

BEFORE YOU INSPECT

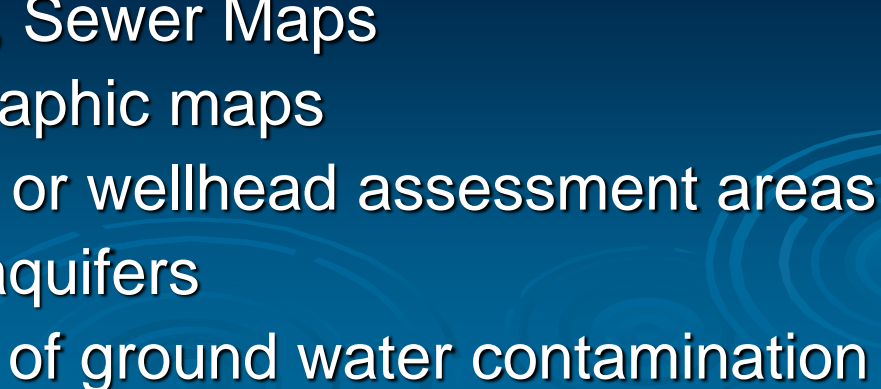
- Understand your Universe/Ground Water Dependency
- Finding Injection Wells
- Prioritizing Well Types

- Geographic and Industry Targeting

- GIS / PDA Use



Data Sources for Locating Injection Wells

- Site-specific information
 - Parcel maps
 - Building permit files
 - Business licenses
 - Business telephone directories
 - Hazardous materials or septic tank permits
 - Area or watershed information
 - Zoning maps, Sewer Maps
 - USGS topographic maps
 - Source water or wellhead assessment areas
 - Sole source aquifers
 - Known areas of ground water contamination
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Planning Inspections

- Review applicable BMPs
- Review site characteristics
- Coordinate with other agencies
- Review any site specific information received
- Know the UIC regulations applicable to the site

Selecting Inspection Sites

- Class IV vs. Class V
- Risk of the waste stream
- Actively used or sensitive USDWs
- Areas where ground water is contaminated
- Source water protection areas
- Sole Source Aquifers
- Recalcitrant owner/operator
- Enforcement policy or targeted industry

Inventory Data Elements

- Identification and locations of individual wells
- Number of wells, identified by type
- Percent of wells in the same geographic area
- Percent of wells in sensitive areas
- Number of wells:
 - Authorized by rule
 - Authorized by rule with BMPs or conditions
 - With permits
 - Closed
 - To be closed (sewered)
 - To be closed (zero discharge)
- Geographic boundaries of jurisdiction
- Reference to codes authorizing inspection or enforcement by your agency

GIS / GPS Tablets



PUR Water Factory - Alamosa, Colorado

Neighboring Water Wells



- 1/4-MILE AOR
- PUR_WATER
- HIGHWAYS
- ROADS
- STREAM/DITCH
- SURFACE WATER
- COUNTY LINES

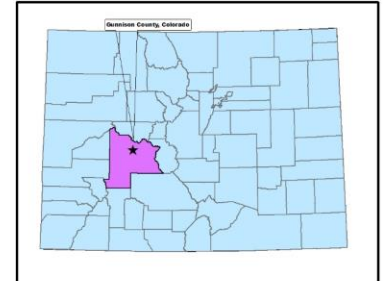
- WELL TYPES**
- COMMERCIAL
 - DOMESTIC
 - HOUSEHOLD
 - INDUSTRIAL
 - IRRIGATION
 - MONITORING
 - STOCK

Date: 3/09/2014
 Projection: NAD 83, R8 Albers, Meters
 Data Sources: County and State boundaries, Streams
 - U.S. EPA Region 8 (2014)
 Base Map: Bing Aerial (2014)
 Ditches: CDOT (2014)
 Wells: Colorado Division of Water
 Resources: [p://www.water.state.co.us/DataMaps/GISandMaps/Pages/GISDownloads.aspx](http://www.water.state.co.us/DataMaps/GISandMaps/Pages/GISDownloads.aspx)

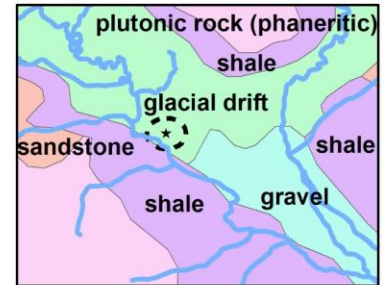
Alpine Express - UIC Class V Vehicle Wash Facility



Location of Alpine Express in Gunnison County, Colorado



Geology at the Alpine Express Site Along the Slate River



Legend

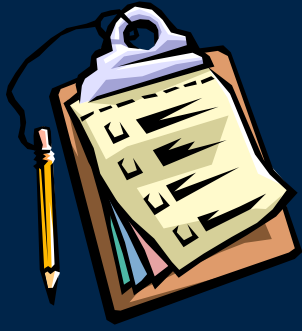
- ★ Alpine Express
- ▭ Colorado
- ▭ Gunnison County
- - - 1/4-Mile Area of Review

Colorado State Engineer Water Wells

- COMMERCIAL
- DOMESTIC
- HOUSEHOLD USE ONLY
- INDUSTRIAL
- IRRIGATION
- MONITORING
- MUNICIPAL



Date: 1/17/2014
Projection: NAD 83, R8 Albers, Meters
Data Sources:
 County and State Boundaries: U.S. EPA Region 8 (2014)
 Base Map: Bing Roads (2014)
 Streams and Rivers: CDOT (2014)
 Wells: Colorado Division of Water Resources (2013)
<http://www.water.state.co.us/Data/Maps/GISandMaps/Pages/GISDownloads.aspx>
Disclaimer: EPA makes no claim regarding the accuracy or precision of these data. Questions concerning the data should be referred to the source agency. This map does not necessarily represent EPA's position on any Indian Country boundaries or the jurisdictional status of any specific location.



IN THE FIELD...

No substitute for field presence!

- Announced vs. Unannounced Inspections
- Conduct during the inspection
- Evaluating the Site
- Documentation = Evidence

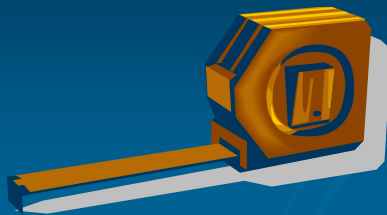


During the Inspection

- Identify yourself
- Explain the purpose of your visit
- Explain what you plan to do during the inspection, and repeat steps as you proceed
- Note any limitations imposed by the owner/operator
- Take detailed notes

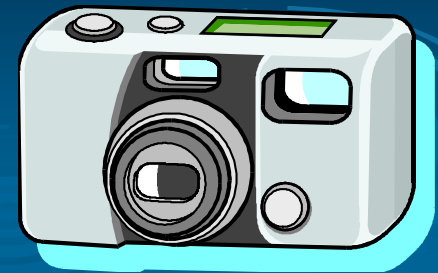


Evaluating the Site



At the Site: review...

- All waste generating activities
- Hazardous materials and waste storage
 - Housekeeping
 - Collection and disposal points for storm water, sewage, other fluids
- Receipts and manifests from waste haulers, sewer bill
- Monitoring data, if available



Tricks of the Trade

- Have the facility staff open any drain you need to inspect
- Do not sample without training
- Visually examine contents
 - Rainbow sheen indicates petroleum product
 - Apparent hard surface = scum layer
- Listen for trickles, flows and pours
- **Do not** directly inhale vapors or odors from a shallow injection well!



Questionable Management Practices



What is in the
55-gallon
drums?

What is under
the pallet?

What is staining
the soil?

Inspection Photos: Drains



Evaluating Compliance

A Class V well that is in compliance **does not** endanger underground sources of drinking water.

- All wastes are properly and legally managed to not violate 144.12 standard
- Dilution is not a method of treatment
- All disposal points are known
- All receiving waters are known
- Safe operation of wells is assured with routine inspection, maintenance and monitoring
- Injection wells that do not meet this standard are promptly and safely abandoned

What you will need for Inspection Report

- Facility name and location (including lat/long)
- Facility contact name
- Inspector's name
- Date and time in and time out
- Site description
- Site map
 - Structures
 - Waste generating areas
 - Disposal points
- Observations, with photographs
- Findings and compliance determination
- Follow up recommended?
 - Inventory only
 - Characterization needed
 - Inquire with other agencies
 - Referral

Compliance Assistance

- Inspectors may provide:
 - Existing information
 - Written materials
 - Referral to Web site or assistance programs
- Inspectors should not provide:
 - Site-specific interpretive information
- Coordination with enforcement and legal counsel **BEFORE YOU DISCUSS WITH DISCHARGER** is essential



What Next?

- Internal report review
- Is more information needed?
- Does potential for endangerment to ground water exist?
- Rule Authorization / Enforcement / Permit Needed?



Share the Knowledge

- Share multi-media inspection reports with other EPA /State program
- Communicate results of inspections with county and local agencies



Enforcement

- Notice of Violation
- Formal Enforcement



CLOSING INJECTION WELLS



- Pre-closure notification
- Closure Requirements
- Sampling Parameters
- Documentation

Pre-Closure Notification

- National Pre-Closure Notification Form (OMB No. 2040-0214)
- Facility and owner/operator information
- Well description
- Discharge type and description
- Closure activities
- Planned closure dates



Closure Options

- Total removal?
- Fill and abandon in place?
- Convert well to another use?



Well Closure Requirements

- Prevent movement of contaminated fluids that may endanger USDWs
- Remove and dispose of soil, gravel, sludge, liquids, or other materials
- In limited cases, may convert motor vehicle waste disposal wells to other Class V types

When Is a Site Clean Enough?

- Eliminate any potential health to human health and the environment
- Stop the “bleeding”



Cover off of Drywell (Depth app. 10 feet)



Removal of Cement Cover



Dry Well



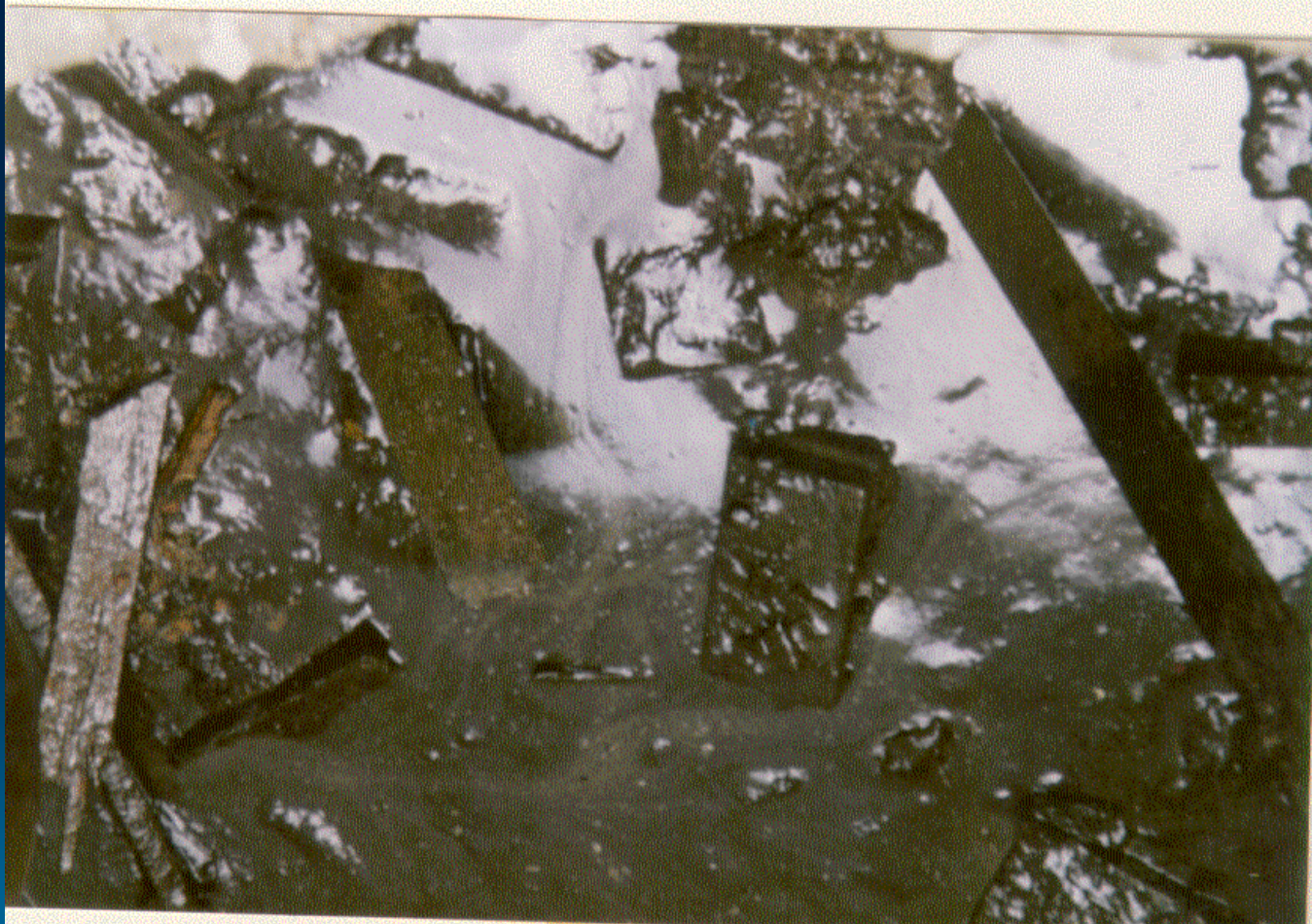
Looking into the Well, discharge pipe from the floor drains



Pumping the Contents



Sludge at the Bottom Following Pumping



Excavating Drywell



Sludge Sampling



Filling in With Clean Fill

