

Appendix VI
Guidance Document I-03a Spatial Data Reporting Form.

Send to Ashley
Kobberdehl 3-10-07



Petroleum Remediation Program

Minnesota Pollution Control Agency

http://www.pca.state.mn.us/programs/just_p.html

Spatial Data Reporting Form

Guidance Document 1-03a

(For complete instructions, see Guidance Document 1-03.)

Part 1. Background

Has a site location data point been submitted for this site (circle/highlight)? YES or NO
If yes, you do not need to complete Part 2 of this form but should complete Part 3 if there are additional site features to report. This form can be submitted electronically if desired (e.g., as an e-mail attachment to the project manager).

MPCA Site ID: LEAK00016460
Site Name: Former Food N Fuel
Data Collection Date: 8/7/06
Name of Person Who Collected Data: Peter Bell
Organization Name: Summit EnviroSolutions
Organization Type: Consultant/Contractor

Part 2. Site Location (use one of the three spatial data reporting formats provided)

Point Description: Approximate center of site
Collection Method: Large-scale map interpolation of FSA Orthophoto (2003) using ESRI ARC GIS 9.
Datum (circle/highlight): WGS84 NAD83
1) Longitude (dd mm ss.ss): Latitude (dd mm ss.ss):
2) Longitude (dd.ddddd): Latitude (dd.ddddd):
3) UTM - X (Easting): 980903.79 UTM - Y (Northing): 16287626.44
UTM Zone: 15N

Part 3. Other Site Features

Point Description: Approximate Center of Tank Basin
Collection Method: Large-scale map interpolation of FSA Orthophoto (2003) using ESRI ARC GIS 9.

Datum (circle/highlight): WGS84 NAD83

- 1) Longitude (dd mm ss.ss): Latitude (dd mm ss.ss):
- 2) Longitude (dd.ddddd): Latitude (dd.ddddd):
- 3) UTM - X (Easting): 980849.79 UTM - Y (Northing): 16287638.14
UTM Zone: 15N

Point Description: Pump island-approximate location of east dispenser
Collection Method: Large-scale map interpolation of FSA Orthophoto (2003) using ESRI ARC GIS 9.

Datum (circle/highlight): WGS84 NAD83

- 1) Longitude (dd mm ss.ss): Latitude (dd mm ss.ss):
- 2) Longitude (dd.ddddd): Latitude (dd.ddddd):
- 3) UTM - X (Easting): 980909.19 UTM - Y (Northing): 16287603.94
UTM Zone: 15N

Section 2: Site and Release Information

2.1 Attach Table 1 - Tank Information, listing all past and present tanks. Describe the status of the other components of the tank system(s), (i.e., piping and dispensers).

Tank #	UST or AST	Capacity (gallons)	Contents (product type)	Year installed	Tank Status*	Condition of Tank
1	UST	8,000	Gasoline	1986	Removed (5/16/06)	Good
2	UST	12,000	Gasoline	1986	Removed (5/16/06)	Good

2.2 Describe the land use and pertinent geographic features within 1,000 feet of the site.

The area has a residential and commercial mixed use. The site is situated approximately 22 feet above the Minnesota River along Highway 212 with granitic bedrock outcrops to the south and east of the property.

2.3 List other potential leak sources within 500 feet of the site.

No other potential leak sources within 500 feet of the subject site.

2.4 Identify and describe the source(s) or suspected source(s) of the release or contamination encountered, and how the release or contamination was discovered.

Check all that apply: Piping, Tank, Dispenser, Pump/Turbine, Spill/Overfill

The leak was detected during the UST removal activities.

2.5 Identify the cause of the release (tank and/or piping).

Check all that apply: Corrosion, Loose Component, Puncture, Mechanical or Physical Damage, Unknown

2.6 Identify the method the release was detected.

Check all that apply: Removal, Line Leak Detection, Tank Leak Detection, Visual/Oilfactory, Site Assessment, Other

2.7 Has the site ever, at any point had an E-85 tank? Yes, No

2.8 What was the volume of the release? (if known): unknown gallons

2.9 When did the release occur? (if known): unknown

2.10 Provide aerial photos and Sanborn Maps of the area for the various time periods they are available (Section 14: Figures).

Section 3: Excavated Soil Information

3.1 Include the Guidance Document 3-02 *General Excavation Report Worksheet* in Appendix A.

3.2 Was soil excavated for off-site treatment? Yes No

Date excavated: 5/16/06

Total Volume removed: NA cubic yards

How much of the Total Volume removed was petroleum saturated: NA cubic yards

3.3 Indicate soil treatment type:

- land treatment
- thermal treatment
- composting/biopiling
- other ()

Name and location of treatment facility:

Section 4: Extent and Magnitude of Soil Contamination

4.1 Were soil borings conducted in or immediately adjacent to all likely sources including: YES NO

- dispensers, yes no not present
- transfer areas, yes no not present
- underground storage tank basins, yes no not present
- above ground storage tank areas, yes no not present
- pipings, yes no not present
- remote fill pipes, yes no not present
- valves, yes no not present
- known spill areas yes no not present

I don't know if there are areas present on site.

4.2 To adequately define the vertical extent of contamination, borings should be completed at least ten feet below the deepest measurable (field screening and visual observation) contamination. If the water table is encountered, the boring should be completed a minimum of five feet below the surface of the water table. Were all soil borings completed to the required depth? YES NO

- 4.3 To adequately evaluate site stratigraphy complete at least one boring to 20 feet below the deepest site contamination. If the water table is encountered, the boring should be completed a minimum of 5 feet below the surface of the water table. If a confining layer is present, drill the boring in an uncontaminated area. Was this done? YES NO

If you answered *NO* to any of the three previous questions, explain why the borings were not conducted in the required locations or to the required depths (see Guidance Document 4-01 *Soil and Ground Water Assessments Performed during Site Investigations* regarding exceptions and MPCA approval for depth of drilling):

Test boring were advanced until terminated in the **granite bedrock**. The vertical extent of petroleum appears to be limited by the presence of a continuous granitic bedrock unit underlying the site. Based on the depth to bedrock it appears that the Minnesota River has eroded the bedrock surface and that the concentrations of petroleum reduce with depth in the weathered bedrock surface.

- 4.4 Indicate the drilling method:
- hollow-stem auger
 sonic drilling
 push probes
 other

Note: MPCA staff hydrologist approval is required before use of flight augers

- 4.5 Discuss soil borings drilled and provide rationale for their locations. Attach boring logs in Appendix D. Summit advanced **eleven test boring** to define the horizontal extent of petroleum impacts observed at the pump island area and former UST basin area. The initial test borings (TP001 through TP006) were advanced within, or immediately adjacent to, the asphalted area of the convenience store property to initially evaluate the extent of petroleum impacts. Additional test boring were needed north, west, and northeast directions to fully evaluate the extent of petroleum impacts. The depth of the test borings varied from three feet at TP011 (east) to 32.5 at TP006 (west).

- 4.6 Attach Table 2 - Results of Soil Headspace Screening. In Appendix C, discuss soil headspace screening method and describe any deviation from recommended and/or required methods and procedures. See Table 2 and Appendix C

- 4.7 Attach Table 3 - Analytical Results of Soil Samples. Provide analytical results in Appendix B. In Appendix C, discuss soil sampling and analytical methods used and describe any deviation from recommended and/or required methods and procedures. See Table 3 and Appendix C.

- 4.8 Describe the vertical and horizontal extent and magnitude of soil contamination. Provide a plan-view map and two cross-sections that illustrate both soil head space and laboratory analytical results (Section 14).

Petroleum impacted soil in the vicinity of the pump island and UST basin did not exceed the Soil Reference Values (SRVs) for residential properties associated with the benzene, toluene, ethylbenzene, xylenes (BTEX). The gasoline range organics (GRO) exceeded the method detection limits at five test boring locations. The vertical migration of petroleum impacts based on both organic vapor screening and analytical results appear to be impeded by the presence of granitic bedrock underlying the site. Based on the observations and analytical chemistry associated with TB007, TB008A, and TB010, the petroleum impacts appear to be limited to the subject property and do not appear to have migrated to the Minnesota River.

4.9 Is surface soil contamination present at the site (i.e., soil in the uppermost 2 feet that is visibly stained, contaminated at greater than 10 ppm (PID) or petroleum saturated)? Yes No

If YES, attach site map identifying extent(s) of surface soil contamination (Section 14).
If borings were used to define extent, complete Table 4.

4.10 Attach Table 5 - Other Contaminants Detected in Soils (Petroleum or Non-petroleum Derived). Discuss the possible sources of these compounds.

4.11 Is contaminated soil in contact with ground water? Yes No

If YES or if ground water contamination appears likely, then complete Section 5.

If NO (contaminated soil is not in contact with ground water), what is the distance separating the deepest contamination from the surface of the water table? Was this distance measured during site activities, referenced from geologic information, or estimated based on professional opinion during a site visit?

Groundwater was not encountered above the granite bedrock with the exception of TB008A. The petroleum impacts to the groundwater at TB008A were limited to 0.23 ug/L toluene that is orders of magnitude below the MDH Health Risk Limit (HRL) of 1,000 ug/L.

4.12 Describe observations of any evidence of a fluctuating water table and a seasonal high water table (e.g., mottling). Also, from other sources of information describe the range of natural water table fluctuations in the area.

The groundwater appeared to be limited to the weathered granite at TB008A at 29 feet below grade. Summit measured the vertical difference to the Minnesota River water level as compared to the ground surface and estimated the river stage to be approximately 22 feet below the surface grade of the site. The groundwater encountered at TB008A was at 29 feet below grade that would appear to be approximately seven feet below the anticipated river water surface.

4.13 In your judgment, is there a sufficient distance separating the petroleum contaminated soil (or an impacted non- aquifer) from the underlying aquifer to prevent petroleum contamination of the aquifer? Please explain in detail. In your explanation, consider the data in this section as well as the nature of the petroleum release (i.e., volume, when it occurred, petroleum product). X Yes No

If YES, a ground water contamination assessment is not necessary as part of the LSI.

The test borings were advanced to termination in the underlying granitic bedrock unit without encountering groundwater (except TB008A). The granitic bedrock surface appears to be present throughout the site with the elevation decreasing to the west and northwest towards the Minnesota River. The bedrock in the area does not appear to provide groundwater to the surrounding properties or the City of Granite Falls.

If NO, a ground water contamination assessment is necessary. Complete Section 5.

Section 5: Aquifer Characteristics/Ground Water Contamination Assessment

Complete Section 5 if groundwater has been contaminated or may become contaminated. Aquifer determination is made during the LSI. It is based upon the stratigraphy and a hydraulic conductivity measurement calculated from grain size distribution analysis. The site stratigraphy gives the context within which the hydraulic conductivity measurement can be interpreted. Please refer to Guidance Document 4-01 *Soil and Ground Water Assessments Performed during Site Investigations* for methods and requirements.

5.1 Provide an average hydraulic conductivity value (K) measured:

K = ft/day

Indicate the method of measurement (i.e., Hazen, Masch and Denny, Kozeny-Carmen, etc.):
Grain-size distribution approximations by method(s).

Indicate the locations and depths of soil samples submitted for grain size analyses. Provide the results of grain size analyses and other information used for the determination of K-values in Appendix F.

5.2 Calculate a range for aquifer transmissivity (T) using the equation $T = Kb$, where b is the thickness of the aquifer:

$T_{High} =$ ft²/day
 $T_{Low} =$ ft²/day

Determine the aquifer thickness (b) from geologic logs of soil borings, water well logs, and available published information. Attach water well logs in Appendix D. If the transmissivity of a contaminated hydrogeologic unit is greater than 50 ft²/day, it is considered an aquifer (for the purpose of the Petroleum Remediation Program), and monitoring wells will be necessary.

5.3 Discuss in detail the site geology and stratigraphy, including a discussion of local and regional hydrogeology, using soil boring data and cross sections, geologic logs of near-by water wells, and available published information.

5.4 Attach Table 6- Water Level Measurements and Depths of Water Samples Collected from Borings. Indicate the method used to measure the water levels in borings and the depth water samples were collected from borings. Allow water levels in borings to equilibrate to static conditions and then adjust the effective screened intervals in borings to intercept the static water table prior to water sample collection. Discuss groundwater flow direction.

5.5 Attach Table 7 - Analytical Results of Water Samples Collected from Borings. Summarize the analytical results of groundwater samples collected as part of an LSI. Discuss the extent and magnitude of groundwater contamination. Also provide a discussion on QA/QC, including information on the samples collected and laboratory analyses performed.

5.6 Attach Table 8 - Other Contaminants Detected in Water Samples Collected from Borings (Petroleum or Non-petroleum Derived). Discuss the possible sources of these contaminants and provide a discussion of QA/QC information.

5.7 Laboratory certification number:

Additional Ground Water Investigation

Complete **Section 6** only if: 1) *an aquifer has been impacted at or above Minnesota Department of Health HRLs, 2) an aquifer has been impacted below the HRLs, but the levels are likely to reach the HRLs, or 3) there is an insufficient distance separating the petroleum contaminated soil (or an impacted non-aquifer) from the underlying aquifer*. Complete **Section 7** only if remediation is anticipated. Regardless of whether you are submitting an LSI or a full RI, all sections following Section 7 must be completed.

Section 6. Extent and Magnitude of Ground Water Contamination

6.1 Discuss drilling and installation of wells, including the rationale for their locations. Attach boring logs in Appendix D.

6.2 Attach Table 9 - Monitoring Well Completion Information.

6.3 Attach Table 10 - Summary of Water Levels Measured in Wells.

6.4 Attach Table 11 - Analytical Results of Water Samples Collected from Wells. Indicate here whether samples were purged or unpurged (see Guidance Document 4-05). If purged, indicate purging method.

6.5 Attach Table 12 - Other Contaminants Detected in Water Samples Collected from Wells (Petroleum or Non-Petroleum Derived). Indicate here whether samples were purged or unpurged (see Guidance Document 4-05). If purged, indicate purging method.

6.6 Describe the extent and magnitude of the ground water contamination. Discuss the presence of non-petroleum compounds, if detected, and identify possible sources of these compounds. Also provide a discussion on QA/QC, including information on the samples collected and laboratory analyses performed.

6.7 Is there a clean or nearly clean (below HRLs) down-gradient monitoring well Yes No located along the longitudinal axis of the contaminant plume? (approximately 20 degrees plus or minus the axis)

6.8 Is there a worst case well completed through the source area(s) of the Yes No release?

If you have answered *NO* to any of the above two questions, please explain why a well was not completed in the required location.

6.9 Provide an estimate of the longitudinal length of the dissolved feet contaminant plume:

6.10 Calculate groundwater flow velocity (based on Darcy's Law) using the average K-value, average horizontal hydraulic gradient, and effective porosity. Provide documentation in Appendix F.

Hydraulic Conductivity (K) =	Method
Porosity (n) =	method/reference
Average horizontal gradient (dh/dl) =	
Calculated GW velocity (v) =	cm/s <input type="checkbox"/> ft/day <input type="checkbox"/>

6.11 Using the calculated groundwater flow velocity (above), is there a Yes No receptor within a five-year travel time?

If *YES*, provide the unique well number and identify the location of the receptor(s).

6.12 Were any deep monitoring wells completed at the site? Yes No

If *YES*, list them and indicate their depths:

Contact the MPCA project hydrologist before installing a deep monitoring well. A deep monitoring well may be necessary if: 1) Contamination exists more than 10 feet below the water table or 2) the impacted aquifer is a drinking water aquifer or is hydraulically connected to the aquifer(s) presently utilized by a water supply well located within 500 feet of the release source.

If contamination is present at depth in the aquifer or in deeper aquifers, additional deep wells may be required. Provide the following information if deep wells are installed:

Vertical Gradient (dv/dl)

Inferred GW Flow Direction

Provide the following information for the deep aquifer unit if it appears to be hydrogeologically distinct from the upper unit.

Porosity (n):

Hydraulic Conductivity (K)

Submit this RI report after completing a minimum of *two quarterly sampling events*. Groundwater monitoring should continue until MPCA response is received.

Section 7: Evaluation of Natural Attenuation

Refer to the Guidance Document 4-03 *Assessment of Natural Attenuation at Petroleum Release Sites*. **Note:** Evaluation of natural attenuation is not required unless requested by MPCA staff.

7.1 Attach Table 13 - Natural Attenuation Parameters. Discuss the results. Specifically, compare the concentrations of the inorganic parameters inside and outside the plume.

7.2 In your judgment, is natural biodegradation occurring at this site? Please Yes No explain.

If active remediation is anticipated, discuss reasons why natural attenuation (including biodegradation) can not adequately remediate the contaminants to acceptable risk levels.

Section 8: Well Receptor Information/Assessment

Include in Appendix E, copies of the water supply well logs obtained from MGS, MDH, drillers, and where applicable, from County well management authorities.

8.1 Attach Table 14 - Properties Located Within 500 Feet of the Release Source. The Leak Site property must be included in Table 14. Provide a map (scale of 1inch = 50 to 100 ft.) centered on the release area, identifying the boundaries of the properties listed in Table 14, and associated pertinent features such as roads, buildings, water wells, utilities and surface water.

8.2 Were all property owners within 500 feet of the release source successfully contacted to determine if water wells are present? **IF NO**, please explain.

Yes No

Summit was successful in contacting five of six properties with in 500 feet of the site with our letter. The property owners indicated that they did not have wells and that municipal water was supplied. The one property that was not contacted by letter was the Granite Falls Municipal Wastewater Treatment plant. Summit conducted a visual reconnaissance and verbally contacted the Granite Falls Water Department the results of the inquiries were that water wells were not present on the property.

8.3 Attach Table 15 - Water Supply Wells Located within 500 Feet of the Release Source and Municipal or Industrial Wells Within ½ Mile. All water wells within 500 ft. of the release source must be listed, even if construction information was not obtained or available. Any available water well logs or other construction documentation must be included in Appendix E.

8.4 Discuss the results of the ground water receptor survey and any analytical results from sampling conducted at nearby water wells. Comment on the risks to water supply wells identified within 500 feet from the release source as well as the risk posed by or to any municipal or industrial wells found within ½ mile. Specifically indicate whether water supply wells identified utilize the impacted aquifer. (Note: an impacted aquifer separated from another aquifer by a clay lens may not be considered a separate aquifer).

Water wells were not identified within 500 feet and municipal water is supplied in the area of the site. Five residential properties within 500 feet were contacted and the Granite Falls Municipal Wastewater Treatment plant did not respond to the letter but verbally indicated that no water wells were present.

8.5 Is municipal water available in the area? Yes No

8.6 Are there any plans for ground water development in the impacted aquifer within 1/2 mile of the site, or one mile down-gradient of the site if the aquifer is fractured? Please give the name, title and telephone number of the person that was contacted for this information (below).

Name: Joe Riley

Title: Water Plant Operator

Telephone 320.564.2530

Section 9: Surface Water Risk Assessment

9.1 Are there any surface waters or wetlands located within 1/4 mile of the site? **Yes** **No**

If **YES**, list them: **Minnesota River**

Also list any potential pathway such as ditches, drain tiles, storm sewers, etc., that may lead to the identified surface water features.

9.2 If surface water is present down-gradient of the site, is there a clean down-gradient monitoring well (temporary or permanent) located between the site and the surface water? **YES**
 NO
 N/A

9.3 If you answered **NO** to question 9.2, we assume that contamination discharges to surface water. Therefore, complete the following information:

- Name of receiving water: _____
- Receiving water classification OR VVW? **Yes** **No**
- Plume width, (W): _____ feet
- Plume thickness, (H): _____ feet
- Hydraulic conductivity, (K): _____ gal/day/ft²
- Horizontal gradient, (dh/dl): _____ (unitless)
- Discharge, (Q) = H*W*K*(dh/dl)/1440 _____ gal/min

- Applicable chronic standard (7050 or 7052)
- Applicable max. standard (7050 or 7052)
- Applicable FAV (7050 or 7052)
- Contaminant concentration in ground water

9.4 If you answered **YES** to question 9.2, identify the clean down-gradient boring or monitoring well, the distance to the surface water feature, and discuss the contamination risk potential.

Several test boring (TP007, TP008, TP008A, and TP010) have been completed downgradient of the UST basin and pump island area with low petroleum impacts slightly above the laboratory detection limits. It appears that the Minnesota River is approximately 80 feet further downgradient from the test borings, but the terrain is comprised of a steep vegetative slope to the edge of the river and advancing additional test borings was not possible. A groundwater sample was also collected at TB008A that indicated low concentrations of petroleum hydrocarbons below the established MDH HRL.

Section 10: Field-Detectable Vapor Risk Assessment/Survey

10.1 Is there a history of vapor impacts in the vicinity of the site? **Yes** **No**

If **YES**, describe:

10.2 Is there any indication that free product or contaminated ground water may Yes No be traveling off-site within the utility corridors?

If YES, utility backfill investigation is required (refer to Guidance Document 4-01).
Discuss the investigation rationale and results.

10.3 Discuss the potential for vapor migration/accumulation near the site. Your discussion should consider: Soil types, product type, presence and distribution of free product or high concentrations of dissolved product. Also, using cross-sections to illustrate the relationship, compare the depth of contamination with the location of underground utility lines, location and depth of storm and sanitary sewers, and location of nearby basements and sumps.

The soil observed at the site appears to be comprised of a fine (silty clay to clay) to coarse (silty sand to sand and gravel) grained soil and groundwater was limited to TB008A. The majority of the soil appears to be sandy which would not be advantages for off-site migration through utility corridors and would not indicate a high potential for vapor accumulation. The water line and **on-site septic drainfield** are underlain by the thickest areas of fill and native soil. Therefore the potential for impacts to the utility corridors and the surrounding buildings associated with the accumulation of petroleum vapors appears relatively low. In addition, the potential for additional spills and releases impacting the utility corridors has been eliminated by the removal of the UST system at the site. The surrounding residential properties did not appear to be constructed with basements.

10.4 Conduct a vapor survey if the vapor risk assessment indicated a risk of vapor impacts to buildings or utilities. Ask occupants of nearby buildings if they have smelled petroleum odors. See Guidance Document 4-02 *Potential Receptor Surveys and Risk Evaluation Procedures at Petroleum Release Sites*. Identify all vapor monitoring locations on an attached site map by labeling each monitoring location with a number. Tabulate the list of vapor monitoring locations in Table 16. Vapor monitoring methods, including instruments used, must be discussed in Appendix C. Provide a detailed description of each vapor monitoring location and an interpretation of the vapor monitoring results below.

Petroleum vapors were not reported in the area of the site.

10.5 Attach Table 16 - Results of Vapor Monitoring.
See Table 16

not applicable

No table 16 shown other than
No utilities shown
No on site basements

could be necessary of storm
on site vent.

5/16/07 FNE
- on site vent
NO vapor recovery
NO vapor recovery

Section 11: Soil Gas-Based Vapor Intrusion Screening Assessment

11.1 When significant contamination and receptors are present at a site, a vapor intrusion screening assessment must be conducted (See Guidance Document 4-01a *Vapor Intrusion Assessments Performed during Site Investigations*). Soil gas samples must be completed in the worst case area and at four radial points within a 100' radius. The radial points should be located near inhabited buildings, if there are four or less. If not, they should be located uniformly within the 100' radius. Was this done?
If NO, explain why.

X Yes No

11.2 Do any of the soil gas samples from points located near inhabited buildings exceed the action levels found in GD 4-01a?
 Yes No

If YES, is sub-slab vapor or indoor air sampling needed for these buildings? Describe and discuss locations needing further assessment.

Yes X No

The site building appears to be the only structure located adjacent to the highest exceedance of the MDH HRV for benzene and dichlorodifluoromethane. The dichlorodifluoromethane may be associated with the on-site use of refrigerants. The benzene was associated with the gasoline release, but it appears that with the removal of the UST system the concentrations may dissipate over time.

11.3 Has sufficient data been collected to propose a conceptual Corrective Action Design (CAD) for buildings that are likely to be impacted by elevated soil gas levels and/or field detectable vapor impacts? Describe your justification for corrective action and proposed conceptual CAD.

X Yes No

It does not appear that corrective action will be required at this site.

11.4 Do any of the soil gas samples from the non-building specific samples within the 100' radius exceed action levels?
X Yes No

If YES, and there are many inhabited buildings nearby, is additional building specific soil gas sampling recommended for all these buildings? Describe your proposal for additional sampling. If NO, explain.

Yes X No

The surrounding buildings are slab on grade and appear to be a sufficient distance from the soil gas sample locations that it would not be anticipated that gasoline vapors will migrate the distance in the shallow subsurface to impact the structures. The on-site structure did not report have gasoline vapor problem at the time of operation.

If YES, are additional soil gas samples recommended to assess the full extent of the soil gas cloud? *Describe your proposal for additional sampling. If NO, explain.* Yes No

11.5 Were recommended field sampling procedures and QA/QC from Guidance Document 4-01a followed? Were required laboratory QA/QC objectives met? Yes No

If NO, explain why and discuss implications on data quality.

11.6 Include a map (Section 14) which shows locations of all soil gas samples and buildings within and at the 100' radius and locations of all soil gas samples exceeding action levels. Include other locational information that may help in evaluating the questions above.

The only structure within 100 feet of the VP001 was the on-site building.

Section 12: Discussion

12.1 Discuss the risks associated with the remaining soil contamination:

Petroleum impacts to soil appear to be limited to the shallow soil in the former UST and pump island area (source area). The deeper soil impacts appear to be limited to the subject property and do not appear to have migrated to the Minnesota River. Based on the results of the assessment activities the remaining petroleum impacted soil is generally located under the concrete and asphalt areas of the property and potential impacts associated with this soil appear to be relatively low.

12.2 Discuss the risks associated with the impacted ground water:

Groundwater was encountered at TB008A at a depth of 29 feet below grade which Summit calculated to be approximately seven feet below the Minnesota River surface elevation at the time of the assessment. The groundwater sample collected at TB008A indicated 0.23 micrograms per liter (ug/L) of toluene. The MDH HRL for toluene is 1,000 ug/L. Therefore, based on the lack of a continuous groundwater table and very low concentrations of petroleum observed at TB008A, it does not appear that groundwater has been impacted.

12.3 Discuss the risks for vapor intrusion associated with any soil gas impacts detected:

The risks associated with detectable vapors appear to be low based on the removal of the UST system along with no apparent history of vapor problems associated with the on-site structure. The exceedance was associated with the concentrations of benzene and dichlorodifluoromethane. The dichlorodifluoromethane appears to be associated with the use of refrigerant at the location for cooling purposes. The source area benzene concentration slightly exceeds the MDH chronic level but is orders of magnitude below the MDH acute concentration guidance.

12.4 Discuss other concerns not mentioned above:

Section 13: Conclusions and Recommendations

13.1 Recommendation for site:

site closure

- additional ground water monitoring
- additional field detectable vapor monitoring
- additional soil gas/vapor intrusion investigation
- corrective action

13.2 Base the recommendation above on Guidance Document I-01 *Petroleum Remediation Program*

General Policy. Describe below how you applied the policy to support your recommendation. If closure is recommended, please summarize significant site investigative events and describe how site specific risk issues have been adequately addressed or minimized to acceptable low risk levels.

During the two subsurface assessment events in August and October 2006, the vertical and horizontal extent of the petroleum hydrocarbons observed during the UST removal activities were defined to be limited to the site above the granitic bedrock and horizontally prior to impact with the Minnesota River. Summit also performed a Soil Gas-Based Vapor Intrusion Screening Assessment that indicated low concentrations of petroleum hydrocarbons (benzene) that slightly exceeded the MDH HRV for soil vapors. Local utility corridors were evaluated to be more than likely backfilled with the native material which is a coarse grained material and it would not be anticipated that these corridors would act as conduits for off-site migration of petroleum hydrocarbons to local receptors. A continuous groundwater table was not observed during drilling activities above the local granitic bedrock. Based on the field and analytical results, it appears that risks to human health and the environment resulting from the petroleum release at this site are relatively low.

13.3 If additional ground water and/or vapor monitoring is recommended, indicate the proposed monitoring schedule and frequency. Conduct quarterly monitoring until the MPCA responds to this report.

13.4 If additional soil gas/vapor intrusion investigation is recommended, indicate whether there is risk to a specific building or whether additional soil gas definition is necessary. Provide a detailed analysis of the initial soil gas and receptor information leading to these recommendations. Provide details of proposed activities such as sub-slab vapor and/or indoor air sampling, or locations of additional borings for sampling soil gas. If vapor intrusion, or conditions indicative of a high risk of vapor intrusion, has already been established, then corrective action is required. Refer to 13.5 below.

13.5 If corrective action is recommended, provide a conceptual approach by completing Guidance Document 4-19 *Conceptual Corrective Action Design Worksheet* and include it as Appendix H. See Guidance Document 4-10 *Elements of the Corrective Action Design* for more information on the corrective action design process and other requirements. (Note: MPCA staff will review this report at a higher-than-normal priority to determine if corrective action is required.)

Section 14: Figures

Attach the following figures in order of discussion in the text:

- X Site location map using a U.S. Geological Survey 7.5 minute quadrangle map.
- X One or more site maps showing:
 - Structures
 - Locations and depths of on-site buried utilities
 - All past and present petroleum storage tanks, piping, dispensers, and transfer areas.
 - Extent of soil excavation
 - Boring and well locations (including any drinking water wells on site)
 - Horizontal extent of soil contamination
 - Extent of surface soil contamination
 - Soil gas sampling locations and extent of the soil gas cloud
 - Horizontal extent of ground water contamination
 - Location of end points for all geologic cross sections.
 - Potential pathways to surface water features within ¼ mile of the site.
- Distinguish sequential elements of investigations by dates, symbols, etc. in the key.
- Ground water gradient contour maps (for sites with monitoring wells) for each gauging event.
- X Well receptor survey map showing 1/2 mile radius, 500 foot radius, water supply wells, other potential sources of contamination, using a U.S. Geological Survey 7.5 minute quadrangle.
- X Potential receptor map (scale 1 inch = 50 to 100 ft), showing property boundaries and roads, and potential receptors such as buildings, water wells, utilities (distinguish between water, storm sewer and sanitary sewer), surface waters, ditches and any other pertinent items within 500 ft of the release source.
- X Vapor survey map showing utilities and buildings with basements and monitoring locations within 500 feet (if a survey was required).
- X Provide at least two (2) geologic cross sections, including utilities.
- X Vapor intrusion assessment map showing all soil gas boring locations and buildings within and at a 100 feet radius of the worst case soil gas boring
- Aerial photos and Sanborn Maps of the immediate area.

Section 15: Tables (See Table Tab)

Section 16: Appendices

Attach the following appendices.

- X *Appendix A* Guidance Document 3-02 *General Excavation Report Worksheet*.
Not in the MPCCA format
- X *Appendix B* Laboratory Analytical Reports for Soil, Soil Gas/Sub-slab Vapor/Indoor Air/Ambient Air, and Ground Water. Include laboratory QA/QC data, Chromatograms, and laboratory certification number.
- X *Appendix C* Methodologies and Procedures, Including Field Screening of Soil, Other Field Analyses, Soil Boring, Soil Sampling, Soil Gas/Sub-Slab/Indoor air/Ambient Air Sampling, Well Installation, and Water Sampling.
- X *Appendix D* Geologic Logs of Soil Borings, Including Construction Diagrams of Temporary and Permanent Wells, and Copies of the Minnesota Department of Health Well Record.
- X *Appendix E* Copies of Water Supply Well Logs With Legible Unique Numbers.
- Appendix F* Grain Size Analysis, Hydraulic Conductivity Measurements, and Other Calculations.
- X *Appendix G* Guidance Document 1-03a *Spatial Data Reporting Form*.
- Appendix H* Guidance Document 4-19 *Conceptual Corrective Action Design Worksheet*

Section 17: Consultant (or other) Information

By signing this document, I/we acknowledge that we are submitting this document on behalf of and as agents of the responsible person or volunteer for this leak site. I/we acknowledge that if information in this document is inaccurate or incomplete, it will delay the completion of remediation and may harm the environment and may result in reduction of reimbursement awards. In addition, I/we acknowledge on behalf of the responsible person or volunteer for this leak site that if this document is determined to contain a false material statement, representation, or certification, or if it omits material information, the responsible person or volunteer may be found to be in violation of Minn. Stat. § 115.075 (1994) or Minn. R. 7000.0300 (Duty of Candor), and that the responsible person or volunteer may be liable for civil penalties.

MPCA staff are instructed to reject unsigned investigation reports or if the report form has been altered.

Name and Title:

Signature:

Date signed:

Peter Bell, Geologist



3/2/07

Bruce Johnson, PG, CPG, Principal



3/2/07

Company and mailing address:

Summit EnviroSolutions, Inc.

1217 Bandana Boulevard

St. Paul, MN 55108

Phone:

651.644.8080

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651.647.0888

Web pages and phone numbers

MPCA staff	http://pca.state.mn.us/pca/stat/index.cfm
MPCA toll free	1-800-657-3864
Petroleum Remediation Program web page	http://www.pca.state.mn.us/programs/just_p.html
MPCA Infor. Request	http://www.pca.state.mn.us/about/inforequest.html
MPCA Petroleum Brownfields Program	http://www.pca.state.mn.us/programs/vpic_p.html
PetroFund Web Page	http://www.state.mn.us/cer-bin/portal/mn/isp/content.do?id=536881377&agency=Commerce
PetroFund Phone	651-297-1119, or 1-800-638-0418

State Duty Officer 651-649-5451 or 1-800-422-0798

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Table 1
Tank Information

Former Food N Fuel
110 Highway 212 East, Granite Falls
Summit Project No. 0353-006

Tank #	UST or AST	Capacity (gallons)	Contents (product type)	Year installed	Tank Status*	Condition of Tank
1	UST	8,000	Gasoline	1986	Removed (5/16/06)	Good
2	UST	12,000	Gasoline	1986	Removed (5/16/06)	Good

*Indicate: *removed (date), abandoned in place (date), or currently used, upgraded tank, installation of new tank.*

Notes:

TABLE 2
RESULTS OF SOIL HEADSPACE SCREENING

FORMER FOOD N FUEL
110 Highway 212 East, Granite Falls
Summit Project No. 0353-006

Depth (ft)	Soil Boring												
	TP001	TP002	TP003	TP004	TP005	TP006	TP007	TP008	TP008A	TP009	TP010	TP011	TP012
3												ND*	
4	ND	ND	ND	ND	1	1	ND	ND	ND	ND	ND		ND
5.5			ND										
7	2,570												
8		ND		ND	1	ND	ND	ND	ND	ND	ND		ND
9	4,682				1*								
11							ND						ND*
12	3650*	ND		1		ND		ND	ND	ND	ND		
13		ND											
14								ND*					
15				1									
16		ND				ND	ND		ND	ND	ND		
17				43*									
18		26				ND							
19		1,114*					ND						
20		746				2			ND	ND	ND		
22		1,481					ND						
24		1,591				ND	ND*		ND	ND	ND		
25						2				114			
26		830				424*				203			
27										1606*			
28		269							ND		ND		
29						55							
29.5										934*	ND*		
30		34*											
30.5						ND							
32									ND*				
32.5						ND*							

Notes:

List instruments used and discuss field methods and procedures in Appendix C.

A Minirae RAE systems MiniRAE model PGM-7600 Photo Ionization Detector (PID) equipped with a 10.7 electron volt (eV) lamp was used to screen the samples.

Detected concentrations are in bold font

* : Indicates depth where analytical soil samples were collected

Results are reported in parts per million (ppm)

ND : Not detected above background levels

TABLE 3
ANALYTICAL RESULTS OF SOIL SAMPLES

FORMER FOOD N FUEL
110 Highway 212 East, Granite Falls
Summit Project No. 0353-006

Boring, Depth(ft)	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	GRO	DRO	Lab Type
TP001 10-12'	8/2/2006	<0.53	3.3	4	38	540	NM	Fixed
TP002 18-19'	8/2/2006	<0.065	<0.065	<0.065	<0.22	150	NM	Fixed
TP002 30-31.5'	8/2/2006	<0.031	<0.031	<0.031	<0.11	<6.2	NM	Fixed
TP004 15-17'	8/2/2006	<0.026	<0.026	<0.026	<0.090	<5.3	NM	Fixed
TP005 8-9'	8/2/2006	<0.26	3.1	2.8	25	240	NM	Fixed
TP006 26	8/2/2006	<0.03	<0.03	<0.03	<0.10	57	NM	Fixed
TP006 31-32.5'	8/2/2006	<0.029	<0.029	<0.029	<0.098	<5.8	NM	Fixed
TP007 24'	10/23/2006	<0.029	0.043	<0.029	<0.086	<5.7	NM	Fixed
TP008 14'	10/23/2006	<0.026	0.066	<0.026	0.11	<5.3	NM	Fixed
TP008A 32'	10/23/2006	<0.032	<0.032	<0.032	<0.096	<6.4	NM	Fixed
TP009 27'	10/24/2006	0.34	<0.26	3.1	5.6	370	NM	Fixed
TP009 29.5'	10/24/2006	<0.026	<0.026	<0.026	<0.077	<5.2	NM	Fixed
TP010 29.5'	10/24/2006	<0.026	<0.026	<0.026	<0.077	<5.2	NM	Fixed
TP011 3'	10/24/2006	<0.026	<0.026	<0.026	<0.078	<5.2	NM	Fixed
TP012 11'	10/24/2006	<0.036	0.062	<0.036	<0.11	<7.2	NM	Fixed
MPCA Tier I SRV	9/7/2005	6	107	200	45	NA	NA	NA
MPCA Tier II SRV	9/7/2005	10	305	200	130	NA	NA	NA

Notes:

Report results in mg/kg. Use less than symbols to show detection limit. Indicate mobile or fixed based in the lab type column.

NM : Parameter not measured.

NA : Not applicable

DRO : Diesel range organics

GRO: Gasoline range organics

VOCs : Volatile organic carbons

PAH : Polynuclear Aromatic Hydrocarbons

Tier I SRV : Minnesota Pollution Control Agency Tier I Residential Soil Risk Value (mg/kg)

Tier II SRV : Minnesota Pollution Control Agency Tier II Residential Soil Risk Value (mg/kg)

<0.29 Not detected above the method detection limit provided

1.4 Detected concentrations are in bold font

4.6 Detected concentration exceeds the MPCA Tier 1 SRV for that parameter

<0.29 Not detected, but the detection limit exceeds the MPCA Tier 1 SRV for that parameter

TABLE 5
OTHER CONTAMINANTS DETECTED IN SOILS

FORMER FOOD N FUEL
110 Highway 212 East, Granite Falls
Summit Project No. 0353-006

Boring Depth (ft)	Date Sampled	sec-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	Methylene Chloride	Napthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Lab Type
TP001 10-12'	8/2/2006	0.87	1.6	0.58	1.8	10	4.5	44	13	Fixed
TP002 18-19'	8/2/2006	0.14	0.12	0.095	0.2	0.17	<0.065	0.077	0.065	Fixed
TP002 30-31.5'	8/2/2006	<0.031	<0.031	<0.031	<0.062	<0.062	<0.031	<0.031	<0.031	Fixed
TP004 15-17'	8/2/2006	<0.026	<0.026	<0.026	<0.053	<0.053	<0.026	<0.026	<0.026	Fixed
TP005 8-9'	8/2/2006	0.63	0.92	<0.26	0.73	4.7	2.5	22	6.8	Fixed
TP006 26'	8/2/2006	0.097	0.085	0.049	<0.060	<0.060	0.036	<0.030	0.062	Fixed
TP006 31-32.5'	8/2/2006	<0.029	<0.029	<0.029	<0.058	<0.058	<0.029	<0.029	<0.029	Fixed
TP007 24'	10/23/2006	NM	NM	NM	NM	NM	NM	NM	NM	NA
TP008 14'	10/23/2006	NM	NM	NM	NM	NM	NM	NM	NM	NA
TP008A 32'	10/23/2006	NM	NM	NM	NM	NM	NM	NM	NM	NA
TP009 27'	10/24/2006	NM	NM	NM	NM	NM	NM	NM	NM	NA
TP009 29.5'	10/24/2006	NM	NM	NM	NM	NM	NM	NM	NM	NA
TP010 29.5'	10/24/2006	NM	NM	NM	NM	NM	NM	NM	NM	NA
TP011 3'	10/24/2006	NM	NM	NM	NM	NM	NM	NM	NM	NA
TP012 11'	10/24/2006	NM	NM	NM	NM	NM	NM	NM	NM	NA
MPCA Tier I SRV	9/7/2005	25	30	NA	97	10	30	8	3	NA
MPCA Tier II SRV	9/7/2005	70	87	NA	158	28	93	25	10	NA

Notes:

Report results in mg/kg. Use less than symbols to show detection limit. Indicate mobile or fixed based in the lab type column.

NM : Parameter not measured.

NA : Not applicable

DRO : Diesel range organics

GRO: Gasoline range organics

VOCs : Volatile organic carbons

PAH : Polynuclear Aromatic Hydrocarbons

Tier I SRV : Minnesota Pollution Control Agency Tier I Residential Soil Risk Value (mg/kg)

Tier II SRV : Minnesota Pollution Control Agency Tier II Industrial Soil Risk Value (mg/kg)

<0.29 Not detected above the method detection limit provided

1.4 Detected concentrations are in bold font

4.6 Detected concentration exceeds the MPCA Tier 1 SRV for that parameter

<0.29 Not detected, but the detection limit exceeds the MPCA Tier 1 SRV for that parameter

TABLE 6
ANALYTICAL RESULTS OF SOIL SAMPLES

FORMER FOOD N FUEL
110 Highway 212 East, Granite Falls
Summit Project No. 0353-006

Soil Boring	Depth to Water (ft)
TB008 A	28.9

TABLE 7
Analytical Results of Water Samples Collected from Borings and Industrial Well

FORMER FOOD N FUEL
 110 Highway 212 East, Granite Falls
 Summit Project No. 0353-006

Boring Number	Date Sampled	Sample Depth	Benzene	Toluene	Ethyl benzene	Xylenes, Total	MTBE	GRO	DRO	Lab Type
TB008A W	10/10/2006	28.9	<0.25	0.23	<0.22	<0.39	NM	<50	NM	fixed based
TRIP BLANK	10/11/2006	NA	<0.25	<0.11	<.22	<0.39	NM	<50	NM	fixed based
MDH HRL (ug/L)		NA	10	1,000	700	10,000	NA	NA	NA	NA

Notes:

All results reported in ug/L.

NM : Parameter not measured.

NA : Not available/Not applicable

DRO : Diesel range organics

GRO: Gasoline range organics

MDH HRL : Minnesota Department of Health Health Risk Limits (ug/l)

<0.29 Not detected above the method detection limit provided

1.4 Detected concentrations are in bold font

4.6 Detected concentration exceeds the MDH HRL for that parameter

<0.29 Not detected, but the detection limit exceeds the MPCA Tier 1 SRV for that parameter

TABLE 8
Other Contaminants Detected in Water Samples Collected from Borings and Industrial Well (Petroleum or Non-petroleum Derived)

FORMER FOOD N FUEL
 110 Highway 212 East, Granite Falls
 Summit Project No. 0353-006

Boring Number	Date Sampled	Sample Depth	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Acetone	Isopropyl benzene	Naphthalene	n-Butyl benzene	n-Propyl benzene	p-Isopropyl toluene	s-Butyl benzene	t-Butyl benzene	Toluene	Lab Type
TB008A W	10/10/2006	28.9	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
TRIP BLANK	10/11/2006	NA	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MDH HRL (ug/L)			NA	NA	700	300	300	NA	NA	NA	NA	NA	1,000	

Notes:

All results reported in ug/L.

NM : Parameter not measured.

NA : Not available/Not Applicable

DRO : Diesel range organics

GRO: Gasoline range organics

MDH HRL : Minnesota Department of Health Health Risk Limits (ug/l)

<0.29 Not detected above the method detection limit provided

1.4 Detected concentrations are in bold font

4.6 Detected concentration exceeds the MDH HRL for that parameter

<0.29 Not detected, but the detection limit exceeds the MPCA Tier 1 SRV for that parameter

Table 14
Properties Located Within 500 Feet of the Release Source.

FORMER FOOD N FUEL
 110 Highway 212 East, Granite Falls
 Summit Project No. 0353-006

# (From Map)	Property Address	Water Well (Y or N)	How Determined *	Well Use**	Public Water Supply (Y or N)	Confirmed By City (Y or N)	Basement Or Sumps (Y or N)	Possible Petroleum Sources (Y or N)	Comments (including property use)
3	141 E Hwy 212	N	RL	NA	Y		N	N	Residential (Welder)
2	143 E Hwy 212	N	RL	NA	Y		Y/N	N	Residential (Bursaw)
1	461 E Hwy 212	N	PC	NA	Y		Y/N	N	Residential
4	Unknown (west Park Street)	N	PC with Neighbor	NA	Y		Y/Walkout Basement probably no sump	Unknown	Residential. Foreclosed by bank no current resident.
5	Unknown (West Park Street)	N	PC	NA	Y		Y/N	N	Residential (Schulers)
6	Unknown (West Park Street)		NILM						Granite Falls Wastewater Plant

*E.g., visual observation, personal contact, telephone, returned postcard, assumed (i.e., no postcard returned).

**E.g., domestic, industrial, municipal, livestock, lawn/gardening, irrigation.

PC = Personal contact.

Y/N = Yes Basement, No Sump

NA = Not Applicable.

Unk = Unknown.

RL=Returned survey letter.

VI=Information obtained through visual inspection.

TABLE 17
Results of Soil Gas sampling for vapor intrusion screening

FORMER FOOD N FUEL
110 Highway 212 East, Granite Falls
Summit Project No. 0353-006

Sample Location	Worst Case (VP001)		Radial (VP002)		Radial (VP003)		Radial (VP004)		Radial (VP005)		Action Levels (ug/m3)			
	8/2/2006		8/2/2006		8/3/2006		8/3/2006		8/3/2006		Source:			
Depth (feet)	3'		10'		7'		3.5'		6.5'		HRV			
Parameter	Result	Report Limit	Result	Report Limit	Result	Report Limit	Result	Report Limit	Result	Report Limit	Chronic	Acute	RFC	ISC
Acetone	ND	10	64	2.5	ND	10	160	2.5	ND	2.5	NA	NA	350	NA
Benzene	20	10	ND	2.5	44	10	11	2.5	12	2.5	1.3 to 4.5	1,000	NA	NA
2-Butanone (MEK)	ND	10	5.4	2.5	ND	10	15	2.5	ND	2.5	NA	10,000	NA	NA
Carbon Disulfide	17	10	ND	2.5	ND	10	4.1	2.5	ND	2.5	700	6,000	NA	NA
Cyclohexane	140	10	ND	2.5	ND	10	3.3	2.5	ND	2.5	NA	NA	NA	6,000
Dichlorodifluoromethane	3,500	10	160	2.5	4,700,000	10	930	2.5	ND	2.5	NA	NA	200	NA
Ethanol**	100	10	16	2.5	ND	10	ND	2.5	ND	2.5	NA	NA	NA	NA
Ethylbenzene	17	10	7.1	2.5	42	10	11	2.5	4.6	2.5	NA	10,000	1,000	NA
4-Ethyl Toluene	70	10	5.2	2.5	ND	10	6.8	2.5	ND	2.5	NA	NA	NA	NA
n-Heptane	130	10	8.8	2.5	ND	10	11	2.5	3.1	2.5	NA	NA	NA	NA
Hexane	160	10	10	2.5	ND	10	17	2.5	ND	2.5	2,000	NA	NA	NA
Isopropanol**	ND	10	180	2.5	ND	10	ND	2.5	ND	2.5	NA	NA	NA	NA
Styrene	ND	10	12	2.5	110	10	5.1	2.5	6.8	2.5	1,000	21,000	NA	NA
Toluene**	75	10	16	2.5	45	10	28	2.5	18	2.5	400	37,000	NA	NA
Trichlorofluoromethane (Freon11)	ND	10	ND	2.5	86	10	ND	2.5	ND	2.5	NA	NA	700	NA
1,2,4-Trimethylbenzene	150	10	14	2.5	10	10	22	2.5	6.4	2.5	NA	NA	6	NA
1,3,5-Trimethylbenzene	250	10	4.8	2.5	ND	10	9.8	2.5	ND	2.5	NA	NA	6	NA
m&p xylene	89	20	11	5	ND	20	16	5	5.8	5	NA	43,000*	700*	NA
o-xylene	280	10	7.6	2.5	ND	10	14	2.5	4.6	2.5	NA	43,000*	700*	NA

Notes:

Concentrations in micrograms-per-cubic meter (ug/m³).

*Action Levels are for total Xylenes

** = Parameter not listed on Minnesota Soil Gas List.

NA = Action Level not available

<0.29

Not detected above the report limit provided

1.4

Detected concentrations are in bold font

4.6

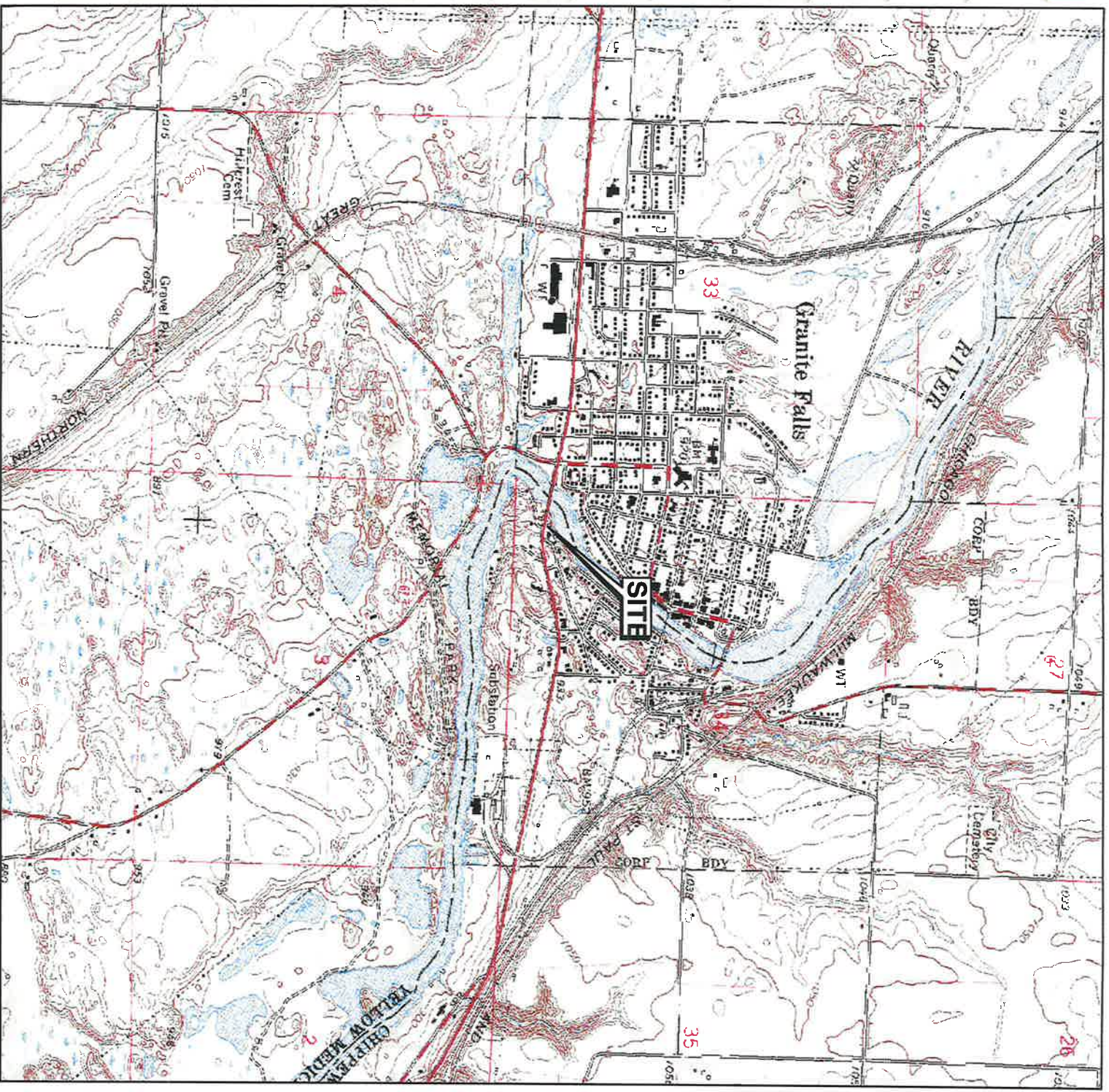
Detected concentration exceeds an action level for that parameter

Priority for action levels is: HRV, RFC, and then ISC

HRV = Minnesota Department of Health (MDH) Health Risk Values.

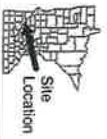
RFC = EPA Reference Concentrations.

ISC = MDH Interim Screening Concentrations.



Map adapted from USGS 7.5 minute topographic map: Granite Falls, Minnesota.

LEGEND



Site
Location

0 2,000
1 Feet
1 inch equals 2,000 feet



GENERAL SITE LOCATION MAP

Former Food N Fuel
East Highway 212
Granite Falls, MN

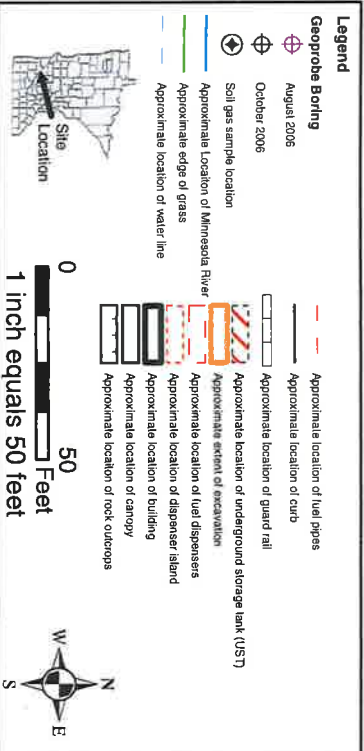
Figure 1

File: fig1.mxd
Summit Proj. No.: 0353-006
Plot Date: 05/23/06
Arc Operator: PRB
Reviewed by: BDJ





Map adapted from FSA orthoquadrangle: Chippewa, Minnesota, surveyed site map and Summit field notes.

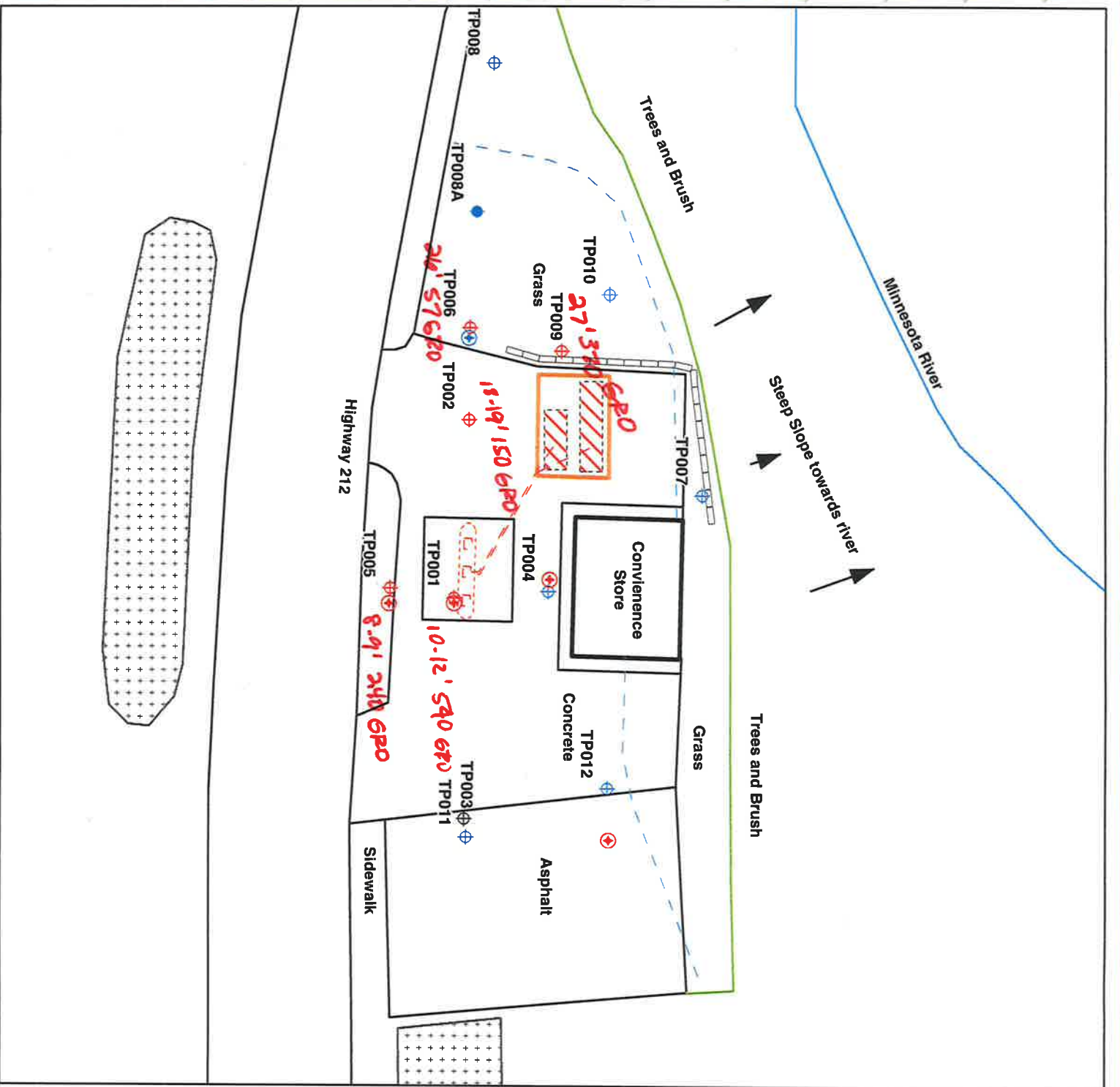


SITE MAP
 Former Food N Fuel
 East Highway 212
 Granite Falls, MN

Figure 2

File: LSI_FIG2
 Summit Proj. No.: 0353-006
 Plot Date: 11/08/06
 Arc Operator: PRB
 Reviewed by: BDJ





Map adapted from FSA orthoquadrangle: Chippewa, Minnesota, surveyed site map and Summit field notes.

Legend

Analytical Sampling Results

- Soil Samples (No exceedences of SVNs selected)
- Soil and Water Samples (No exceedences of SVNs selected)
- Soil Samples (Exceedences of SVNs or Elevated PID readings encountered)
- No analytical soil samples collected
- Soil Gas Samples (No parameters detected exceed action level)
- Soil Gas Samples (Parameters detected exceed action level)

Legend

- Approximate location of Minnesota River
- Approximate edge of grass
- Approximate location of water line
- Approximate location of fuel pipes
- Approximate location of curio
- Approximate location of guard rail
- Approximate extent of excavation
- Approximate location of fuel dispensers
- Approximate location of building
- Approximate location of canopy
- Approximate location of rock outcrop

0 50 Feet
1 inch equals 50 feet

W N E S

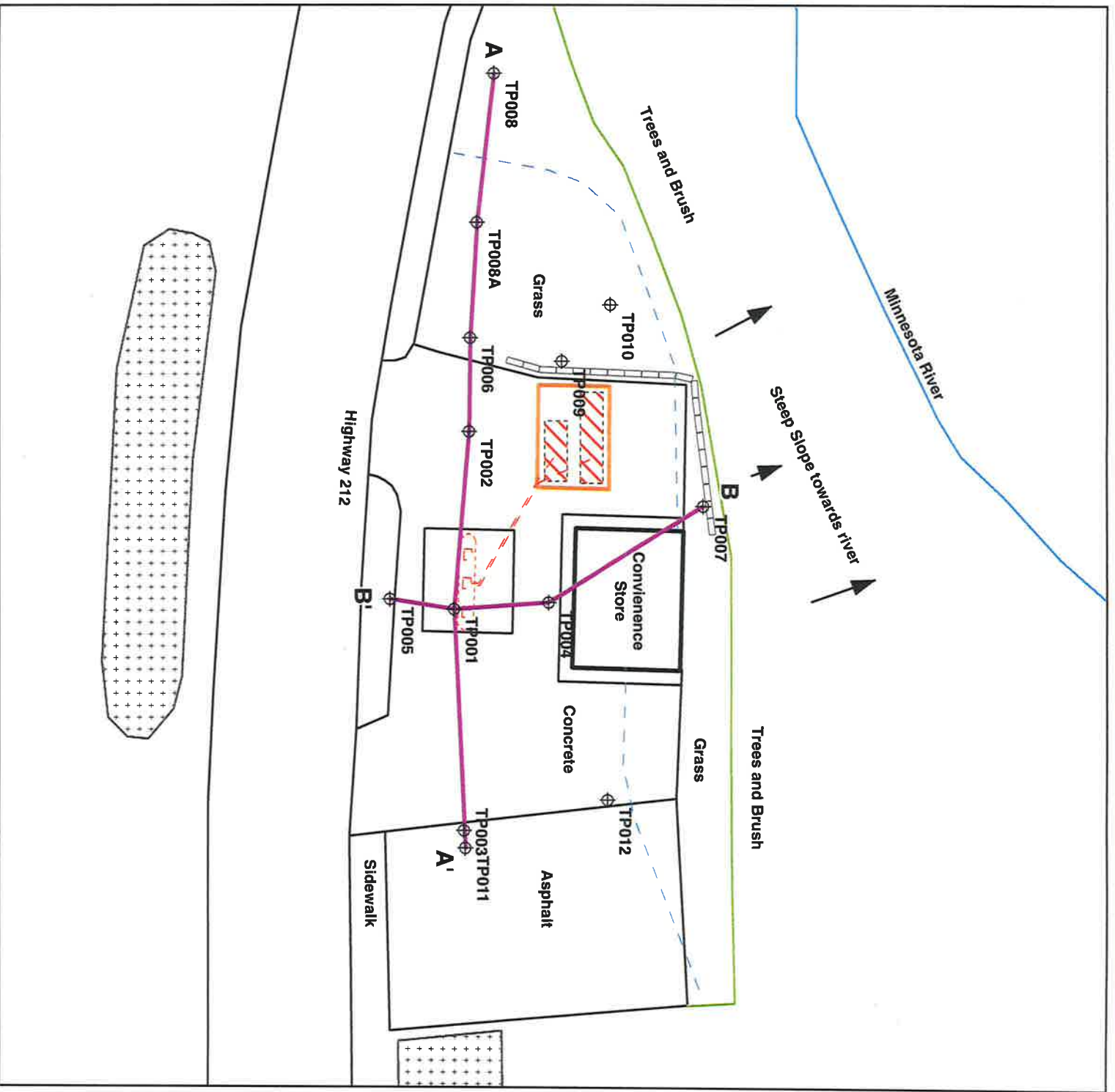
ANALYTICAL SAMPLING RESULTS

Former Food N Fuel
East Highway 212
Granite Falls, MN

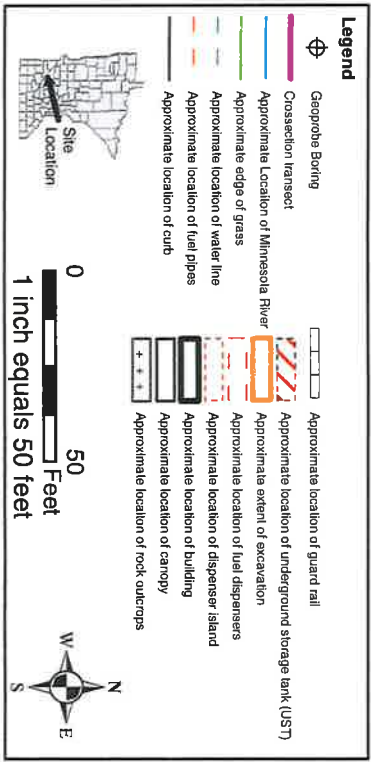
Figure 3

File: LSL_Results
Summit Proj. No.: 0353-006
Plot Date: 11/09/06
Arc Operator: PRB
Reviewed by: BDJ





Map adapted from FSA orthoquadrangle: Chippewa, Minnesota, surveyed site map and Summit field notes.



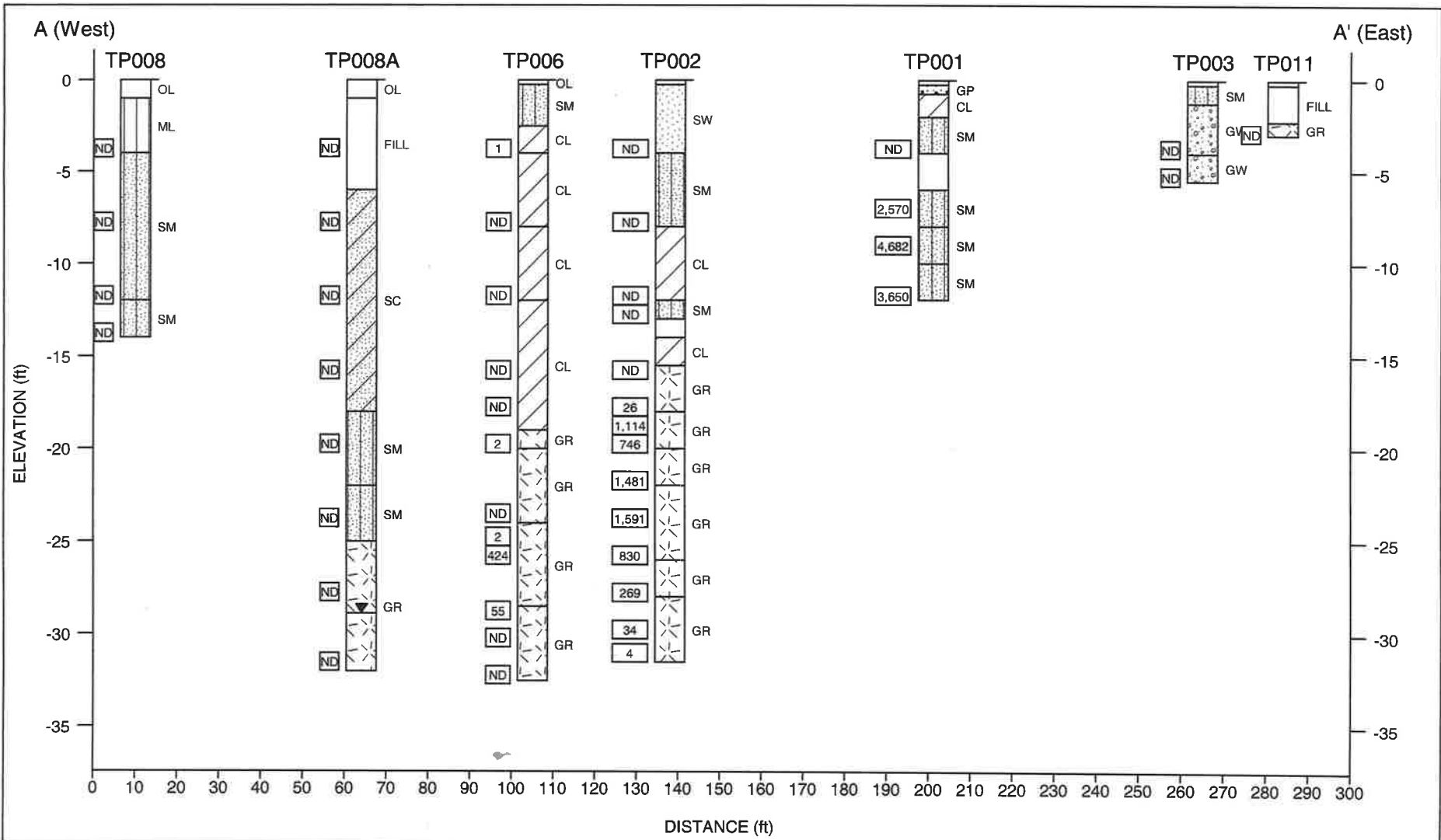
CROSSECTION TRANSECT MAP

Former Food N Fuel
East Highway 212
Granite Falls, MN

Figure 4

File: LSL XSection
Summit Proj. No.: 0353-006
Plot Date: 11/09/06
Arc Operator: PRB
Reviewed by: BDJ



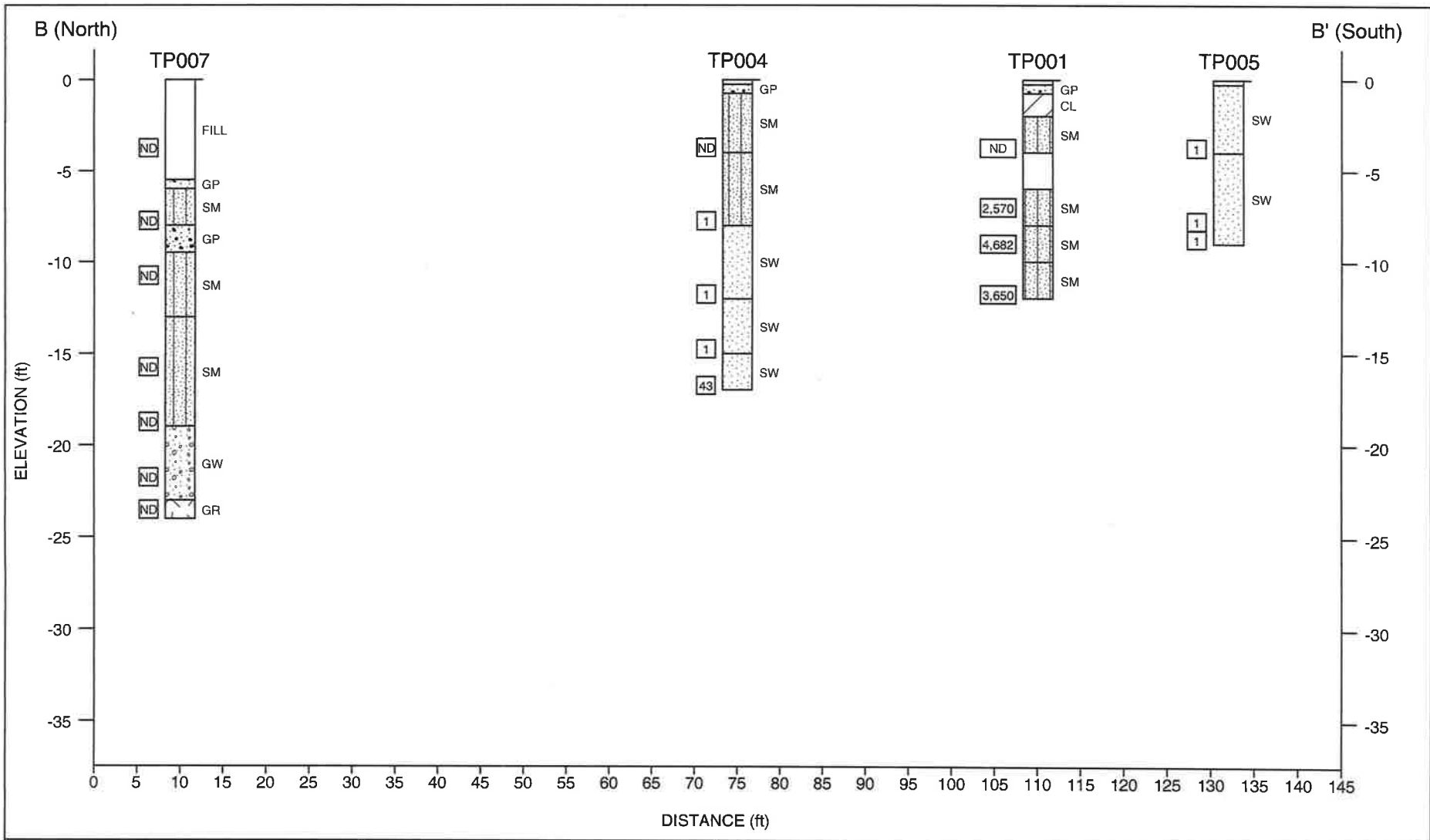


FORMER FOOD N FUEL
 110 Highway 212 East, Granite Falls
 Summit Project No. 0353-006

Figure 5
GEOLOGIC CROSS SECTION
 Section A (West)-A' (East)

LEGEND

	GP: Well graded GRAVEL		OL: Organic SILT
	SW: Well graded SAND		GR: Weathered Granite
	SM: SILTY SAND		
	SC: CLAYEY SAND		
	ML: SILT		
	CL: CLAY		



FORMER FOOD N FUEL
 110 Highway 212 East, Granite Falls
 Summit Project No. 0353-006










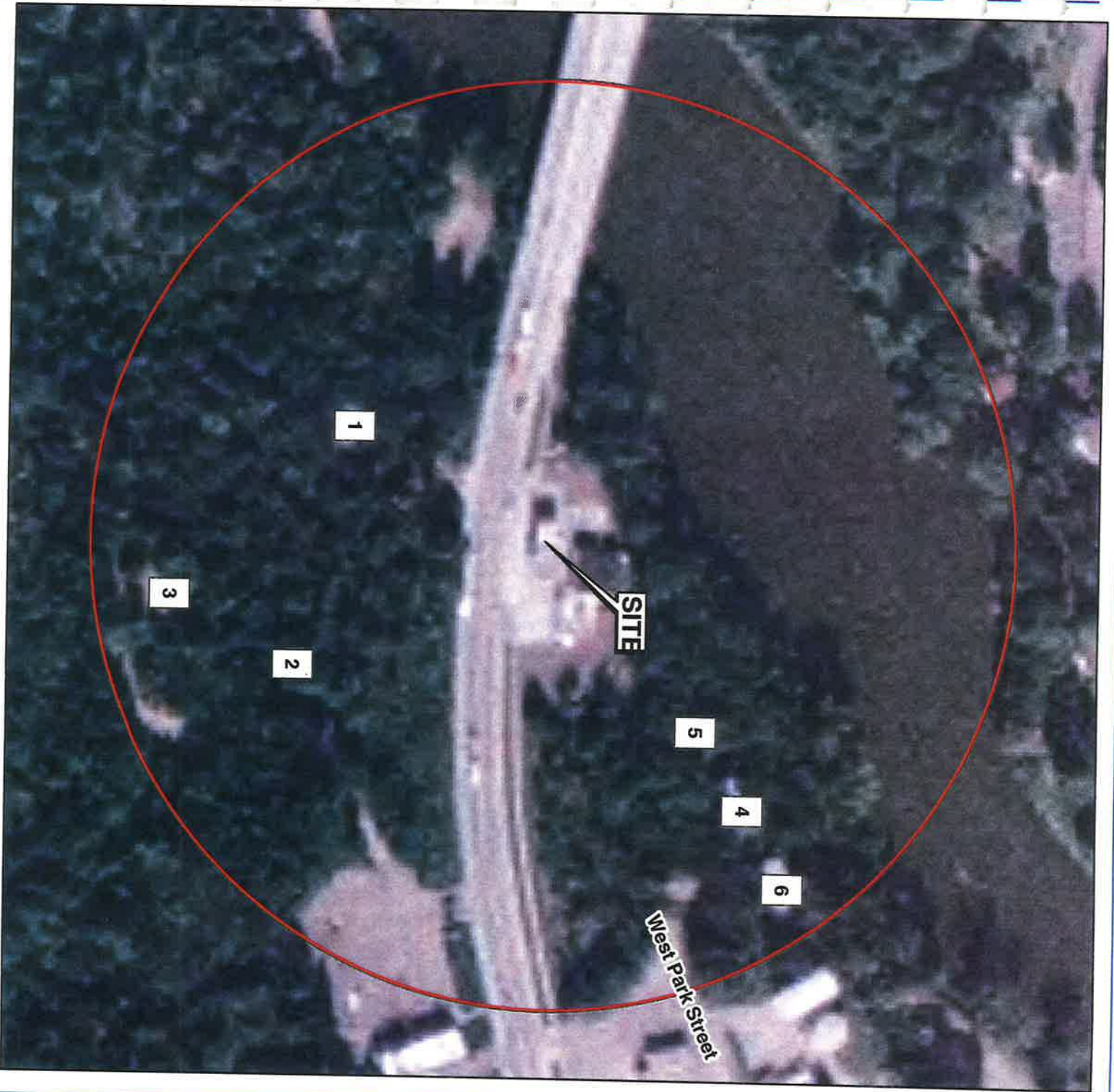


Figure 6
 GEOLOGIC CROSS SECTION
 Section B (North)-B' (South)


LEGEND

	GP: Well graded GRAVEL		OL: Organic SILT
	SW: Well graded SAND		GR: Weathered Granite
	SM: SILTY SAND		
	SC: CLAYEY SAND		
	ML: SILT		
	CL: CLAY		



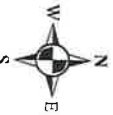
Map adapted from USDA NAIP 2003 Orthophoto: Chippewa County.

LEGEND

-  500-Foot Radius
-  Property Number from Table 13.



0 150 Feet
1 inch equals 150 feet



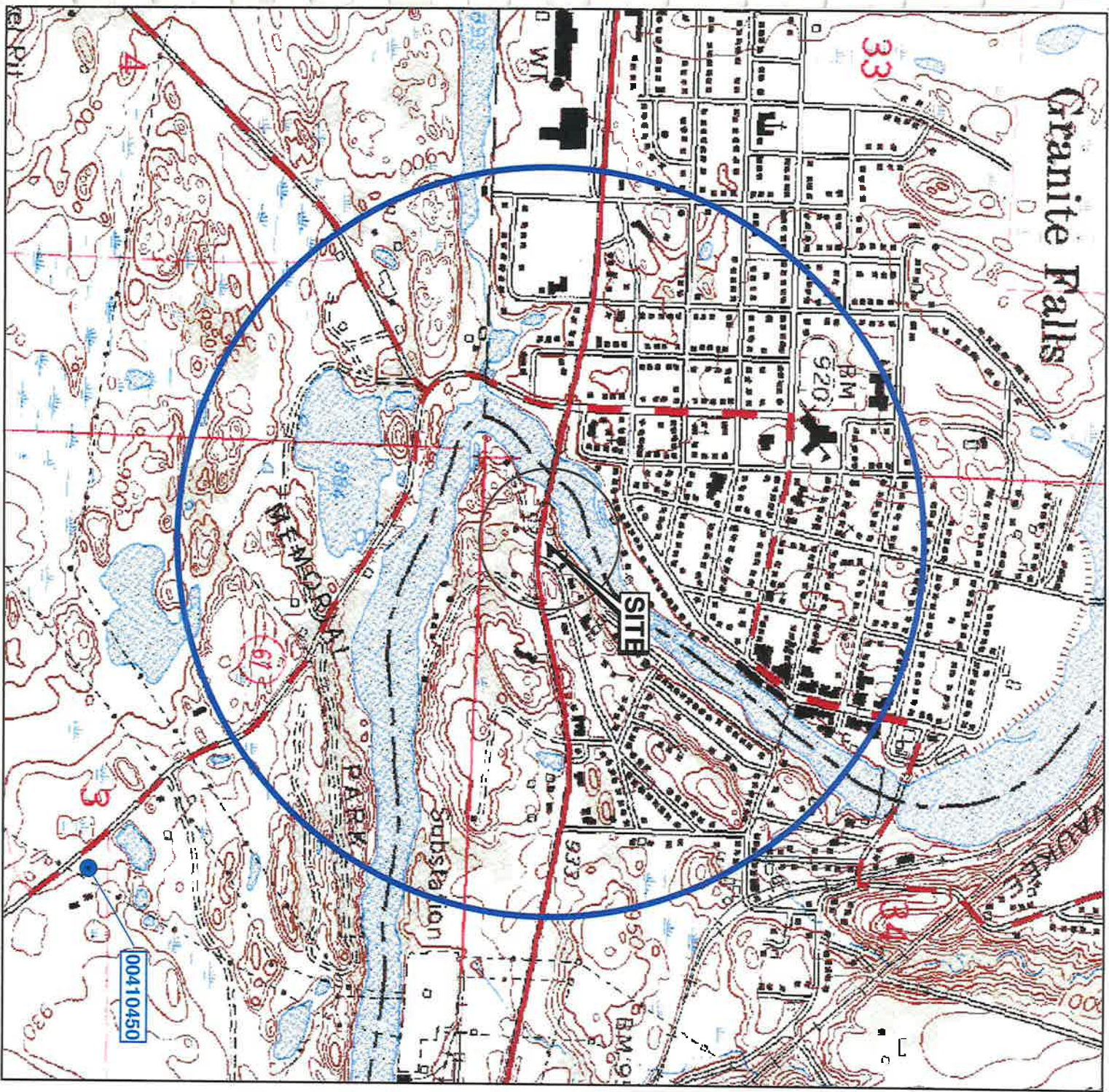
**FIVE-HUNDRED FOOT WELL
RECEPTOR SURVEY MAP**

Former Food N Fuel
East Highway 212
Granite Falls, MN



Figure 8

File: 500foot.mxd
Summit Proj. No.: 0353-006
Plot Date: 05/23/06
Arc Operator: JLT
Reviewed by: BDJ



Map adapted from USGS 7.5 minute topographic map: Granite falls, Minnesota.

LEGEND

- County Well Index wells and unique well ID
- Half-Mile Radius
- 500-Foot Radius



0 1,000 Feet
1 inch equals 1,000 feet



HALF-MILE WELL RECEPTOR SURVEY MAP

Former Food N Fuel
East Highway 212
Granite Falls, MN



Figure 7

File: halfmile.mxd
Summit Proj. No.: 0353-006
Plot Date: 05/23/06
Arc Operator: JLT
Reviewed by: BDJ



Petroleum Remediation Program

Minnesota Pollution Control Agency

http://www.pca.state.mn.us/programs/lust_p.html

General Excavation Report Worksheet

Guidance Document 3-02

Complete the worksheet below to document excavation and treatment of petroleum contaminated soil removed **prior to** a Site Investigation and/or during tank removals and/or upgrades. If soil is excavated as an MPCA-approved corrective action **after** a Site Investigation is conducted, complete Guidance Document 3-02a *Corrective Action Excavation Report Worksheet*. Conduct excavations in accordance with Guidance Document 3-01 *Excavation of Petroleum Contaminated Soil*. Please type or print clearly. Do not revise or delete text or questions from this report form.

The excavation worksheet 3-02 deadline is 10 months from the date of receipt of the MPCA "Petroleum Storage Tank Release Investigation and Corrective Action" letter. MPCA staff may establish a shorter deadline for high priority sites.

PART I: BACKGROUND

A. Site:

MPCA Site ID#: LEAK00016460

Former Food N Fuel
Street: 110 Highway 212 East
City, Zip: Granite Falls
County: Chippewa
Site location (UTM required): Easting 980903.79
Northing 16287626.44 (NAD 1983 Zone 15N)

B. Tank Owner/Operator: KMJ Convenience

Mailing Address:

Mr. Mark Jasperson
Street/Box: 1102 Benson Road
City, Zip: Montevideo, Minnesota 56265
Telephone: (320) 269-6424

C. Excavating Contractor:

Lauritsen Digging Service
Contact: Robert Lauritsen
Telephone: (320) 269-8416
Tank Contractor Certification Number: 61

D. Consultant:

Summit Environments
Contact: Bruce Johnson
Street/Box: 1217 Bandana Blvd. N.
City, Zip: St. Paul, MN 55108
Telephone: (651) 644-8080

Others on-site during site work (e.g., fire marshal, local officials, MPCA staff, etc.):

A representative of the MPCA was on site.

E. Site Location Information: Attach Guidance Document 1-03a *Spatial Data Reporting Form* if it has not already been submitted or will not be submitted as part of Guidance Document 4-06 *Investigation Report Form*. Document 1-03a will be submitted with document 4-06.

Note: If person other than tank owner and/or operator is conducting the cleanup, provide name, address, and relationship to site on a separate attached sheet.

PART II: DATES

- A. Date release reported to MPCA: 5/17/06
- B. Dates site work performed (tanks removed, piping removed, soil excavation, soil borings, etc.):

Work Performed	Date
Two tanks and some piping removed from site. Tank basin, piping and stockpile soil samples collected.	5/16/06
Soil samples collected from three fuel dispensers.	6/2/06

PART III: SITE AND RELEASE INFORMATION

- A. Describe the land use and pertinent geographic features within 1,000 feet of the site. (i.e. residential property, industrial, wetlands, etc.)

The Minnesota River is adjacent to the site to the northwest. A bar, a municipal wastewater treatment plant and residential properties are present to the northeast. To the east, there is a fast-food restaurant and residential properties. To the south and south west there is highway 212, residential properties and the Minnesota River. To the west there is open space and the Minnesota River.

- B. Provide the following information for all tanks removed and any remaining at the site:

Table 1.

Tank #	UST or AST	Capacity (gallons)	Contents (product type)	Year installed	Tank Status*	Condition of Tank
1	UST	8,000	Gasoline	1986	Removed (5/16/06)	Good
2	UST	12,000	Gasoline	1986	Removed (5/16/06)	Good

*Indicate: *removed (date), abandoned in place (date), or currently used, upgraded tank, installation of new tank.*

Notes:

C. Describe the location and status of the other components of the tank system(s) (i.e., transfer locations, valves, piping and dispensers) for those tanks listed above.

The two former USTs were connected to three fuel dispensers under one canopied island that was located SE of the tank basin (Figure 3). All three fuel dispensers have been removed but the concrete foundations for the dispensers remains in place. The piping that connected the tank basin to the dispensers (a distance of approximately 40 feet) remains in place.

D. Identify and describe the source(s) or suspected source(s) of the release or contamination encountered, and how the release or contamination was discovered.

The two USTs were in good condition and suspected sources of contamination do not include leaks directly from these tanks. The MPCA representative that was onsite confirmed that the tanks were in good condition.

During removal of the tanks, the excavating contractor broke a pipe, spilling less than five gallons of gasoline into the tank basin. The MPCA representative that was on site witnessed the limited spill and confirmed that the amount spilled was less than five gallons. Summit collected sample P-1 at a depth of approximately 3 feet below grade (bg) at the point of the release (Figure 4). Field screening results for this sample indicated that organic vapors were present in the location of the limited release at 89 part per million (ppm) (Table 2). The impacted soil (less than ten cubic yards) was removed from the basin during excavation and temporarily stockpiled onsite. Summit collected a soil sample (SP01/05161320) from this stockpiled soil and submitted to an independent laboratory for analysis of GRO/PVOC. Analytical results for sample SP01/05161320 indicated that gasoline range organics were not detected above the laboratory reporting limit. 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Ethylbenzene, Toluene and Xylenes were detected above the laboratory reporting limits but below the MPCA Tier I and Tier II SRVs for these parameters (Table 3, Figure 5 and Appendix D). The stockpiled soil was carefully returned to the bottom of the NE corner of the basin. Additionally, toluene was detected in sample BE-12/0516115 at 0.028 ppm and total xylenes were detected in sample P-4/05161155 at 0.079 ppm. These levels are below the MPCA Tier I and Tier II SRVs for toluene and ethylbenzene.

Summit advanced hand augers around the three former fuel dispensers. Shallow, coarse grained, gravel fill prevented these augers from being completed past 1.5 feet bg. Field screening of the soil form these hand augers indicated that elevated levels of organic vapors were present. Field screening results ranged from a concentration of 38 ppm for soil from 0.75-1.25 feet bg at the west dispenser to 3,176 ppm for soil from 1.0-1.5 feet bg at the east dispenser (Table 2 and Figure 4). Analytical soil samples from each dispenser were submitted to an independent laboratory for analysis of GRO/BTEX (Table 3, Figure 5 and Appendix D). Samples for analysis were chosen from the bottom of the deepest auger

completed at each former dispenser. Analytical results indicated that GRO were present in the West Dispenser/06021140 sample at 6.2 ppm, in the Middle Dispenser/06021145 sample at 21 ppm and in the East Dispenser/06021215 sample at 9,900 ppm. Concentrations of ethylbenzene, toluene and total xylenes were also detected in these samples. The concentration of total xylenes in the East Dispenser/06021215 sample did exceed the MPCA tier II SRV for xylenes.

E. Identify any surface soil contamination.

Soil from near the surface at the three dispensers has been shown to be impacted. The potential for this soil to reach risk receptors (dermal contact and potential runoff to surface waterways) is limited by the difficult access to the soil. The concrete foundations for the dispensers remain in place. Soil at the dispensers is exposed through an approximately 1 foot by 2 foot hole in the foundation at a depth of approximately one foot below the grade of the foundation. These holes contain pipes and debris that further limit the access to the impacted soil. Current site plans include filling the holes in these foundations with concrete to remove the access to this impacted soil.

F. What was the volume of the release? (if known): unknown gallons

G. Historic contamination present (unknown origin?) (Yes or No): No

H. When did the release occur? (if known):

I. Describe source of on-site drinking water.

Drinking water for the now abandoned building comes from the municipal water supply.

PART IV: EXCAVATION INFORMATION

A. Dimensions of excavation(s): Length 35' Width 25' Depth 12' (approximate)

B. Original tank backfill material (sand, gravel, etc.), if applicable: Sand

C. Native soil type (clay, sand, etc.): Sand with shallow granitic bedrock (approximately 17 feet bg)

D. Quantity of contaminated soil removed for treatment (cubic yards): NA
(Indicate on the site map where the petroleum contaminated soil was excavated)

How many cubic yards of the removed soil was petroleum saturated? NA
(Indicate on the site map where the petroleum saturated soil was excavated)

[**Note:** If the volume removed is more than allowed in Guidance Document 3-01 *Excavation of Petroleum Contaminated Soil*, please document MPCA staff approval.]

E. Were new tanks and/or piping and dispensers installed? (yes/no) If yes, what volume of contaminated soil was excavated to accommodate the installation of the new tanks and piping?

No
F. If contaminated soil was removed to accommodate the installation of new tanks and/or piping, show your calculations for the amount of soil removal allowed using Table 3 in Guidance Document 3-01 *Excavation of Petroleum Contaminated Soil*.

NA

G. Was ground water encountered or a suspected perched water layer or was there evidence of a seasonally high ground water table (i.e. mottling)? (yes/no) At what depth?

No.

H. If ground water was not encountered during the excavation, what is the expected depth of ground water?

The site is approximately 27 feet above the level of the adjacent Minnesota River. Groundwater has not been encountered during completion of LSI borings on the site to date. Borings have been completed on the site to a maximum depth of 32.5 feet bg. Ground water was not encountered in any of these borings.

I. Additional investigation to determine the need for a Limited Site Investigation is necessary at sites with sandy or silty sandy soil, a water table within 25 feet of the ground surface, and visual or other evidence of soil remaining contamination. See Table 2 in Guidance Document 3-01 *Excavation of Petroleum Contaminated Soil*. If a soil boring is necessary, describe the soil screening and analytical results. Attach the boring logs and laboratory results to this report.

J. If no soil boring was performed, explain.

An LSI is being completed.

K. If ground water was encountered or if a soil boring was conducted, was there evidence of ground water contamination? (yes/no) Describe this evidence of contamination, e.g., free product (specify thickness), product sheen, ground water in contact with petroleum contaminated soil, water analytical results, etc. **Note:** If you observe free product, contact MPCA staff immediately, as outlined in Guidance Document 2-02 *Free Product: Evaluation and Recovery*.

Groundwater has not been encountered during completion of LSI borings on the site to date. **However it was not possible (using a push probe) to complete the borings to a depth that completely defined the horizontal extent of impacts on the site.**

L. Was bedrock encountered in the excavation? (yes/ no) At what depth?

Bedrock was not encountered in the excavation but borings that have been completed suggest that bedrock is present below the tank basin at a depth of approximately 17 feet bg.

M. Were other unique conditions associated with this site? (yes/no) If so, explain.

PART V: SAMPLING INFORMATION

A. Briefly describe the field screening methods used to distinguish contaminated from uncontaminated soil:

Soil samples were screened with photoionization detectors (PID). The PID used was a RAE systems MiniRAE model PGM-7600 equipped with a 10.6 eV lamp. This instrument was calibrated at the beginning of the day using ambient air as a zero gas and 100 parts per million (ppm) isobutylene in air as the calibration gas. This calibration procedure was followed to allow for direct readings of benzene in ppm on a volume basis.

As the excavation proceeded, soil samples were collected from the backhoe into a Ziploc bag. The bag was then shaken for approximately 15 seconds and stored for at least 10 minutes at ambient temperature in an area out of direct sunlight. The bag seal was then carefully opened and the PID probe was inserted into the bag to collect a headspace sample. The highest PID response noted during the first 15 seconds was recorded as the headspace reading for the sample.

B. List soil vapor headspace analysis results collected during excavation of tanks, lines and dispensers, valves, and transfer locations. (i.e., soils left in place when excavation is complete). Code the samples with sampling depths in parentheses as follows: sidewall samples S-1 (8 feet), S-2 (4 feet), etc.; bottom samples B-1 (13 feet), B-2 (14 feet), removed soil R-1 (4 feet), R-1 (8 feet), etc.; stockpile samples SP-1, etc.; line samples L-1, L2, etc.; transfer locations T-1 (4 feet), T-1 (8 feet), etc.; dispensers D-1 (4 feet), etc. **Be sure the sample codes correspond with the site map in part VI, below.**

Sample Code	Soil Type	Reading ppm
T-1 (1 foot)	Sand	ND
T-2 (1 foot)	Sand	ND
T-3 (1 foot)	Sand	ND
T-4 (1 foot)	Sand	ND
N-12 (3-5 feet)	Sand	ND
W-12 (3-5 feet)	Sand	ND
E-12 (3-5 feet)	Sand	ND
S-12 (3-5 feet)	Sand	ND
P-1 (3 feet)	Sand	89
P-2 (3 feet)	Sand	ND
W-8 (3-5 feet)	Sand	ND
N-8 (3-5 feet)	Sand	ND
E-8 (3-5 feet)	Sand	ND
S-8 (3-5 feet)	Sand	ND
BW12 (12 feet)	Sand	ND

Sample Code	Soil Type	Reading ppm
BE12 (12 feet)	Sand	ND
BW8 (10 feet)	Sand	ND
BE8 (10 feet)	Sand	ND
P-3 (3 feet)	Sand	ND
P-4 (3 feet)	Sand	ND
D1 (0.0-0.75 feet)	Sand and Gravel	213
D1 (0.75-1.25 feet)	Sand and Gravel	38
D2 (0.0-0.75 feet)	Sand and Gravel	197
D2 B (0.0-0.75 feet)	Clay	213
D2 B (0.75-1.0 feet)	Sand and Gravel	130
D3 A (0.0-0.5 feet)	Sand and Gravel	199
D3 A (0.5-1.0 feet)	Sand and Gravel	902
D3 A (1.0-1.5 feet)	Sand and Gravel	3,176
D3 B (0.0-0.75 feet)	Sand and Gravel	237

C. Was the "removed soil" placed back into the excavation basin? (yes/ no)

If no, please complete Part VIII: Soil Treatment Information section. If yes, a Limited Site Investigation is necessary (see Guidance Document 4-01 *Soil and Ground Water Assessments Performed during Site Investigations*).

D. Briefly describe the soil analytical sampling and handling procedures used:

Soil samples were collected from the backhoe into a Ziploc bag using single use nitrile gloves. Soil sampling proceeded according to the methods outlined below. Sample quantities were estimated using a clean laboratory provided syringe.

For GRO/BTEX and PVOC soil analysis, a 1:1 ratio of soil sample to purge and trap grade methanol was used. Approximately 10 grams of soil was placed into a pre-weighed forty-milliliter vial containing 10 milliliters of methanol. The soil was placed into the pre-weighed jar or vial as quickly and gently as possible to minimize volatilization. The threads of the jar or vial may have been wiped clean prior to sealing the jar with a Teflon-lined cap. After securing the cap, the container was shaken to coat the soil with the methanol preservative. A dry weight sample was also collected by filling a tightly sealing container with soil from the same area. The sample jars were labeled and immediately placed on ice in a cooler chest. Analysis followed the Wisconsin modified DRO and GRO preparation and analysis methods.

E. List below all soil sample analytical results from bottom and side wall samples collected after excavation of tanks, lines and dispensers, valves, and transfer locations (i.e., soils left in place when excavation is complete). Code the samples with sampling depths in parentheses as follows: sidewall samples S-1 (8 feet), S-2 (4 feet), etc.; bottom samples B-1 (13 feet), B-2 (14 feet), removed soil R-1 (4 feet), R-1 (8 feet), etc.; stockpile samples SP-1, etc.; line samples L-1, L2, etc.; transfer locations T-1 (4 feet), T-1 (8 feet), etc.; dispensers D-1 (4 feet), etc.; **Be sure the sample codes correspond to the site map required in part VI.**

Sample Code	GRO (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Xylenes (Total) (mg/kg)	MTBE (mg/kg)	1,2,4-Trimethylbenzene (mg/kg)	1,3,5-Trimethylbenzene (mg/kg)
BW-12 (05161110)	<5.2	<0.026	<0.026	<0.026	<0.077	<0.026	<0.026	<0.026
BE-12 (05161115)	<5.1	<0.026	<0.026	0.028	<0.077	<0.026	<0.026	<0.026
BC-8 (05161140)	<5.2	<0.026	<0.026	<0.026	<0.077	<0.026	<0.026	<0.026
P-4 (05161155)	<5.3	<0.026	<0.026	<0.026	0.079	<0.026	<0.026	<0.026
SP01 (05161320)	<5.3	<0.026	0.04	0.066	0.18	<0.026	0.17	0.054
West Dispenser (06021115)	6.2	<0.027	0.042	0.031	0.082	NS	NS	NS
Middle Dispenser (06021145)	21	<0.029	0.086	0.074	0.55	NS	NS	NS
East Dispenser (06021215)	9900	<0.029	13	5.9	480	NS	NS	NS
MPCA Tier I SRV	NA	6	200	107	45	NA	8	3
MPCA Tier II SRV	NA	10	200	305	130	NA	25	10

Note: Attach copies of laboratory reports and chain of custody forms.

PART VI: FIGURES

Attach the following figures to this report:

1. Site location map.
2. Site map(s) drawn to scale illustrating the following:
 - a. Location of all present and former tanks, piping, and dispensers;
 - b. Location of surface soil contamination
 - c. Location of other structures (buildings, canopies, etc.);
 - d. Adjacent city, township, or county roadways;
 - e. Dimensions of excavation(s), including contour lines (maximum 2-foot contour intervals) to represent the depths of the final excavation(s);
 - f. Location of soil screening samples (e.g. R-1), soil analytical samples (e.g., S-1 or B-1), and any soil borings (e.g., SB-1). Also, attach all boring logs.
 - g. North arrow, bar scale and map legend.
 - h. Provide location of any on-site water wells. If on-site water wells exist, please provide well logs and/or construction diagrams.
 - i. Locations of new tanks, piping and dispensers, if installed.

PART VII: CONCLUSIONS AND RECOMMENDATIONS

Recommendation for site: site closure additional investigation

Justify the recommendations for the site. If no further action is necessary, the MPCA staff will review this report following notification of soil treatment.

Impacted soil remains on site above the field screening levels of 40 ppm given in table 1 of c-prp3-01 and the GRO/DRO threshold of 50 ppm referenced in table 2 of c-prp3-01. Also, sandy soil is the native soil type at the site and the depth of the water table is not known for the site.

Summit communicated analytical results from the dispenser islands to Nancy Hennen Blomme (MPCA) over the phone. Based on this conversation Summit recommended to KMJ convenience (KMJ) that additional investigation be completed. KMJ collected Bids and an LSI is being completed.

PART VIII: SOIL TREATMENT INFORMATION

- A. Soil treatment method used (thermal, land application, composting, other). If you choose "other" specify treatment method:
- B. Location of treatment site/facility:
- C. Date MPCA approved soil treatment (if thermal treatment was used, indicate date that the MPCA-permitted thermal treatment facility agreed to accept soil):
- D. Identify the location of stockpiled contaminated soil:

PART IX: CONSULTANT (OR OTHER) PREPARING THIS REPORT

By signing this document, I/we acknowledge that we are submitting this document on behalf of and as agents of the responsible person or volunteer for this leak site. I/we acknowledge that if information in this document is inaccurate or incomplete, it will delay the completion of remediation and may harm the environment and may result in reduction of reimbursement awards. In addition, I/we acknowledged on behalf of the responsible person or volunteer for this leak site that if this document is determined to contain a false material statement, representation, or certification, or if it omits material information, the responsible person or volunteer may be found to be in violation of Minn. Stat. § 115.075 (1994) or Minn. 7000.0300 (Duty of Candor), and that the responsible person or volunteer may be liable for civil penalties.

MPCA staff are instructed to reject unsigned excavation reports or if the report form has been altered.

Name and Title:

Date signed:

Peter R. Bell
Field Geologist



3/2/07
3/2/07

Bruce D. Johnson, PG, CPG
Principal Geologist

Company and mailing address:

Summit Envirosolutions, Inc.
1217 Bandana Blvd. N.
St. Paul, MN
55108

Telephone (651) 644-8080

Fax: (651) 647-0888

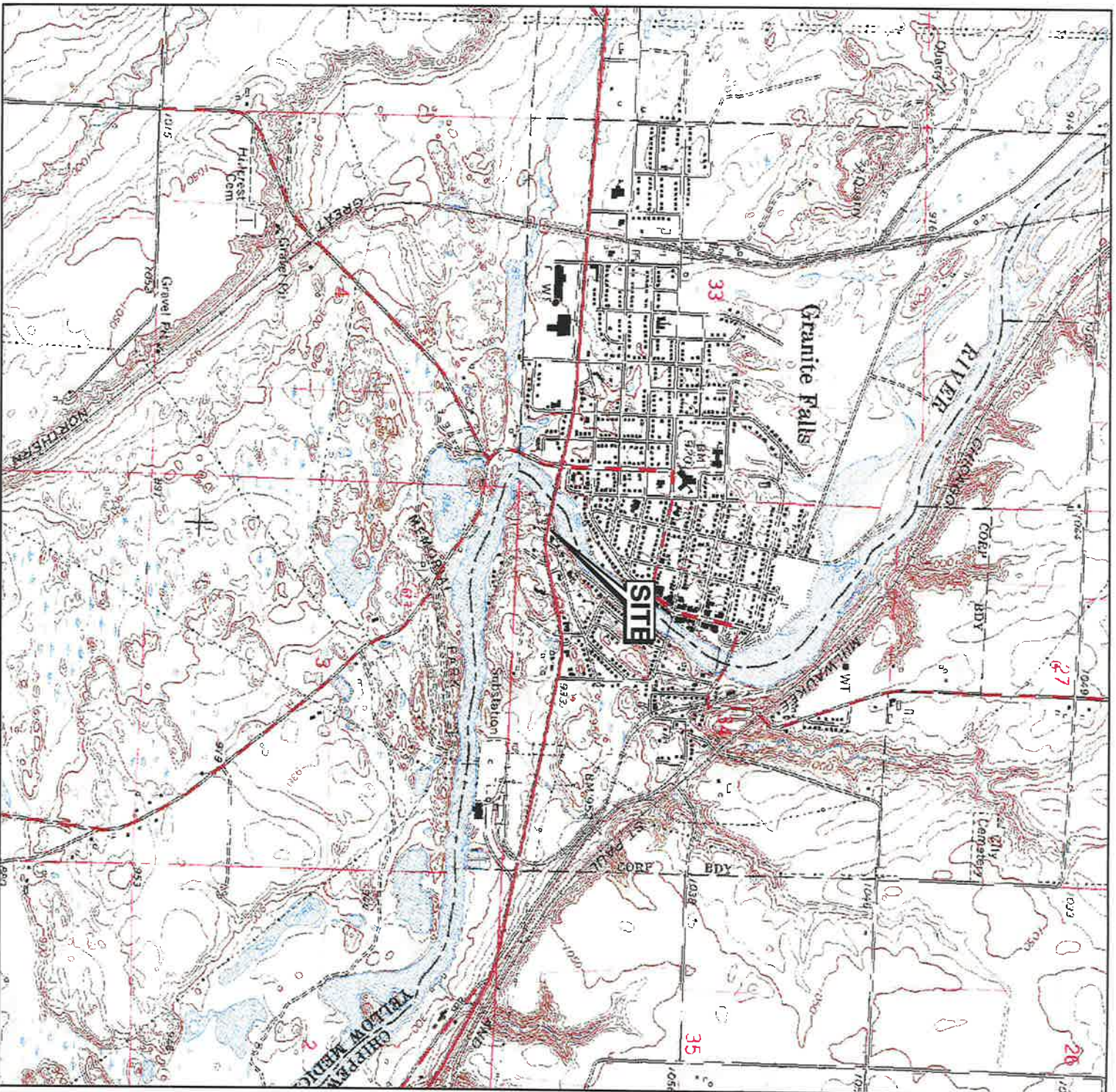
If additional investigation is not necessary, please mail this form and all necessary attachments to the MPCA project manager. If additional investigation is necessary, include this form as an appendix to Guidance Document 4-06 *Investigation Report Form*. **MPCA staff will not review excavation reports indicating a limited site investigation is necessary unless the limited site investigation has been completed.**

Web pages and phone numbers

MPCA staff	http://pca.state.mn.us/pca/staff/index.cfm
MPCA toll free	1-800-657-3864
Petroleum Remediation Program web page	http://www.pca.state.mn.us/programs/ust_p.html
MPCA Infor. Request	http://www.pca.state.mn.us/about/inforequest.html
MPCA Petroleum Brownfields Program	http://www.pca.state.mn.us/programs/vpic_p.html
PetroFund Web Page	http://www.state.mn.us/cgi-bin/portal/mn/isp/content.do?id=536881377&agency=Commerce
PetroFund Phone	651-297-1119, or 1-800-638-0418
State Duty Officer	651-649-5451 or 1-800-422-0798

Upon request, this document can be made available in other formats, including Braille, large print and audio tape. TTY users call 651/282-5332 or 1-800-657-3864 (voice/TTY).

Printed on recycled paper containing at least 10 percent fibers from paper recycled by consumers.



Map adapted from USGS 7.5 minute topographic map: Granite falls, Minnesota.

LEGEND



0 2,000
Feet
1 inch equals 2,000 feet



GENERAL SITE LOCATION MAP

Former Food N Fuel
East Highway 212
Granite Falls, MN







Figure 1

File: fig1.mxd
Summit Proj. No.: 0353-006
Plot Date: 05/23/06
Arc Operator: PRB
Reviewed by: BDJ



Map adapted from FSA orthoquadrangle: Chippewa, Minnesota.

Legend

-  Approximate location of underground storage tank (UST)
-  Approximate location of dispenser island
-  Approximate location of building
-  Approximate location of canopy



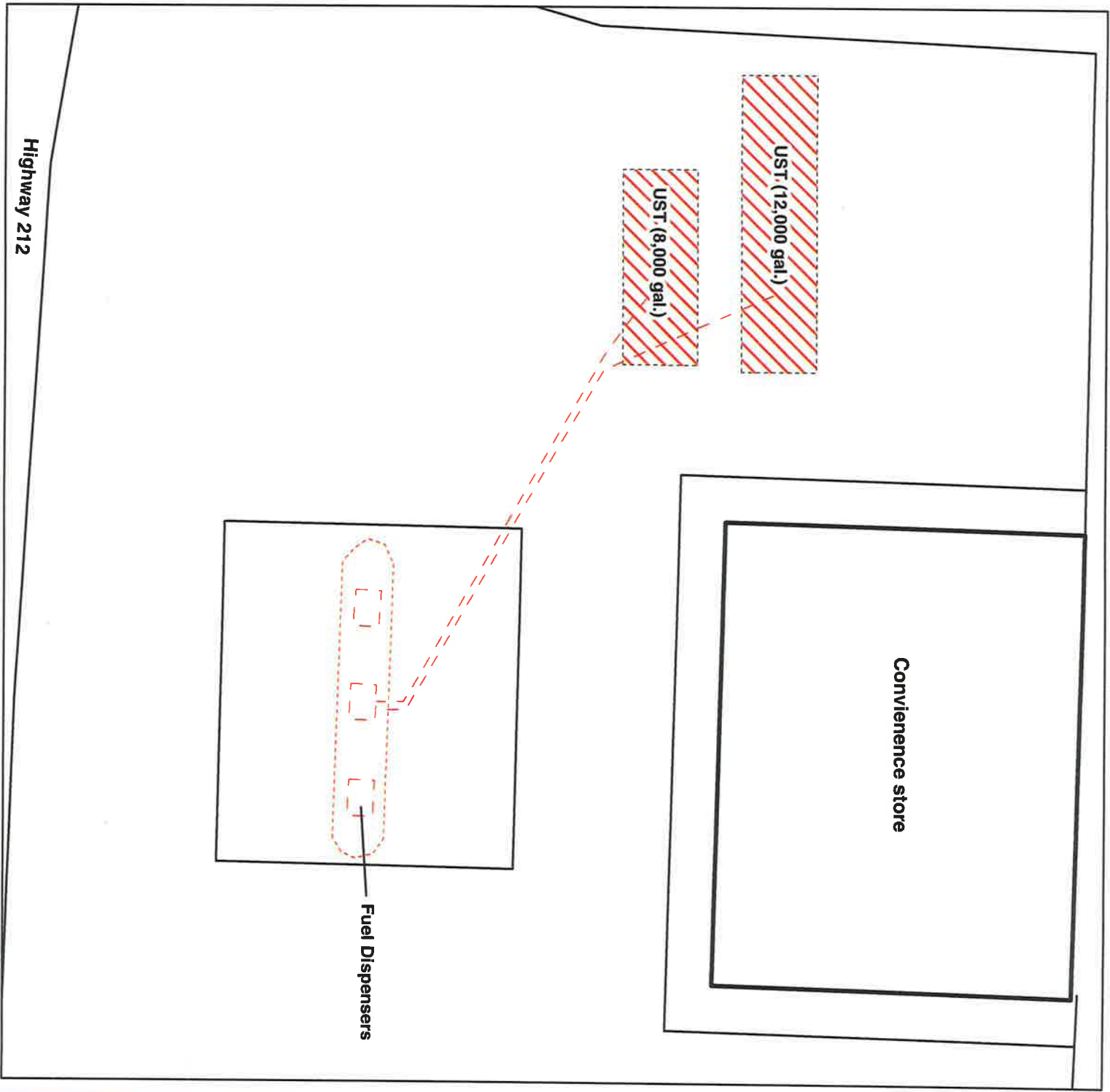
SITE MAP

Former Food N Fuel
East Highway 212
Granite Falls, MN



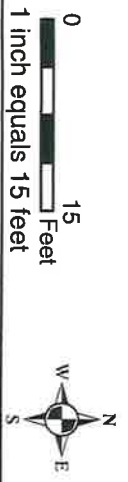
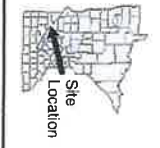
Figure 2

File: fig2.mxd
Summit Proj. No.: 0353-006
Plot Date: 05/23/06
Arc Operator: PRB
Reviewed by: BDJ



Map adapted from FSA orthoquadrangle: Chippewa, Minnesota and surveyed site map.

- Legend**
- - - Approximate location of fuel pipes
 - Approximate location of curb
 - ▭ (with red diagonal lines) Approximate location of underground storage tank (UST)
 - ▭ (with dashed border) Approximate location of dispenser island
 - ▭ (with solid border) Approximate location of building
 - ▭ (with dotted border) Approximate location of canopy



UST LOCATION MAP
 Former Food N Fuel
 East Highway 212
 Granite Falls, MN


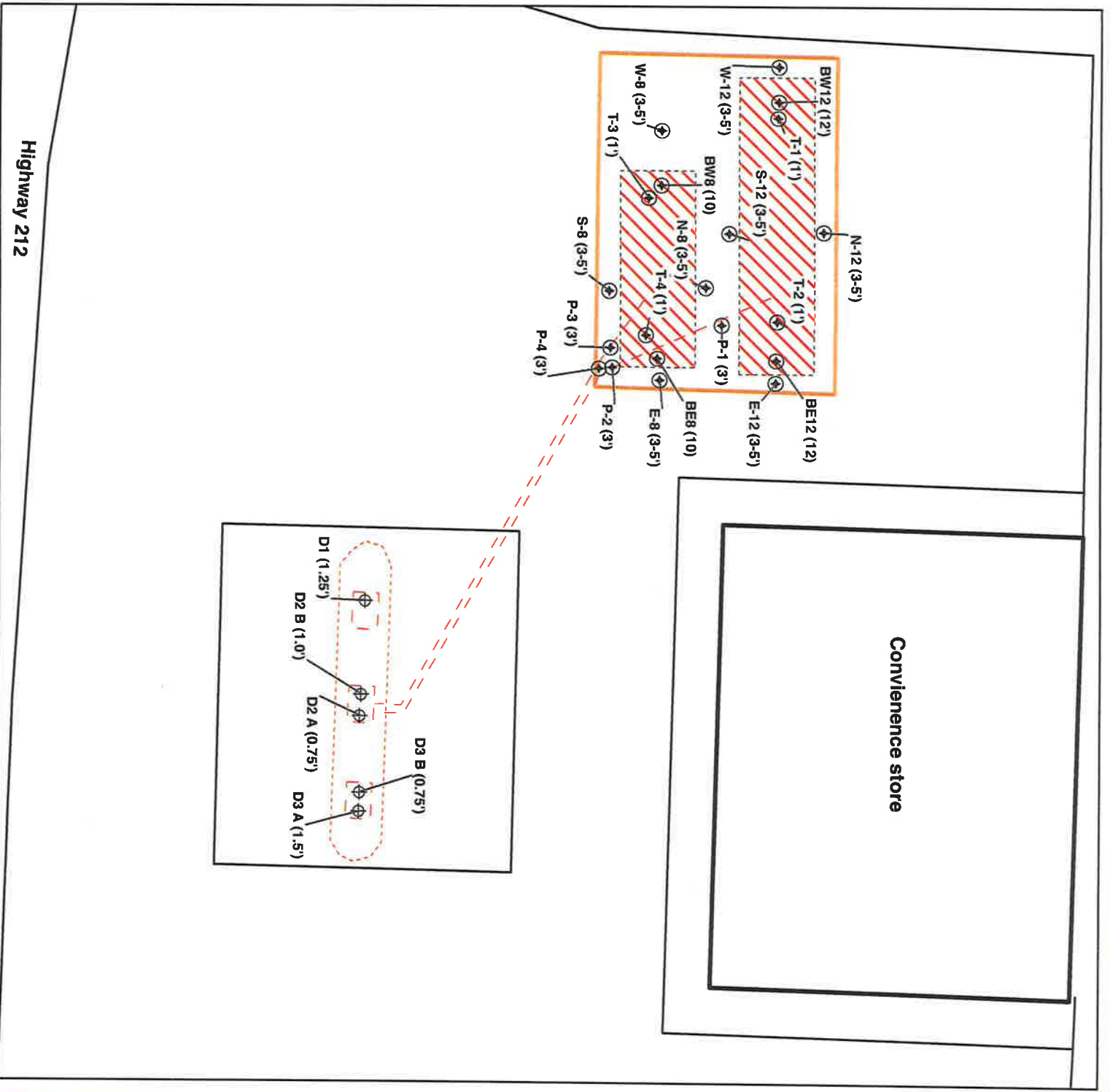


Figure 3

File: fig3.mxd
 Summit Proj. No.: 0353-006
 Plot Date: 05/23/06
 Arc Operator: PRB
 Reviewed by: BDJ



Map adapted from FSA orthoquadrangle: Chippewa, Minnesota, surveyed site map and Summit field notes.

- Legend**
- Approximate location and depth of field screening sample
 - Approximate location and final depth hand auger
 - Approximate location of fuel pipes
 - Approximate location of curb
 - Approximate location of underground storage tank (UST)
 - Approximate extent of excavation
 - Approximate location of fuel dispensers
 - Approximate location of dispenser island
 - Approximate location of building



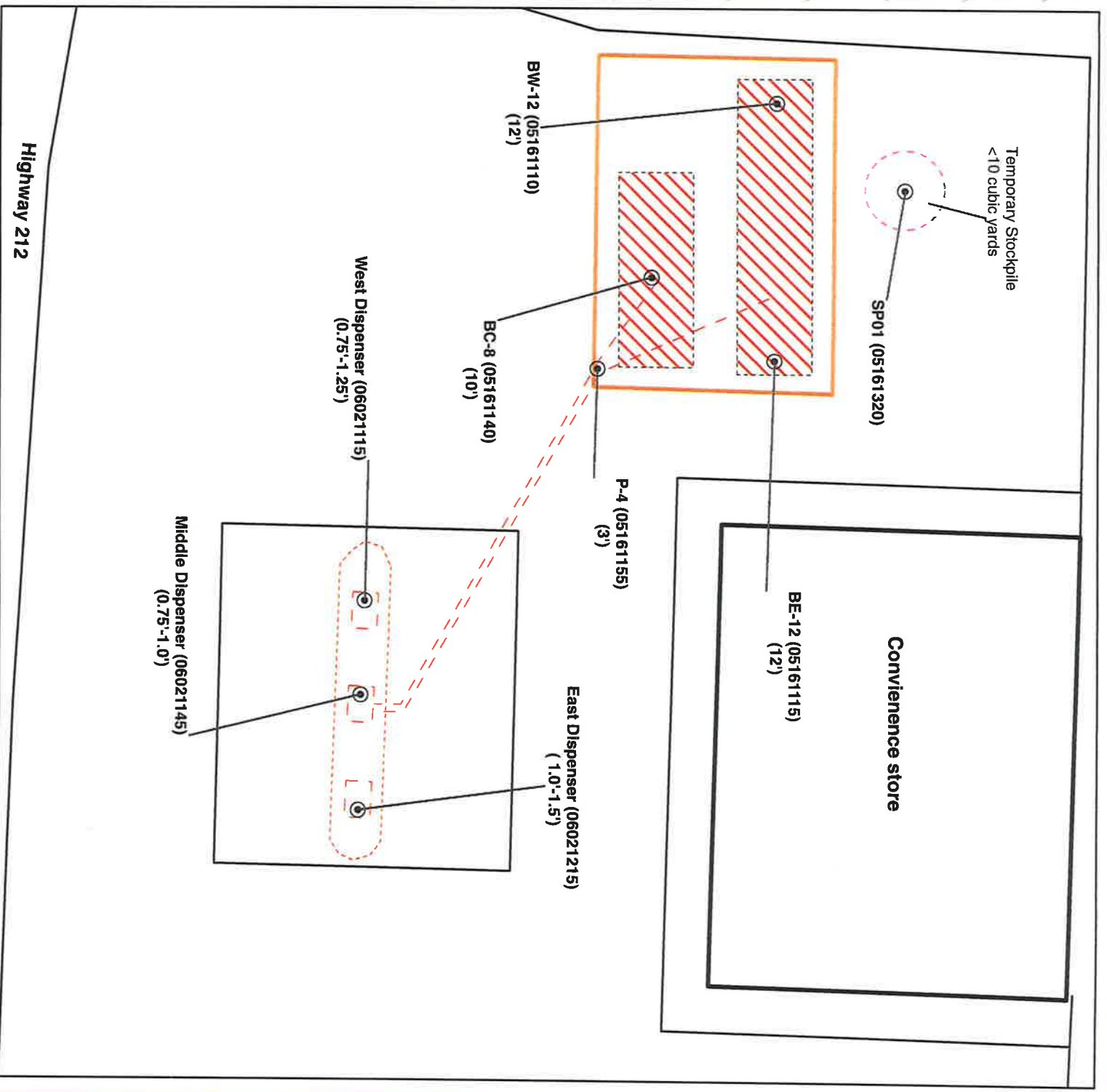
EXCAVATION AND FIELD SCREENING MAP

Former Food N Fuel
East Highway 212
Granite Falls, MN



Figure 4

File: Fig4_Screening.mxd
Summit Proj. No.: 0353-006
Plot Date: 08/08/06
Arc Operator: PRB
Reviewed by: BDJ



Map adapted from FSA orthoquadrangle: Chippewa, Minnesota, surveyed site map and Summit field notes.

Legend

- Approximate location and depth of analytical soil sample
- Approximate location of fuel pipes
- Approximate location of curb
- ▭ Approximate location of temporary stockpile
- ▭ Approximate extent of excavation
- ▭ Approximate location of underground storage tank (UST)
- ▭ Approximate location of fuel dispensers
- ▭ Approximate location of dispenser island
- ▭ Approximate location of building
- ▭ Approximate location of canopy

0 15 Feet
1 inch equals 15 feet

W N
S E

Site Location

EXCAVATION AND ANALYTICAL SAMPLING MAP
 Former Food N Fuel
 East Highway 212
 Granite Falls, MN

Figure 5

File: Fig5_Analytical.mxd
 Summit Proj. No.: 0353-006
 Plot Date: 08/08/06
 Arc Operator: PRB
 Reviewed by: BDJ

LEGEND
Technical Services, Inc.

www.legend-group.com

88 Empire Drive
St. Paul, MN 55103
Tel: 651.642.1150
Fax: 651.642.1239

June 15, 2006

Mr. Bruce Johnson
Summit Envirosolutions
1217 Bandana Blvd
St. Paul, MN 55108

Work Order Number: 0602302
RE: KMJ Convenience Granite Falls

Enclosed are the results of analyses for samples received by the laboratory on 06/05/06. If you have any questions concerning this report, please feel free to contact me.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

Minnesota Certification # 027-123-295

Prepared by,
LEGEND TECHNICAL SERVICES, INC


Chris Bremer
Laboratory Director


Roberta Provost
Chemist II

Legend Technical Services, Inc

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Envisolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson

Date Reported:
June 15, 2006

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
06021115 West Dispenser	0602302-01	Soil	06/02/06 11:15	06/05/06 14:05
06021145 Middle Dispenser	0602302-02	Soil	06/02/06 11:45	06/05/06 14:05
06021215 East Dispenser	0602302-03	Soil	06/02/06 12:15	06/05/06 14:05

Shipping container information

Temperature: 0.3

Received on ice: Yes
Received on melt water: No
Custody seals: No

Temperature blank was present
Ambient: No

Received on blue ice: No
Acceptable (IH/ISO only): No

Case Narrative:

Summit Envtrosolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson

Date Reported:
June 15, 2006

GRO(WI)/8015B/8021B Legend Technical Services, Inc

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
06021115 West Dispenser (0602302-01) Soil Received:06/05/06 14:05 Sampled:06/02/06 11:15										
Benzene	<0.027	0.027	0.0030	mg/kg dry	1	B6F0809	06/08/06	06/08/06	EPA 8021B	
Ethylbenzene	0.042	0.027	0.0041	mg/kg dry	1	"	"	"	"	
Toluene	0.031	0.027	0.0051	mg/kg dry	1	"	"	"	"	
Xylenes (total)	0.082	0.082	0.014	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene				100	80-120	%	"	"	"	"
Gasoline range organics				6.2	5.5	0.60	mg/kg dry	1	"	Wisc Mod GRO
06021145 Middle Dispenser (0602302-02) Soil Received:06/05/06 14:05 Sampled:06/02/06 11:45										
Benzene	<0.029	0.029	0.0032	mg/kg dry	1	B6F1202	06/12/06	06/12/06	EPA 8021B	
Ethylbenzene	0.086	0.029	0.0044	mg/kg dry	1	"	"	"	"	
Toluene	0.074	0.029	0.0054	mg/kg dry	1	"	"	"	"	
Xylenes (total)	0.55	0.088	0.015	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene				96.4	80-120	%	"	"	"	"
Gasoline range organics				21	5.9	0.65	mg/kg dry	1	"	Wisc Mod GRO
06021215 East Dispenser (0602302-03) Soil Received:06/05/06 14:05 Sampled:06/02/06 12:15										
Benzene	<0.29	0.29	0.031	mg/kg dry	10	B6F1202	06/12/06	06/12/06	EPA 8021B	
Ethylbenzene	13	0.29	0.043	mg/kg dry	10	"	"	"	"	
Toluene	5.9	0.29	0.053	mg/kg dry	10	"	"	"	"	
Xylenes (total)	480	0.86	0.15	mg/kg dry	10	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene				112	80-120	%	"	"	06/13/06	"
Gasoline range organics				9900	570	63	mg/kg dry	100	"	Wisc Mod GRO

Legend Technical Services, Inc

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Summit Envisolutions
 1217 Bandana Blvd
 St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
 Project Number: 0353-006
 Project Manager: Mr. Bruce Johnson

Date Reported:
 June 15, 2006

PERCENT SOLIDS
Legend Technical Services, Inc

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
06021115 West Dispenser (0602302-01) Soil Received:06/05/06 14:05 Sampled:06/02/06 11:15										
% Solids	91			%	1	B6F0612	06/06/06	06/07/06		% calculation
06021145 Middle Dispenser (0602302-02) Soil Received:06/05/06 14:05 Sampled:06/02/06 11:45										
% Solids	85			%	1	B6F0612	06/06/06	06/07/06		% calculation
06021215 East Dispenser (0602302-03) Soil Received:06/05/06 14:05 Sampled:06/02/06 12:15										
% Solids	87			%	1	B6F0612	06/06/06	06/07/06		% calculation

Legend Technical Services, Inc

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Summit EnviroSolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson

Date Reported:
June 15, 2006

GRO(WI)/8015B/8021B - Quality Control Legend Technical Services, Inc

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B6F0809 - EPA 5035 Soil (Purge and Trap)

Blank (B6F0809-BLK1)

Prepared & Analyzed: 06/08/06

Gasoline range organics	<5.0	5.0 mg/kg wet								
Surrogate: 4-Fluorochlorobenzene	24.8	ug/L	25.0		99.2	80-120				

LCS (B6F0809-BS1)

Prepared & Analyzed: 06/08/06

Gasoline range organics	1020		1000			102	80-120			
Surrogate: 4-Fluorochlorobenzene	27.7	ug/L	25.0		111	80-120				

LCS Dup (B6F0809-BSD1)

Prepared: 06/08/06 Analyzed: 06/09/06

Gasoline range organics	982		1000			98.2	80-120	3.80	20	
Surrogate: 4-Fluorochlorobenzene	27.1	ug/L	25.0		108	80-120				

Duplicate (B6F0809-DUP1)

Source: 0602286-01 Prepared: 06/08/06 Analyzed: 06/09/06

Gasoline range organics	<6.0	6.0 mg/kg dry				<6.0			NA	20
Surrogate: 4-Fluorochlorobenzene	21.0	ug/L	25.0		84.0	80-120				

Batch B6F1202 - EPA 5035 Soil (Purge and Trap)

Blank (B6F1202-BLK1)

Prepared & Analyzed: 06/12/06

Benzene	<0.025	0.025 mg/kg wet								
Ethylbenzene	<0.025	0.025 mg/kg wet								
Gasoline range organics	<5.0	5.0 mg/kg wet								
Toluene	<0.025	0.025 mg/kg wet								
Xylenes (total)	<0.075	0.075 mg/kg wet								
Surrogate: 4-Fluorochlorobenzene	25.3	ug/L	25.0		101	80-120				

LCS (B6F1202-BS1)

Prepared & Analyzed: 06/12/06

Benzene	94.1		100			94.1	80-120			
Ethylbenzene	97.3	ug/L	100		97.3	80-120				
Gasoline range organics	960	ug/L	1000		96.0	80-120				
Toluene	89.4	ug/L	100		89.4	80-120				

Legend Technical Services, Inc

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Summit EnviroSolutions
 1217 Bandana Blvd
 St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
 Project Number: 0353-006
 Project Manager: Mr. Bruce Johnson

Date Reported:
 June 15, 2006

GRO(W)/8015B/8021B - Quality Control
Legend Technical Services, Inc

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B6F1202 - EPA 5035 Soil (Purge and Trap)

LCS (B6F1202-BS1)

Prepared & Analyzed: 06/12/06

Xylenes (total)	286		ug/L	300		95.3	80-120			
Surrogate: 4-Fluorochlorobenzene	26.6		ug/L	25.0		106	80-120			

LCS Dup (B6F1202-BSD1)

Prepared: 06/12/06 Analyzed: 06/13/06

Benzene	97.6		ug/L	100		97.6	80-120	3.65	20	
Ethylbenzene	98.3		ug/L	100		98.3	80-120	1.02	20	
Gasoline range organics	940		ug/L	1000		94.0	80-120	2.11	20	
Toluene	92.7		ug/L	100		92.7	80-120	3.62	20	
Xylenes (total)	286		ug/L	300		95.3	80-120	0.00	20	
Surrogate: 4-Fluorochlorobenzene	26.5		ug/L	25.0		106	80-120			

Duplicate (B6F1202-DUP1)

Source: 0602483-02 Prepared: 06/12/06 Analyzed: 06/13/06

Gasoline range organics	<8.9	8.9 mg/kg dry				<8.9			NA	20
Surrogate: 4-Fluorochlorobenzene	23.7		ug/L	25.0		94.8	80-120			

Matrix Spike (B6F1202-MS1)

Source: 0602304-01 Prepared & Analyzed: 06/12/06

Benzene	95.3		ug/L	100	<	95.3	80-120			
Ethylbenzene	99.3		ug/L	100	0.217	99.1	80-120			
Toluene	92.8		ug/L	100	0.394	92.4	80-120			
Xylenes (total)	303		ug/L	300	0.420	101	80-120			
Surrogate: 4-Fluorochlorobenzene	27.8		ug/L	25.0		111	80-120			

Matrix Spike Dup (B6F1202-MSD1)

Source: 0602304-01 Prepared & Analyzed: 06/12/06

Benzene	97.3		ug/L	100	<	97.3	80-120	2.08	20	
Ethylbenzene	101		ug/L	100	0.217	101	80-120	1.70	20	
Toluene	93.4		ug/L	100	0.394	93.0	80-120	0.644	20	
Xylenes (total)	299		ug/L	300	0.420	99.5	80-120	1.33	20	
Surrogate: 4-Fluorochlorobenzene	28.2		ug/L	25.0		113	80-120			

Legend Technical Services, Inc

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit EnviroSolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson

Date Reported:
June 15, 2006

PERCENT SOLIDS - Quality Control
Legend Technical Services, Inc

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B6F0612 - General Preparation

Duplicate (B6F0612-DUP1)

Source: 0602427-05 Prepared: 06/06/06 Analyzed: 06/07/06

% Solids	80.0		%		81.0			1.24	20	
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Summit Envirosolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson


Date Reported:
June 15, 2006

Notes and Definitions

- H Results in the gasoline range contain hydrocarbons less volatile than GRO.
- < Less than value listed
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- NA Not applicable. The %RPD is not calculated from values less than the reporting limit.

#0602502

CHAIN OF CUSTODY RECORD

Laboratory: Legend Technical		Project Name/Location: KAT Lawrence, Lawrence, Falls, MN		Report to: Summit EnviroSolutions, Inc.		Address: 1217 Bonanza Blvd.		Signature of Sampler(s)/Date: 	
Summit Project No.: 0353-006		Attention: R. Johnson		Phone: 651 842.4204		Fax: 651 642.0288		6/15/06	
Special Instructions to Laboratory: Bill Dineley To: King's convenience 110 a Johnson Rd. Montevideo MN 56265		Lab. Project No. MW 56265		Laboratory Receiving Notes:		Number of Containers		Field Sample ID#	
Analysis Requested		Sample Matrix:		Collection Date Time		Sampling Location		Lab Sample Number	
Soil (S).		Sludge (SL).		Aqueous (A).		Gaseous (G)		GRD	
Moisture		RTEX		/ / /		/ / /		S S S	
2		2		2		2		0602115	
2		2		2		2		06021145	
2		2		2		2		06021215	
West Dispenser (A.75+25) (D)		6/2/06 11:15		Middle Dispenser B (A.75+10)		6/2/06 11:45		East Dispenser A (A.75) (D3)	
6/2/06 12:15		6/2/06 12:15		6/2/06 12:15		6/2/06 12:15		6/2/06 12:15	
Received by (Signature/Company)		Received by Laboratory (Signature)		Date: 6/15/06		Date: 6/15/06		Date: 6/15/06	
Time: 14:04		Time: 14:05		Time: 14:05		Time: 14:05		Time: 14:05	
Requingushed by (Signature/Company)		Requingushed by (Signature/Company)		Date: 6/15/06		Date: 6/15/06		Date: 6/15/06	
Time: 14:05		Time: 14:05		Time: 14:05		Time: 14:05		Time: 14:05	
Total No. of Containers		Summit EnviroSolutions		Date: 6/15/06		Date: 6/15/06		Date: 6/15/06	

0.3°C

406



LEGEND
Technical Services, Inc.

www.legend-group.com

88 Empire Drive
St. Paul, MN 55103
Tel: 651.642.1150
Fax: 651.642.1239

June 01, 2006

Mr. Bruce Johnson
Summit Envtrosolutions
1217 Bandana Blvd
St. Paul, MN 55108


Work Order Number: 0602094
RE: KMJ Convenience Granite Falls

Enclosed are the results of analyses for samples received by the laboratory on 05/17/06. If you have any questions concerning this report, please feel free to contact me.


All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

Minnesota Certification # 027-123-295

Prepared by
LEGEND TECHNICAL SERVICES, INC



Chris Bremer
Laboratory Director



Roberta Provost
Chemist II

Legend Technical Services, Inc

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Envtrosolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson

Date Reported:
June 01, 2006

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
05161110	0602094-01	Soil	05/16/06 11:10	05/17/06 15:45
05161115	0602094-02	Soil	05/16/06 11:15	05/17/06 15:45
05161140	0602094-03	Soil	05/16/06 11:40	05/17/06 15:45
05161155	0602094-04	Soil	05/16/06 11:55	05/17/06 15:45
05161320	0602094-05	Soil	05/16/06 13:20	05/17/06 15:45

Shipping container information

Temperature: 8.1

Received on ice: Yes
Received on melt water: No
Custody seals: No

Temperature blank was present
Ambient: No

Received on blue ice: No
Acceptable (IH/ISO only): No

Case Narrative:

Legend Technical Services, Inc

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Envirosolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson

Date Reported:
June 01, 2006

GRO(WI)/8015B/8021B Legend Technical Services, Inc

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
05161110 (0602094-01) Soil Received:05/17/06 15:45 Sampled:05/16/06 11:10										
1,2,4-Trimethylbenzene	<0.026	0.026	0.0042	mg/kg dry	1	B6E2614	05/26/06	05/26/06	EPA 8021B	
1,3,5-Trimethylbenzene	<0.026	0.026	0.0026	mg/kg dry	1	"	"	"	"	
Benzene	<0.026	0.026	0.0028	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.026	0.026	0.0038	mg/kg dry	1	"	"	"	"	
Toluene	<0.026	0.026	0.0047	mg/kg dry	1	"	"	"	"	
Xylenes (total)	<0.077	0.077	0.013	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene	92.4			80-120 %		"	"	"	"	
Gasoline range organics	<5.2	5.2	0.57	mg/kg dry	1	"	"	"	Wisc Mod GRO	
Methyl tert-butyl ether	<0.026	0.026	0.0056	mg/kg dry	1	"	"	"	EPA 8021B	
05161115 (0602094-02) Soil Received:05/17/06 15:45 Sampled:05/16/06 11:15										
1,2,4-Trimethylbenzene	<0.026	0.026	0.0042	mg/kg dry	1	B6E2614	05/26/06	05/26/06	EPA 8021B	
1,3,5-Trimethylbenzene	<0.026	0.026	0.0026	mg/kg dry	1	"	"	"	"	
Benzene	<0.026	0.026	0.0028	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.026	0.026	0.0038	mg/kg dry	1	"	"	"	"	
Toluene	0.028	0.026	0.0047	mg/kg dry	1	"	"	"	"	
Xylenes (total)	<0.077	0.077	0.013	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene	90.0			80-120 %		"	"	"	"	
Gasoline range organics	<5.1	5.1	0.56	mg/kg dry	1	"	"	"	Wisc Mod GRO	
Methyl tert-butyl ether	<0.026	0.026	0.0055	mg/kg dry	1	"	"	"	EPA 8021B	
05161140 (0602094-03) Soil Received:05/17/06 15:45 Sampled:05/16/06 11:40										
1,2,4-Trimethylbenzene	<0.026	0.026	0.0042	mg/kg dry	1	B6E2614	05/26/06	05/26/06	EPA 8021B	
1,3,5-Trimethylbenzene	<0.026	0.026	0.0026	mg/kg dry	1	"	"	"	"	
Benzene	<0.026	0.026	0.0028	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.026	0.026	0.0038	mg/kg dry	1	"	"	"	"	
Toluene	<0.026	0.026	0.0047	mg/kg dry	1	"	"	"	"	
Xylenes (total)	<0.077	0.077	0.013	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene	90.0			80-120 %		"	"	"	"	
Gasoline range organics	<5.2	5.2	0.57	mg/kg dry	1	"	"	"	Wisc Mod GRO	
Methyl tert-butyl ether	<0.026	0.026	0.0056	mg/kg dry	1	"	"	"	EPA 8021B	

Legend Technical Services, Inc

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Envirosolutions
 1217 Bandana Blvd
 St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
 Project Number: 0353-006
 Project Manager: Mr. Bruce Johnson

Date Reported:
 June 01, 2006

GRO(W)/8015B/8021B
Legend Technical Services, Inc

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
05161155 (0602094-04) Soil Received:05/17/06 15:45 Sampled:05/16/06 11:55										
1,2,4-Trimethylbenzene	<0.026	0.026	0.0043	mg/kg dry	1	B6E2614	05/26/06	05/26/06	EPA 8021B	
1,3,5-Trimethylbenzene	<0.026	0.026	0.0026	mg/kg dry	1	"	"	"	"	
Benzene	<0.026	0.026	0.0028	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.026	0.026	0.0039	mg/kg dry	1	"	"	"	"	
Toluene	<0.026	0.026	0.0048	mg/kg dry	1	"	"	"	"	
Xylenes (total)	<0.079	0.079	0.014	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene	90.0			80-120 %	1	"	"	"	"	
Gasoline range organics	<5.3	5.3	0.58	mg/kg dry	1	"	"	"	Wisc Mod GRO	
Methyl tert-butyl ether	<0.026	0.026	0.0057	mg/kg dry	1	"	"	"	EPA 8021B	
05161320 (0602094-05) Soil Received:05/17/06 15:45 Sampled:05/16/06 13:20										
1,2,4-Trimethylbenzene	0.17	0.026	0.0043	mg/kg dry	1	B6E2614	05/26/06	05/26/06	EPA 8021B	
1,3,5-Trimethylbenzene	0.054	0.026	0.0026	mg/kg dry	1	"	"	"	"	
Benzene	<0.026	0.026	0.0028	mg/kg dry	1	"	"	"	"	
Ethylbenzene	0.040	0.026	0.0039	mg/kg dry	1	"	"	"	"	
Toluene	0.066	0.026	0.0048	mg/kg dry	1	"	"	"	"	
Xylenes (total)	0.18	0.079	0.014	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene	90.8			80-120 %	1	"	"	"	"	
Gasoline range organics	<5.3	5.3	0.58	mg/kg dry	1	"	"	"	Wisc Mod GRO	
Methyl tert-butyl ether	<0.026	0.026	0.0057	mg/kg dry	1	"	"	"	EPA 8021B	

Summit Envisolutions
 1217 Bandana Blvd
 St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
 Project Number: 0353-006
 Project Manager: Mr. Bruce Johnson

Date Reported:
 June 01, 2006

PERCENT SOLIDS
Legend Technical Services, Inc

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
05161110 (0602094-01) Soil	Received:05/17/06	15:45				Sampled:05/16/06	11:10			
% Solids	97			%	1	BGE1804	05/18/06	05/18/06	% calculation	
05161115 (0602094-02) Soil	Received:05/17/06	15:45				Sampled:05/16/06	11:15			
% Solids	98			%	1	BGE1804	05/18/06	05/18/06	% calculation	
05161140 (0602094-03) Soil	Received:05/17/06	15:45				Sampled:05/16/06	11:40			
% Solids	97			%	1	BGE1804	05/18/06	05/18/06	% calculation	
05161155 (0602094-04) Soil	Received:05/17/06	15:45				Sampled:05/16/06	11:55			
% Solids	95			%	1	BGE1804	05/18/06	05/18/06	% calculation	
05161320 (0602094-05) Soil	Received:05/17/06	15:45				Sampled:05/16/06	13:20			
% Solids	95			%	1	BGE1804	05/18/06	05/18/06	% calculation	

Summit EnviroSolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson

Date Reported:
June 01, 2006

GRO(WI)/8015B/8021B - Quality Control Legend Technical Services, Inc

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B6E2614 - EPA 5035 Soil (Purge and Trap)

Prepared & Analyzed: 05/26/06

Blank (B6E2614-BLK1)

1,2,4-Trimethylbenzene	<0.025	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	<0.025	0.025	mg/kg wet							
Benzene	<0.025	0.025	mg/kg wet							
Ethylbenzene	<0.025	0.025	mg/kg wet							
Gasoline range organics	<5.0	5.0	mg/kg wet							
Methyl tert-butyl ether	<0.025	0.025	mg/kg wet							
Toluene	<0.025	0.025	mg/kg wet							
Xylenes (total)	<0.075	0.075	mg/kg wet							
Surrogate: 4-Fluorochlorobenzene	22.6		ug/L	25.0		90.4	80-120			

Prepared & Analyzed: 05/26/06

LCS (B6E2614-BS1)										
1,2,4-Trimethylbenzene	94.4		ug/L	100		94.4	80-120			
1,3,5-Trimethylbenzene	98.9		ug/L	100		98.9	80-120			
Benzene	95.4		ug/L	100		95.4	80-120			
Ethylbenzene	96.9		ug/L	100		96.9	80-120			
Gasoline range organics	940		ug/L	1000		94.0	80-120			
Methyl tert-butyl ether	93.6		ug/L	100		93.6	80-120			
Toluene	92.7		ug/L	100		92.7	80-120			
Xylenes (total)	293		ug/L	300		97.7	80-120			
Surrogate: 4-Fluorochlorobenzene	23.3		ug/L	25.0		93.2	80-120			

Prepared: 05/26/06 Analyzed: 05/27/06

LCS Dup (B6E2614-BSD1)										
1,2,4-Trimethylbenzene	93.8		ug/L	100		93.8	80-120	0.638		20
1,3,5-Trimethylbenzene	96.9		ug/L	100		96.9	80-120	2.04		20
Benzene	96.8		ug/L	100		96.8	80-120	1.46		20
Ethylbenzene	97.1		ug/L	100		97.1	80-120	0.206		20

Legend Technical Services, Inc

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Summit Envtrosolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson

Date Reported:
June 01, 2006

GRO(WI)/8015B/8021B - Quality Control Legend Technical Services, Inc

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B6E2614 - EPA 5035 Soil (Purge and Trap)

Prepared: 05/26/06 Analyzed: 05/27/06

LCS Dup (B6E2614-BSD1)

Gasoline range organics										
Methyl tert-butyl ether	983		ug/L	1000		98.3	80-120	4.47	20	
Toluene	95.5		ug/L	100		95.5	80-120	2.01	20	
Xylenes (total)	93.9		ug/L	100		93.9	80-120	1.29	20	
	293		ug/L	300		97.7	80-120	0.00	20	
Surrogate: 4-Fluorochlorobenzene	23.4		ug/L	25.0		93.6	80-120			

Duplicate (B6E2614-DUP1)

Prepared: 05/26/06 Analyzed: 05/27/06

Gasoline range organics										
Surrogate: 4-Fluorochlorobenzene	<5.3	5.3 mg/kg dry			<5.3				NA	20
	22.9		ug/L	25.0		91.6	80-120			

Matrix Spike (B6E2614-MS1)

Prepared: 05/26/06 Analyzed: 05/27/06

Source: 0602213-02										
1,2,4-Trimethylbenzene	93.7		ug/L	100	0.600	93.1	80-120			
1,3,5-Trimethylbenzene	97.3		ug/L	100	<	97.3	80-120			
Benzene	97.5		ug/L	100	<	97.5	80-120			
Ethylbenzene	97.1		ug/L	100	<	97.1	80-120			
Methyl tert-butyl ether	94.8		ug/L	100	<	94.8	80-120			
Toluene	94.3		ug/L	100	0.175	94.1	80-120			
Xylenes (total)	294		ug/L	300	<	98.0	80-120			
Surrogate: 4-Fluorochlorobenzene	24.3		ug/L	25.0		97.2	80-120			

Summit Envirosolutions
 1217 Bandana Blvd
 St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
 Project Number: 0353-006
 Project Manager: Mr. Bruce Johnson

Date Reported:
 June 01, 2006

PERCENT SOLIDS - Quality Control
Legend Technical Services, Inc

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B6E1804 - General Preparation										
Duplicate (B6E1804-DUP1) Source: 0602093-01 Prepared & Analyzed: 05/18/06										
% Solids	73.0		%		74.0			1.36		20
Duplicate (B6E1804-DUP2) Source: 0602095-01 Prepared & Analyzed: 05/18/06										
% Solids	83.0		%		83.0			0.00		20

88 Empire Drive
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LEGEND

Technical Services, Inc.

Summit EnviroSolutions
1217 Bandana Blvd
St. Paul MN, 55108

Project: KMJ Convenience Granite Falls
Project Number: 0353-006
Project Manager: Mr. Bruce Johnson

Date Reported:
June 01, 2006

Notes and Definitions

< Less than value listed
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
NA Not applicable. The %RPD is not calculated from values less than the reporting limit.

Legend Technical Services, Inc

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CHAIN OF CUSTODY RECORD

Laboratory: Legend Technology Project Name/Location: KMS Convenience Granite Falls, Mn Report to: Summit EnviroSolutions, Inc. Address: 1217 Bandana Blvd Phone: 651 842-4204 Fax: 651 842-0885 Attention: B. Johnson		Signature of Sampler(s)/Date: <i>[Signature]</i> 5/16/10		Sample Matrix: GR20 Soil (S), Sludge (SL), Aqueous (A), Gaseous (G)		Analysis Requested: DV6C		Number of Containers: 1		Lab. Project No.: _____ Laboratory Receiving Notes: _____ Special Instructions to Laboratory: _____	
Summit EnviroSolutions, Inc. 0353-006		Summit Project No.: _____		Collection Date Time: _____		Lab Sample Number: _____		Field Sample ID# _____		Sampling Location: Bottom Western 1200s (E-W) 5/16/10	
OS16 1110 " East end 1300s (E-W)		OS16 1115		OS16 1140 " Center 800s (E-W)		OS16 1155 Ripping (P-W)		OS16 1320 Stockpile (SPOI)		Total No. of Containers: _____	
OS16 1110 Bottom Western 1200s (E-W)		OS16 1115 East end 1300s (E-W)		OS16 1140 Center 800s (E-W)		OS16 1155 Ripping (P-W)		OS16 1320 Stockpile (SPOI)		Date: _____ Time: _____ Received by (Signature/Company): _____	
OS16 1110 Bottom Western 1200s (E-W)		OS16 1115 East end 1300s (E-W)		OS16 1140 Center 800s (E-W)		OS16 1155 Ripping (P-W)		OS16 1320 Stockpile (SPOI)		Date: 5/17/10 Time: 3:40 Received by Laboratory (Signature): <i>[Signature]</i>	
OS16 1110 Bottom Western 1200s (E-W)		OS16 1115 East end 1300s (E-W)		OS16 1140 Center 800s (E-W)		OS16 1155 Ripping (P-W)		OS16 1320 Stockpile (SPOI)		Date: 5-17-06 Time: 15:45 Received by Laboratory (Signature): <i>[Signature]</i>	

Copies: White - to be returned with lab report; Yellow - laboratory copy; Pink - field copy. Shaded areas to be completed by laboratory.

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OS16 8.1°C