - Reduce flow rates to limit the disturbance of sediments that might bias results

# Demo of Scheduling Tool for Quarterly Sampling Events with DEC



## Scheduling of Quarterly Sampling Events:

- Schedule sampling with DEC
  - You will receive an Excel File-  
“**SamplingEventSchedulingForm(V1)**”
  - Submit for each quarterly sampling event
  - Save your confirmation email for rescheduling as it contains the required confirmation code
  - We may reply and request you change the first day of sampling to allow DEC staff to attend field meeting at all facilities
- [GWStudyLIMines@dec.ny.gov](mailto:GWStudyLIMines@dec.ny.gov)

## Oversight During Sampling:

- **DEC and/or NYSDOH on location to perform oversight of sampling events, to the extent feasible**
  - First round of sampling
  - Compounds of Interest sampling
  - Follow-up to well maintenance or sampling issues
  - New wells installed or significant monitoring network changes
  - Spot-checking, random

## Onsite Pre-Sampling Meeting:

- **DEC will be on location for a Pre-Sampling Meeting on the first day of sampling to:**
  - Ensure wells are accessible and in good condition
  - Ensure correct well locations being sampled
  - Ensure field sampling equipment is appropriate and functioning
  - Ensure sampling procedures are being followed
  - Confirm sampling and QA/QC schedule
  - Confirm sample labeling, chain of custody
  - Discuss any site-specific issues
  - Operators, consultants, lab, counsel, etc. are welcome to attend



## Preparation for Sampling:

- **Wells and Site Conditions**
  - Accessible, in good condition, secured and labeled
    - Ask field staff or check previous field notes
    - If unfamiliar a walk-through is recommended
  - Need redevelopment if there is high turbidity, inadequate flow
  - Current survey- coordinates and elevation
- **Any maintenance, repairs, redevelopment should be completed prior to commencement of Study**
  - These are often required by permit condition



## Preparation for Sampling:

- **Information**
  - Well construction logs and depth to screened interval
  - Low Flow sampling procedure
  - Sampling schedule and locations
  - QA/QC sampling requirements
  - Proper sampling containers and preservatives
  - Calibration forms
  - Field parameter and low flow sampling forms
  - Recommended to schedule with operator and lab



## Preparation for Sampling:

- **Equipment**
  - Equipment charged and in good working order
  - Field calibration/ verification equipment
  - Low Flow pump capable of extracting sample from depth
  - Proper low flow setup
  - Proper filter for field filtering
  - Flow through cell for monitoring/ measuring field parameters
  - Use PFAS-Free tubing and down well equipment
    - DO NOT introduce PFAS



## Quarterly Sampling:

- **Standard Sample Rounds Consisting of:**
  - Volatile Organic Compounds (VOC's)- EPA Method 8260B
  - Semi-Volatile Organic Compounds (SVOC's)- EPA Method 8270E
  - Target Analyte List (TAL) Metals- EPA Method 200.7
    - Total (unfiltered) and Dissolved (filtered)
  - Cations / Anions (e.g., Mg<sup>2+</sup>, Ca<sup>2+</sup>, Nitrate, Sulfate)
    - Various Methods- Specified in Appendix 4
  - Total Dissolved Solids- Method SM 2540C



## Baseline Evaluation:

- **Baseline Evaluation**
  - Scheduled for **First 2 Quarters of 2024**
    - **March and June Quarters**
  - Two rounds of sampling of **all** onsite wells to include:
    - Polychlorinated biphenyls (PCBs)- EPA Method 8082A
    - Herbicides- EPA Method 8151A
    - Pesticides- EPA Method 8081B





## Compounds of Interest:

- **Two Consecutive Quarters - As directed by DEC - Pending**
  - Awaiting final EPA Method 1633 and ELAP approval
- **DEC selects two upgradient and two downgradient wells**
- **Testing For:**
  - PFAS Compounds – EPA Method 1633 – pending
    - **Note- New DEC guidance published April 2023**
  - 1,4- Dioxane- **EPA Method 8270 SIM – not stated in Work Plan**
  - Radionuclides
    - Isotopic Uranium and Thorium – HASL-300
    - Radium 228/226 – EPA Methods 903.1 / 904.0



## Reminder Email:

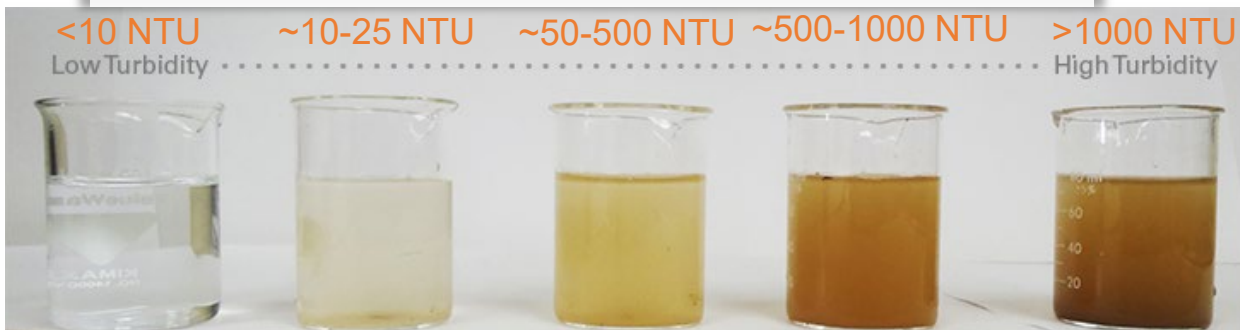
- We will send out reminders of the sampling schedule and any updates about 2-weeks prior to each sampling window
- Please designate a primary contact for each site
  - This is able to be updated (changes, additions) at any time
  - Email [GWstudyLmines@dec.ny.gov](mailto:GWstudyLmines@dec.ny.gov) or reply to the last update

## Sampling Procedure:

- All sampling of wells will be completed by an environmental consultant that is licensed to provide geological or engineering services in the State of New York.
- Low Flow- Work Plan Appendix 1. Excerpt of EPA “Low Stress (Low Flow) Purging and Sampling Procedure”
  - Monitor drawdown
    - Water level drop of 0.3 feet from initial measurement
  - Monitor field parameters
    - Ensure parameters have stabilized before sampling
    - Ensure turbidity less than 5 NTU, or as low as possible
  - Dissolved Metals field filtered with 0.45-micron filter



Increasing Potential for Iron/ Manganese



Location (Site/Facility Name) S&G Mine A  
 Well Number WELL A Date 12/12/2019  
 Field Personnel Joe M  
 Sampling Organization Top Consultants  
 Identify MP N. Side of well casing

Depth to 10 / 20 of screen  
 (below MP) top bottom  
 Pump Intake at (ft. below MP) 15  
 Purging Device; (pump type) Perist.  
 Total Volume Purged 1.25 gallons

Clock Time 24 HR	Water Depth below MP ft	Pump Dial <sup>1</sup>	Purge Rate ml/min	Cum. Volume Purged liters	Temp. °C	Spec. Cond. <sup>2</sup> μS/cm	pH	ORP <sup>3</sup> mv	DO mg/L	Turbidity NTU	Comm
					3%	3%	+0.1	+10	10%	<5 NTU	
0900	15.00		200	0.200	58	100	6.5	110	6.5	20	
0905	15.10		200	1	65	110	7.1	100	6.9	15	
0910	15.11		200	2	62	120	7.3	120	7.2	5	

## QA/QC Samples:

- Trip Blank
  - 1 per cooler for VOC's
- Field Blank and Duplicates
  - 1 per 20 samples, minimum of 1 per sampling event
- Matrix Spike and Matrix Spike Duplicate
  - 1 per 20 samples, minimum of 1 per sampling event
- Rinsate Blank – if non-dedicated equipment is used
  - 1 per 20 samples, minimum of 1 per sampling event
- Equipment Blank – PFAS Sampling
  - 1 per site per sampling event



## Sampling Procedure- PFAS:

- Review Work Plan Appendix 2. Sampling, Analysis, and Assessment of PFAS
  - Note this document was updated in **April 2023**
  - Available on DEC web page
- Testing not yet scheduled, we can discuss further prior to sampling
- PFAS is pervasive in our world, but measured in NANOGRAMS per Liter
  - Use pre-cleaned lab-supplied sample containers, lids, labels, cooler
  - Use new nitrile gloves for each sample location
  - Approved and/or certified PFAS-free tubing and equipment only
  - Avoid cross-contamination: Teflon, Gore-Tex, tin foil, stickers, plastic clipboards, fast food wrappers, waterproof field notebooks, rain etc.
  - QA/QC samples are critical to determine any errors or cross contamination
  - Reagent grade PFAS-free DI water for QA/QC and decontamination
  - Use only Alconox or Liquinox detergents for decontamination



## Laboratory Analysis:

- Laboratory analysis to be completed by an ELAP certified lab
- Standard 10-day turnaround
- Reporting Limits set by Work Plan
  - See Appendix 4. for list of analytes/ methods/ reporting limits
    - Consistent data generated for all participants
    - Quantify background levels
    - Generate statistics, observe seasonal trends

## Quarterly Reports to Include:

- Narrative – any issues encountered, summary of results
- Water level elevation and calculated flow direction quarterly
- Data table- highlight any exceedances
- Field notes
- Field forms
  - Equipment calibration forms
  - Field parameters
  - Low flow sampling forms
- Lab Report
  - Category B Deliverables
  - Also submitted electronically (EDD)





## Quarterly Reports- EDD:

- **EDD Submitted to NYENVDATA@dec.ny.gov**
  - Category B Deliverables
    - QA/QC
  - Well survey and construction info
    - unless current info already submitted
  - Synoptic water level data
  - Field Parameters
- DEC Electronic Data Submission Guidance
  - <https://www.dec.ny.gov/chemical/62440.html>



## Quarterly Reports- Submission:

- Due within 45 days of sampling
- [GWStudyLIMines@dec.ny.gov](mailto:GWStudyLIMines@dec.ny.gov)
  - Files larger than 20 MB must be submitted to our File Transfer Server at: <https://fts.dec.state.ny.us/fts/index.php>
- Must be reviewed for quality and submitted by a person licensed to perform geological or engineering services in New York State
- This will satisfy all quarterly monitoring requirements



## Historic Data:

- We are asking that historic data previously submitted as PDF or Excel files be submitted as an EDD
  - Current database inventory is varied amongst sites
    - Contact us if you're unsure what has been submitted
    - Back to 2018 recommended, but further is welcome
    - Helps extend trends and provides additional baseline data

## First Sampling Event:

- Scheduled for 3<sup>rd</sup> quarter 2023
- Occurring between **August 23 and September 13, 2023**
- Remember to Schedule the event
- There will be a brief Pre-Sampling meeting on location on the first day of the first quarter

## What is a "Quarter":

- 1-March, 2-June, 3-September, 4-December
- Target sample collection 3-week range: from 1-week prior to first day of the month to 2-weeks after the first of the month
- Example: Scheduled for 3rd quarter 2023
  - Occurring between **August 23 and September 13, 2023**
- **Please let us know if this cannot be achieved for a given quarter**

# Questions?

## DEC Central Office

### **Catherine Dickert**

Director Division of Mineral Resources

### **Matt Podniesinski**

Director Bureau of Mines, Facilities, and Technology

### **Psalm Wyckoff**

Chief Mined Land Section

### **Simone Rodriguez**

Mined Land Reclamation Specialist

## DEC Region 1

### **Cathy Haas**

Regional Director

### **Chris Engelhardt**

Regional Engineer

### **Matt Conlon**

Mined Land Reclamation Specialist

### **Robert Poczalski**

Professional Geologist



# Thank You

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Webpage: <https://www.dec.ny.gov/lands/123134.html>



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