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PUBLIC MEETING

EPA and DEQ will host a public meeting to discuss the results of the 4th Five Year Review of the Site Remedy and the on-going groundwater investigation. Staff from EPA, DEQ and BNSF Railway Company's contractor, AECOM, will be available.
September 20, 2012
from 6:30-8 pm
at the Volunteer Fire Hall
in Somers, Montana

For more information... visit our website:
www.deq.mt.gov/fedsuperfund/bns.mcp

Sign up to receive periodic e-updates by sending an email to: hammer.diana@epa.gov



PROJECT TIMELINE

- 1984** Proposed for the Superfund National Priorities List (the Site was never finalized on NPL)
- 1989** Record of Decision—the Cleanup Plan for the Site
- 1991** Settlement Agreement (Consent Decree) reached between BNSF, EPA, DEQ.
- 1992** EPA issued an Explanation of Significant Differences (ESD)
- 1994** Soil treatment begins in the Land Treatment Unit; Groundwater treatment remedy begins
- 1996** First Five Year Review Report completed
- 1998** EPA issues 2nd ESD
- 2001** Second Five Year Review Report completed
- 2002** Land Treatment Unit Closed.
- 2003** Controlled Groundwater Area established
- 2006** Third Five Year Review Report completed
- 2007** EPA and DEQ approve temporary shut down of groundwater treatment plant; required interim monitoring
- 2009** Sampling results raise questions for Agencies
- 2010** Agencies require BNSF to conduct additional work
- 2011** BNSF begins new groundwater investigation
- 2012** Fourth Five Year Review Report completed

BN Somers Tie Plant Update—4th Five Year Review

Flathead County, Montana

AUGUST 2012

Review of the Site Remedy

Summary the BN Somers Tie Plant Site Remedy

The Burlington Northern (BN) Somers Tie Plant Site (the Site) has two remedy components: Soil and Groundwater.

The **Soil Remedy** consisted of excavating and treating approximately 50,000 cubic yards of contaminated soil on-site in a Land Treatment Unit (LTU). Treatment began in 1994 and the LTU was closed in 2002 after soil treatment was complete.

The **Groundwater portion** of the remedy consisted of a groundwater extraction, treatment, and re-injection system. The groundwater treatment system operated from 1994 to 2007 when it was shut-down for an interim monitoring period. Monitoring and additional groundwater investigative work are on-going (see page 3).

Superfund Five Year Reviews

The Superfund program requires a review of the Site remedy at least every five years. The remedy or cleanup for the BN Somers Site began in 1991 and EPA has conducted a review of the remedy every five years since then (1996, 2001, 2006). The most recent "Five Year Review" is the fourth conducted for the BN Somers Plant.

The purpose of the Five Year Review is to ensure that the



From the Site, looking towards Flathead Lake and Swan Mountains

remedy is functioning as intended, to evaluate whether Site conditions have changed, and determine whether the remedy continues to be protective of public health and the environment or if something has changed (e.g., site conditions or new information).

If issues are identified, then the Five Year Review Report recommends specific actions and timeframes for addressing the issues.

The 3rd Five Year Review was completed in 2006 and concluded that both the soil and groundwater remedies were protective of public health and the environment.

The 4th Five Year Review was completed in 2012.

Since the 3rd Five Year Review, EPA and DEQ have obtained new information from recent sampling and monitoring about the nature

and extent of the groundwater contamination at the BN Somers Site. This new information leads EPA and DEQ about the effectiveness of the groundwater remedy.

In this Five Year Review, the Agencies determined that the **soils remedy** is functioning as intended and remains protective of public health and the environment.

There is no new or immediate risk to human health or the environment; however, additional site investigations are needed and are planned.

However, due to the questions raised by this new information about the **groundwater remedy**, the Agencies could not conclude that the groundwater remedy is currently sufficient (protective).



Area residents have a community drinking water system. The questions EPA and DEQ have about groundwater contamination do not affect the Somers drinking water supply. The Agencies are requiring monitoring of the Town well only as an extra precaution.

Background on Five Year Review Findings

In 2007, Burlington Northern requested that the Groundwater Treatment System be shut down. EPA and DEQ agreed to a temporary shut down and required an interim monitoring period to evaluate whether the groundwater would remain stable without continued pumping.

In 2010, based on results of the interim monitoring and other sampling, the Agencies required Burlington Northern to collect additional ground-

water data. This new groundwater investigation began in September 2011. Generally speaking, the preliminary results from this most recent groundwater investigation led to questions about the extent of the groundwater contamination. It appears groundwater contamination covers a larger area than previously thought. Since the extent of contamination is not known for certain at the time of the Five Year Review, the Agencies

could not conclude that the groundwater remedy is sufficient (protective). This means that there were enough uncertainties that EPA and DEQ are requiring additional information to be collected and evaluated to ensure that the cleanup protects public health and the environment as much as possible.

EPA and DEQ will hold a public meeting on September 20th to discuss the sampling results and follow-up actions.

Fourth Five Year Review Issues, briefly summarized:

- | | |
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| Issue #1:
Recommendation #1: | Changed Site Conditions since the 1987 Risk Assessment and 1989 Record of Decision
Re-evaluate the assumptions and methodologies used in the 1987 Risk Assessment and determine if a new Risk Assessment is needed. |
| Issue #2:
Recommendation #2: | Contaminants Exceed State standards
Evaluate constituents exceeding DEQ-7 standards and determine appropriate cleanup goals |
| Issue 3:

Recommendation: | Groundwater contaminant concentrations above the ROD levels; Evidence indicates more extensive groundwater contamination
Conduct environmental investigations to more fully characterize the nature and extent of Site contamination and potential risks to human health and the environment |
| Issue 4:
Recommendation: | Monitoring – Vapor Intrusion
Conduct additional residential screening (s) to more completely evaluate this potential risk pathway |
| Issue 5:
Recommendation: | Monitoring – Town Drinking Water Well
Monitor volatile organic compounds (e.g., benzene) and phenols to ensure continued protectiveness |
| Issue 6:
Recommendation: | Institutional Controls
Implement enforceable Institutional Controls
Increase size of the Controlled Groundwater Area |

Additional Groundwater Investigation



Site groundwater investigation, September 2011—February 2012



This additional groundwater investigation began in September 2011 using direct push technology—a “geoprobe”—to collect soil cores and water samples at various depths and locations around the Site to better define the extent of groundwater. (See map of sampling locations on the fact sheet insert.) Another investigative tool, TarGOST® —Tar-specific Green Optical Scanning Technology— was brought in to measure the presence (or absence) of creosote at the Site.

The purpose of this phase (using TarGOST® and the geoprobe) of the groundwater investigation is to “confirm the nature and extent of the contaminants of concern.”

Initially, the investigation was focused on the area around the former CERLCA Lagoon (center) and then

expanded outwards based on the sampling results. TarGOST® sampling was completed at 34 locations and showed a creosote “response” in the shallow interval (0-25 deep) and intermediate interval (25-60 feet deep) at various Site locations.

Using the Geoprobe, 145 soil and 196 groundwater samples were collected. Total phenols, Total Polycyclic Aromatic Hydrocarbons, Carcinogenic PAH, and Benzene were detected above the cleanup levels and at all three aquifer depths (shallow, intermediate, and deep) although not at all locations.

The results of this investigation will be used to place additional monitoring wells that can be used to sample groundwater regularly. These new wells will supplement the existing network of groundwater monitoring wells.

Next Steps

More work is planned, specifically to investigate:

1. The nature and extent of site contaminants;
2. Confirm groundwater flow direction;
3. Update the existing Conceptual Site Model;
4. Determine if the Site remedy continues to be protective of human health and the environment; and
5. Examine the need to investigate other treatment and remedy options.

The Agencies are reviewing the data and working with BNSF to identify locations for and to install additional monitoring wells and the next steps for the Site investigations.

The groundwater investigation discussed in this fact sheet is part of “Additional Work” EPA and DEQ required the Burlington Northern Santa Fe Railway Company (BNSF Railway Company) to perform as part of their responsibilities under the Site Consent Decree.

Coming up:

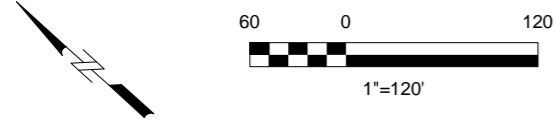
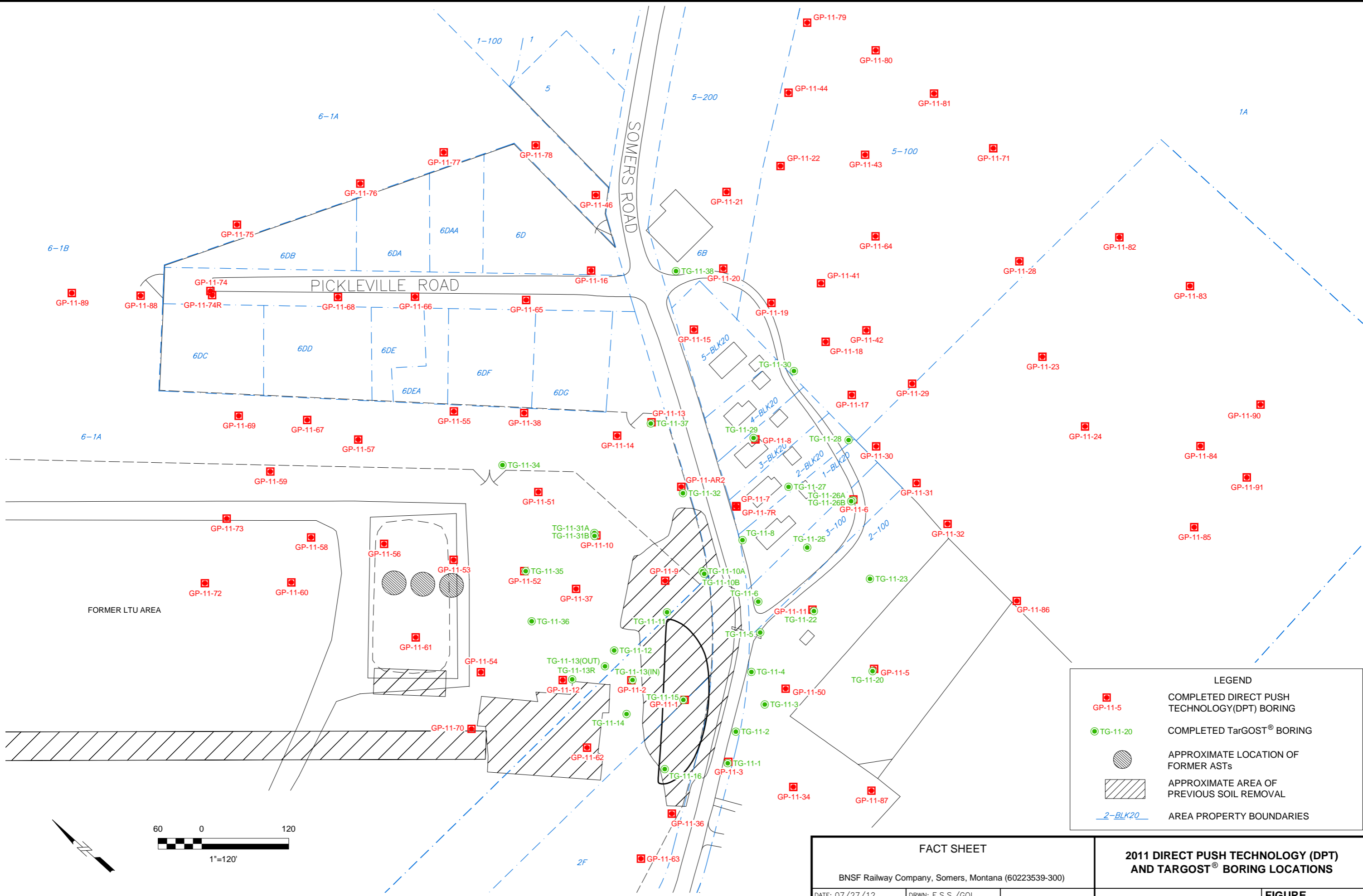
- Installation of additional monitoring wells
- Collection of soil cores
- Additional soil gas and vapor intrusion sampling
- Public meeting to discuss the Five Year Review and on-going “additional work.” The meeting will be held on September 20th from 6:30—8 pm at the Somers Fire Hall.



Geoprobe samples from groundwater investigation.



File: M:\BNSF\Secure\BNSF Somers\BNSF-Som - FACT SHEET 7-2012 - Boring Locations.dwg Layout: FIGURE User: schwartz Plotted: Jul 27, 2012 - 12:45pm Xref's:

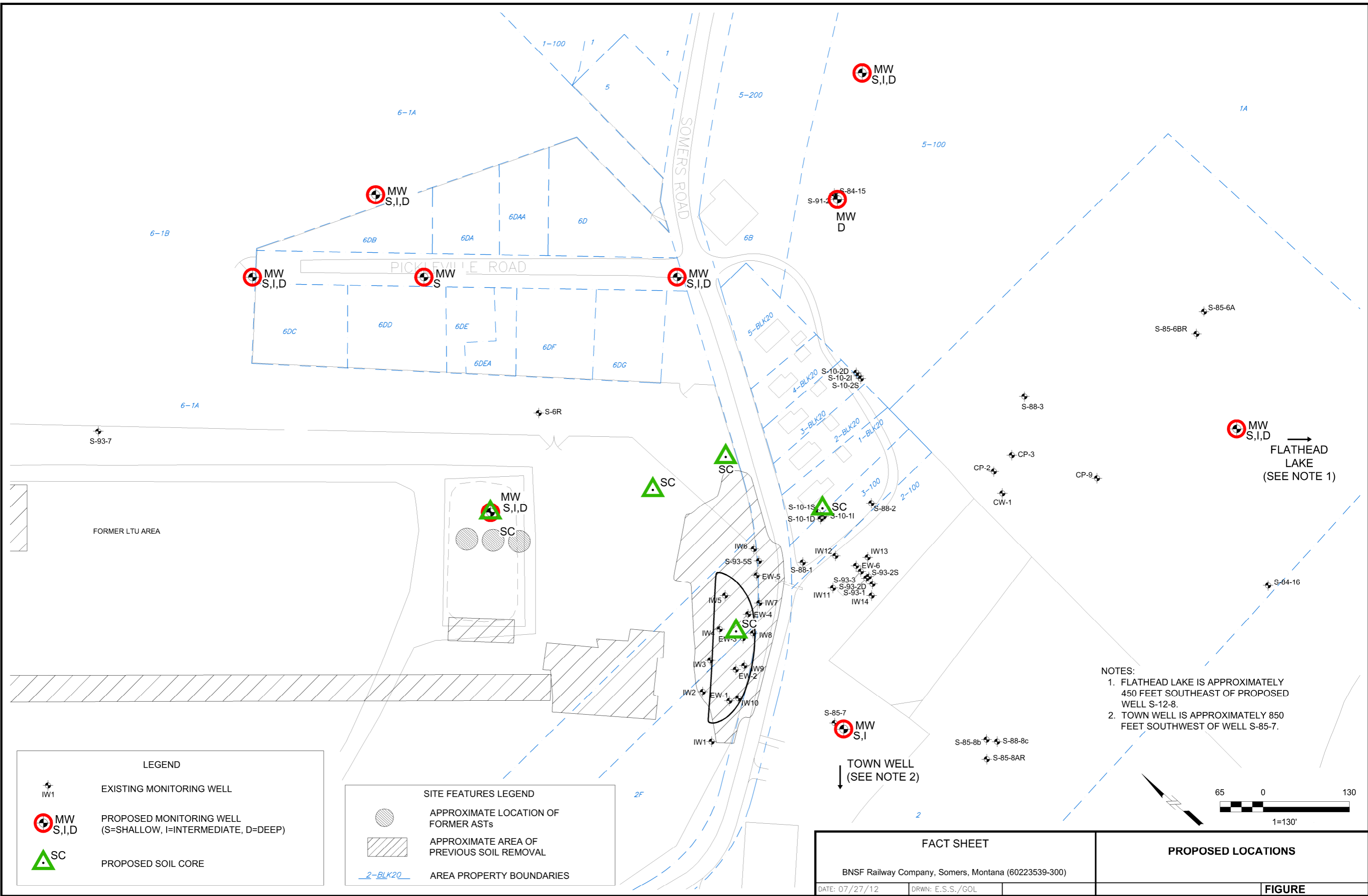


LEGEND

- GP-11-5 COMPLETED DIRECT PUSH TECHNOLOGY(DPT) BORING
- TG-11-20 COMPLETED TarGOST® BORING
- APPROXIMATE LOCATION OF FORMER ASTs
- APPROXIMATE AREA OF PREVIOUS SOIL REMOVAL
- 2-BLK20 AREA PROPERTY BOUNDARIES

FACT SHEET		2011 DIRECT PUSH TECHNOLOGY (DPT) AND TARGOST® BORING LOCATIONS
BNSF Railway Company, Somers, Montana (60223539-300)		
DATE: 07/27/12	DRWN: E.S.S./GOL	FIGURE

File: M:\BNSFSecure\BNSF Somers\BNSF-Som - FACT SHEET 7-2012 - Proposed Wells.dwg Layout: FIGURE User: schwarze Plotted: Jul 27, 2012 - 12:45pm Xref's:



- NOTES:
1. FLATHEAD LAKE IS APPROXIMATELY 450 FEET SOUTHEAST OF PROPOSED WELL S-12-8.
 2. TOWN WELL IS APPROXIMATELY 850 FEET SOUTHWEST OF WELL S-85-7.

LEGEND	
	EXISTING MONITORING WELL
	PROPOSED MONITORING WELL (S=SHALLOW, I=INTERMEDIATE, D=DEEP)
	PROPOSED SOIL CORE

SITE FEATURES LEGEND	
	APPROXIMATE LOCATION OF FORMER ASTs
	APPROXIMATE AREA OF PREVIOUS SOIL REMOVAL
	AREA PROPERTY BOUNDARIES

FACT SHEET	
BNSF Railway Company, Somers, Montana (60223539-300)	
DATE: 07/27/12	DRWN: E.S.S./GOL

PROPOSED LOCATIONS	
FIGURE	