



**Fostering
Environmental
Awareness
and
Action**



Promoting
the restoration
of the

Delaware

Inland Bays watershed

Pinnacle/Vlasic Site Review

John Austin

December 17, 2013

My Comments are divided into five sections:

- Review of the Site Assessment of 3/11/2013
- Questions on the “Limited Subsurface Investigation”
- A review of public water supply well testing.
- The Bownfield Investigation Report of 11/20/2013
- Proposed Plan of Remedial Action 11/26/2013

“Phase I Environmental Site Assessment Report”

BP-Environmental, Inc.

3/11/2013

A site review in accordance with ASTM
Practice E 1527-05 **Standard Practice for
Environmental Site Assessments: Phase I
Environmental Site Assessment Process**

Site History

- There has been extensive past contamination of the site resulting from the application of process sludge high in nitrates which resulted in the elevation of nitrate levels to as high as 120 mg/L. (page 545)
- This nitrate contamination resulted in DNREC ordering the installation of a groundwater recycling operation which operated until 1997.
- DNREC further ordered that the sludge no longer be applied to the spray field and only noncontact cooling water be applied.
- Up until 1997 the spray field had operated with a 200 ft buffer.

Past operations of the spray field do not appear to have been in compliance with regulations or the operating permit.

- Standing water and saturated conditions have frequently been observed contrary to permit conditions.**
- No buffers are visible between neither the spray field and the railroad line, nor the adjacent farm land proposed to be acquired.**
- DNREC errors in reducing the permitted buffer required in 1997.**



3/30/2007

It is a permit requirement that:

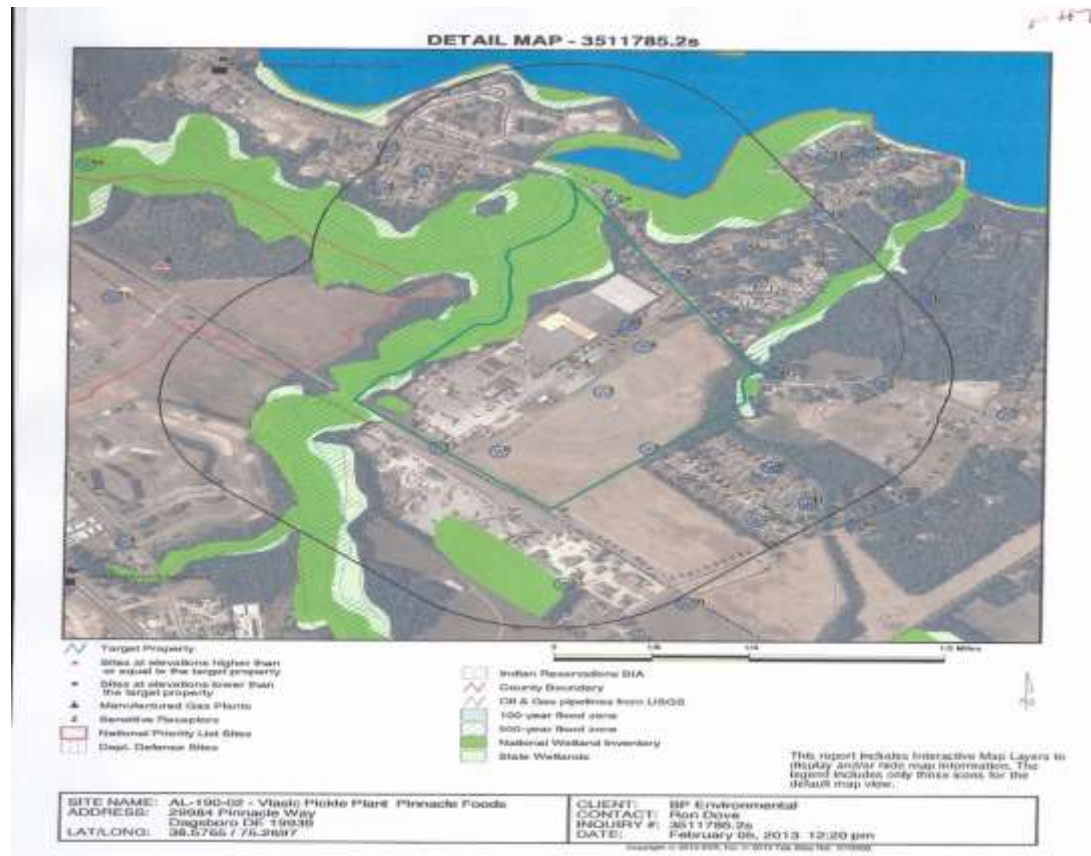
Should pooled areas become evident, no spraying shall be conducted in those areas until saturated conditions no longer exist;



8/25/2009

Spay in use while field is saturated.

The record indicates that the problem area in the spray field is an isolated wetland with soils of restricted permeability not suited for use as a spray disposal area. The wetland is mapped in DNREC's NavMAP overlays, and is not part of the National Wetland Inventory.



Regulations require that there SHALL BE a 150' buffer around a public water well. DNREC's 1997 permit review incorrectly described the location of Holiday Acres' well.



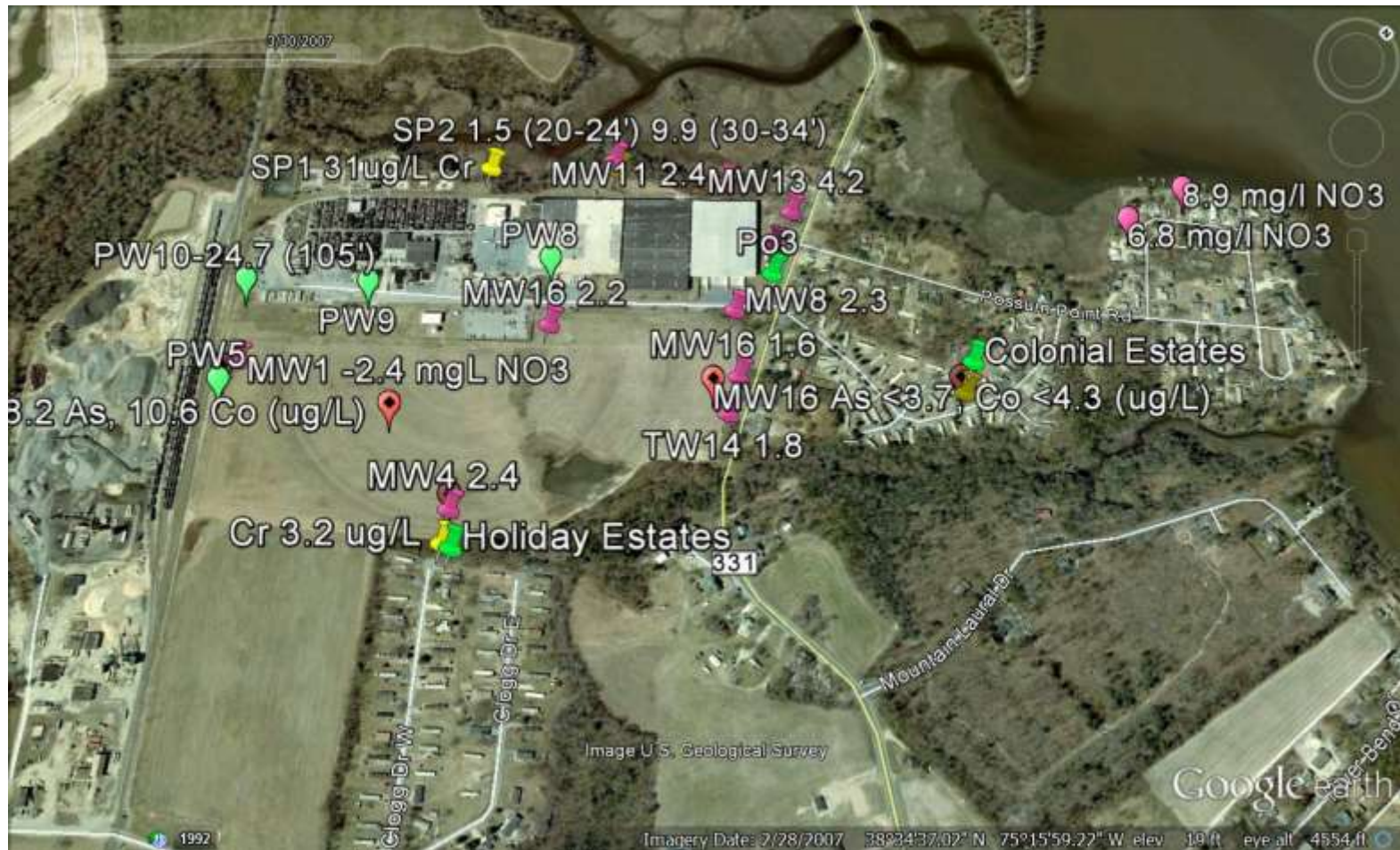
“Limited Subsurface Investigation” BP Environmental, Inc. 4/24/2013

Consisted of the installation of 17 soil borings (SBs), 12 temporary wells (TWs), and 6 screen point (SP) borings, soil sampling and analysis, and groundwater sampling and analysis.

“Limited Subsurface Investigation” Deficient

- Spills of propylene glycol (p874) & vinegar/acetic acid (pickle brine & water) use were reported, but no samples were tested for either.
- Out of the 18 well and screen point samples, chromium was only tested at TW-13 (<0.01 mg/L), SP1, & SP2.
Why???
- The Northwest quadrant of the site which held brine tanks was not tested for Sodium, Chloride, or Nitrates. This area was a likely spill area for brines. **WHY was whole area not tested ?**
- Background groundwater was inadequately characterized.

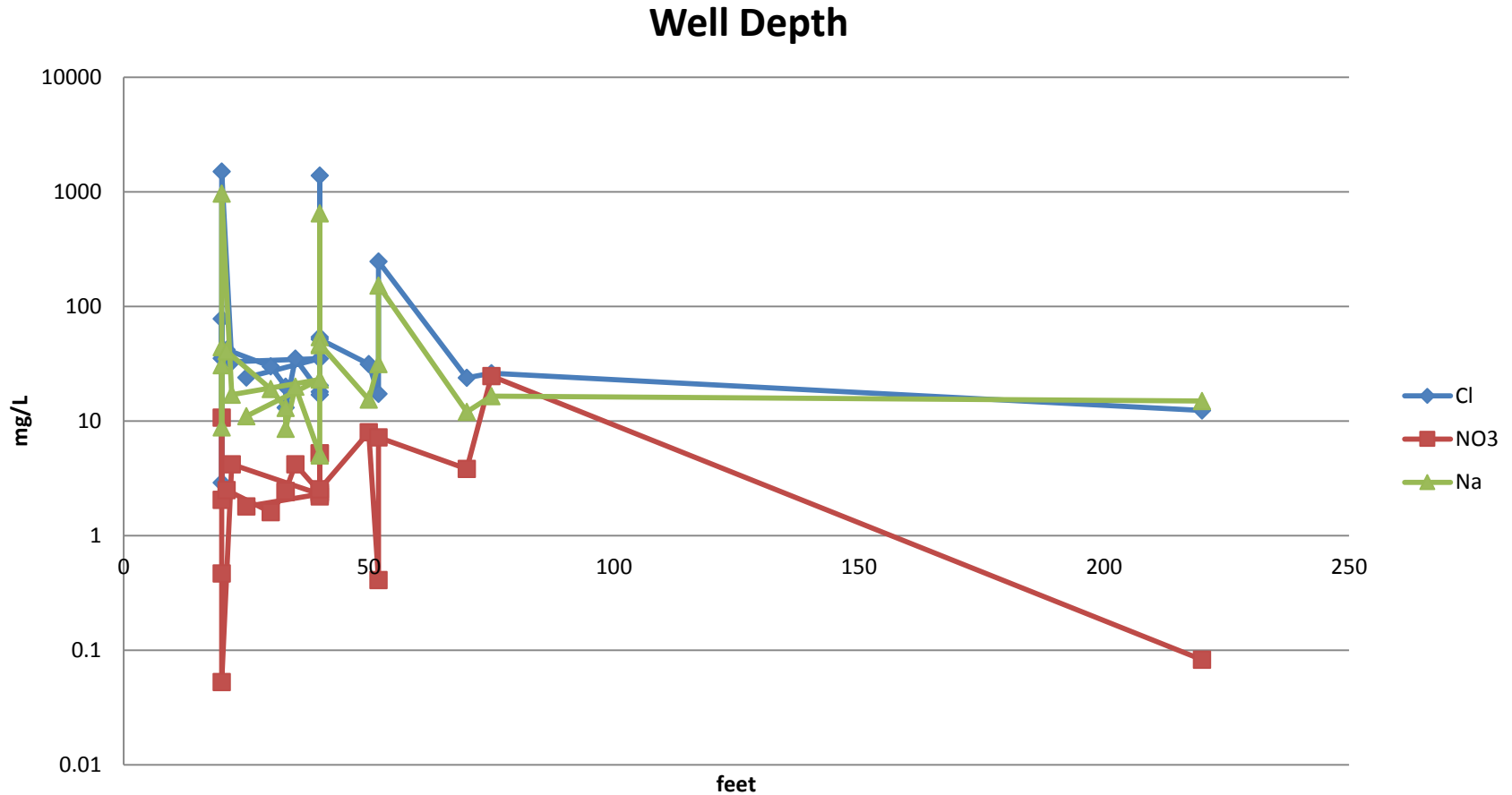
- Only center of up gradient boundary was sampled.
- Wastewater treatment area was not investigated.



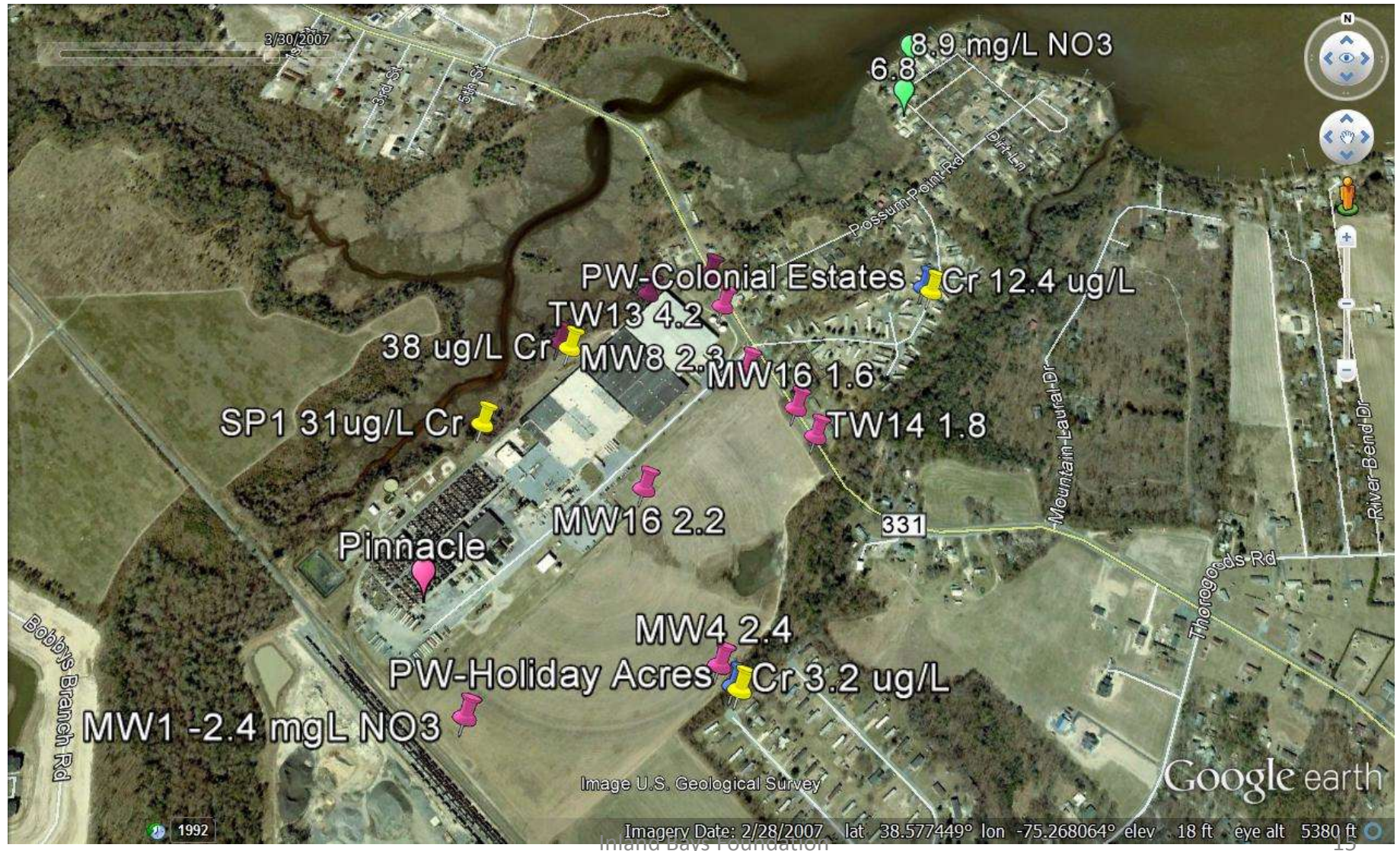
Settling Pond shows numerous patched leaks (I count 26 in just this image.) No adjacent samples were taken.



Nitrate levels appear to increase with depth up to 70 feet. Nitrate has not reached confined deep aquifer 220ft deep or greater



“The contamination of off-site shallow domestic wells which lie north and northeast of the Vlastic facility have always been the major concern regarding the potential off-site ground water impacts of the ground-water plume.” (DNREC 1997)

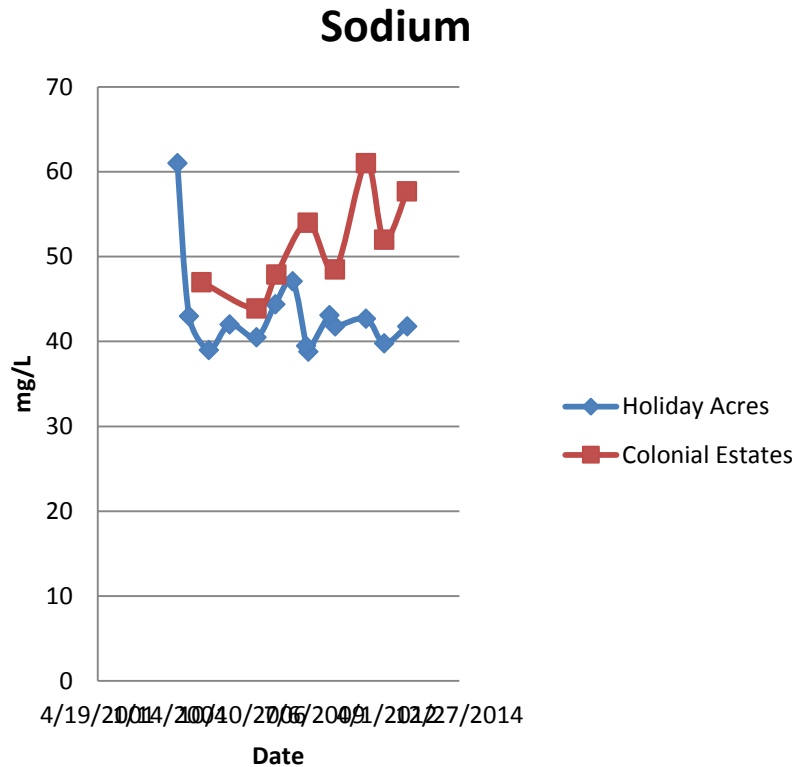


Off-site Public Wells

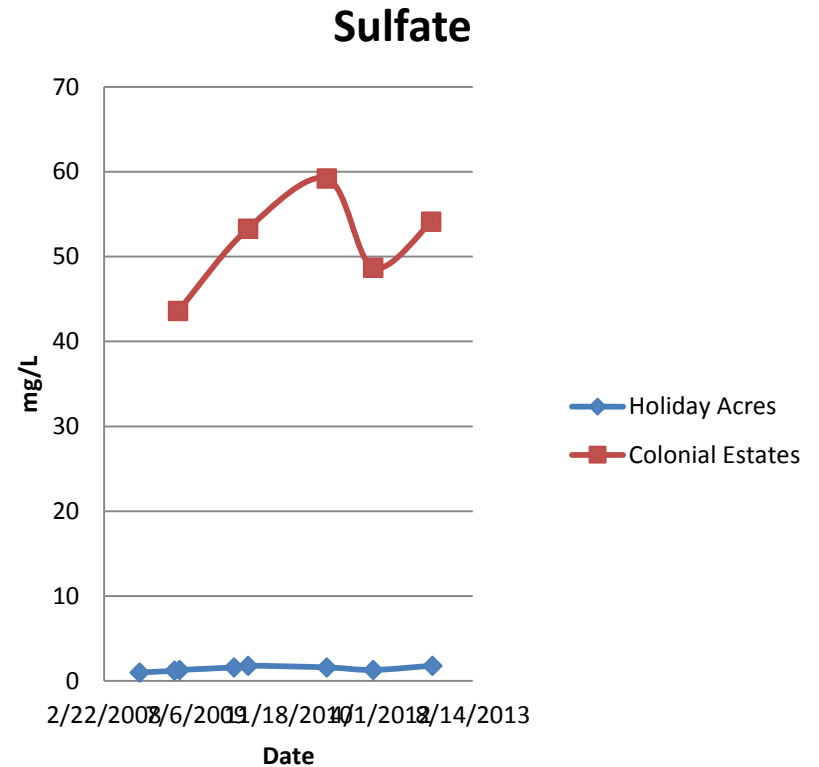
Analysis Delaware DHSS

Near by Drinking Water Systems

Na levels elevated & increasing at Colonial Estates

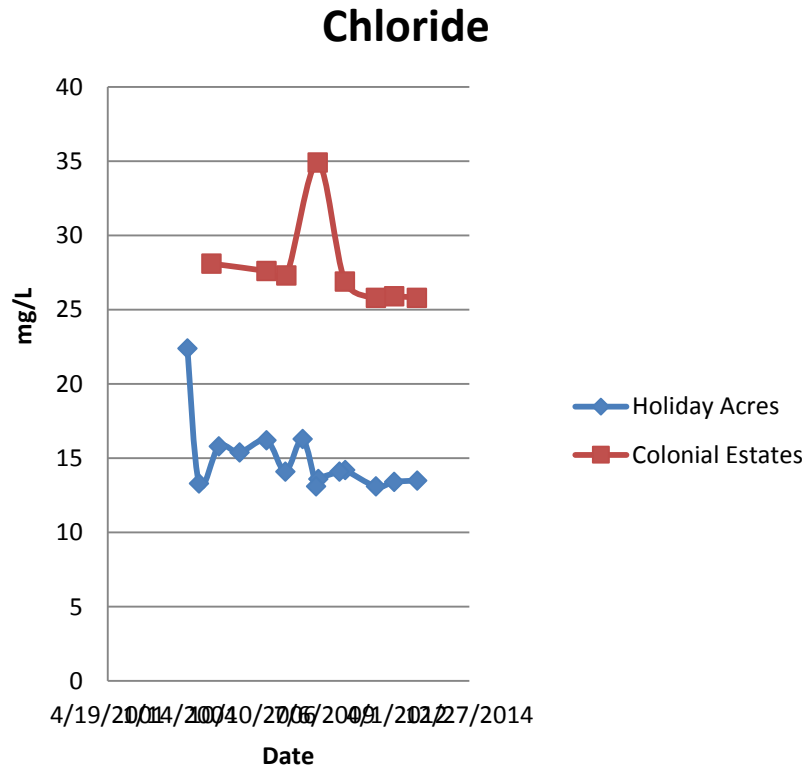


SO4 levels highly elevated at Colonial Estates

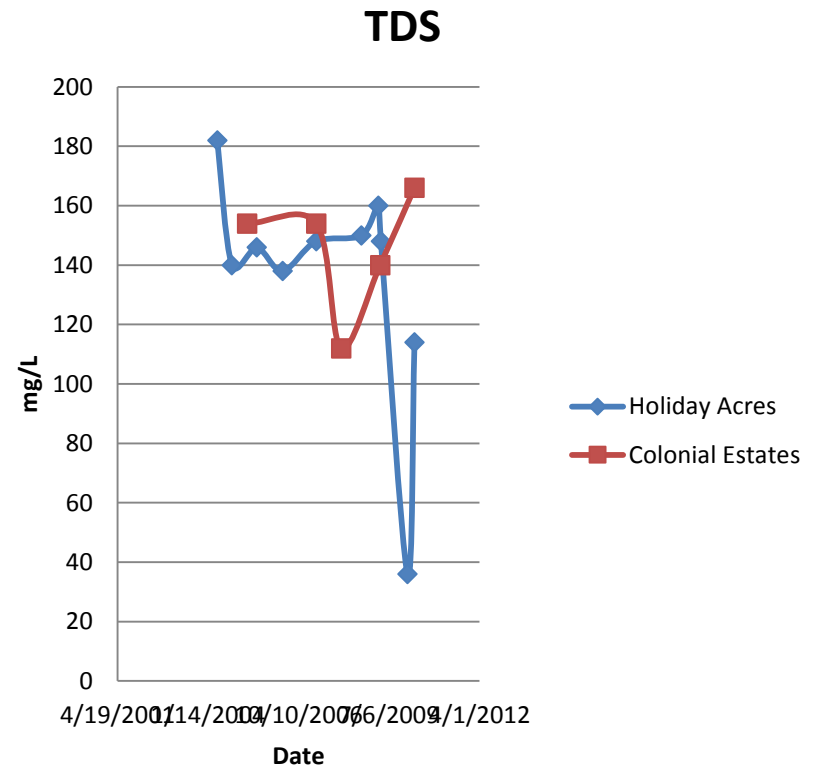


Near by Drinking Water Systems

Cl levels elevated at Colonial Estates

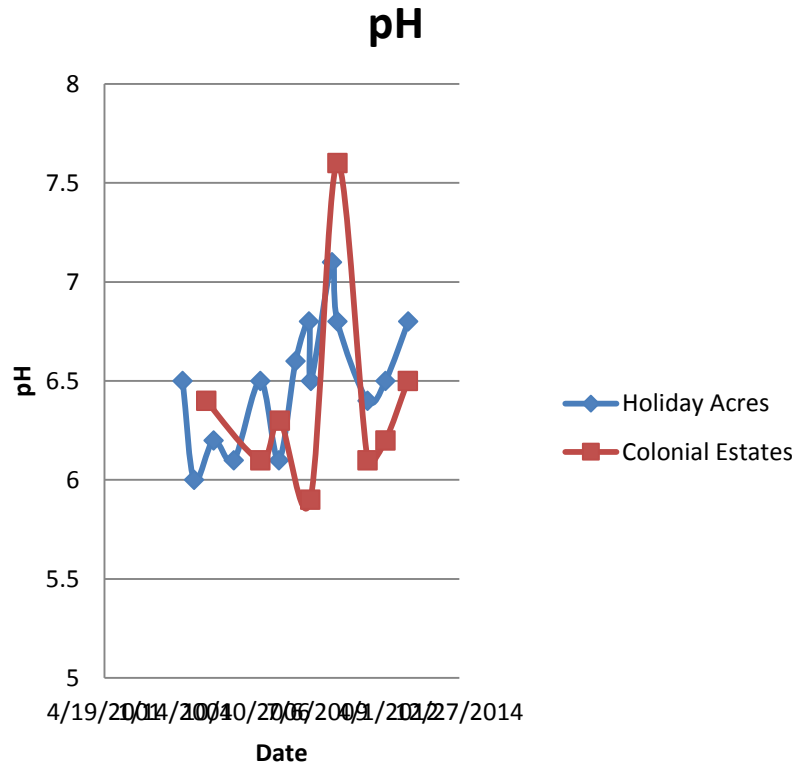


Total Dissolved Solids elevated at Colonial Estates

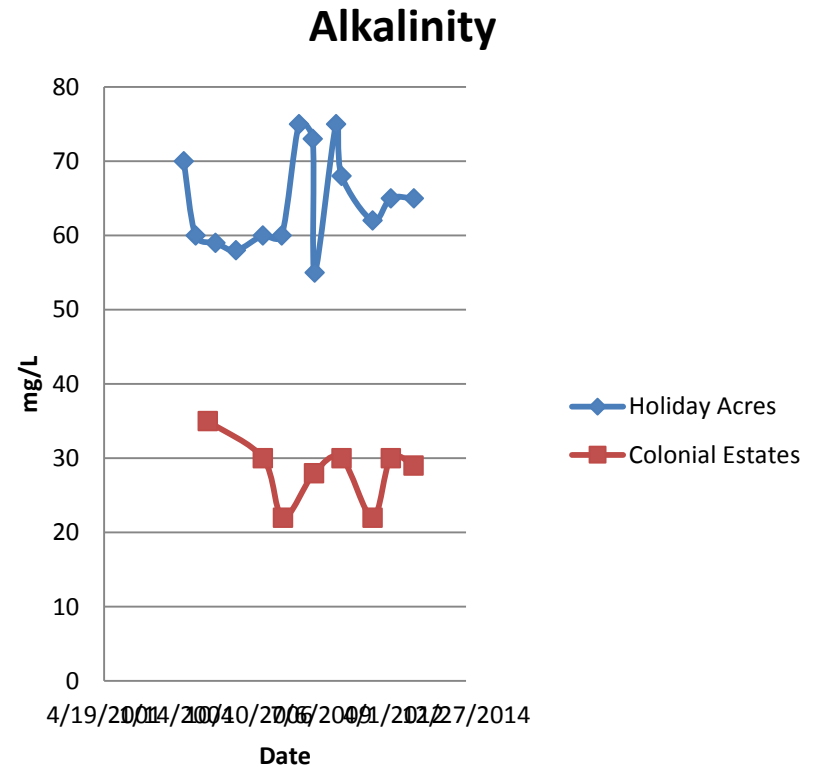


Near by Drinking Water Systems

Colonial Estates has become more acidic



Colonial Estates has less buffer capacity



Offsite Well Assessment

- A plume of contamination from the Pinnacle site has reached the Colonial Estates well some 803 feet cross the road from the facility.
- **State agencies have known about the risk to these wells and done nothing to investigate.**
- **It is the responsibility of government at all levels to enforce regulations for the protection of human health and the environment.**

**BROWNFIELD INVESTIGATION REPORT
PINNACLE FOODS GROUP, LLC
29984 PINNACLE WAY
DAGSBORO, DE 19939
DE-1555**

BP ENVIRONMENTAL, INC.

November 20, 2013

The human health risks associated with this site are driven by Arsenic contamination found in wells MW24 and MW4. Levels at MW24 trigger corrective actions.



Delaware's Hazardous Substance Control Act

“Acceptable risk” means a probability of one additional lifetime incidence of cancer in 100,000 (1×10^{-5}) or less for carcinogens, and a hazard index of one (1) or less for non-carcinogens, as applicable.

SCENARIO	CANCER RISK	HAZARD INDEX
Residential User		
Adult (Total Metals and VOCs)	1 per 10,000	4
Child (Total Metals and VOCs)	6 per 100,000	8
Indoor Commercial Worker (Total Metals and VOCs)	4 per 100,000	1

Risk Assessment Cont.

- **The conclusions of the investigation are quite stark and given the findings of the Brownsfield study an investigation of the heavy metals exposure of all down gradient wells is called for immediately.**
- The 2011 detection of arsenic in the Colonial Estates indicates that offsite risks driven by arsenic exposure could be in the range of an additional 2.5 additional cancer risk per 100,000 to a high end estimate of 4.3 additional cancers per 10,000 with the proposed change to EPA's IRIS cancer slope factor from the 1.5 mg/kg/day used to calculate risks to 25.7 mg/kg/day.
- Levels of arsenic at MW4 ~80 feet away from the Holiday Acres public well are of over 10 times even greater risk than the Colonial Estates sample (5.7 ug/L total Arsenic (5.6 dissolved) = 2.9 per 10,000 risk).

Conclusions

- These risks are UNACCEPTABLE and warrant immediate action to protect the public from excessive and undue cancer risk.
- “Therefore, additional groundwater evaluation, conducted under a DNREC approved RAP (Remedial Action Plan), is necessary to source the metals, assess their spatial and temporal stability, and determine if any further actions are needed to limit groundwater ingestion at the Site (e.g. additional water treatment, bottled water supply, etc.). “ (BP-Environmental at 8-5)

Proposed Plan of Remedial Action

11/26/2013

The “Proposed Plan of Remedial Action” requires only that an onsite Long Term Monitoring Plan (LTM) for groundwater from the site’s monitoring and “drinking water” wells be developed and implemented. Only if contaminants are migrating or showing increased trend would DNREC require further actions.

Comments

- **An immediate response action should be started, whereby on-site & off-site wells are tested.**
- **Inasmuch as it is the State's obligation to protect human health and the environment, the IBF believes that efforts regarding this site have fallen far short of that responsibility.**

Next steps

- Within 90 days analyze all monitoring wells, both up-gradient and down-gradient public & private wells. 40 CFR 258.55(d)
- Proceed with an assessment and implementation of corrective action measures. 40 CFR 258.56 (**REAL Abatement**)
- “The owner or operator must discuss the results of the corrective measures assessment, prior to the selection of remedy, in a public meeting with interested and affected parties.” 40 CFR 258.56(d)
- Determine if a Groundwater Management Zone is necessary.
- Take action to secure new water source for the residences if required.