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Site Characterization Report

September 2002

Brenntag Mid-South, Inc
Brenntag HCI Chemtech Facility
Springfield, Missouri
EPA ID No MO0002325298

January 2003

PREPARED FOR

Brenntag Mid South Inc
2235 W Battlefield Rd
Springfield Missouri

40104642

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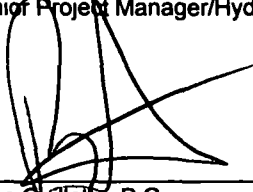
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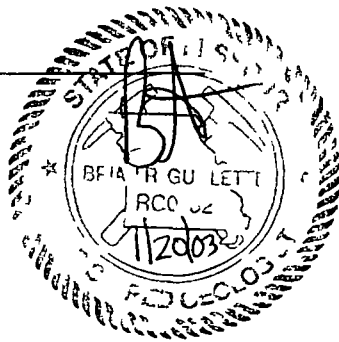
ARCADIS



Warren French P G
Senior Project Manager/Hydrogeologist



Brian Guillette P G
Vice-President/Area Manager
Missouri Registered Geologist No. RG0432



**Site Characterization Report
September 2002**

Brenntag Mid South Inc
Brenntag/HCI Chemtech
Facility
Springfield Missouri
EPA ID No. MOD0002325298

Prepared for
Brenntag Mid-South Inc
2235 W. Battlefield Road
Springfield Missouri

Prepared by
ARCADIS G&M Inc
5100 East Skelly Drive
Suite 1000
Tulsa
Oklahoma 74135
Tel 918 664 9900
Fax 918 664 9925

Our Ref
OK001255 0001

Date
17 January 2003

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1 0 Introduction

Brenntag Mid South, Inc (Brenntag) retained ARCADIS G&M Inc (ARCADIS) to conduct additional site characterization activities at their chemical distribution facility located at 2235 W Battlefield Road Springfield Missouri (Figure 1) The primary objectives of the characterization were to evaluate the vertical and horizontal extent of volatile organic compounds (VOCs) in soil and groundwater

The site characterization activities were conducted in accordance with the Remedial Investigation / Feasibility (RI / FS) Work Plan and associated Field Sampling Plan (FSP) Quality Assurance Project Plan (QAPP) and Health and Safety Plan (HASP)

This report presents the results of five soil borings installed on adjacent properties and the completion of an onsite open hole well in September 2002 Soil samples were collected and submitted for laboratory analysis Each of the five soil borings was completed as a monitoring well in the shallow bedrock and overlying soil profile (residuum) The well screen was installed to evaluate the hydraulic connection between the shallow bedrock and soil medium In addition the existing SAW 2 open hole was completed with a short screen to evaluate the groundwater quality in bedrock at depth All wells were developed immediately after completion and subsequently purged and sampled approximately two weeks later The groundwater analytical data obtained from the new monitoring wells are incorporated in the third quarter groundwater monitoring report for 2002

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2.0 Facility Information

Brenntag owns and operates the chemical distribution facility located in the southwestern portion of Springfield Greene County Missouri which is in the SE ¼ SE ¼ NW ¼ of Section 3 Township 28 North and Range 22 West (Figure 1) The site encompassing approximately 3.75 acres is located within the Missouri Pacific Industrial Park

Brenntag AG acquired HCI-Chemtech in December of 2000 and currently operates the facility under their subsidiary Brenntag Mid South Inc Holland Chemical International (HCI) acquired the site from Chemtech Industries Inc (CII) in 1992 and operated under the name HCI-Chemtech Distribution Inc CII initiated operations at the facility in 1975

The area north of the Brenntag site is undeveloped land owned by the Battlefield Business Center LLC ACME Brick is located to the west of the facility A light industrial business complex owned by Dennis Blake Properties is located east of the site The southern boundary of the site is adjacent to West Battlefield Road On the south side of West Battlefield Road are a residential trailer park and Foster Manufacturing Inc (Figure 2)

2.1 Facility Operations

The current layout of the Brenntag Springfield facility is shown on Figure 3 The facility includes a 2,000 square foot office a 12,000 square foot warehouse a 1,250 square foot drum rinsing building (bag shed) a 2,000 square foot drum storage building, a 700 square foot storage shed, tank farms and truck and railcar loading facilities The rail spur enters the site from the north along the eastern property boundary

A six foot chain link fence surrounds the property with an electronic entry gate along the front that adjoins the office building This gate is locked during non business hours

The Springfield facility is presently a distribution operation and has never manufactured chemicals Only one chemical blend was prepared at the facility The blending was done in a portable tank and drums The facility no longer blends or repackages chemicals This was discontinued in June 2002 Bulk liquid chemicals handled at the site include non-chlorinated solvents acids caustic alcohols and glycol In the past chlorinated solvents and fuel hydrocarbons were also handled in

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bulk. Chlorinated solvents are now received and distributed only as packaged chemicals. Also, the rinsing of solvent drums was discontinued. Only acid and caustic drums are still rinsed at the facility.

Past operations at the site have included railcar unloading, drum recycling/reconditioning, and a paint spray booth operation. Railcar unloading was discontinued around 1983. Paint operations and drum recycling were discontinued around 1988. In 1992, when HCI purchased the site, chemicals were stored in 38 aboveground storage tanks. The storage tanks were located north of the warehouse in three tank farms which had earthen dikes and floors. Chemicals were segregated in the tank farms and warehouse by compatibility and ignitability. In 1996, a new tank farm with a concrete floor and walls was constructed at the site. There are currently 13 aboveground storage tanks on the site. These tanks will eventually be removed. Concrete walls within the tank farm separate chemicals that could be incompatible. Each tank in the tank farm is individually plumbed to the truck loading area.

Types of products handled at the site have included caustics, aromatic solvents, acids, ketones, alcohols, glycols, and chlorinated solvents. The amount of chlorinated solvents stored at the site has decreased since bulk storage was discontinued. Dry chemicals include caustic, surfactants, desiccants, and pharmaceutical and food grade chemicals.

One underground diesel storage tank was previously in use at the facility but was removed in or around 1980. A 120-foot length of underground pipe carried diesel fuel from the rail siding to the tank farm, but was removed in 1991.

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3 0 Hydrology

3 1 Topography and Drainage Patterns

According to the USGS Springfield Missouri 7 5 minute quadrangle map (1996) the ground surface elevation of the site is approximately 1 280 feet (ft) above the National Geodetic Vertical Datum (NGVD) of 1929 (Figure 1) The USGS map indicates that the surface consists of gently rolling hills dissected by local streams that contribute to the James River located south of Springfield The general topographic gradient at the site is to the north and south as the site is located on a gentle east – west trending ridgeline This ridgeline separates two westerly flowing drainage channels that represent the headwaters of South Creek These westerly flowing channels appear approximately 1 000 ft north and 800 ft south of the site Several nearby wetlands were identified along the South Branch of South Creek

3 2 Regional Hydrogeology

Springfield Greene County Missouri lies within the Ozark Plateau Region a subdivision of the Interior Low Plateaus of the United States Locally the Springfield Plateau is underlain by rocks of Mississippian age Two formations are exposed in the area the Burlington Keokuk Formation and the Elsey Formation The Burlington Keokuk is a light gray to white coarsely to medium crystalline crinoidal limestone It is medium to very thick bedded limestone with common stylolites Chert occurs in elliptical white nodules usually not more than 6 to 8 inches thick arranged in non continuous layers This formation rock is extremely susceptible to solution A review of the USGS Springfield, Missouri 7 5 minute quadrangle map (1996) reveals the presence of ten closed depressions within one mile of the site that may be sinkholes

Beneath the Burlington Keokuk is the Elsey Formation a dense light gray limestone containing 25 to 50 percent chert The limestone is very fine grained crystalline to micritic Fossils are sparse in this rock formation The chert occurs in nodules or long lenses and beds from 6 inches to 1 foot thick The chert has distinctive white to gray coloration with some mottling The limestone dissolves easily where it contacts the chert The cherts tend to fracture easily and weather out of the formation leaving hollow spaces in outcrops The formation weathers so easily that outcrops are difficult to find outside of road cuts The rock units in Greene County are nearly horizontal with only very gentle dip to the west southwest

The Springfield Plateau Aquifer which may be up to 300 ft thick in the Springfield area is a sequence of permeable partially saturated rocks of Mississippian age

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Geologic formations that comprise this aquifer lies between the St Louis Limestone and the underlying Pierson Formation. The Keokuk Limestone and Burlington Limestone are the two most permeable rock units in the aquifer. The Springfield Plateau Aquifer is an important source of drinking water for both domestic and public water supply. The Springfield Plateau Aquifer is separated from the underlying Ozark Aquifer by a leaky confining layer referred to as the Ozark Confining Unit. The Ozark Confining Unit which varies in thickness from 20 to 70 ft in the Springfield area is composed of limestone, silt, and shale of Mississippian age. The uppermost geologic formation in the confining unit is the Northview Shale which is also the thickest formation of the confining unit. Beneath the Springfield area the thickness of the Northview Shale ranges from less than 10 to about 40 ft. Other formations in the unit are more permeable limestone and dolostone with little shale or silt content or are thin shale formations that are too localized to form an effective barrier to the regional movement of groundwater.

The Ozark aquifer is much thicker than the Springfield Plateau Aquifer and is composed of rocks of several Cambrian and Ordovician geologic formations of varying permeability. The Ozark Aquifer which is the major source of groundwater in the area is reported to be in excess of 1,000 ft thick in the Springfield area. The predominant lithologies of rocks that form the aquifer are dolostone and sandstone.

The closest water supply well to the Brenntag site is at the Dayco Products Inc facility located approximately 0.4 miles to the west at the intersection of Scenic Drive and West Battlefield Road (Figure 3). This well is reported as 1,640 ft deep with a static water level of 340 ft below ground surface (bgs) in 1988. In 1999 the Dayco well was extracting approximately 60,000 gallons a day from a depth of approximately 600 ft bgs. The well has reportedly been sampled and no water quality concerns have been reported associated with the Dayco well. Other wells identified in the southwest area of Springfield tend to be shallower, 400 to 600 ft deep with static water levels in the range of 280 ft bgs.

The Ozark Confining Layer is approximately 35 ft thick in the immediate vicinity of the site. However, only approximately 20 ft of the total thickness of the confining layer belongs to the relatively impermeable Northview Shale. The underlying Ozark Aquifer is approximately 1,290 ft thick based on data obtained from the Dayco driller's log.

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3.3 Local Hydrogeology

According to the U S Department of Agriculture Soil Conservation Service (currently Natural Resources Conservation Service) the soils beneath the site are classified as the Creldon silt loam (north unimproved area) and the Keeno and Eldon cherty silt loams (plant site) The Creldon Keeno and Eldon soil types are found on uplands formed in limestone residuum, and are typically well drained These soils are characterized by brown to red silty clay loam and cherty silty clay loam with some sinkholes and surface blocks of bedrock

The Brenntag site is underlain by reddish brown silts and clays (residuum) which overlies a hard limestone bedrock The reddish brown silts and clays show localized variations throughout the site These variations include abundant chert bands in the upper four ft in the northeast area of the site Additionally discontinuous thin lens of white crystalline sands of varying thickness are present throughout the site The residuum becomes firmer with depth except in the area just above the limestone where it is generally softer In the western and southwest areas of the site a thin bed of oolites was reportedly present at the base of the predominantly silt and clay residuum

The surface of the limestone beneath the site and the surrounding area is very irregular with the top of the limestone ranging between 11 ft and 32 ft bgs This irregular bedrock topography is termed a 'pinnacle' limestone in the area A map depicting the irregular top of the bedrock surface is shown as Figure 4 The irregular limestone bedrock surface and the overlying silt clay and chert residuum are depicted on the hydrogeologic cross sections provided as Figures 5a and 5b

A shallow unconfined water table is present in the residuum and underlying limestone bedrock Groundwater withdrawal by the HVE system and seasonal variations result in a range of depth to static groundwater from approximately 8.0 ft to 21.0 ft bgs The potentiometric surface in two deeper wells (SAW 1 and SAW 3) completed in the upper 20 ft of bedrock mimic the groundwater elevations in the shallow residuum wells, therefore it is likely that the residuum and the upper limestone bedrock represent one hydrologic unit Groundwater flow in the residuum and upper bedrock appears to be topographically controlled The groundwater flow direction may also be influenced by the irregular subsurface bedrock elevation and secondary permeability pathways such as bedding planes and solution features

One deep open-hole well (SAW 2) was installed on site to a depth of 208 ft bgs in July 2000 to evaluate the potential impacts to the Springfield Plateau Aquifer In order to minimize the potential for shallow impacted groundwater to migrate vertically down

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into the deep boring the SAW 2 was constructed with a surface casing set at approximately 35 ft bgs. The open hole SAW 2 was completed as a two inch monitoring well with a screen placement at 188 – 208 ft bgs in September 2002.

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4.0 Aquifer Characteristics

Four slug tests were conducted in residuum wells at the site in 1995. The results of the tests reported hydraulic conductivities between 8×10^{-5} centimeters per second (cm/s) and 3×10^{-6} cm/s. Based on surface soils identified from the drilling borehole logs it is believed that the slug tests provide a reasonable estimate of the hydraulic conductivity. However, it is possible that these hydraulic conductivities are elevated due to the presence of the thin sand and oolite layers observed in some of the borings.

5 0 Site Characterization Activities

5 1 Summary of Previous Site Investigations

Several subsurface investigations have been conducted at the facility commencing in 1992 with the installation of three temporary groundwater monitoring wells and two soil borings. Six monitoring wells (MW 1 through MW 6) were installed at the Brenntag site in 1995 (Figure 3). Seven monitoring wells (MW 7 through MW 13) and five extraction wells (Central Unit) were installed in July 1999. All monitoring wells were completed with screens positioned near the top of bedrock or at the base of the predominantly silt and clay residuum. Three open hole completions (SAW 1, SAW 2, and SAW 3) were installed within the bedrock in July 2000. Forty nine extraction wells were installed with the bottom of screen at or near the bedrock surface in December 2000 (Figure 6).

5 2 Summary of September 2002 Soil and Groundwater Characterization

ARCADIS personnel conducted a soil and groundwater characterization in September 2002. Five shallow offsite monitoring wells were installed to delineate the horizontal extent of soil and groundwater impacts in the overlying soil profile and upper bedrock interval. The open hole SAW 2 well was completed as a two inch monitoring well to evaluate the vertical extent of groundwater impacts.

The five new monitoring wells were drilled and completed with screens across both the soil (residuum) and upper bedrock (Figure 3). Wells MW 14 and MW 15 were installed on the Acme Brick property located west of the Brenntag site. Well MW 15 was installed at a location proximal to a former underground storage tank (UST) basin. Wells MW 16 and MW 17 were installed on the undeveloped land located north of the Brenntag site (Battlefield Business Center). Well MW 18 was installed on the light industrial business complex owned by Dennis Blake Properties located east of the Brenntag site. Lastly, the open hole SAW 2 well located on the Brenntag facility was completed with 2 inch PVC riser and 20 ft of screen at 188 – 208 ft bgs. A photograph log of the site investigation activities is provided in Appendix A. Presently 15 monitoring wells are located on the Brenntag site and six additional monitoring wells are located on the adjacent properties.

Static fluid levels were measured for all onsite monitoring wells prior to gauging and sampling the new offsite wells in September 2002. Phase separated hydrocarbon (PSH) was not detected in any of the wells. Groundwater samples were analyzed for

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the target list of VOCs using United States Environmental Protection Agency (USEPA) Method 8260B

The field characterization strategy focused on the horizontal delineation of chemicals of concern in groundwater at the site to determine the extent of off site migration. Soil data were collected and analyzed to confirm the presence or absence of shallow soil impacts at the offsite well locations. These data will be used to evaluate the risks associated with exposure to impacted media and to evaluate remedial alternatives for the offsite properties if needed.

6.0 Fluid Level Monitoring

A summary of the top of well casing elevations and screen intervals is provided in Table 1. Static groundwater levels were measured using a two phase interface probe from a surveyed reference point at the top and north side of the well casing. The probe and line of the fluid level indicator were decontaminated prior to each use with a laboratory grade detergent solution and distilled water rinse. The water level probe was decontaminated prior to measuring the first well and between each subsequent well. A summary of the historical fluid level data is included on Table 2.

Fluid levels in the existing monitoring wells were gauged in addition to the five newly installed monitoring wells. Groundwater gradient maps were derived from fluid level data obtained on September 25, 2002 and August 13, 2002. These maps are provided as Figures 7a and 7b respectively. Groundwater elevation maps derived from data obtained subsequent to start up of the HVE system in the spring of 2001 are interpreted with the inference of groundwater drawdown in the vicinity of the extraction wells. Historical groundwater elevation data demonstrate a consistent north west and south groundwater flow direction from the site. Seasonal groundwater recharge from surface water infiltration results in an apparent radial drainage pattern beneath the site.

Each of the open hole wells (SAW1 and SAW3) completed in the upper bedrock are monitored in conjunction with the monitoring wells completed in the overlying residuum. Total depth of SAW1 and SAW3 is 42.5 and 44 ft bgs respectively. The surface casing is set approximately 11 ft and 14 ft below the bedrock surface in the respective wells. Historical fluid levels measured in the open hole SAW 3 well indicate groundwater elevations approximate to those measured in nearby monitoring well MW-12 that is completed in the overlying soils or residuum. This evidence suggests that hydraulic connection exists between the residuum and upper bedrock.

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7 0 Drilling and Core Sampling

Five shallow soil borings and monitoring wells were installed in September 2002 by Roberts Environmental Drilling Inc Millstadt Illinois a State of Missouri licensed driller A hollow stem auger rig was utilized to drill an 8 25 inch diameter borehole in the unconsolidated soil interval Once bedrock was encountered an air rotary rig was used to drill a 6-inch diameter borehole to total depth at approximately 45 ft bgs The five monitoring wells installed in September 2002 include MW 14 through MW 18 (Figure 3)

Cuttings derived from the drilling consist primarily of unsaturated soils Much lesser amounts of rock dust were generated while drilling the bedrock However the rock dust was captured in a 55 gallon drum via a return flow line Eleven 55 gallon drums of soil cuttings generated during the site investigation activities are temporarily stored at the Brenntag Springfield site A soil disposal plan submitted under separate cover provides supporting documentation for onsite disposal

Unconsolidated soil samples were obtained using either a standard core barrel or split spoons The soil type and bedrock lithology descriptions were provided by an ARCADIS geologist Drilling and sampling equipment was decontaminated prior to use at each boring or well following the procedures described in the FSP Immediately after the soil samples were collected a portion of each soil sample was placed in an airtight polyethylene bag for headspace analysis After allowing approximately ten minutes for soil gas equilibration the geologist measured the headspace using a photo ionization detector (PID) capable of detecting volatile organic vapors PID readings are reported on the lithologic logs in Appendix B Lithologic logs obtained during previous site investigations are provided in Appendix C

7 1 Deviations From Proposed Drilling and Core Sampling Program

The drilling program was performed with minor deviations from the FSP Continuous coring of the soil and bedrock sequence was attempted at the well MW 15 location Poor recovery with a continuous core in the soil profile resulted in the use of split spoons in subsequent soil borings Soil samples were collected at depths between 0 to 2 ft and 2 to 5 ft bgs Proposed continuous coring was not warranted to accomplish the soil sampling program In addition continuous coring of the bedrock sequence was conducted at the well MW 15 location After consulting with the onsite MDNR geologist and USEPA representative coring was terminated at 32 5 ft bgs where a well cemented chert was encountered Continuous coring of the bedrock sequence was not attempted at the four remaining well locations A drilling rate indicative of competent

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bedrock was consistent between well locations. One exception was at well MW 14 where a six inch drilling break was encountered at a depth of 28 ft bgs.

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The proposed completion of the open hole SAW 2 well was amended. The annulus was grouted from the bentonite seal to land surface with high solids bentonite grout in lieu of concrete.

8 0 Monitoring Well Installation and Development

The shallow borings were advanced to a depth approximately 45 ft bgs and completed as monitoring wells with a well screen length of 35 ft. The wells were constructed so that the bedrock and overlying soil profile was positioned across the screen. The five shallow monitoring wells were constructed with 2 inch diameter Schedule 40 PVC riser pipe with 0.020 inch machine slotted PVC well screen. A filter pack consisting of a 10/20 sieve size sand was placed in the annular space between the screen and borehole to a level approximately two ft above the top of the screened section. The annular seal above the filter pack consists of approximately four ft of bentonite. After the bentonite was hydrated, the remainder of the annulus was grouted from the bentonite seal to land surface using a commercial grade concrete. A sub grade manhole was installed around the casing with a 3 ft by 3 ft by 4 inch thick concrete pad around the wellhead. Well completion data are summarized in Table 1. Well construction logs for the new wells are provided in Appendix D.

The open hole SAW 2 well was pumped dry prior to completion as a monitoring well with a 20 ft well screen placed at 188 - 208 ft bgs. Schedule 80 PVC riser pipe with 0.020 inch machine-slotted PVC well screen was used to construct the SAW 2 well. A filter pack consisting of a 10/20 sieve size sand was placed in the annular space between the screen and borehole to a level approximately two ft above the top of the screened section. A 40-60 sieve size sand was placed in the annular space between 182 and 186 ft bgs. The annular seal above the filter pack consists of approximately four ft of bentonite. After the bentonite was hydrated, the remainder of the annulus was grouted from the bentonite seal to land surface with high solids bentonite grout.

The location and elevation of monitoring wells MW 14 through MW 18 were surveyed by ARCADIS. The well locations and elevations of new wells are to be obtained by a registered surveyor when the site characterization is completed. The Missouri Department of Natural Resources (MDNR) Abandonment Registration Record for geotechnical soil boring GSB 1 is provided in Appendix E. The MDNR Monitoring Well Certification Records for wells MW 14 through MW 18 are provided in Appendix F. Lastly the MDNR Reconstruction Registration Record for the open hole SAW 2 completion is provided in Appendix G.

Monitoring well surging and development activities were conducted by using a development bailer and subsequent evacuation by either bailing or pumping with a submersible pump. Well development was continued until the well was bailed dry or the water was relatively free of sediment. Well development forms for the new wells are provided in Appendix H. Development water was containerized and subsequently

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discharged to the onsite remediation system located at the Brenntag site. All development equipment that came in contact with the groundwater was decontaminated prior to use at each well using the procedures described in the FSP.

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9.0 Soil Sampling Results

Continuous cores were obtained at discrete and shallow depths in each boring. Soil samples were collected and transported via overnight courier under strict chain of custody record to Pace Analytical laboratory in Lenexa, Kansas for analysis. The soil samples were analyzed using USEPA Method 8260 for VOCs. Laboratory analytical results for soil samples collected from continuous cores obtained during the recent offsite groundwater characterization are provided in Table 3. The laboratory analytical report and a copy of the chain of custody record for the site characterization soil samples are provided in Appendix I.

The soil samples are identified with the monitoring well number and the depth BGS from which it was collected. No VOCs were detected above the laboratory reporting limit in any of the soil samples collected from monitoring wells MW 14, MW 17, and MW 18. Based on the analytical results of the soil samples from these borings:

Minor VOC concentrations were detected above the laboratory reporting limit in soil samples from monitoring wells MW 15 and MW 16. Well MW 15 was installed at the ACME Brick facility. Well MW 16 is located on the undeveloped Battlefield Business Center property located north of the Brenntag site. These soil data are summarized below:

- MW15-4 (collected 4 feet below ground surface) contained the detected analytes: 1,2,4-Trimethylbenzene at 44 micrograms per kilogram ($\mu\text{g}/\text{kg}$), 1,3,5-Trimethylbenzene at 34 $\mu\text{g}/\text{kg}$, naphthalene at 12 $\mu\text{g}/\text{kg}$, n-butylbenzene at 24 $\mu\text{g}/\text{kg}$, n-propylbenzene at 6.4 $\mu\text{g}/\text{kg}$, p-isopropyltoluene at 19 $\mu\text{g}/\text{kg}$, and sec-butylbenzene at 17 $\mu\text{g}/\text{kg}$.
- MW16-1 (collected 1 ft bgs) contained analytes at estimated concentrations detected above the adjusted method detection limit and below the adjusted reporting limit (J Flag). These analytes include ethylbenzene at 1 $\mu\text{g}/\text{kg}$, naphthalene at 1.3 $\mu\text{g}/\text{kg}$, and acetone at 6.8 $\mu\text{g}/\text{kg}$.
- MW16-4 (collected 4 ft bgs) contained Acetone (7.5 $\mu\text{g}/\text{kg}$) at an estimated concentration detected above the adjusted method detection limit and below the adjusted reporting limit (J Flag).

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9.1 Geotechnical Boring Samples

In addition to the shallow soil boring samples a geotechnical core sample was obtained to parameters in support of a risk assessment and remedial alternatives evaluation. The laboratory analytical reports for the geotechnical soil boring samples are provided in Appendix J.

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10.0 Groundwater Quality Monitoring

Prior to well purging and sampling each well was inspected for damage that may impact the groundwater monitoring program. No evidence of standing water, well damage, tampering, subsidence, frost heaving, or excessive silt or sand accumulation within the well screen was observed.

The chemicals of concern for the site characterization are VOCs associated with the products that are either present or have been detected at the facility during previous site investigations.

10.1 Well Purging and Sample Collection

Monitoring wells were purged prior to collecting groundwater samples to ensure that representative formation water was being sampled. The depth to groundwater and the total well depths were used to calculate the volume of water in the well casing. All wells were purged and sampled using either disposable bailers or low flow purging and sampling procedures. Water samples obtained by means of the low flow technique were collected at mid point of the saturated screen interval.

The groundwater samples were immediately placed on ice, then promptly transported to Pace Analytical Services in Lenexa, Kansas for analysis of VOCs by USEPA Method 8260B. Groundwater parameter measurements of pH, specific conductance, and temperature were collected during purging. Dissolved oxygen measurements were also collected from the shallow wells. Prior to introduction into the well, all non-dedicated equipment and materials were decontaminated.

10.2 Laboratory Analytical Data Reporting

Quarterly laboratory analytical results for groundwater and quality control samples analyzed for VOCs by USEPA Method 8260B are summarized in Tables 4, 5, and 6. Analytical results of detected VOCs in groundwater are segregated based on the potential source of each constituent. The petroleum and chlorinated VOCs are segregated and provided in Table 4 and Table 5, respectively. Laboratory results for the VOCs acetone, 2-butanone, and 4-methyl-2-pentanone are provided in Table 6. The laboratory analytical reports for the site characterization groundwater samples are included in Appendix K.

11 0 Groundwater Sampling Results

11 1 Groundwater Flow

The groundwater gradient map derived from fluid level data obtained on September 25 2002 is presented as Figure 7a. The September 2002 groundwater gradient map includes the newly installed offsite monitoring well data. In addition, Figure 7a reflects low groundwater elevations beneath the site as a result of the HVE system operation at the loading dock, central and northwest units. The calculated hydraulic gradient between the onsite well MW 12 and offsite well MW 17 is 0.05 ft per foot.

The groundwater gradient map derived from fluid level data obtained on August 13 2002 is presented as Figure 7b. The August 2002 groundwater gradient map reflects low groundwater elevations beneath the site as a result of the HVE system operation at the loading dock and northwest units. As a result, the hydraulic gradient beneath the site is not calculated.

11 2 Groundwater Quality

The groundwater analytical data obtained from the new monitoring wells are incorporated in the third quarter groundwater monitoring report for 2002. Groundwater concentration maps include analytical data from the quarterly monitoring event conducted in August 2002 and the offsite monitoring wells installed and sampled in September 2002. The total petroleum VOC, total BTEX, and total chlorinated VOC concentrations in groundwater for the August and September 2002 sampling events are provided as Figures 8, 9, and 10, respectively. In addition, groundwater concentration maps for selected chlorinated VOCs were prepared utilizing the analytical data obtained in August and September 2002. Figures 11 through 14 show the detected concentrations of trichloroethene (TCE) and the primary degradation products cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethene, and vinyl chloride. Figures 15 and 16 show the detected concentrations in groundwater of methylene chloride and acetone, respectively.

The primary chemicals of concern at the site include those analytes with either a state or federal maximum contaminant level (MCL). These chemicals include benzene, toluene, ethylbenzene, xylenes, tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, 1,1-dichloroethene, 1,2-dichloroethane, and vinyl chloride. A review of groundwater concentration maps of the VOCs detected in groundwater samples collected from the wells in August and September 2002 indicate two main onsite source areas with elevated VOC concentrations.

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Elevated concentrations for the petroleum based constituents of concern are consistently observed in Wells MW 3 through MW 6 and MW 8 located in the central portion of the site. These wells are located in the vicinity of the former diesel line where the release of petroleum hydrocarbons was previously documented. Analytical results of groundwater samples from the offsite monitoring wells installed in September 2002 indicate elevated concentrations of petroleum based VOCs have migrated downgradient to the MW 17 well location.

Elevated concentrations for the chlorinated constituents of concern are consistently observed in Wells MW 1 MW-6 MW 8 and MW 9. These wells are located in the area where the former solvent drum rinsing operation took place. The petroleum and chlorinated VOCs originating in the central portion of the site have co mingled. Analytical results of groundwater samples from the offsite monitoring wells installed in September 2002 indicate elevated concentrations of chlorinated VOCs have migrated downgradient to the MW 17 well location. However, the absence of trichloroethene and the presence of degradation products of trichloroethene suggests that natural attenuation of the chlorinated VOCs in groundwater is taking place.

Infiltration of surface water provides groundwater recharge to the shallow upper bedrock beneath the Brenntag site. The combination of shallow bedrock beneath the site and an increased hydraulic gradient to the north may explain the elevated total VOC concentrations detected in well MW 17.

The measured groundwater elevations obtained prior to collection of the September 2002 groundwater samples are depicted on hydrogeologic cross sections provided in Figures 7a and 7b. The measured groundwater elevation in well MW 17 is at or near top of the bedrock surface. Migration of impacted groundwater from the Brenntag site toward the MW 17 location appears to have occurred primarily along flow paths in the upper bedrock.

Concentrations of the VOCs detected in new offsite wells MW 14 MW 15 MW 16 and MW 18 are below the CALM and MCLs assigned by the MDNR and USEPA respectively. Therefore, delineation of VOCs in groundwater is complete to the west (MW 14 and MW 15) northwest (MW 16) and east (MW 18).

12.0 Conclusions and Recommendations

Soil samples collected from offsite soil borings MW 14, MW 17, and MW 18 reported concentrations of VOCs at or below the laboratory reporting limits. Only very minor concentrations of VOCs were detected in the shallow soil samples collected from the MW 15 and MW 16 borings.

Vertical and lateral migration of detected VOCs in groundwater from the onsite source areas toward the shallow monitoring well MW 17 is indicated. Based on the results of the groundwater analysis from the five new shallow delineation wells, the horizontal extent of VOCs in groundwater has not been delineated to the north. Installation of additional shallow monitoring wells to delineate chemicals of concern in groundwater in the vicinity of Well MW 17 is warranted.

The presence of chlorinated VOC degradation products in both onsite and offsite monitoring wells indicate that natural attenuation is occurring. Natural attenuation coupled with the onsite source reduction with the interim remedial system should result in a decreased concentration of VOCs in groundwater.

Groundwater analytical results of the deep SAW 2 monitoring well indicate that the vertical migration of groundwater impacts has occurred. ARCADIS suspects that vertical migration may have occurred in the well bore below the surface casing prior to recompletion of the well. Elevated concentrations of total petroleum and total chlorinated VOCs were detected in the September 2002 groundwater sample. Sampling of the SAW 2 well was conducted after 342 gallons of groundwater were removed between September 11 and September 25, 2002. Groundwater extraction is recommended to further evaluate the potential of vertical and lateral migration of detected VOCs from the source areas toward the SAW 2 screen interval (188 – 208 ft).

Hydraulic testing of new monitoring well MW 17, open hole wells SAW 1 and SAW 3 that are completed in the upper bedrock, and SAW 2 completed in the deep bedrock is recommended. In addition, hydraulic testing of selected monitoring wells completed in the overlying residuum is recommended.

Delineation of the soil and groundwater impacts originating from the Brenntag facility has not been completed. Based on the soil and groundwater data obtained during the site characterization activities in September 2002, ARCADIS recommends the following:

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- Installation of 2 shallow monitoring wells in the area north of well MW 17
The proposed well locations are illustrated on the Vicinity Map (Figure 2)
- Bi monthly extraction of groundwater from the SAW 2 well during the first
quarter of 2003
- Survey of all new wells by a registered land surveyor
- Hydraulic testing of selected monitoring wells
- Continue the quarterly groundwater monitoring and reporting program
- Continue operation of the HVE system

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Springfield Missouri
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13 0 References

- ARCADIS G&M Inc November 2002 Groundwater Monitoring Report Third
Quarter 2002 Brenntag Mid South Inc Brenntag/HCI Chemtech Facility
Springfield Missouri
- ARCADIS G&M Inc May 2002 Removal Action Report Brenntag Mid South Inc
Brenntag/HCI Chemtech Facility Springfield Missouri
- ARCADIS G&M Inc May 2002 Remedial Investigation / Feasibility Study
Brenntag Mid South Inc Brenntag/HCI Chemtech Facility Springfield
Missouri
- C Johnson Environmental May 1999 Remedial Investigation and Removal Action
Work Plan HCI Chemtech Distribution 2235 West Battlefield Road
Springfield Missouri

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Table 1 Well Completion Summary
 Brenntag/HCI Chemtech, 2235 W Battlefield Rd Springfield, Missouri

Well Name	Date Installed	Well Material	Ground Elevation (ft amsl)	Top of Casing (ft amsl)	Well Diameter (inches)	Bentonite Interval (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Top of Screen (ft amsl)	Bottom of Screen (ft amsl)	Screen Size (inches)	Borehole Diameter (inches)	Boring Depth (ft bgs)	Top of Bedrock (ft bgs)	Top of Bedrock (ft amsl)
MW 1	5/31/95	SS	1283 26	1282 83	2	7 10	12 2	22 2	1271 06	1261 06	0 010	6	22 5	22 5	1260 76
MW 2	5/31/95	SS	1282 90	1282 39	2	4 6 2	8 2	18 2	1274 70	1264 70	0 010	6	19 5	19 5	1263 40
MW 3	6/1/95	SS	1282 57	1281 85	2	2-4 7	6 7	16 7	1275 87	1265 87	0 010	6	17	17 3	1265 27
MW-4	6/1/95	SS	1278 79	1278 47	2	1 3 5	4 6	14 6	1274 19	1264 19	0 010	6	14 9	14 3	1264 49
MW 5	6/1/95	SS	1283 21	1282 49	2	3 5 6 5	8 5	18 5	1274 71	1264 71	0 010	6	18 8	18 8	1264 41
MW 6	6/1/95	SS	1282 96	1282 73	2	0 5 3 5	5	15	1277 96	1267 96	0 010	6	15 3	15 3	1267 66
MW 7	7/15/99	PVC	1283 02	1285 95	2	2 5-4	5	20	1278 02	1263 02	0 020	8	20	19 7	1263 32
MW 8	7/14/99	PVC	1282 88	1282 56	2	1 25 2 5	3 5	16	1279 38	1266 88	0 020	8	16	15 6	1267 28
MW 9	7/15/99	PVC	1282 88	1282 39	2	3 6 5	8	23	1274 88	1259 88	0 020	8	23 5	23	1259 88
MW 10	7/15/99	PVC	1282 58	1282 06	2	2 5-4	5	20	1277 58	1262 58	0 020	8	20	20	1262 58
MW 11	7/14/99	PVC	1282 09	1284 79	2	2 5-4	4	19	1278 09	1263 09	0 020	8	19	19	1263 09
MW 12	7/14/99	PVC	1281 92	1285 02	2	2 5-4	4 75	19 75	1277 17	1262 17	0 020	8	19	19 75	1262 17
MW 13	7/15/99	PVC	1278 23	1277 62	2	1 25 2 25	3	13	1275 23	1265 23	0 020	8	13	12	1266 23
MW 14	9/10/02	PVC	1275 99	1275 55	2	5 8	10	45	1265 99	1230 99	0 020	6	45 5	21	1254 99
MW 15	9/10/02	PVC	1280 83	1280 48	2	7 10	8 5	43 5	1272 33	1237 33	0 020	6	45 5	12 5	1268 33
MW 16	9/11/02	PVC	1271 46	1271 01	2	7 10	9 5	44 5	1261 96	1226 96	0 020	6	45	28 5	1242 96
MW 17	9/11/02	PVC	1271 21	1270 76	2	7 10	10	45	1261 21	1226 21	0 020	6	45	29	1242 21
MW 18	9/11/02	PVC	1281 70	1281 16	2	7 10	10	45	1271 70	1236 70	0 020	6	45 6	14 5	1267 20
SAW 1	7/25/00	S\OH	1282 59	1282 89	6 25\@30	OH	30	42 5	1252 59	1240 09	OH	10 \5 625	42 5	16 5	1266 09
SAW 2	9/11/02	PVC	1277 94	1277 41	2	177 6 182	188	208	1089 94	1069 94	0 020	10 \5 625	208	13 9	1264 04
(SAW 2)	7/25/00	S\OH	1277 94	1277 41	6 25\@25	OH	25	208	1252 94	1069 94	OH	10 \5 625	208	13 9	1264 04
SAW 3	7/26/00	S\OH	1282 15	1281 78	6 25\@30	OH	30	44	1252 15	1238 15	OH	10 \5 625	44	19 5	1262 65

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 Brenntag/HCI Chemtech, 2235 W Battlefield Rd Springfield, Missouri

Well Name	Date Installed	Well Material	Ground Elevation (ft amsl)	Top of Casing (ft amsl)	Well Diameter (inches)	Bentonite Interval (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Top of Screen (ft amsl)	Bottom of Screen (ft amsl)	Screen Size (inches)	Borehole Diameter (inches)	Boring Depth (ft bgs)	Top of Bedrock (ft bgs)	Top of Bedrock (ft amsl)
Extraction Wells - Central Unit															
EW4	7/16/99	SS	1282 77	1282 25	2	3 5 5	7	22	1275 77	1260 77		8	22	16 00	1266 77
EW5	7/16/99	SS	1283 51	1283 00	2	2 3 5	4	19	1279 51	1264 51		8	19	19 00	1264 51
EW7 D	7/16/99	SS	1283 94	1283 00	2	3 6	9	19	1274 94	1264 94		8	19	19 00	1264 94
EW8 C	7/16/99	SS	1282 77	1282 00	2	2 25 3 5	3 5	13 5	1279 27	1269 27		8	13 5	13 50	1269 27
EW9 B	7/16/99	SS	1283 52	1283 00	2	2 25 3 5	6 5	16 5	1277 02	1267 02		8	19 5	16 50	1267 02
E11		SS	1283 00				6 5	9	1276 50	1274 00			9 0		1274 00
E12		SS	1283 00				8	18	1275 00	1265 00			18 0		1265 00
E13		SS	1283 00				7 5	9	1275 50	1274 00			9 0		1274 00
E14 A		SS	1283 00				9 5	19 5	1273 50	1263 50			19 5		1263 50
E32 E		SS	1283 00				13	23	1270 00	1260 00			23 0		1260 00
Extraction Wells - Rail Spur Unit															
E4		PVC	1277 00				10	20	1267 00	1257 00			20 0		1257 00
E5		PVC	1277 00				9 5	19 5	1267 50	1257 50			19 5		1257 50
E6		PVC	1277 00				9 5	14 5	1267 50	1262 50			14 5		1262 50
E7		PVC	1277 00				9 5	14 5	1267 50	1262 50			14 5		1262 50
E8		PVC	1277 50				9 5	19 5	1268 00	1258 00			19 5		1258 00
E9		PVC	1277 50				9	11 5	1268 50	1266 00			11 5		1266 00
E10		PVC	1278 00				7 5	8 5	1270 50	1269 50			8 5		1269 50
E33		PVC	1278 00				10 5	20 5	1267 50	1257 50			20 5		1257 50
E34		PVC	1278 00				8 5	13 5	1269 50	1264 50			13 5		1264 50

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 Brenntag/HCI Chemtech, 2235 W Battlefield Rd Springfield, Missouri

Well Name	Date Installed	Well Material	Ground Elevation (ft amsl)	Top of Casing (ft amsl)	Well Diameter (inches)	Bentonite Interval (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Top of Screen (ft amsl)	Bottom of Screen (ft amsl)	Screen Size (inches)	Borehole Diameter (inches)	Boring Depth (ft bgs)	Top of Bedrock (ft bgs)	Top of Bedrock (ft amsl)
Extraction Wells - Loading Dock															
E1		PVC	1278 50				8 5	18 5	1270 00	1260 00			18 5		1260 00
E2		PVC	1278 50				7	8	1271 50	1270 50			8 0		1270 50
E3		PVC	1278 50				8	17	1270 50	1261 50			17 0		1261 50
E15		SS	1282 90				8 5	13 5	1274 40	1269 40			13 5		1269 40
E16		SS	1282 80				9 5	17	1273 30	1265 80			17 0		1265 80
E17		PVC	1282 70				10	17 5	1272 70	1265 20			17 5		1265 20
E18		PVC	1278 20				11	21	1267 20	1257 20			21 0		1257 20
E19		PVC	1278 20				8	17	1270 20	1261 20			17 0		1261 20
E20		PVC	1278 20				7 5	12 5	1270 70	1265 70			12 5		1265 70
E21		PVC	1278 20				8	15	1270 20	1263 20			15 0		1263 20
E22		PVC	1278 40				9 5	16 5	1268 90	1261 90			16 5		1261 90
E23		PVC	1278 40				9	17	1269 40	1261 40			17 0		1261 40
E24		PVC	1278 40				8	12 5	1270 40	1265 90			12 5		1265 90
E25		PVC	1278 40				9 5	15 5	1268 90	1262 90			15 5		1262 90
E26		PVC	1278 40				8 5	13 5	1269 90	1264 90			13 5		1264 90
E27		PVC	1278 40				9 5	19 5	1268 90	1258 90			19 5		1258 90
E28		PVC	1278 40				8 5	10 5	1269 90	1267 90			10 5		1267 90
E29		PVC	1278 40				8 5	9 5	1269 90	1268 90			9 5		1268 90
E30		PVC	1278 00				13 5	23 5	1264 50	1254 50			23 5		1254 50
E31		PVC	1278 00				8	13	1270 00	1265 00			13 0		1265 00

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 Brenntag/HCI Chemtech, 2235 W Battlefield Rd Springfield, Missouri

Well Name	Date Installed	Well Material	Ground Elevation (ft amsl)	Top of Casing (ft amsl)	Well Diameter (inches)	Bentonite Interval (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Top of Screen (ft amsl)	Bottom of Screen (ft amsl)	Screen Size (inches)	Borehole Diameter (inches)	Boring Depth (ft bgs)	Top of Bedrock (ft bgs)	Top of Bedrock (ft amsl)
Extraction Wells - Northwest Unit															
E36		PVC	<i>1282 60</i>				8 5	18 5	<i>1274 10</i>	<i>1264 10</i>			18 5		<i>1264 10</i>
E37		PVC	<i>1282 50</i>				8 5	18 5	<i>1274 00</i>	<i>1264 00</i>			18 5		<i>1264 00</i>
E38			<i>1282 10</i>				8 5	15 5	<i>1273 60</i>	<i>1266 60</i>			15 5		<i>1266 60</i>
E39			<i>1282 10</i>				9 5	14 5	<i>1272 60</i>	<i>1267 60</i>			14 5		<i>1267 60</i>
E40			<i>1282 50</i>				10 5	20 5	<i>1272 00</i>	<i>1262 00</i>			20 5		<i>1262 00</i>
E41			<i>1282 60</i>				9	19	<i>1273 60</i>	<i>1263 60</i>			19 0		<i>1263 60</i>
E42			<i>1282 80</i>				8 5	12 5	<i>1274 30</i>	<i>1270 30</i>			12 5		<i>1270 30</i>
E43			<i>1282 10</i>				9 5	14 5	<i>1272 60</i>	<i>1267 60</i>			14 5		<i>1267 60</i>
E44			<i>1282 50</i>				9	19	<i>1273 50</i>	<i>1263 50</i>			19 0		<i>1263 50</i>
E45			<i>1282 50</i>				8 5	10 5	<i>1274 00</i>	<i>1272 00</i>			10 5		<i>1272 00</i>
E46			<i>1283 20</i>				9	17	<i>1274 20</i>	<i>1266 20</i>			17 0		<i>1266 20</i>
E47			<i>1282 10</i>				9	17	<i>1273 10</i>	<i>1265 10</i>			17 0		<i>1265 10</i>
E48			<i>1283 20</i>				8 5	18 5	<i>1274 70</i>	<i>1264 70</i>			18 5		<i>1264 70</i>
E49			<i>1283 20</i>				8 5	12 5	<i>1274 70</i>	<i>1270 70</i>			12 5		<i>1270 70</i>
E50			<i>1282 60</i>				8 5	10 5	<i>1274 10</i>	<i>1272 10</i>			10 5		<i>1272 10</i>

Benchmark #592 = 1278 04 140 S of the Center Line of Battlefield Road on the W Side of Cox Road

S = Steel PVC = Poly Vinyl Chloride

SS = Stainless Steel OH = Open Hole

Casing and Ground Elevations for Wells MW-4 MW 14 through MW 18 SAW 1 2 & 3 Measured by ARCADIS G&M

Casing and Ground Elevations for Wells EW 4 9 from logs

All other Casing and Ground Elevations Surveyed by Heithous Engineering Inc

Note Ground Elevation for Extraction Wells are estimated (in italics)

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
MW 1	9/25/02	1282 83	11 77 21 77	16 70	1266 13				1266 13
	8/13/02	1282 83		17 26	1265 57				1265 57
	5/14/02	1282 83		3 11	1279 72				1279 72
	2/14/02	1282 83		14 22	1268 61				1268 61
	11/27/01	1282 83		15 97	1266 86				1266 86
	11/9/01	1282 83		15 48	1267 35				1267 35
	10/25/01	1282 83		12 72	1270 11				1270 11
	8/28/01	1282 83		13 67	1269 16				1269 16
	5/30/01	1282 83		6 60	1276 23				1276 23
	2/6/01	1282 83		9 90	1272 93				1272 93
	12/4/00	1282 83		12 28	1270 55				1270 55
	4/27/00	1282 83		10 40	1272 43				1272 43
	7/14/99	1282 83		12 32	1270 51				1270 51
	6/1/95	1283 26		5 63	1277 63				1277 63
MW 2	9/25/02	1282 39	7 69 17 69	DRY	DRY				DRY
	8/13/02	1282 39		DRY	DRY				DRY
	5/14/02	1282 39		4 00	1278 39				1278 39
	2/14/02	1282 39		13 62	1268 77				1268 77
	11/27/01	1282 39		15 67	1266 72				1266 72
	11/9/01	1282 39		15 38	1267 01				1267 01
	10/25/01	1282 39		12 21	1270 18				1270 18
	8/28/01	1282 39		14 26	1268 13				1268 13
	5/30/01	1282 39		9 87	1272 52				1272 52

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
MW 2 (cont d)	2/6/01	1282 39		11 71	1270 68				1270 68
	12/4/00	1282 39		12 86	1269 53				1269 53
	4/27/00	1282 39		15 76	1266 63				1266 63
	7/14/99	1282 39		12 86	1269 53				1269 53
	6/1/95	1282 90		11 57	1271 33				1271 33
MW 3	9/25/02	1281 85	5 98 15 98	14 64	1267 21				1267 21
	8/13/02	1281 85		14 51	1267 34				1267 34
	5/14/02	1281 85		3 03	1278 82				1278 82
	2/14/02	1281 85		10 49	1271 36				1271 36
	11/27/01	1281 85		13 23	1268 62				1268 62
	11/9/01	1281 85		12 14	1269 71				1269 71
	10/25/01	1281 85		8 28	1273 57				1273 57
	8/28/01	1281 85		11 86	1269 99				1269 99
	5/30/01	1281 85		5 90	1275 95				1275 95
	2/7/01	1281 85		7 85	1274 00				1274 00
	12/4/00	1281 85		9 66	1272 19				1272 19
	4/27/00	1281 85		13 10	1268 75				1268 75
	7/14/99	1281 85		10 34	1271 51				1271 51
6/1/95	1282 57		9 78	1272 79				1272 79	
MW-4	9/25/02	1278 47	4 28 14 28	9 40	1269 07				1269 07
	8/13/02	1278 47		10 51	1267 96				1267 96
	5/14/02	1278 47		0 00	1278 47				1278 47
	2/14/02	1278 47		8 63	1269 84				1269 84
	11/27/01	1278 47		7 16	1271 31				1271 31

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
MW-4	11/9/01	1278 47		7 62	1270 85				1270 85
(cont d)	10/25/01	1278 47		3 30	1275 17				1275 17
	8/28/01	1278 47		8 28	1270 19				1270 19
	5/31/01	1278 47		0 81	1277 66				1277 66
	2/7/01	1278 47		5 42	1273 05				1273 05
	12/4/00	1278 47		5 98	1272 49				1272 49
	4/27/00	1278 47		4 57	1273 90				1273 90
	7/14/99	1278 47		2 72	1275 75				1275 75
	6/1/95	1275 14		6 01	1269 13				1269 13
MW 5	9/25/02	1282 49	7 78 17 78	10 90	1271 59				1271 59
	8/13/02	1282 49		15 14	1267 35				1267 35
	5/14/02	1282 49		1 01	1281 48				1281 48
	2/14/02	1282 49		12 06	1270 43				1270 43
	11/27/01	1282 49		12 80	1269 69				1269 69
	11/9/01	1282 49		14 41	1268 08				1268 08
	10/25/01	1282 49		10 51	1271 98				1271 98
	8/28/01	1282 49		14 21	1268 28				1268 28
	5/31/01	1282 49		1 95	1280 54				1280 54
	2/7/01	1282 49		5 90	1276 59				1276 59
	12/4/00	1282 49		6 12	1276 37				1276 37
	4/27/00	1282 49		8 34	1274 15				1274 15
	7/14/99	1282 49		4 33	1278 16				1278 16
	6/1/95	1283 21		6 05	1277 16				1277 16

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
MW-6	9/25/02	1282 73	4 77 14 77	10 71	1272 02				1272 02
	8/13/02	1282 73		DRY	DRY				DRY
	5/14/02	1282 73		1 19	1281 54				1281 54
	2/14/02	1282 73		DRY	DRY				DRY
	11/27/01	1282 73		14 32	1268 41				1268 41
	11/9/01	1282 73		14 72	1268 01				1268 01
	10/25/01	1282 73		11 70	1271 03				1271 03
	8/28/01	1282 73		14 88	DRY				DRY
	5/31/01	1282 73		3 61	1279 12				1279 12
	2/7/01	1282 73		6 82	1275 91				1275 91
	12/4/00	1282 73		5 96	1276 77				1276 77
	4/27/00	1282 73		10 42	1272 31				1272 31
	7/14/99	1282 73		3 48	1279 25				1279 25
	6/1/95	1282 96		7 16	1275 80				1275 80
MW 7	9/25/02	1284 95	7 93 22 93	17 03	1267 92				1267 92
	8/13/02	1284 95		17 97	1266 98				1266 98
	5/14/02	1284 95		8 48	1276 47				1276 47
	2/15/02	1284 95		16 12	1268 83				1268 83
	11/27/01	1284 95		14 51	1270 44				1270 44
	11/9/01	1284 95		17 23	1267 72				1267 72
	10/25/01	1284 95		15 14	1269 81				1269 81
	8/28/01	1285 95		16 83	1269 12				1269 12
	5/30/01	1285 95		10 91	1275 04				1275 04
2/7/01	1285 95		14 70	1271 25				1271 25	

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
MW 7	12/4/00	1285 95		16 85	1269 10				1269 10
(cont d)	4/27/00	1285 95		21 14	1264 81				1264 81
	7/15/99	1285 95		18 11	1267 84				1267 84
MW 8	9/25/02	1280 56	3 18 15 68	12 93	1267 63				1267 63
	8/13/02	1282 56		DRY	DRY	14 86	1267 70	0 33	DRY
	5/14/02	1282 56		1 80	1280 76				1280 76
	2/15/02	1282 56		13 23	1269 33	13 01	1269 55	0 22	1269 33
	11/27/01	1282 56		14 95	1267 61	14 22	1268 34	0 73	1267 61
	11/9/01	1282 56		DRY	DRY				DRY
	10/25/01	1282 56		13 59	1268 97				1268 97
	8/28/01	1282 56		13 44	1269 12	14 37	1268 19	0 93	1268 38
	5/31/01	1282 56		5 49	1277 07				1277 07
	2/7/01	1282 56		6 80	1275 76				1275 76
	12/4/00	1282 56		8 89	1273 67				1273 67
	4/27/00	1282 56		13 65	1268 91				1268 91
	7/14/99	1282 56		7 09	1275 47				1275 47
MW 9	9/25/02	1282 39	7 51 22 51	13 39	1269 00				1269 00
	8/13/02	1282 39		12 32	1270 07				1270 07
	5/14/02	1282 39		0 00	1282 39				1282 39
	2/15/02	1282 39		11 05	1271 34				1271 34
	11/27/01	1282 39		13 03	1269 36				1269 36
	11/9/01	1282 39		12 47	1269 92				1269 92
	10/25/01	1282 39		10 35	1272 04				1272 04

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
MW 9	8/28/01	1282 39		16 88	1265 51				1265 51
(cont d)	5/30/01	1282 39		5 74	1276 65				1276 65
	2/7/01	1282 39		6 00	1276 39				1276 39
	12/4/00	1282 39		8 34	1274 05				1274 05
	4/27/00	1282 39		12 42	1269 97				1269 97
	7/15/99	1282 39		12 34	1270 05				1270 05
MW 10	9/25/02	1282 06	4 48 19 48	17 03	1265 03				1265 03
	8/13/02	1282 06		17 52	1264 54				1264 54
	5/14/02	1282 06		3 46	1278 60				1278 60
	2/15/02	1282 06		14 21	1267 85				1267 85
	11/27/01	1282 06		7 58	1274 48				1274 48
	11/9/01	1282 06		11 50	1270 56				1270 56
	10/25/01	1282 06		11 68	1270 38				1270 38
	8/28/01	1282 06		14 89	1267 17				1267 17
	5/30/01	1282 06		3 71	1278 35				1278 35
	2/7/01	1282 06		16 40	1265 66				1265 66
	12/4/00	1282 06		14 13	1267 93				1267 93
	4/27/00	1282 06		16 77	1265 29				1265 29
	7/15/99	1282 06		14 44	1267 62				1267 62
MW 11	9/25/02	1284 79	6 70 21 70	20 91	1263 88				1263 88
	8/13/02	1284 79		20 91	1263 88				1263 88
	5/14/02	1284 79		7 78	1277 01				1277 01
	2/14/02	1284 79		20 69	1264 10				1264 10

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
MW 11	11/27/01	1284 79		17 86	1266 93				1266 93
(cont d)	11/9/01	1284 79		20 91	1263 88				1263 88
	10/25/01	1284 79		18 02	1266 77				1266 77
	8/28/01	1284 79		20 65	1264 14				1264 14
	5/30/01	1284 79		16 41	1268 38				1268 38
	2/7/01	1284 79		18 40	1266 39				1266 39
	12/4/00	1284 79		19 93	1264 86				1264 86
	4/27/00	1284 79		20 97	1263 82				1263 82
	7/14/99	1284 79		19 85	1264 94				1264 94
MW 12	9/25/02	1285 02	7 85 22 85	21 04	1263 98				1263 98
	8/13/02	1285 02		20 22	1264 80				1264 80
	5/14/02	1285 02		7 91	1277 11				1277 11
	2/14/02	1285 02		16 96	1268 06				1268 06
	11/27/01	1285 02		19 09	1265 93				1265 93
	11/9/01	1285 02		18 87	1266 15				1266 15
	10/25/01	1285 02		15 90	1269 12				1269 12
	8/28/01	1285 02		18 61	1266 41				1266 41
	5/30/01	1285 02		16 69	1268 33				1268 33
	2/7/01	1285 02		16 30	1268 72				1268 72
	12/4/00	1285 02		17 80	1267 22				1267 22
	4/27/00	1285 02		19 78	1265 24				1265 24
	7/14/99	1285 02		18 70	1266 32				1266 32
MW 13	9/25/02	1277 62	2 39 12 39	9 63	1267 99				1267 99
	8/13/02	1277 62		DRY	DRY				DRY

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
MW 13	5/14/02	1277 62		0 00	1277 62				1277 62
(cont d)	2/15/02	1277 62		9 35	1268 27				1268 27
	11/27/01	1277 62		6 82	1270 80				1270 80
	11/9/01	1277 62		10 92	1266 70				1266 70
	10/25/01	1277 62		9 45	1268 17				1268 17
	8/28/01	1277 62		11 41	1266 21				1266 21
	5/30/01	1277 62		1 51	1276 11				1276 11
	2/6/01	1277 62		6 60	1271 02				1271 02
	12/4/00	1277 62		8 30	1269 32				1269 32
	4/27/00	1277 62		10 00	1267 62				1267 62
	7/15/99	1277 62		7 87	1269 75				1269 75
MW 14	9/25/02	1275 55	9 56-44 56	24 85	1250 70				1250 70
MW 15	9/25/02	1280 48	8 15-43 15	31 65	1248 83				1248 83
MW 16	9/25/02	1271 01	9 05-44 05	28 83	1242 18				1242 18
MW 17	9/25/02	1270 76	9 55-44 55	26 62	1244 14				1244 14
MW 18	9/25/02	1281 16	9 46-44 46	14 92	1266 24				1266 24
SAW 1 (Open Hole)	9/25/02	1282 89	30 3-42 80	21 80	1261 09				1261 09
	8/13/02	1282 89		20 40	1262 49				1262 49
	5/14/02	1282 89		9 82	1273 07				1273 07
	2/15/02	1282 89		17 02	1265 87				1265 87
	11/27/01	1282 89		20 29	1262 60				1262 60

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
SAW 1	11/9/01	1282 89		18 90	1263 99				1263 99
(Open Hole)	10/25/01	1282 89		17 49	1265 40				1265 40
(cont d)	8/29/01	1282 89		18 13	1264 76				1264 76
	5/31/01	1282 89		13 71	1269 18				1269 18
	2/7/01	1282 89		16 00	1266 89				1266 89
	12/4/00	1282 89		17 89	1265 00				1265 00
SAW 2	10/16/02	1277 41	187 47 207 47	28 30	1249 11				1249 11
(Well)	9/24/02	1277 41		29 58	1247 83				1247 83
(Open Hole)	9/11/02	1277 41		19 35	1258 06				1258 06
	8/13/02	1277 41		18 75	1258 66				1258 66
	5/14/02	1277 41		1 26	1276 15				1276 15
	2/15/02	1277 41		12 80	1264 61				1264 61
	11/27/01	1277 41		17 71	1259 70				1259 70
	11/9/01	1277 41		16 78	1260 63				1260 63
	10/25/01	1277 41		14 54	1262 87				1262 87
	8/29/01	1277 41		16 45	1260 96				1260 96
	5/31/01	1277 41		16 21	1261 20				1261 20
	2/7/01	1277 41		15 60	1261 81				1261 81
	12/4/00	1277 41		15 55	1261 86				1261 86
SAW 3	9/25/02	1280 78	29 63-43 63	17 33	1263 45				1263 45
(Open Hole)	8/13/02	1280 78		17 09	1263 69				1263 69
	5/14/02	1280 78		4 76	1276 02				1276 02
	2/15/02	1280 78		14 23	1266 55				1266 55
	11/27/01	1280 78		15 47	1265 31				1265 31
	11/9/01	1280 78		15 36	1265 42				1265 42

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Table 2 Summary of Fluid level Measurements Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Well Number	Date Measured	TOC (ft)	Screened Interval (ft bTOC)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to PSH (ft bTOC)	PSH Level Elevation (ft)	PSH Thickness (ft)	Corrected Water Level Elevation (ft)
SAW 3	10/25/01	1280 78		11 89	1268 89				1268 89
(Open Hole)	8/29/01	1281 78		15 14	1266 64				1266 64
(cont d)	5/30/01	1281 78		12 18	1269 60				1269 60
	12/4/00	1281 78		13 70	1268 08				1268 08

PSH Phase Separated Hydrocarbons

TOC Top of casing

ft Feet

ft bTOC Feet below top of casing

Datum = Benchmark #592 (1278 04 AMSL)

Measuring point for 6/1/95 fluid levels is ground elevation

Specific gravity of 0 80 used for PSH

Screened interval for SAW 1 2 & 3 is the 'open hole' below surface casing

Laboratory data prior to May 2001 provided by CJE Inc

G:\Project\BRENNTAG\OK1255001\QMR\3Q2\MT3Q2.XLS\Fldivs

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Table 3 Laboratory Analytical Results for Site Characterization Soil Boring Samples Brenntag/HCl Chemtech 2235 W Battlefield Rd Springfield, Missouri

Sample ID	Date Collected	1 2 4	1 3 5	Ethylbenzene (µg/kg)	Naphthalene (µg/kg)	n Butylbenzene (µg/kg)	n Propylbenzene (µg/kg)	p Isopropyltoluene (µg/kg)	sec Butylbenzene (µg/kg)	Acetone (µg/kg)
		Trimethylbenzene (µg/kg)	Trimethylbenzene (µg/kg)							
MW 14										
MW 14 1	9/10/02	<5 0	<5 0	<5 0	<10	<5 0	<5 0	<5 0	<5 0	<20
MW 14-4	9/10/02	<5 0	<5 0	<5 0	<10	<5 0	<5 0	<5 0	<5 0	<20
MW 15										
MW 15 1	9/9/02	<5 0	<5 0	<5 0	<10	<5 0	<5 0	<5 0	<5 0	<20
MW 15-4	9/9/02	44	34	<5 0	12	24	64	19	17	<20
MW 15 8	9/9/02	<5 0	<5 0	<5 0	<10	<5 0	<5 0	<5 0	<5 0	<20
MW 16										
MW 16 1	9/11/02	<4 9	<4 9	10 J	13 J	<4 9	<4 9	<4 9	<4 9	68 J
MW 16-4	9/11/02	<5 0	<5 0	<5 0	<10	<5 0	<5 0	<5 0	<5 0	75 J
MW 17										
MW 17 1	9/10/02	<5 0	<5 0	<5 0	<9 9	<5 0	<5 0	<5 0	<5 0	<20
MW 17-4	9/10/02	<5 0	<5 0	<5 0	<9 9	<5 0	<5 0	<5 0	<5 0	<20
MW 18										
MW 18 1	9/10/02	<4 9	<4 9	<4 9	<9 8	<4 9	<4 9	<4 9	<4 9	<20
MW 18-4	9/10/02	<5 0	<5 0	<5 0	<10	<5 0	<5 0	<5 0	<5 0	<20

µg/kg Micrograms per kilogram
 < Less than

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Table 4 Summary of Petroleum Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Benzene	Toluene	Ethylbenzene	Total Xylenes	Isopropylbenzene	Bromobenzene	n Propylbenzene	1,3,5 Trimethylbenzene	1,2,4 Trimethylbenzene	sec Butylbenzene	p Isopropyltoluene	n Butylbenzene	Naphthalene	Total Petroleum VOCs	Total BTEX
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
CALM		5	150	700	320									100		
MCLs		5	1000	700	10000											
MW 1	8/14/02	<100	<100	<100	<130	<100	<100	<100	<100	<100	<100	<100	<100	<100	<130	<130
	5/14/02	<500	<500	<500	<650	<500	<500	<500	<500	<500	<500	<500	<500	<500	<650	<650
	2/14/02	<500	250 J	<500	270 J	<500	<500	<500	<500	<500	<500	<500	<500	<500	520	520
	11/28/01	<100	<100	<100	<130	<100	<100	<100	<100	<100	<100	<100	<100	<100	<130	<130
	8/28/01	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500
	8/28/01 (DUP)	7.4	15	24	72	<5	<5	<5	<5	13	<5	<5	<5	7	138	118
	5/30/01	<250	<250	280	160 J	<250	<250	<250	<250	<250	<250	<250	<250	<250	440	440
	5/30/01 (DUP)	<250	<250	280	140 J	<250	<250	<250	<250	<250	<250	<250	<250	<250	420	420
	2/6/01	140	23000	1400	7900	140	<100	240	580	1200	<100	<100	<100	590	35190	32440
	12/5/00	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	4/27/00	<50	<50	470	37 J	42 J	<50	<50	<50	<50	<50	<50	<50	<100	549	507
	1/1/00	ND	40	720	75	54	ND	ND	ND	ND	ND	ND	ND	ND	889	835
	7/1/99	7.6	54	560	124	49	ND	10	ND	15	ND	ND	ND	3.2	823	746
	6/1/95	10	12	1100	79	ND	ND	ND	ND	ND	ND	ND	ND	ND	1201	1201
MW 2	5/14/02	<1	<1	7.2	20.1	3	<1	1.7	1.4	2.6	<1	<1	<1	<1	36	27
	2/14/02	<1	1.7	4	2.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	8	8
	8/28/01	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	5/30/01	<5	<5	33	86.6	6.6	<5	6.2	<5	11	<5	<5	<5	<5	143	120
	2/6/01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	12/5/00	<2	2.6	3.2	9.6	2.4	<2	2.5	<2	<2	<2	<2	<2	<2	20	15
	4/26/00	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5
	7/1/99	ND	ND	210	480	49	ND	43	26	72	ND	ND	ND	ND	880	690
	6/1/95	ND	2	180	380	ND	ND	ND	ND	ND	ND	ND	ND	ND	562	562
MW 3	8/14/02	<1	<1	43	3.7	16	<1	<1	<1	6.3	<1	<1	<1	<1	69	47
	5/14/02	<1	160	92	320	59	<1	130	48	150	12	5.6	<1	6.3	983	572
	2/14/02	<5	<5	<5	<6.5	<5	<5	<5	2.6 J	9.1	9.1	<5.0	2.9 J	<5	24	<6.5

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Table 4 Summary of Petroleum Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Benzene	Toluene	Ethylbenzene	Total Xylenes	Isopropylbenzene	Bromobenzene	n Propylbenzene	1,3,5 Trimethylbenzene	1,2,4 Trimethylbenzene	sec Butylbenzene	p Isopropyltoluene	n Butylbenzene	Naphthalene	Total Petroleum VOCs	Total BTEX
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
CALM		5	150	700	320										100	
MCLs		5	1000	700	10000											
MW 3	11/28/01	<1	1.3	200	103	120	<1	260	120	210	<1	3.5	<1	1.6	1019	304
(cont d)	8/28/01	<5	45	120	75	67	<5	130	67	22	7.7	<5	<5	5.5	539	240
	5/30/01	<250	3400	140 J	880	74 J	<250	140 J	190 J	200 J	<250	<250	<250	<250	5024	4420
	2/6/01	1.7	130	83	700	77	<1	76	140	150	8.4	4.6	<1	10	1381	915
	12/5/00	<5	35	95	235	54	<5	120	37	100	8.3	<5	<5	11	695	365
	4/27/00	<25	62	82	96	54	<25	100	15 J	110	<25	<25	34	<50	553	240
	1/1/00	ND	3000	160	1020	100	ND	220	160	240	ND	ND	ND	ND	4900	4180
	9/1/99	ND	1126	111	573	ND	ND	ND	370	411	ND	ND	ND	ND	2591	1810
	7/1/99	ND	14000	330	2850	280	310	580	1200	750	ND	ND	ND	ND	20300	17180
	6/1/95	1	2800	230	1500	ND	ND	ND	ND	ND	ND	ND	ND	ND	4531	4531
MW-4	8/14/02	5.8 J	1000	110	1110	98	<5	<5	370	360	<5	<5	14 J	5.6 J	3073	2226
	5/14/02	<100	3000	600	7000	470	<100	840	2000	2100	<100	<100	<100	<100	16010	10600
	2/14/02	<200	2600	250	3700	290	<200	350	1500	1500	1400	<200	<200	<200	11590	6550
	11/28/01	12	7100	580	5600	590	<10	1200	3300	3300	26	59	<10	27	21794	13292
	8/28/01	<120	4900	540	3700	500	<120	830	540	2100	27	<120	<120	62	13199	9140
	5/31/01	<100	3300	590	3700	450	<100	720	1800	1800	73 J	250	90 J	<100	12773	7590
	2/6/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS		
	12/5/00	<50	410	850	3670	510	<50	1100	2400	2000	52	<50	<50	110	11102	4930
	4/27/00	<250	3000	800	6800	440	<250	600	1500	1400	<250	<250	170 J	<500	14710	10600
	1/1/00	ND	2000	560	4500	300	ND	440	1200	1000	ND	ND	ND	ND	10000	7060
	9/1/99	ND	1770	530	6320	ND	ND	ND	ND	1230	ND	ND	ND	ND	9850	8620
	7/1/99	ND	4800	1300	12100	710	ND	1000	2300	2000	ND	ND	ND	ND	24210	18200
	6/1/95	30	2400	950	4100	ND	ND	ND	ND	ND	ND	ND	ND	ND	7480	7480
MW 5	8/14/02	12	22	25	157	19	<1	<1	19	15	<1	<1	<1	3.3	255	216
	5/15/02	6	32	47	211	8.2	<5	7	32	30	<5	<5	<5	7.7	381	296

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Table 4 Summary of Petroleum Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Benzene	Toluene	Ethylbenzene	Total Xylenes	Isopropylbenzene	Bromobenzene	m Propylbenzene	1,3,5 Trimethylbenzene	1,2,4 Trimethylbenzene	sec Butylbenzene	p Isopropyltoluene	n Butylbenzene	Naphthalene	Total Petroleum VOCs	Total BTEX
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
CALM		5	150	700	320										100	
MCLs		5	1000	700	10000											
MW 10	8/14/02	<1	<1	<1	<13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<13	<13
	5/15/02	<2.5	<2.5	<2.5	<32	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<32	<32
	2/14/02	<25	<25	<25	<32	<25	<25	<25	<25	<25	<25	<25	<25	<25	<32	<32
	11/28/01	<1	11	<1	<13	<1	<1	<1	<1	<1	<1	<1	<1	<1	11	11
	8/28/01	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	5/30/01	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	2/6/01	57	11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	7	7
	12/5/00	17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	2
	4/27/00	<50	20 J	<50	20 J	<50	<50	<50	<50	<50	<50	<50	<50	<100	40	40
	1/1/00	ND	31	24	32	21	33	ND	ND	ND	ND	ND	ND	ND	141	87
	9/1/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/1/99	20	49	22	56.6	20	ND	ND	ND	ND	ND	ND	ND	ND	124	104
MW 11	5/14/02	<5	<5	<5	8.1	<5	<5	5.3	<5	7.8	<5	<5	<5	<5	21	8
	2/14/02	<10	<10	<10	<13	<10	<10	<10	<10	<10	<10	<10	<10	<10	<13	<13
	11/28/01	<1	<1	<1	<13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<13	<13
	8/28/01	<25	<25	<25	6.9	<25	<25	<25	<25	<25	<25	<25	<25	<25	7	7
	5/30/01	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	2/7/01	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	12/7/00	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	4/26/00	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5
	1/1/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	9/1/99	ND	48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	48	48
	7/1/99	4.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.2	4
MW 12	8/14/02	<1	<1	<1	<13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<13	<13
	8/14/02 (DUP)	<1	<1	<1	<13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<13	<13

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Table 4 Summary of Petroleum Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
Brenntag/HCI Chemtech, 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Benzene	Toluene	Ethylbenzene	Total Xylenes	Isopropylbenzene	Bromobenzene	m Propylbenzene	1,3,5 Trimethylbenzene	1,2,4 Trimethylbenzene	sec Butylbenzene	p Isopropyltoluene	n Butylbenzene	Naphthalene	Total Petroleum VOCs	Total BTEX
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
CALM		5	150	700	320									100		
MCLs		5	1000	700	10000											
MW 16	9/25/02	<1	<1	<1	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.3	<1.3
MW 17	9/25/02	27	18000	720	9600	170	<1	200	590	720	5.9	4.3	19	85	30141	28347
MW 18	9/25/02	<1	<1	<1	<1.3	1.2	<1	<1	<1	<1	<1	<1	<1	<1	1.2	<1.3
SAW 1	8/14/02	7.6	<1	<1	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	8	8
	5/15/02	35	5.3	71	56.8	4.3	<1	5.1	3.4	8.5	2.1	<1	3.5	14	209	168
	2/14/02	3.5	<2	<2	<2.6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	4
	11/28/01	5.1	<1	<1	<1.3	<1	<1	<1	1.4	1.7	<1	<1	<1	<1	8	5
	8/28/01	22	<5	7.5	16.3	<5	<5	<5	<5	<5	<5	<5	<5	<5	46	46
	5/31/01	82 J	9900	480	1810	25 J	<100	40 J	82 J	190	<100	<100	<100	130	12739	12272
	2/7/01	11	5	3.9	7	<2	<2	<2	<2	<2	<2	<2	<2	<2	27	27
	12/6/00	17	31	8	14.8	1.6	<1	<1	<1	1.3	1.6	<1	1.3	9.2	86	71
	8/15/00	6.5	8.7	3 J	12.5	<5	<5	<5	<5	<5	<5	<5	<5	<10	31	31
	7/28/00	9.8	7.7	3.5	3.1	<5	<5	<5	<5	<5	<5	<5	<5	<10	24	24
SAW 2	9/25/02	73	6800	490	2290	25	<1	38	85	190	1.6	1.2	5.4	100	10099	9653
Open Hole	8/14/02	7.7	260	24	87	0.7 J	<1	1.9	2	5.2	<1	<1	<1	3.1	392	379
	5/15/02	14	350	71	211	4.3	<1	5.7	11	29	<1	<1	<1	2.5	721	646
	2/14/02	2.7	48	6.3	20.5	<2	<2	<2	2.4	1.3 J	1.3 J	<2	<2	2.9	85	78
	11/28/01	41	1700	240	850	12	<1	21	45	100	1.6	2	3.7	19	3035	2831
	8/28/01	11	350	61	211	<5	<5	5.2	<5	1.2	<5	<5	<5	2.3	673	633
	5/31/01	11	<5	5.2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	16	16
	2/7/01	22	1900	120	610	6.3	<1	9.1	2.7	11	<1	<1	<1	3.2	2713	2652
	12/6/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
	8/16/00	<250	2300	140 J	690	<250	<250	<250	<250	<250			<250	<500	3130	3130

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Table 4 Summary of Petroleum Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Benzene	Toluene	Ethylbenzene	Total Xylenes	Isopropylbenzene	Bromobenzene	n Propylbenzene	1,3,5 Trimethylbenzene	1,2,4 Trimethylbenzene	sec Butylbenzene	p Isopropyltoluene	n Butylbenzene	Naphthalene	Total Petroleum VOCs	Total BTEX
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
CALM		5	150	700	320									100		
MCLs		5	1000	700	10000											
SAW 2 (cont d)	7/29/00	<50	1500	100	480	<50		<50	<50	39 J			<50	27 J	2146	2080
SAW 3	8/14/02	0.8 J	45	<1	345	8.9	<1	<1	73	110	<1	18	6.1	5.5	612	391
	5/15/02	<1	36	20	281	12	<1	14	54	90	<1	1.3	<1	4.7	513	337
	2/14/02	<50	29 J	420	450	<50	<50	<50	68	110	<50	<50	<50	<50	1077	899
	11/28/01	3.7	76	290	1780	130	<1	250	320	450	<1	3.8	<1	8.6	3312	2150
	8/28/01	<100	390	1100	6700	490	<100	800	520	980	22	<100	<100	81	11083	8190
	5/30/01	<50	880	350	2170	140	<50	240	290	480	<50	<50	<50	26 J	4576	3400
	2/7/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
	12/5/00	<50	3000	840	4600	340	<50	<50	680	1300	<50	730	<50	92	11582	8440
	8/15/00	<100	4200	690	5200	230 J		350	450	640			<250	<500	11760	10090
	7/29/00	<100	3500	760	5200	300		460	520	680			91 J	45 J	11556	9460
Eqp Blk	8/14/02	<1	<1	<1	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.3	<1.3
	5/15/02	<1	<1	<1	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.3	<1.3
	2/15/02	<1	<1	<1	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.3	<1.3
	11/28/01	<1	3.2	<1	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	3.2	3
	8/29/01	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	5/31/01	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	12/5/00	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trp Blk	8/14/02	<1	<1	<1	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.3	<1.3
	5/15/02	<1	<1	<1	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.3	<1.3
	4/27/00	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5

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Table 4 Summary of Petroleum Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
 Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Benzene	Toluene	Ethylbenzene	Total Xylenes	Isopropylbenzene	Bromobenzene	n Propylbenzene	1,3,5 Trimethylbenzene	1,2,4 Trimethylbenzene	sec Butylbenzene	p Isopropyltoluene	n Butylbenzene	Naphthalene	Total Petroleum VOCs	Total BTEX
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
CALM		5	150	700	320									100		
MCLs		5	1000	700	10000											

NA Not analyzed
 NS Not sampled
 ND Non detect
 µg/L Micrograms per liter
 Eqp Blk Equipment Blank
 MCLs Maximum Contaminant Levels
 CALM Cleanup Levels for Missouri Groundwater Target Concentration Tier 1 September 1998
 J Samples which contain results between the minimum detection limit (MDL) and the reporting limit (RL)
 Laboratory data prior to May 2001 provided by CJE Inc
 G:\Aproject\BRENNTAG\OK1255001\QMR\3Q2\MT3Q2.XLS\Petroleum HC VOCs

Table 5 Summary of Chlorinated Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
Brenntag/HCI Chemtech, 2235 W Battlefield Rd Springfield, Missouri

Sample Number	Date Collected	Chloromethane (µg/l)	Vinyl chloride (µg/l)	Chloroethane (µg/l)	Methylene chloride (Dichloromethane) (µg/l)	1,1 Dichloroethene 1,1 Dichloroethylene (µg/l)	1,2 Dichloroethene (µg/l)	trans 1,2 Dichloroethene trans 1,2 Dichloroethylene (µg/l)	1,1 Dichloroethane (µg/l)	cis 1,2 Dichloroethene cis 1,2 Dichloroethylene (µg/l)	Chloroform (µg/l)	1,2 Dichloropropane (µg/l)	Bromodichloromethane (µg/l)	1,1,1 Trichloroethane (µg/l)	Carbon Tetrachloride (µg/l)	1,2 Dichloroethane (µg/l)	Trichloroethene (Trichloroethylene) (µg/l)	1,1,2 Trichloroethane (µg/l)	Tetrachloroethene Tetrachloroethylene (µg/l)	Dibromochloromethane (µg/l)	1,1,1,2 Tetrachloroethane (µg/l)	1,1 Dichlorobenzene (µg/l)	1,2 Dibromoethane (µg/l)	Carbon Disulfide (µg/l)	Total Chlorinated VOCs (µg/l)
CALM			2		5	7	70	100		70	80		80	200	5	5	5	5	5		70	600			
MCLs			2			7	70	100		70				200	5	5	5	5	5		70	600			
MW 3 (cont d)	5/30/01	<250	<250	<250	140 J	<250	NA	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	NA	140
	2/6/01	<1	<1	<1	<1	<1	NA	<1	16	21	12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	193
	12/5/00	<5	<5	<5	<5	<5	NA	<5	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	13	<5	<5	<5	NA	24	
	4/27/00	<50	<25	<25	<100	<25	NA	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	0	
	1/1/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
	9/1/99	ND	ND	ND	ND	ND	ND	ND	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	30
	7/1/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
	6/1/95	ND	2	ND	ND	2	ND	ND	31	ND	3	ND	ND	3	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	44
MW-4	8/14/02	<5	27 J	<5	<5	<5	NA	<5	32	22 J	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	567
	5/14/02	<100	<100	<100	<100	<100	NA	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	<100
	2/14/02	<200	<200	<200	170 J	<200	NA	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	NA	170
	11/28/01	<10	<10	<10	<10	<10	NA	<10	29	26	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	55
	8/28/01	<120	<120	<120	79	<120	NA	<120	86	85	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	NA	250
	5/31/01	<100	<100	<100	100	<100	NA	<100	100	130	47 J	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	377
	2/6/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/5/00	<50	<50	<50	<50	<50	NA	<50	200	380	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	NA	580
	4/27/00	<500	<250	<250	<1000	<250	NA	<250	100 J	180 J	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<500	280	
	1/1/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0
	9/1/99	ND	ND	265	ND	ND	ND	ND	391	113	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	769
	7/1/99	ND	ND	ND	ND	ND	ND	ND	290	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	290
	6/1/95	19	32	170	6	51	470	ND	280	ND	ND	ND	26	ND	11	ND	ND	3	ND	ND	ND	ND	ND	ND	1068
MW 5	8/14/02	<1	73	49	<1	52	NA	<1	400	300	<1	<1	<1	093 J	<1	53	<1	<1	<1	<1	<1	<1	<1	NA	928
	5/15/02	<5	48	13	<5	18	NA	<5	140	120	<5	<5	<5	<5	<5	97	<5	<5	<5	<5	<5	<5	<5	NA	349
	2/14/02	<10	25	57	11	17	NA	<10	280	220	<10	<10	<10	<10	21	<10	<10	<10	<10	<10	<10	<10	<10	NA	631
	11/28/01	<1	150	62	24	40	NA	2	520	260	1.5	<1	1.8	<1	25	<1	<1	<1	<1	<1	<1	<1	<1	NA	10647
	8/28/01	<5	70	76	33 J	42	NA	<5	400	350	<5	<5	<5	<5	18	<5	<5	<5	<5	<5	<5	<5	<5	NA	989
	8/28/01 (DUP)	<5	68	73	23 J	42	NA	<5	370	310	<5	<5	<5	<5	18	<5	<5	<5	<5	<5	<5	<5	<5	NA	904
	5/31/01	<5	25	45	7.8	28	NA	<5	180	170	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<5	<5	<5	NA	4668

Table 5 Summary of Chlorinated Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
 Brenntag/HCI Chemtech, 2235 W Battlefield Rd. Springfield, Missouri

Sample Number	Date Collected	Chloromethane (µg/l)	Vinyl chloride (µg/l)	Chloroethane (µg/l)	Methylene chloride (Dichloromethane) (µg/l)	1,1 Dichloroethene 1,1 Dichloroethylene (µg/l)	1,2 Dichloroethene (µg/l)	trans 1,2 Dichloroethene trans 1,2 Dichloroethylene (µg/l)	1,1 Dichloroethane (µg/l)	cis 1,2 Dichloroethene cis 1,2 Dichloroethylene (µg/l)	Chloroform (µg/l)	1,2 Dichloropropane (µg/l)	Bromodichloromethane (µg/l)	1,1,1 Trichloroethane (µg/l)	Carbon Tetrachloride (µg/l)	1,2 Dichloroethane (µg/l)	Trichloroethene (Trichloroethylene) (µg/l)	1,1,2 Trichloroethane (µg/l)	Tetrachloroethene Tetrachloroethylene (µg/l)	Dibromochloromethane (µg/l)	1,1,1,2 Tetrachloroethane (µg/l)	1,2 Dichlorobenzene (µg/l)	1,2 Dibromoethane (µg/l)	Carbon Disulfide (µg/l)	Total Chlorinated VOCs (µg/l)
CALM			2		5	7	70	100		70	80		80		200	5	5	5	5		70	600			
MCLs			2			7	70	100		70					200	5	5	5	5						
MW 5 (cont d)	2/7/01	<1	41	310	20	11	NA	3	360	130	<1	<1	<1	54	<1	27	<1	<1	22		<1	<1	<1	NA	909.6
	12/5/00	<5	17	66	<5	<5	NA	<5	130	19	<5	<5	<5	<5	<5	10	<5	<5	5.5		<5	<5	10	NA	257.5
	7/1/00	<10	16	40	<5	13	NA	<5	281	131	<5	<5	<5	<5	<5	15	<5	<5	<5		<5	<5	<10	<10	496
	4/27/00	<2500	<1250	<1250	<5000	<1250	NA	<1250	700 J	1300	<1250	<1250	<1250	<1250	<1250	<1250	<1250	<1250	<1250		<1250	<1250	<1250	<2500	2000
	1/1/00	ND	ND	5100	ND	1000	ND	ND	1300	1900	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	9300
	7/1/99	ND	ND	7800	ND	1200	ND	ND	1600	2700	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	13300
	6/1/95	9	52	2300	770	1000	3200	ND	2300	ND	ND	ND	ND	92	11	160	8	ND	6		ND	ND	ND	ND	9908
MW-6	5/15/02	<2	<2	930	14	71	NA	<2	1500	840	<2	<2	<2	42	<2	22	<2	<2	2.2	<2	<2	<2	<2	NA	3421
	8/28/01	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry	Dry	
	5/31/01	<1200	<1200	560 J	1400	260 J	NA	<1200	4200	1600	<1200	<1200	<1200	<1200	<1200	<1200	<1200	<1200	600 J		<1200	<1200	<1200	NA	8620
	2/7/01	<250	<250	510	<250	540	NA	<250	3300	1800	<250	<250	<250	<250	<250	<250	<250	<250	<250		<250	<250	<250	NA	6150
	12/5/00	<500	<500	<500	<500	<500	NA	<500	2300	1600	<500	<500	<500	<500	<500	<500	<500	<500	<500		<500	<500	<500	NA	3900
	4/27/00	<5000	<2500	<2500	<10000	<2500	NA	<2500	4200	2400 J	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500		<2500	<2500	<2500	<5000	6600
	1/1/00	ND	ND	ND	ND	860	ND	ND	8500	3000	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	12360
	7/1/99	ND	ND	1000	ND	1500	ND	ND	13000	5600	ND	ND	ND	720	ND	ND	ND	ND	ND		ND	ND	ND	ND	21820
	6/1/95	ND	ND	ND	12000	1700	10000	ND	9300	ND	ND	ND	ND	20000	ND	530	ND	ND	430		ND	ND	ND	ND	53960
MW 7	8/14/02	<1	<1	<1	<1	<1	NA	<1	3.6	1.4	1.2	<1	<1	<1	<1	<1	<1	<1	1.9	<1	<1	<1	<1	NA	8.1
	5/15/02	<1	<1	<1	<1	<1	NA	<1	3	<1	1.7	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	NA	4.7
	2/14/02	<1	<1	<1	<1	<1	NA	<1	2.5	1.2	2	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	NA	5.7
	11/28/01	<1	<1	<1	<1	<1	NA	<1	2.2	1.1	1.2	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	NA	4.5
	8/28/01	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		<5	<5	<5	NA	<5
	5/30/01	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		<5	<5	<5	NA	<5
	2/6/01	<1	<1	2	<1	<1	NA	<1	4.7	1.9	1.4	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	NA	10
	12/6/00	<1	<1	<1	<1	<1	NA	<1	5.7	<1	<1	<1	<1	<1	<1	<1	1	<1	1		<1	<1	<1	NA	7.7
	4/26/00	<10	<5	<5	<20	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		<5	<5	<5	<10	<20
	3/1/00	ND	ND	ND	ND	ND	ND	ND	9.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	9.4
	1/1/00	ND	ND	940	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	940
	7/1/99	ND	ND	56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	56

Table 5 Summary of Chlorinated Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
 Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield, Missouri

Sample Number	Date Collected	Chloromethane	Vinyl chloride	Chloroethane	Methylene chloride (Dichloromethane)	1,1 Dichloroethene	1,2 Dichloroethene	trans 1,2 Dichloroethene	trans 1,2 Dichloroethene	1,1 Dichloroethane	cis 1,2 Dichloroethene	cis 1,2 Dichloroethene	Chloroform	1,2 Dichloropropane	Bromodichloromethane	1,1 Trichloroethane	Carbon Tetrachloride	1,2 Dichloroethane	Trichloroethene (Trichloroethylene)	1,1,2 Trichloroethane	Tetrachloroethene (Tetrachloroethylene)	Dibromochloromethane	1,1,1,2 Tetrachloroethane	1,2 Dichlorobenzene	1,2 Dibromoethane	Carbon Disulfide	Total Chlorinated VOCs		
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
CALM			2		5	7	70	100		70	80		80		200	5	5	5	5	5	5		70	600					
MCLs			2			7	70	100		70						200	5	5	5	5	5								
MW-8	5/15/02	<100	<100	<100	<100	150	NA	<100	<100	750	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	900		
	11/28/01	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	
	8/28/01	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	PSH	
	5/31/01	<1200	<1200	680 J	1200 J	<1200	NA	<1200	680 J	3600	<1200	<1200	<1200	<1200	<1200	<1200	<1200	<1200	<1200	<1200	<1200	<1200	<1200	<1200	<1200	NA	6160		
	2/6/01	<2	<2	47	<2	<2	NA	<2	15	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	62		
	12/6/00	<500	<500	820	<500	<500	NA	<500	1400	6800	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	NA	9020		
	4/27/00	<1000	450 J	2400	<2000	340 J	NA	<500	1000	5900	<500	<500	<500	<500	<500	320 J	<500	<500	<500	<500	<500	<500	<500	<500	<500	<1000	10410		
	7/1/99	ND	600	3400	ND	660	ND	ND	3800	13000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21460		
MW 9	8/14/02	<1	88	<1	<1	16	NA	12	8.2	390	<1	<1	<1	<1	<1	10	59	<1	2	<1	<1	<1	<1	<1	NA	560			
	5/14/02	<10	58	<10	<10	<10	<10	<10	<10	450	<10	<10	<10	<10	<10	<10	74	<10	<10	<10	<10	<10	<10	<10	<10	NA	582		
	2/14/02	<50	<50	<50	<50	<50	NA	<50	<50	260	<50	<50	<50	<50	<50	<50	31 J	<50	<50	<50	<50	<50	<50	<50	NA	291			
	11/28/01	<1	94	<1	<1	2.2	NA	<1	9.9	950	<1	<1	<1	<1	<1	12	130	<1	2.4	<1	<1	<1	<1	<1	NA	1200.5			
	8/28/01	<5	78	<5	25 J	<5	NA	<5	9.3	810	<5	<5	<5	<5	<5	14	92	<5	<5	<5	<5	<5	<5	<5	NA	1028.3			
	5/30/01	<5	68	<5	<5	<5	NA	<5	10	690	<5	<5	<5	<5	<5	12	87	<5	<5	<5	<5	<5	<5	<5	NA	867			
	2/6/01	<1	44	<1	<1	1.3	NA	2.1	11	270	<1	<1	<1	<1	<1	11	27	<1	1.2	<1	<1	<1	<1	<1	NA	367.6			
	12/5/00	<1	42	<1	<1	1.4	NA	12	7.3	580	1.5	<1	<1	<1	<1	10	59	<1	1.5	<1	<1	<1	<1	<1	NA	728.2			
	4/26/00	<10	19	<5	<20	<5	NA	<5	<5	120	<5	<5	<5	<5	<5	16	<5	<5	<5	<5	<5	<5	<5	<5	23	178			
	1/1/00	ND	300	ND	ND	ND	ND	ND	ND	310	ND	ND	ND	ND	ND	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	633		
	7/1/99	ND	250	ND	ND	ND	ND	ND	ND	120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	370		
MW 10	8/14/02	<1	<1	<1	<1	8	NA	<1	14	95	4.5	<1	<1	<1	<1	1.5	68	<1	7	<1	<1	<1	<1	<1	NA	185			
	5/15/02	<2.5	<2.5	<2.5	4.2	4.2	<2.5	<2.5	<2.5	50	<2.5	<2.5	<2.5	<2.5	<2.5	51	<2.5	9.7	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	NA	119			
	2/14/02	<25	<25	<25	<25	<25	NA	<25	<25	98	<25	<25	<25	<25	<25	75	<25	<25	<25	<25	<25	<25	<25	<25	NA	173			
	11/28/01	<1	<1	<1	<1	8.2	NA	<1	<1	58	2.4	<1	<1	<1	<1	9.2	<1	12	<1	<1	<1	<1	<1	<1	NA	172.6			
	8/28/01	<5	<5	<5	23 J	34	NA	<5	6.3	400	24	<5	<5	<5	<5	7.4	340	<5	75	<5	<5	<5	<5	<5	NA	909.7			
	5/30/01	<5	<5	<5	<5	<5	NA	<5	<5	5.7	<5	<5	<5	<5	<5	5.7	<5	<5	<5	<5	<5	<5	<5	<5	NA	11.4			
	2/6/01	<1	8.6	<1	<1	8.4	NA	6.6	27	1200	300	<1	19	<1	21	860	1.1	390	<1	<1	<1	<1	<1	<1	NA	2917.3			
	12/5/00	<1	5.9	<1	1.4	100	NA	4.4	23	1300	85	<1	7.7	<1	20	1400	<1	430	<1	<1	<1	<1	<1	<1	NA	3417			

Table 5 Summary of Chlorinated Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield, Missouri

Sample Number	Date Collected	Chloromethane	Vinyl chloride	Chloroethane	Methylene chloride (Dichloromethane)	1,1 Dichloroethene	1,1 Dichloroethene	1,2 Dichloroethene	trans 1,2 Dichloroethene	trans 1,2 Dichloroethene	1,1 Dichloroethane	cis 1,2 Dichloroethene	cis 1,2 Dichloroethene	Chloroform	1,2 Dichloropropane	Bromodichloromethane	1,1 Trichloroethane	Carbon Tetrachloride	1,2 Dichloroethane	Trichloroethene (Trichloroethylene)	1,1,2 Trichloroethane	Tetrachloroethene Tetrachloroethylene	Dibromochloromethane	1,1,1,2 Tetrachloroethane	1,2 Dichlorobenzene	1,2 Dibromoethane	Carbon Disulfide	Total Chlorinated VOCs	
		(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
CALM			2		5	7	70	100			70	80		80		200	5	5	5	5	5			70	600				
MCLs			2		7	70	100			70				200	5	5	5	5	5										
MW 10 (cont'd)	4/27/00	<100	49 J	<50	<200	200	NA	<50	22 J	1500	680		<50	31 J	<50	45 J	980	<50	480				<50	<50	<50	<100		3987	
	1/1/00	ND	92	ND	ND	ND	ND	ND	37	1700	1200		ND	37	ND	52	830	ND	760				ND	ND	ND	ND	45	4753	
	9/1/99	ND	132	ND	ND	87	ND	ND	52	1355	1009		ND	ND	ND	ND	565	ND	347				ND	ND	ND	ND	ND	3547	
	7/1/99	ND	98	ND	ND	200	ND	ND	41	1700	1100		ND	35	ND	67	600	ND	460				ND	ND	ND	ND	ND	4301	
MW 11	5/14/02	<5	<5	<5	<5	<5	<5	<5	<5	390	<5	<5	<5	<5	<5	<5	340	<5	9.4	<5		<5	<5	<5	<5	NA		739.4	
	2/14/02	<10	<10	<10	<10	<10	NA	<10	<10	160	<10	<10	<10	<10	<10	<10	120	<10	<10			<10	<10	<10	<10	NA		280	
	11/28/01	<1	<1	<1	<1	<1	NA	<1	<1	54	<1	<1	<1	<1	<1	<1	63	<1	1.2			<1	<1	<1	<1	NA		118.2	
	8/28/01	<25	<25	<25	82 J	13	NA	6.8	24	2500	16		<25	<25	<25	<25	2200	<25	90			<25	<25	<25	<25	NA		4931.8	
	5/30/01	<10	<10	<10	<10	5.1 J	NA	17	12	1500	5 J		<10	<10	<10	<10	1400	<10	27			<10	<10	<10	<10	NA		2966.1	
	2/7/01	<100	<100	<100	150	110	NA	<100	<100	1300	190		<100	<100	<100	<100	630	<100	57000			<100	<100	<100	<100	NA		59380	
	12/7/00	<1	1.4	<1	<1	22	NA	110	40	1400	24		<1	<1	<1	<1	960	1.3	56			<1	<1	<1	<1	NA		2614.7	
	4/26/00	<10	<5	<5	<20	<5	NA	<5	<5	140	<5		<5	<5	<5	<5	150	<5	4 J			<5	<5	<5	<10		294		
	1/1/00	ND	ND	ND	ND	ND	ND	ND	24	1700	22		ND	ND	ND	ND	1800	ND	46			ND	ND	ND	ND	ND	3592		
	9/1/99	ND	ND	12	ND	ND	ND	ND	33	2556	ND		ND	ND	ND	ND	2155	ND	ND			ND	ND	ND	ND	ND	4756		
	7/1/99	ND	30	ND	ND	12	ND	ND	37	2400	18		ND	120	ND	ND	1800	ND	41			ND	ND	ND	ND	ND	4458		
MW 12	8/14/02	<1	<1	<1	<1	<1	NA	<1	24	1.5	0.88 J	<1	<1	<1	<1	<1	0.66 J	<1	<1			<1	<1	<1	<1	NA		27.04	
	8/14/02 (DUP)	<1	<1	<1	<1	<1	NA	<1	26	1.6	0.59 J	<1	<1	<1	<1	<1	1.1	<1	<1			<1	<1	<1	<1	NA		29.29	
	5/14/02	<1	<1	<1	<1	<1	NA	<1	9.7	<1	4.9	<1	<1	<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	NA		14.6	
	2/14/02	<1	<1	<1	<1	<1	NA	<1	10	0.58 J	5.2	<1	<1	<1	<1	<1	0.57 J	<1	<1			<1	<1	<1	<1	NA		16.35	
	11/28/01	<1	<1	<1	<1	<1	NA	<1	25	1.1	1.8	<1	<1	<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	NA		27.9	
	8/28/01	<5	<5	<5	21 J	<5	NA	<5	19	<5	9.3	<5	<5	<5	<5	<5	<5	<5	<5			<5	<5	<5	<5	NA		49.3	
	5/30/01	<5	<5	<5	<5	<5	NA	<5	25	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			<5	<5	<5	<5	NA		25	
	2/6/01	<1	<1	<1	<1	<1	NA	<1	19	1.1	5.6	<1	<1	<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	NA		25.7	
	12/15/00	<1	<1	<1	<1	<1	NA	<1	12	1.7	1.2	<1	<1	<1	<1	<1	2.4	<1	65			<1	<1	<1	<1	NA		93.1	
	4/26/00	<10	<5	<5	<20	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			<5	<5	<5	<5	<10		<20	
	1/1/00	ND	ND	ND	ND	ND	ND	ND	24	ND	5.1		ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	5.7	34.8	
	7/1/99	ND	ND	ND	ND	ND	ND	ND	42	ND	ND		ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	4.4	46.4		

Table 5 Summary of Chlorinated Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
 Brenntag/HCI Chemtech, 2235 W Battlefield Rd Springfield, Missouri

Sample Number	Date Collected	Chloromethane (µg/l)	Vinyl chloride (µg/l)	Chloroethane (µg/l)	Methylene chloride (Dichloromethane) (µg/l)	1,1-Dichloroethene (µg/l)	1,1-Dichloroethene (µg/l)	1,2-Dichloroethene (µg/l)	trans 1,2-Dichloroethene (µg/l)	trans 1,2-Dichloroethene (µg/l)	1,1-Dichloroethane (µg/l)	cis 1,2-Dichloroethene (µg/l)	cis 1,2-Dichloroethene (µg/l)	Chloroform (µg/l)	1,2-Dichloropropane (µg/l)	Bromodichloromethane (µg/l)	1,1,1-Trichloroethane (µg/l)	Carbon Tetrachloride (µg/l)	1,2-Dichloroethane (µg/l)	Trichloroethene (Trichloroethylene) (µg/l)	1,1,2-Trichloroethane (µg/l)	Tetrachloroethene (µg/l)	Tetrachloroethene (µg/l)	Dibromochloromethane (µg/l)	1,1,1,2-Tetrachloroethane (µg/l)	1,2-Dichlorobenzene (µg/l)	1,2-Dibromoethane (µg/l)	Carbon Disulfide (µg/l)	Total Chlorinated VOCs (µg/l)		
CALM			2		5	7	70	100			70	80		80	200		5	5	5	5	5		70	600							
MCLs			2		7	70	100			70	200		200	5	5	5	5	5		5		5									
MW 13	5/15/02	<1	<1	67	<1	<1	NA	<1	2.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	10		
	5/15/02 (DUP)	<1	4	24	<1	<1	NA	<1	5.4	1.3	<1	<1	<1	<1	<1	<1	<1	<1	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	36	
	2/14/02	<1	1.2	11	<1	<1	NA	<1	5.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	19	
	2/14/02 (DUP)	<1	<1	3.3	<1	<1	NA	<1	2.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	6	
	11/28/01	<1	<1	11	<1	<1	NA	<1	1.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	12.6	
	8/28/01	<10	<10	76	<10	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	76	
	5/30/01	<5	<5	26	<5	<5	NA	<5	8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	34	
	2/7/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/6/00	<10	<10	88	<10	<10	NA	<10	13	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	101	
	4/27/00	<20	<10	710	<40	<10	NA	<10	32	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	742	
	1/1/00	110	ND	ND	ND	ND	ND	ND	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140	
	9/1/99	ND	ND	1445	ND	17	ND	ND	60	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	221	ND	ND	1755		
	7/1/99	ND	ND	1100	ND	ND	ND	ND	65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	57	ND	1222		
MW 14	9/25/02	<1	<1	<1	<1	<1	NA	<1	2.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	2.50		
MW 15	9/25/02	<1	<1	7.3	<1	<1	NA	<1	1.9	1	3.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	13.50		
MW 16	9/25/02	<1	<1	<1	<1	<1	NA	<1	0.91 J	3.8	2.3	<1	0.59 J	<1	<1	<1	<1	<1	<1	1.6	<1	0.86 J	<1	<1	<1	<1	<1	<1	NA	10.06	
MW 17	9/25/02	<1	49	220	18	37	NA	19	140	140	<1	<1	<1	<1	<1	<1	<1	<1	3.9	0.4 J	<1	<1	<1	<1	<1	<1	<1	<1	NA	610.20	
MW 18	9/25/02	<1	<1	<1	<1	<1	NA	<1	0.58 J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	0.58	
SAW 1	8/14/02	<1	26	38	<1	1.6	NA	30	4.8	77	<1	<1	<1	<1	<1	<1	<1	<1	130	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	307.4	
	5/15/02	<1	<1	100	<1	<1	NA	6.8	3.3	1.1	<1	<1	<1	<1	<1	<1	<1	<1	1.9	1.2	<1	<1	<1	<1	<1	<1	<1	<1	NA	114.3	
	2/14/02	<2	10	10	<2	<2	NA	16	3.4	30	<2	<2	<2	<2	<2	<2	<2	<2	4.1	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	110.4	
	11/28/01	<1	18	18	<1	<1	NA	20	4.9	4.8	<1	<1	<1	<1	<1	<1	<1	<1	5.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	160.9	
	8/28/01	<5	22	78	37 J	<5	NA	57	15	30	<5	<5	<5	<5	<5	<5	<5	<5	6.9	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	245.9	
	5/31/01	<100	270	<100	120	<100	NA	<100	56 J	860	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	1306	

Table 5 Summary of Chlorinated Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B
 Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield, Missouri

Sample Number	Date Collected	Chloromethane (µg/l)	Vinyl chloride (µg/l)	Chloroethane (µg/l)	Methylene chloride (Dichloromethane) (µg/l)	1,1,1 Dichloroethene (µg/l)	1,2 Dichloroethene (µg/l)	trans 1,2 Dichloroethene trans 1,2 Dichloroethylene (µg/l)	1,1 Dichloroethane (µg/l)	cis 1,2 Dichloroethene cis 1,2 Dichloroethylene (µg/l)	Chloroform (µg/l)	1,2 Dichloropropane (µg/l)	Bromodichloromethane (µg/l)	1,1,1 Trichloroethane (µg/l)	Carbon Tetrachloride (µg/l)	1,2 Dichloroethane (µg/l)	Trichloroethene (Trichloroethylene) (µg/l)	1,1,2 Trichloroethane (µg/l)	Tetrachloroethene Tetrachloroethylene (µg/l)	Dibromochloromethane (µg/l)	1,1,1,2 Tetrachloroethane (µg/l)	1,2 Dichlorobenzene (µg/l)	1,2 Dibromoethane (µg/l)	Carbon Disulfide (µg/l)	Total Chlorinated VOCs (µg/l)	
CALM			2		5	7	70	100		70	80		80	200	5	5	5	5	5		70	600				
MCLs			2		5	7	70	100		70	80		80	200	5	5	5	5	5		70	600				
Eqp Blk	8/14/02	<1	<1	<1	<1	<1	NA	<1	<1	<1	13	2.8	2.7	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	NA	19.5	
	5/15/02	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	NA	<1	
	2/15/02	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	NA	<1	
	11/28/01	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	NA	<1	
	8/29/01	<5	<5	<5	30 J	<5	NA	<5	<5	<5	13		<5	<5	<5	<5	<5	<5	<5		<5	<5	<5	NA	43	
	5/31/01	<5	<5	<5	<5	<5	NA	<5	<5	<5	16		<5	<5	<5	<5	<5	<5	<5		<5	<5	<5	NA	16	
	12/5/00	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	5.6		<1	<1	<1	NA	5.6	
Trp Blk	8/14/02	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	
	5/15/02	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	NA	<1	
	4/26/00	<10	<5	<5	<20	<5	NA	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5		<5	<5	<5	<10	0	

NA Not analyzed
 NS Not sampled
 ND Non detect
 µg/L Micrograms per liter
 Eqp Blk Equipment Blank
 MCLs Maximum Contaminant Levels
 CALM Cleanup Levels for Missouri Groundwater Target Concentration Tier 1 September 1998
 J Samples which contain results between the minimum detection limit (MDL) and the reporting limit (RL)
 Lab data obtained prior to May 2001 was provided by CJE Inc
 Laboratory data prior to May 2001 provided by CJE Inc
 G:\project\BRENNTAG\OK1255001\QMR3Q2\MT3Q2.XLS\Chlorinated VOCs

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Table 6 Summary of Selected Volatile Organic Compounds Detected in Groundwater by
 USEPA Method 8260B Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Acetone	Acetonitrile	2 Butanone (MEK)	4 Methyl 2 pentanone
		(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW 1	8/14/02	<1000		<1000	<1000
	5/14/02	<5000		<5000	<5000
	2/14/02	15000		<5000	<5000
	11/28/01	<1000		<1000	<500
	8/28/01	10000		<5000	<5000
	8/28/01 (DUP)	67 J		<10	<10
	5/30/01	1600		<500	<500
	5/30/01 (DUP)	1200		<500	<500
	2/6/01	40000		7000	5300
	12/5/00	<1000		<1000	<1000
	4/27/00	<200		<50	<100
	1/1/00	ND		50	ND
	7/1/99	ND		68	ND
	6/1/95	34		ND	ND
MW 2	5/14/02	<10		<10	<10
	2/14/02	<10		<10	<10
	8/28/01	22 J		<10	<10
	5/30/01	<20		<10	<10
	2/6/01	<10		<10	<10
	12/5/00	<20		<20	<20
	4/26/00	<20		<5	<10
	7/1/99	ND		ND	ND
	6/1/95	12		5	ND
MW 3	8/14/02	<10		<10	<10
	5/14/02	<10		<10	<10
	2/14/02	11 J		<50	3 2 J
	11/28/01	<10		<10	<5
	8/28/01	42 J		<10	<10

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Table 6 Summary of Selected Volatile Organic Compounds Detected in Groundwater by
USEPA Method 8260B Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Acetone (µg/l)	Acetonitrile (µg/l)	2 Butanone (MEK) (µg/l)	4 Methyl 2 pentanone (µg/l)
MW 3	5/30/01	<1000		<500	<500
(cont d)	2/6/01	39		<10	<10
	12/5/00	<50		<50	<50
	4/27/00	<100		<25	<50
	1/1/00	ND		38	ND
	9/1/99	ND		ND	ND
	7/1/99	ND		ND	ND
	6/1/95	510		7	ND
MW-4	8/14/02	<50		<50	12 J
	5/14/02	<1000		<1000	<1000
	2/14/02	610 J		<2000	<2000
	11/28/01	270		<100	<50
	8/28/01	1100 J		<250	<250
	5/31/01	590		<200	<200
	2/6/01	NS		NS	NS
	12/5/00	<500		<500	<500
	4/27/00	<1000		<250	<500
	1/1/00	ND		600	ND
	9/1/99	ND		ND	ND
	7/1/99	ND		ND	310
	6/1/95	2200		190	1100
MW 5	8/14/02	<10		<10	<10
	5/15/02	<50		<50	<50
	2/14/02	<100		<100	<100
	11/28/01	30		<10	<5
	8/28/01	54 J		<10	<10
	5/31/01	53		<10	<10
	2/7/01	1400		440	500
	12/5/00	<50		<50	<50
	7/1/00	1020		295	162

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Table 6 Summary of Selected Volatile Organic Compounds Detected in Groundwater by
USEPA Method 8260B Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Acetone	Acetonitrile	2 Butanone (MEK)	4 Methyl 2 pentanone
		(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW 5 (cont d)	4/27/00	<5000		3900	1700 J
	1/1/00	ND		9600	4400
	7/1/99	ND		13000	5300
	6/1/95	22000		9300	300
MW 6	5/15/02	2400		850	630
	8/28/01	NS		NS	NS
	5/31/01	16000		3900	<2500
	2/7/01	17000		3100	2600
	12/5/00	<5000		<5000	<5000
	4/27/00	<10000		4000	2000 J
	1/1/00	ND		4600	3600
	7/1/99	ND		9800	5200
	6/1/95	19000		4300	7500
MW 7	8/14/02	<10		<10	<10
	5/15/02	<10		<10	<10
	2/14/02	<10		<10	<10
	11/28/01	<10		<10	<5
	8/28/01	44 J		<10	<10
	5/30/01	<20		<10	<10
	2/6/01	<10		<10	<10
	12/6/00	<10		<10	<10
	4/26/00	<20		<5	<10
	3/1/00	ND		ND	ND
	1/1/00	ND		700	1000
7/1/99	ND		ND	ND	
MW 8	5/15/02	7600		2400	2400
	5/31/01	36000		9100	<2500
	2/6/01	53		74	<20

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Table 6 Summary of Selected Volatile Organic Compounds Detected in Groundwater by
USEPA Method 8260B Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Acetone	Acetonitrile	2 Butanone (MEK)	4 Methyl 2 pentanone
		(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW 8 (cont d)	12/6/00	17000		5500	5700
	4/27/00	<2000		3500	4400
	7/1/99	ND		7500	11000
MW 9	8/14/02	<10		<10	<10
	5/14/02	<100		<100	<100
	2/14/02	730		<500	<500
	11/28/01	<10		<10	<5
	8/28/01	<20		<10	<10
	5/30/01	<20		<10	<10
	2/6/01	<10		<10	<10
	12/5/00	<10		<10	<10
	4/26/00	<20		<5	<10
	1/1/00	ND		ND	ND
7/1/99	ND		ND	ND	
MW 10	8/14/02	<10		<10	<10
	5/15/02	<25		<25	<25
	2/14/02	<250		<250	<250
	11/28/01	<10		<10	<5
	8/28/01	<20		<10	<10
	5/30/01	<20		<10	<10
	2/6/01	<10		<10	<10
	12/5/00	<10		<10	<10
	4/27/00	<200		<50	<100
	1/1/00	ND		ND	ND
9/1/99	ND		ND	ND	
7/1/99	ND		10	ND	
MW 11	5/14/02	<50		<50	<50
	2/14/02	<100		<100	<100
	11/28/01	<10		<10	<5

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Table 6 Summary of Selected Volatile Organic Compounds Detected in Groundwater by
USEPA Method 8260B Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Acetone	Acetonitrile	2 Butanone (MEK)	4 Methyl 2 pentanone
		(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW 11	8/28/01	<100		<50	<50
(cont d)	5/30/01	<40		<20	<20
	2/7/01	<1000		<1000	<1000
	12/7/00	<10		<10	<10
	4/26/00	<20		<5	<10
	1/1/00	ND		40	ND
	9/1/99	ND		ND	ND
	7/1/99	ND		ND	ND
MW 12	8/14/02	<10		<10	<10
	8/14/02 (DUP)	<10		<10	<10
	5/14/02	<10		<10	<10
	2/14/02	<10		<10	<10
	11/28/01	<10		<10	<5
	8/28/01	<20		<10	<10
	5/30/01	<20		<10	<10
	2/6/01	<10		<10	<10
	12/15/00	<10		<10	<10
	4/26/00	<20		<5	<10
	1/1/00	ND		32	ND
	7/1/99	ND		ND	ND
MW 13	5/15/02	<10		<10	<10
	2/14/02	<10		<10	<10
	11/28/01	<10		<10	<5
	8/28/01	150 J		21	<20
	5/30/01	27		<10	<10
	2/7/01	NS		NS	NS
	12/6/00	<100		<100	<100
	4/27/00	<40		<10	6 J

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Table 6 Summary of Selected Volatile Organic Compounds Detected in Groundwater by
USEPA Method 8260B Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Acetone	Acetonitrile	2 Butanone (MEK)	4 Methyl 2 pentanone
		(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW 13	1/1/00	ND		140	ND
(cont'd)	9/1/99	ND		ND	ND
	7/1/99	ND		450	3800
MW 14	9/25/02	<10		<10	<10
MW 15	9/25/02	<10		<10	<10
MW 16	9/25/02	<10		<10	<10
MW 17	9/25/02	160 J		<10	<10
MW 18	9/25/02	<10		<10	<10
SAW 1	8/14/02	<10		<10	<10
	5/15/02	<10		<10	<10
	2/14/02	91		<20	<20
	11/28/01	150		<10	<5
	8/28/01	22 J		<10	<10
	5/31/01	1100		770	1200
	2/7/01	<20		<20	<20
	12/6/00	31		<10	<10
	8/15/00	<20	<10	<5	<10
7/28/00		<10	<5	49 J	
SAW 2	9/25/02	1600		<10	1400
Open Hole	8/14/02	<10		<10	69
	5/15/02	69		15	48
	2/14/02	<20		<20	<20
	11/28/01	150		55	140
	8/28/01	290 J		150	120

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Table 6 Summary of Selected Volatile Organic Compounds Detected in Groundwater by
USEPA Method 8260B Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Acetone	Acetonitrile	2 Butanone (MEK)	4 Methyl 2 pentanone
		(µg/l)	(µg/l)	(µg/l)	(µg/l)
SAW 2	5/31/01	23		<10	<10
(cont d)	2/7/01	2300		1600	1100
	12/6/00	NS		NS	NS
	8/16/00	3200	<500	3300	2400
	7/29/00		<100	770	1200
SAW 3	8/14/02	14		2 3 J	<10
	5/15/02	<10		<10	<10
	2/14/02	<500		<500	<500
	11/28/01	17		<10	<5
	8/28/01	400 J		<200	<200
	5/30/01	<200		<100	<100
	2/7/01	NS		NS	NS
	12/5/00	<500		<500	<500
	8/15/00	1600	<500	130 J	150 J
	7/29/00		220	130	160 J
Eqp Blk	8/14/02	110		4 8 J	<10
	5/15/02	<10		<10	<10
	2/15/02	2 1 J		1 2 J	<5
	11/28/01	<10		<10	<5
	8/29/01	22 J		<10	<10
	5/31/01	<20		<10	<10
	12/5/00	<10		<10	<10
Trnp Blk	8/14/02	<10		<10	<10
	5/15/02	<10		<10	<10
	4/27/00	<20		<5	<10

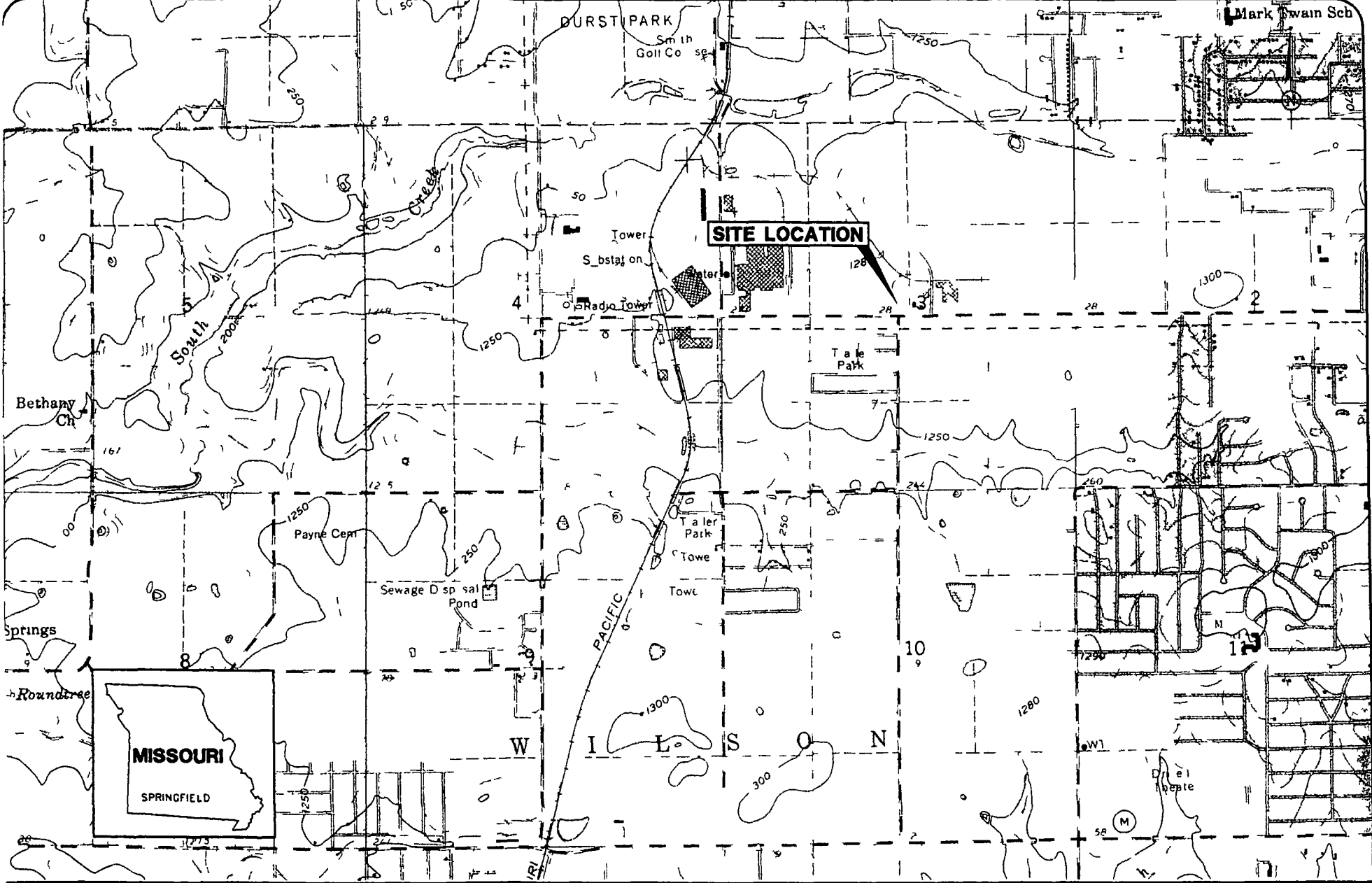
ARCADIS

Table 6 Summary of Selected Volatile Organic Compounds Detected in Groundwater by USEPA Method 8260B Brenntag/HCI Chemtech 2235 W Battlefield Rd Springfield Missouri

Sample Number	Date Collected	Acetone	Acetonitrile	2 Butanone (MEK)	4 Methyl 2 pentanone
		(µg/l)	(µg/l)	(µg/l)	(µg/l)
NA	Not analyzed				
NS	Not sampled				
ND	Non detect				
µg/L	Micrograms per liter				
Eqp Blk	Equipment Blank				
MCLs	Maximum Contaminant Levels				
CALM	Cleanup Levels for Missouri Groundwater Target Concentration Tier 1 September 1998				
J	Samples which contain results between the minimum detection limit (MDL) and the reporting limit (RL)				

Laboratory data prior to May 2001 provided by CJE Inc

G:\project\BRENNTAG\OK1255001\QMR\3Q2\[MT3Q2 XLS]Ketone VOCs



500 E ST SKEL Y DRIVE SU TE 1000
 TULSA OKL 74301
 T (918) 86 9900 F (918) 86 9925

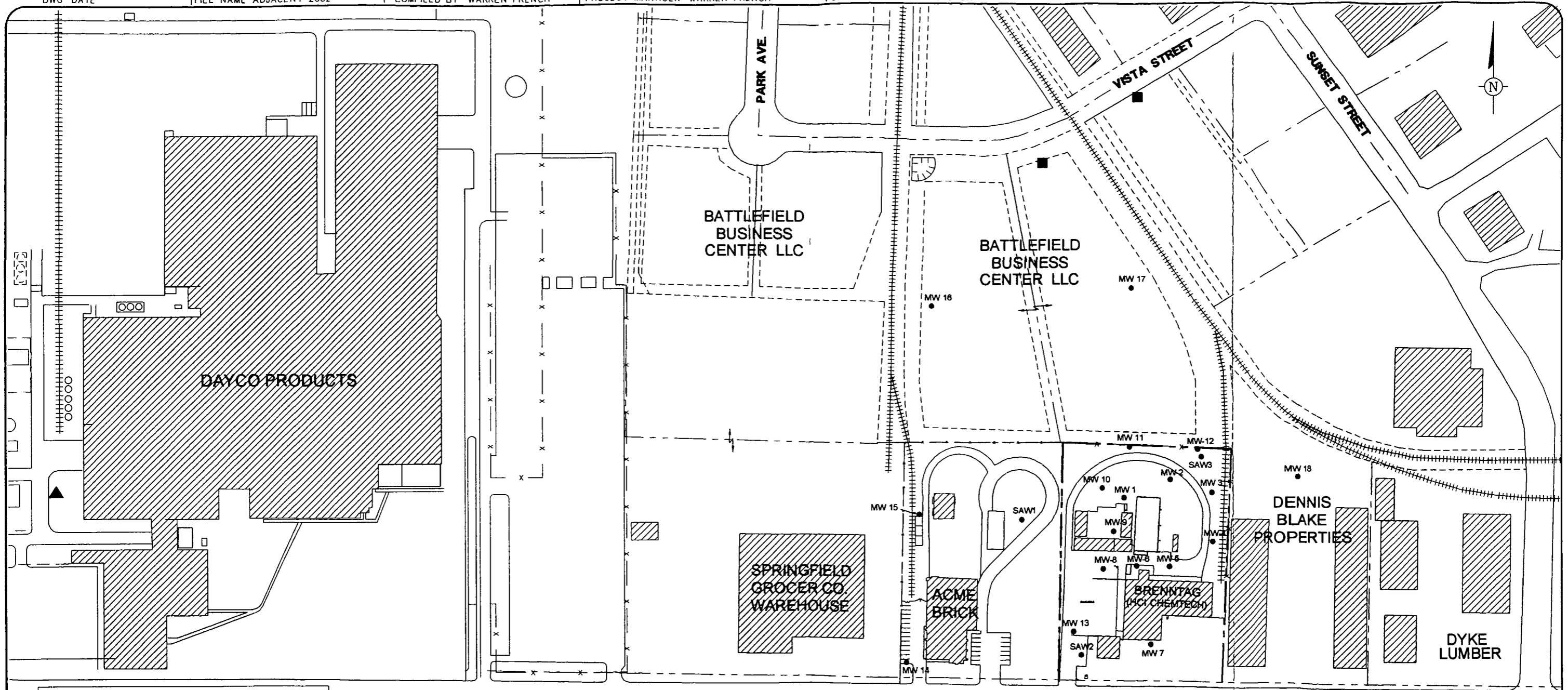
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SITE LOCATION MAP

BRENNTAG/HCI CHEMTECH
 2235 W BATTLEFIELD RD
 SPRINGFIELD MISSOURI

PROJECT NUMBER
 OK001255 0001

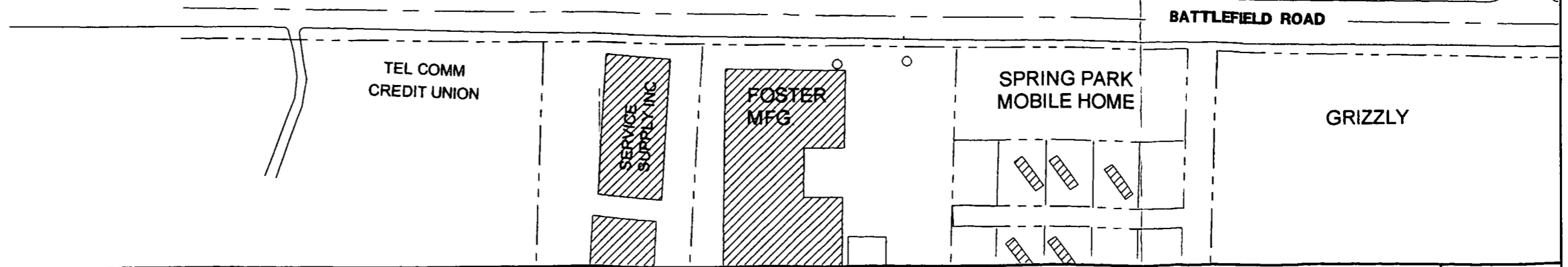
FIGURE NUMBER
1



EXPLANATION

- PROPOSED MONITORING WELL
- ▲ WATER SUPPLY WELL
- MW 5 ● MONITORING WELL
- SOIL BORING
- +++++ RAILROAD TRACKS
- x - FENCE LINE

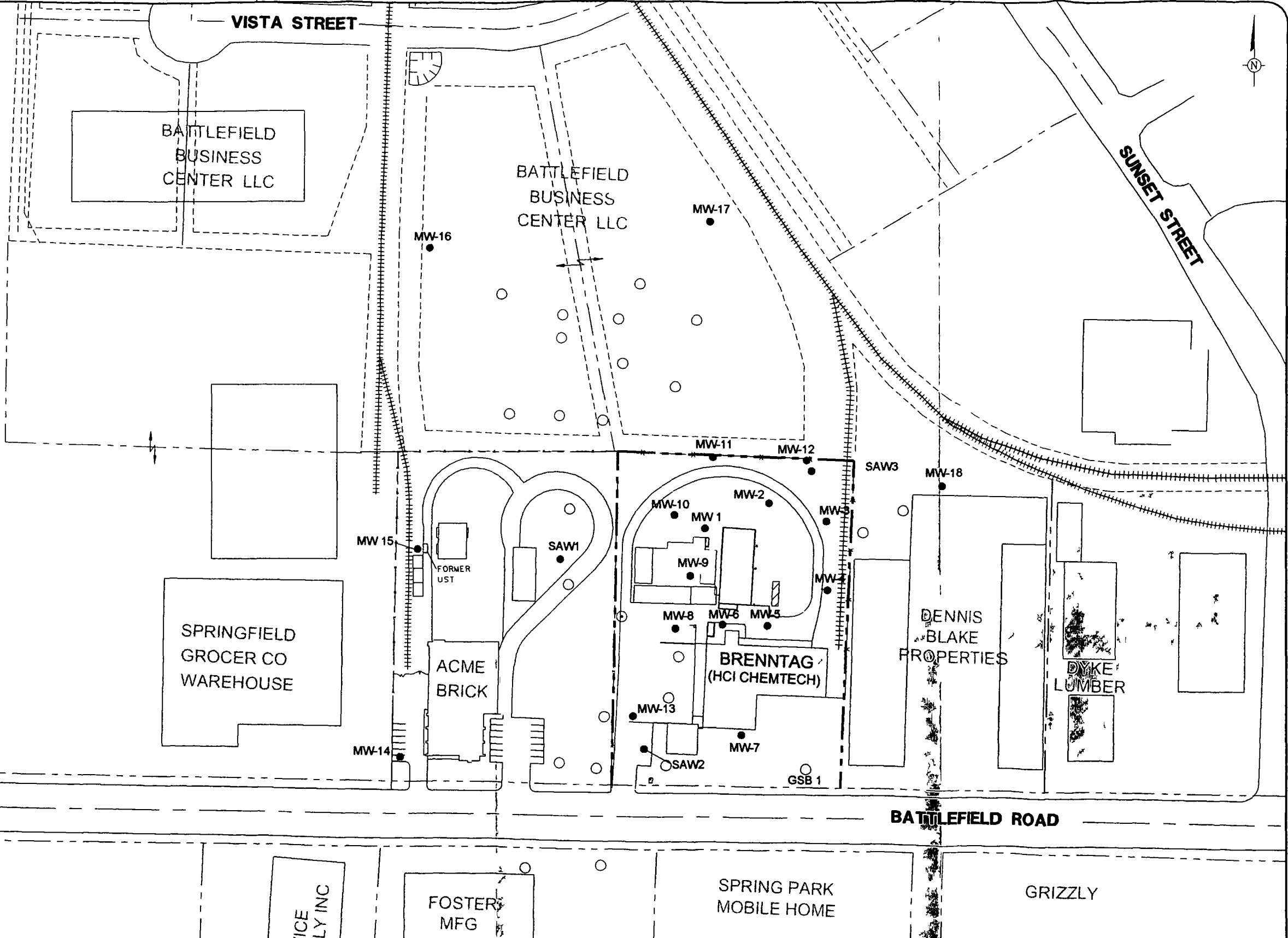
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EXPLANATION

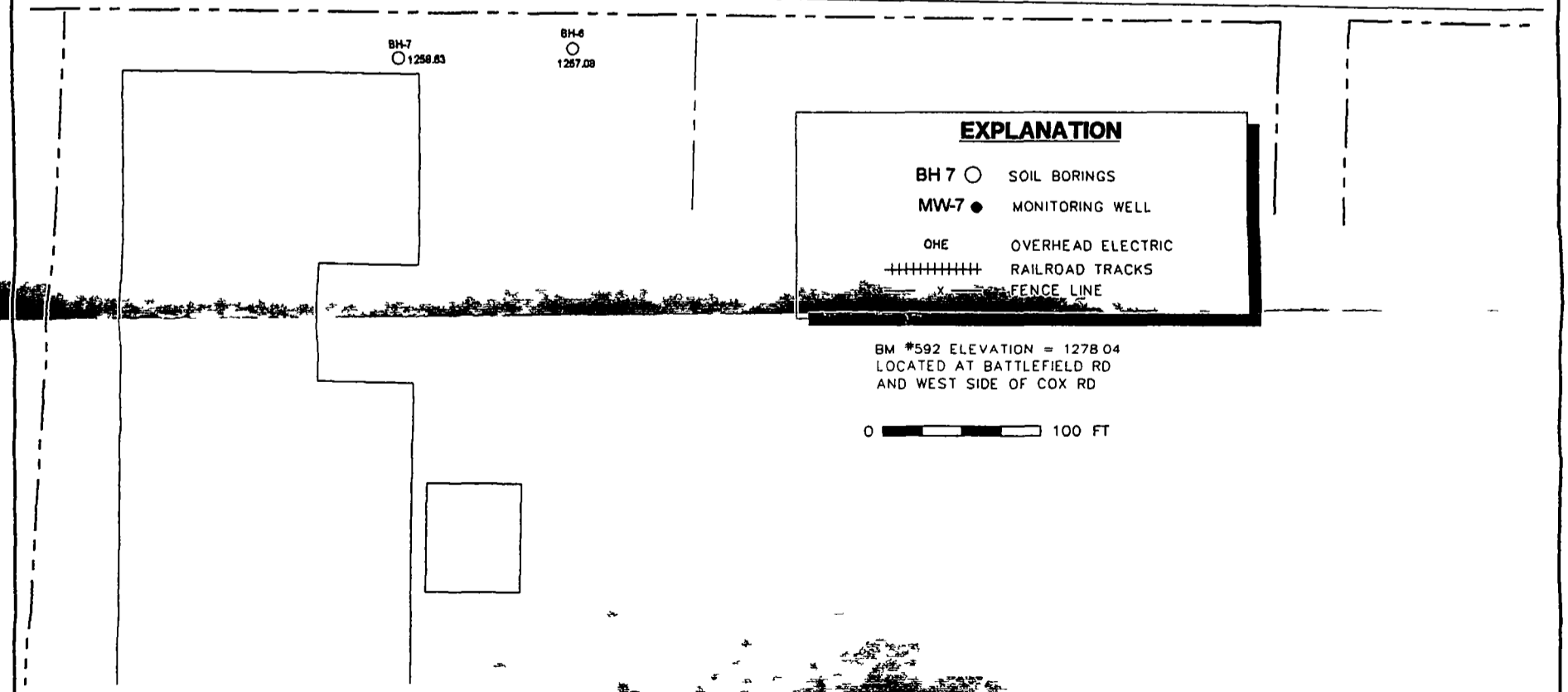
- SOIL BORING
- MW-7 ● MONITORING WELL
- ++++ RAILROAD TRACKS
- x - FENCE LINE

0  150 FT





BATTLEFIELD ROAD



APPROXIMATE TOP OF BEDROCK



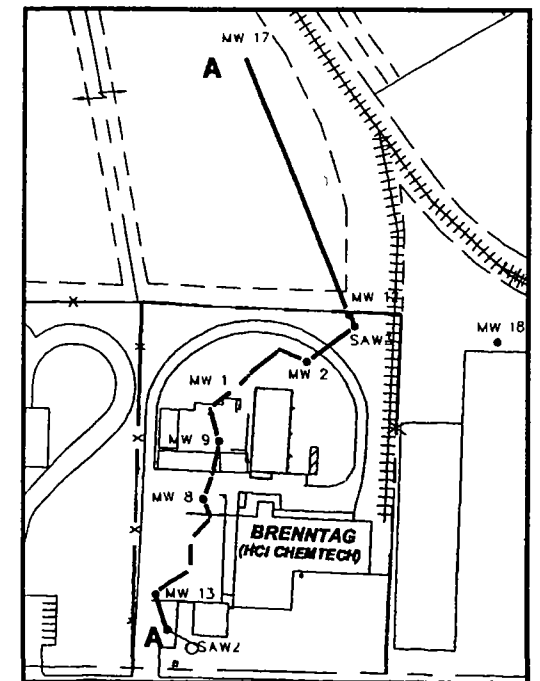
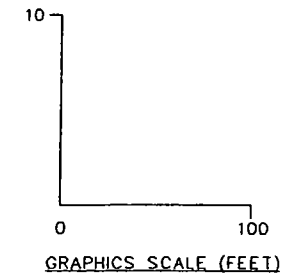
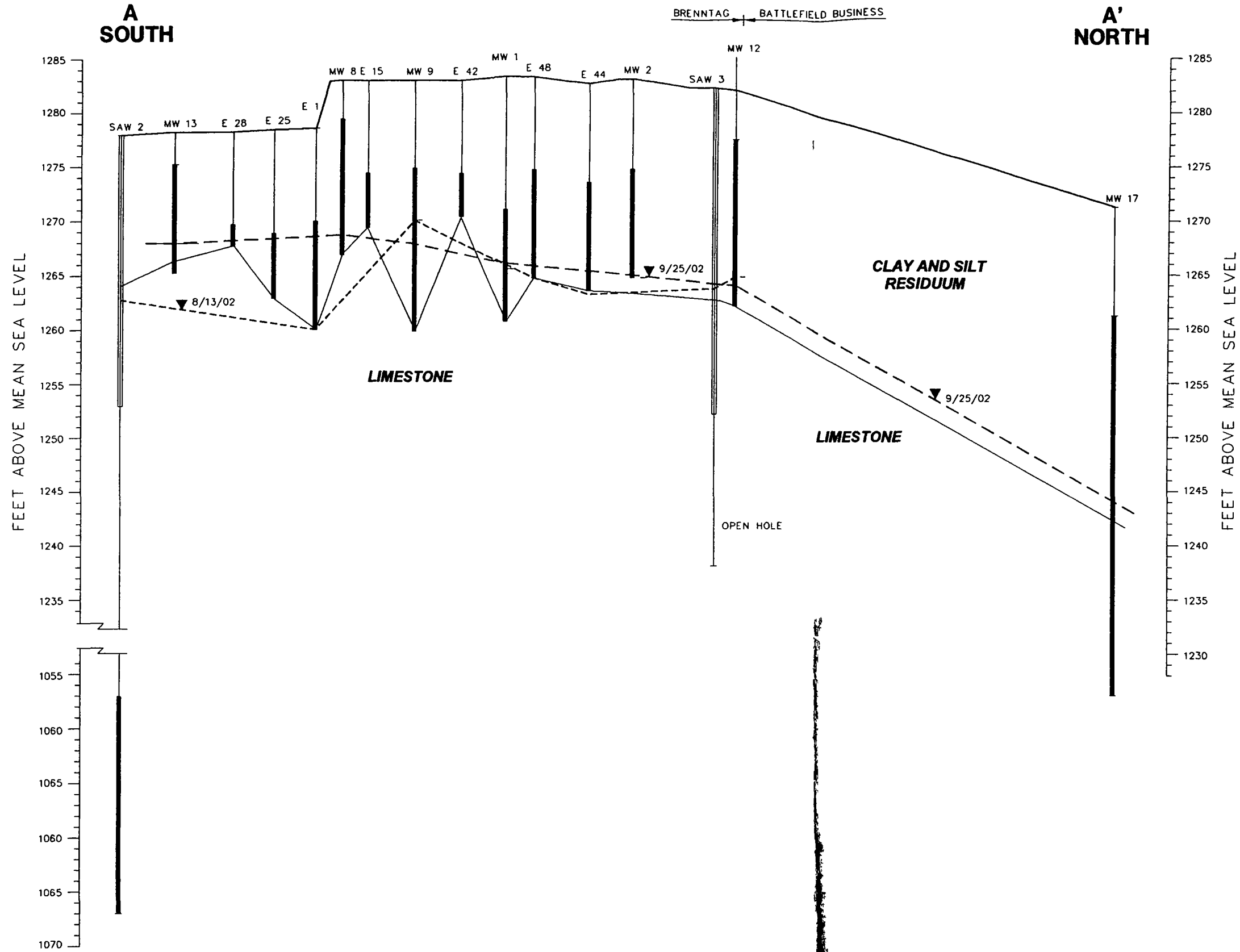
5 00 EAST SKELLY DRIVE SUITE 1000
 TULSA, O LA OMA 74 35
 (918) 664 9000 F (918) 664 9925

BRENNTAG/HCI CHEMTECH
 2235 W BATTLEFIELD RD
 SPRINGFIELD MISSOURI

PROJECT NUMBER
 OK001255 0001

SURE NU BE

4



CROSS SECTION TRACE

HYDROGEOLOGIC CROSS SECTION A-A'



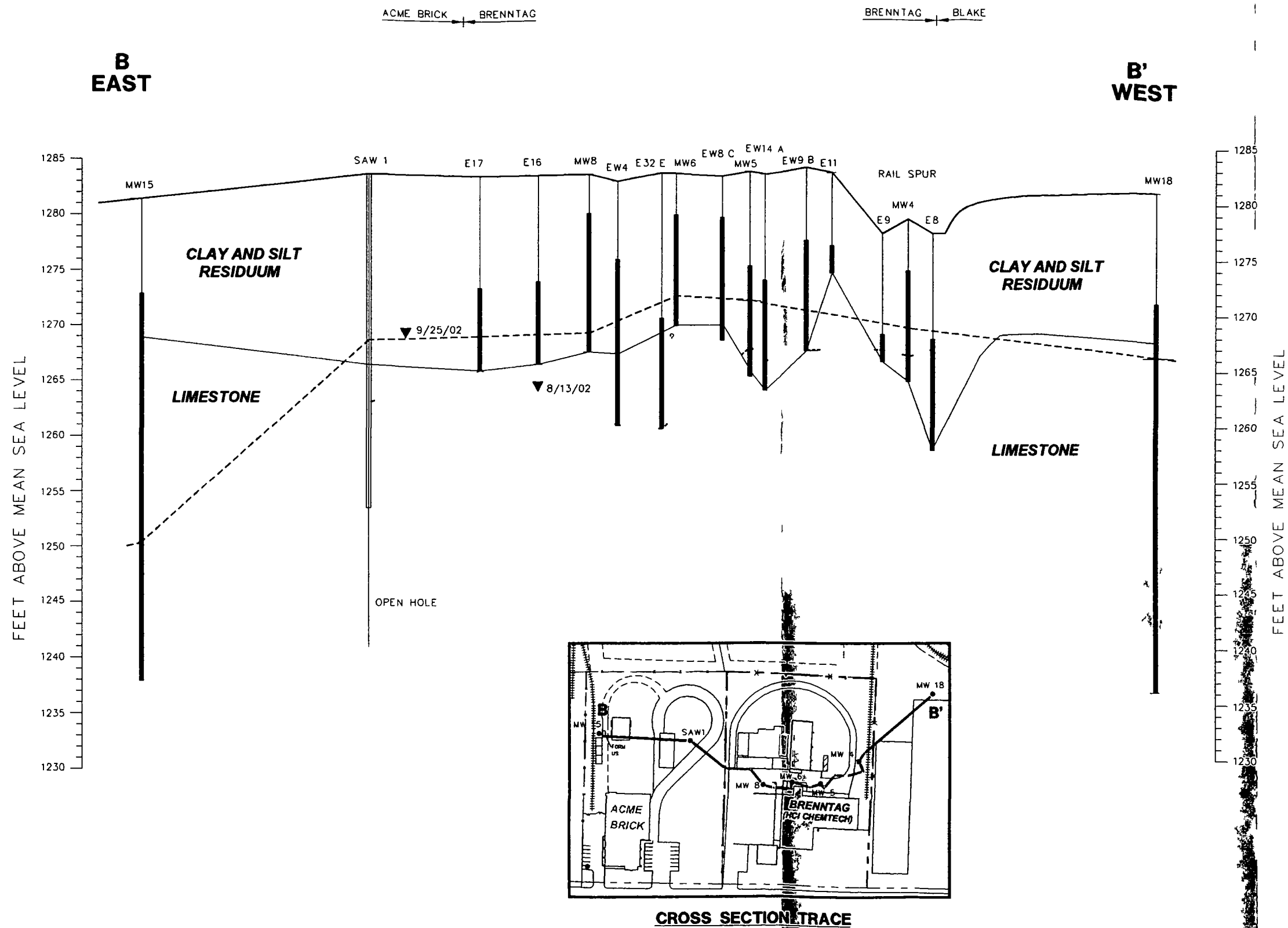
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TULSA, OKLA HO 7 35
T (918) 66 9900 F (918) 66 9925

BRENNTAG/ HCl CHEMTECH
2235 W BATTLEFIELD ROAD
SPRINGFIELD MISSOURI

PROJECT NUMBER
OK001255 0001

FIGURE NUMBER

5a



HYDROGEOLOGIC CROSS SECTION B-B'



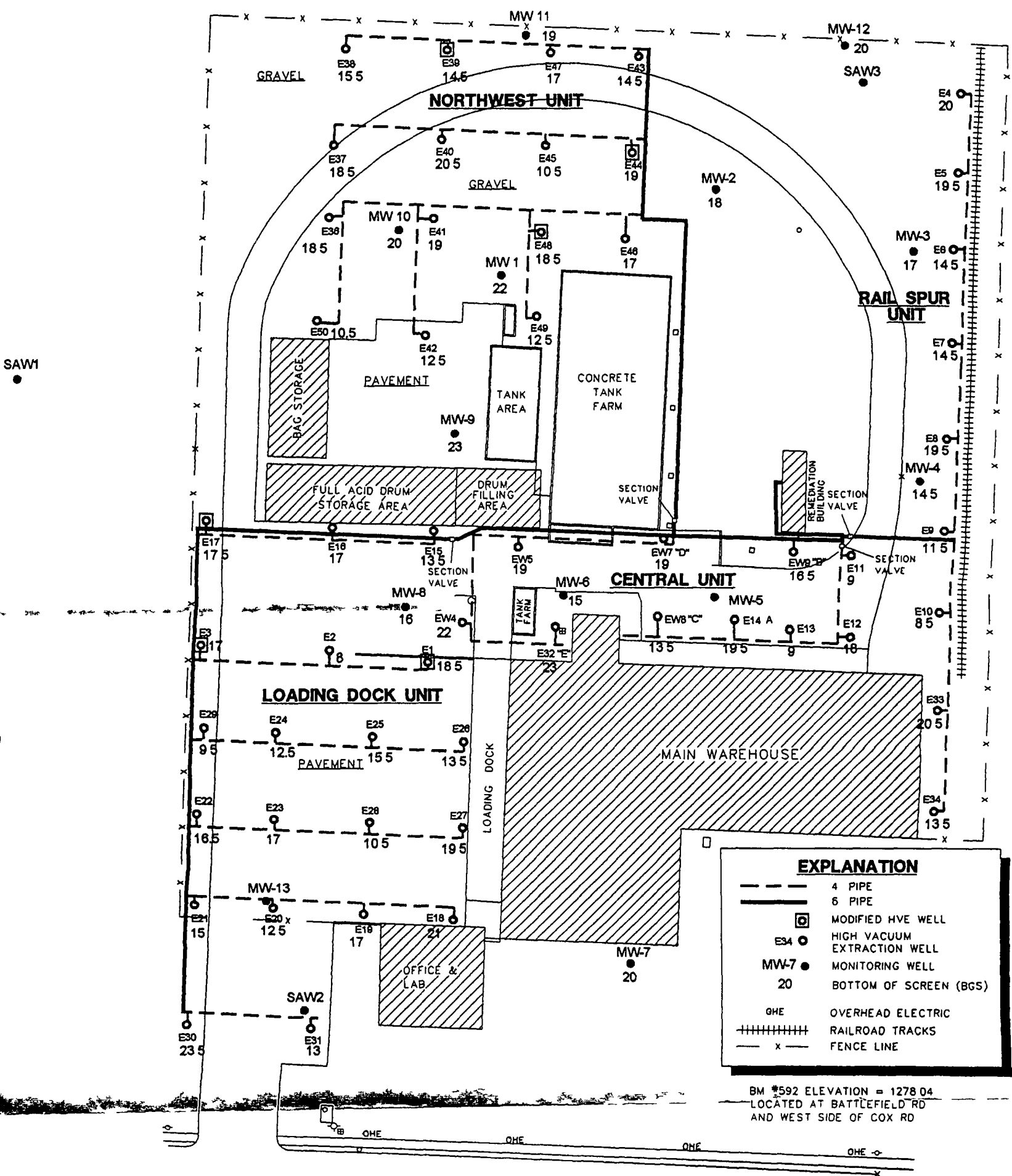
5 00 EAST SKELL DRIVE SU TE 1000
 T S O A O 7 35
 T (9 8) 66 9900 F (9 8) 66 9925

BRENNTAG/ HCI CHEMTECH
 2235 W BATTLEFIELD ROAD
 SPRINGFIELD MISSOURI

PROJECT NUMBER
 OK001255 0001

FIGURE NUMBER

5b



EXPLANATION	
---	4 PIPE
—	6 PIPE
⊗	MODIFIED HVE WELL
○	HIGH VACUUM EXTRACTION WELL
●	MONITORING WELL
20	BOTTOM OF SCREEN (BGS)
OHE	OVERHEAD ELECTRIC
+++++	RAILROAD TRACKS
x	FENCE LINE

BM #592 ELEVATION = 1278.04
 LOCATED AT BATTLEFIELD RD
 AND WEST SIDE OF COX RD

BATTLEFIELD ROAD

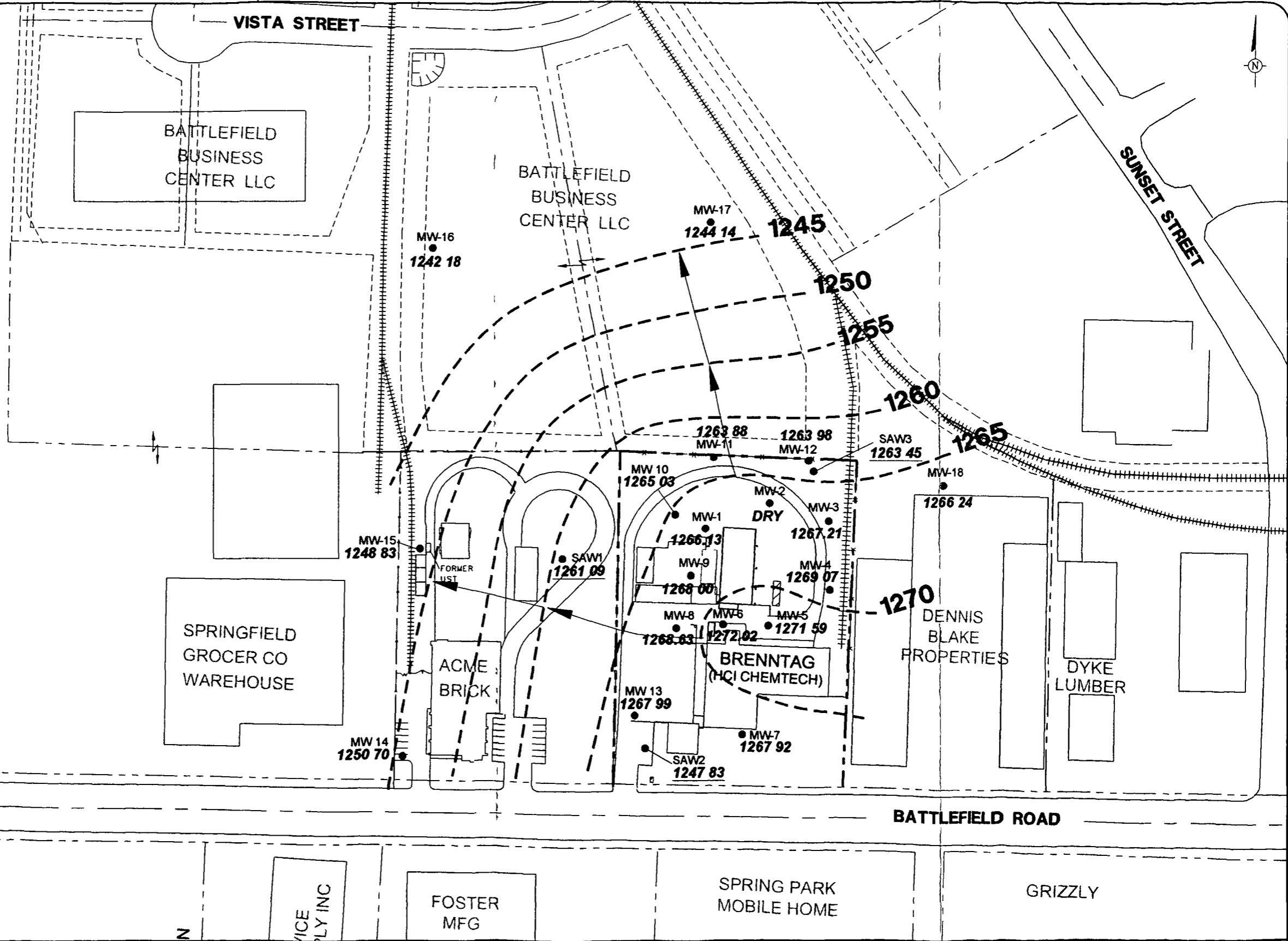


BM #592 ELEVATION = 1278.04
 LOCATED AT BATTLEFIELD RD
 AND WEST SIDE OF COX RD

EXPLANATION

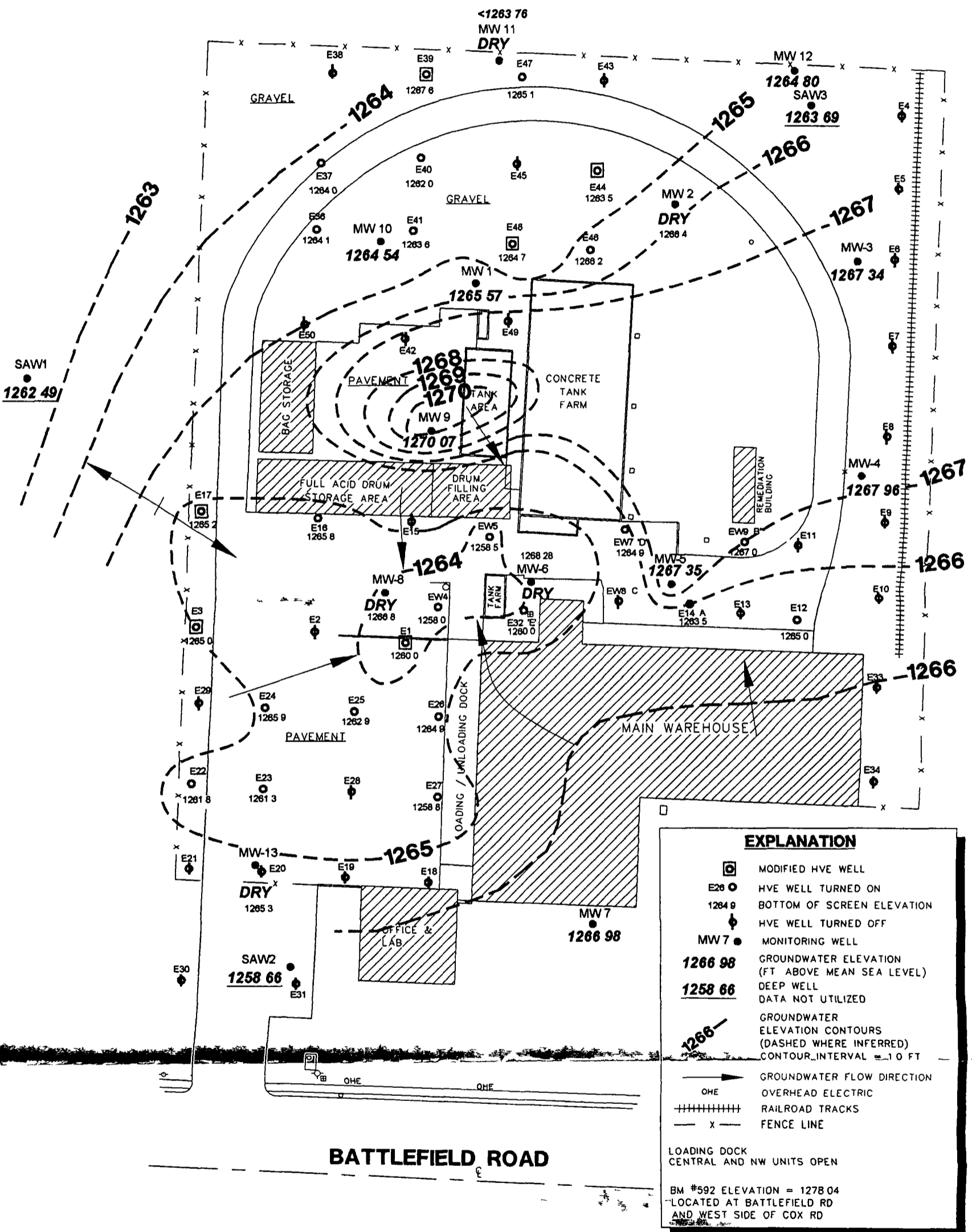
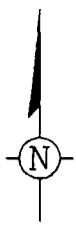
- MW 7 ● MONITORING WELL
- 1267 92 GROUNDWATER ELEVATION (FT ABOVE MEAN SEA LEVEL)
- 1247 83 OPEN BOREHOLE (NOT USED TO CONTOUR MAP)
- 1245 - - - GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL - 1.0 FT
- GROUNDWATER FLOW DIRECTION
- +++++ RAILROAD TRACKS
- x - FENCE LINE

0 150 FT



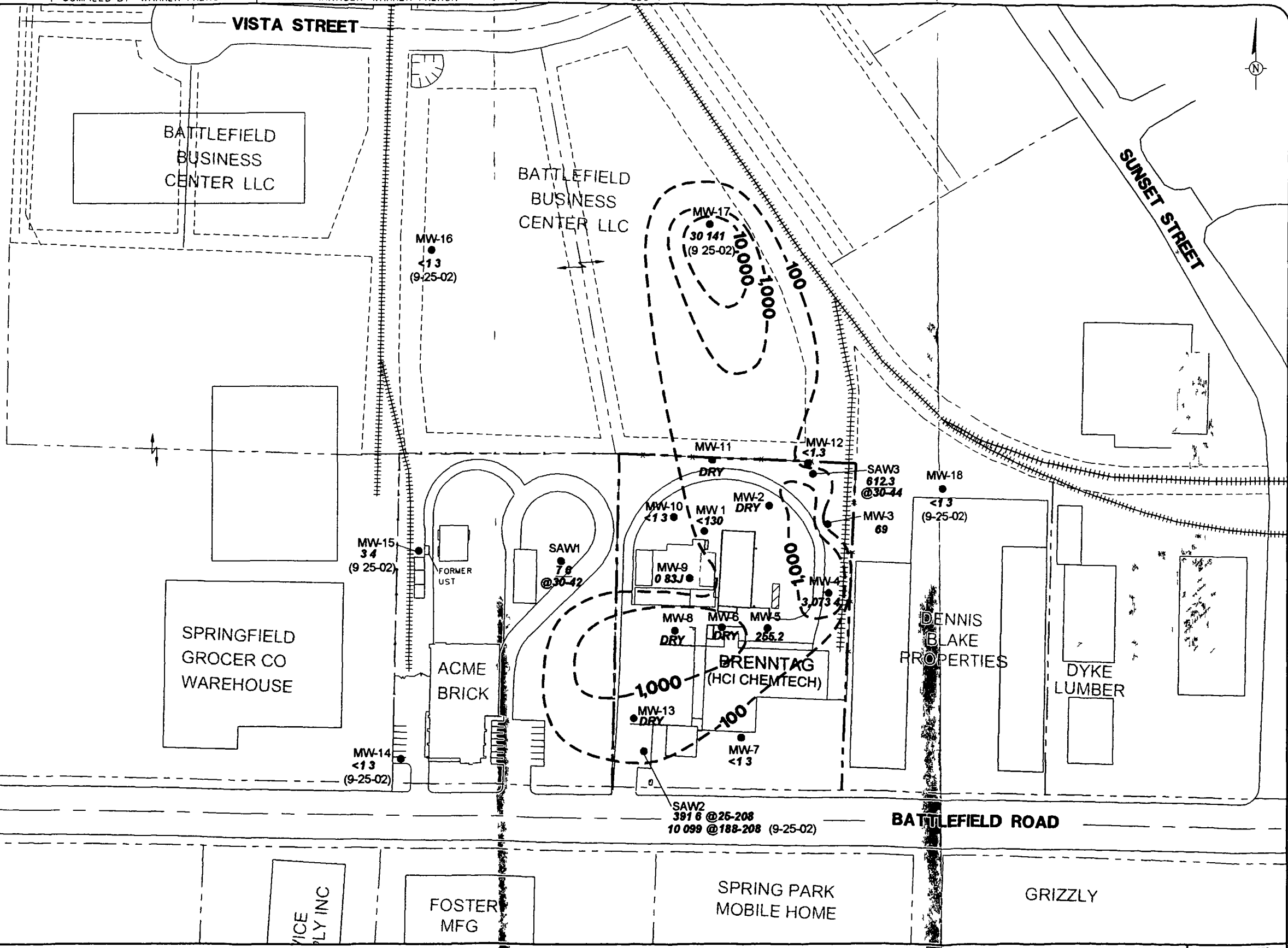
**GROUNDWATER GRADIENT MAP
 SEPTEMBER 25, 2002**

BRENNTAG/ HCI CHEMTECH
 2235 W BATTLEFIELD ROAD
 SPRINGFIELD MISSOURI



0 50-FT

EXPLANATION	
MW-7 ●	MONITORING WELL
<13	TOTAL PETROLEUM VOCs (MICROGRAMS PER LITER)
J	ESTIMATED VALUE
PSH	PHASE SEPARATED HYDROCARBONS
6123 @30-44	DEEP WELL OPEN HOLE
100 -	TOTAL PETROLEUM VOCs CONCENTRATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL VARIES
	RAILROAD TRACKS
- x -	FENCE LINE



**TOTAL PETROLEUM VOCs CONCENTRATIONS IN GROUNDWATER
AUGUST 14, 2002 AND SEPTEMBER 25, 2002**



500 E ST SEL DR E SUITE 000
T SA O L O 7 35
T (9 8) 66 9900 F (9 8) 66 9925

BRENNTAG/ HCI CHEMTECH
2235 W BATTLEFIELD ROAD
SPRINGFIELD MISSOURI

PROJECT NUMBER
OK001255 0001

FIGURE NUMBER
8

EXPLANATION

MW-7 ● MONITORING WELL

B BENZENE CONCENTRATION (g/L)
 T TOLUENE CONCENTRATION (g/L)
 E ETHYLBENZENE CONCENTRATION (g/L)
 X XYLENES CONCENTRATION (g/L)
 g/L MICROGRAMS PER LITER

@30-44 DEEP WELL OPEN HOLE

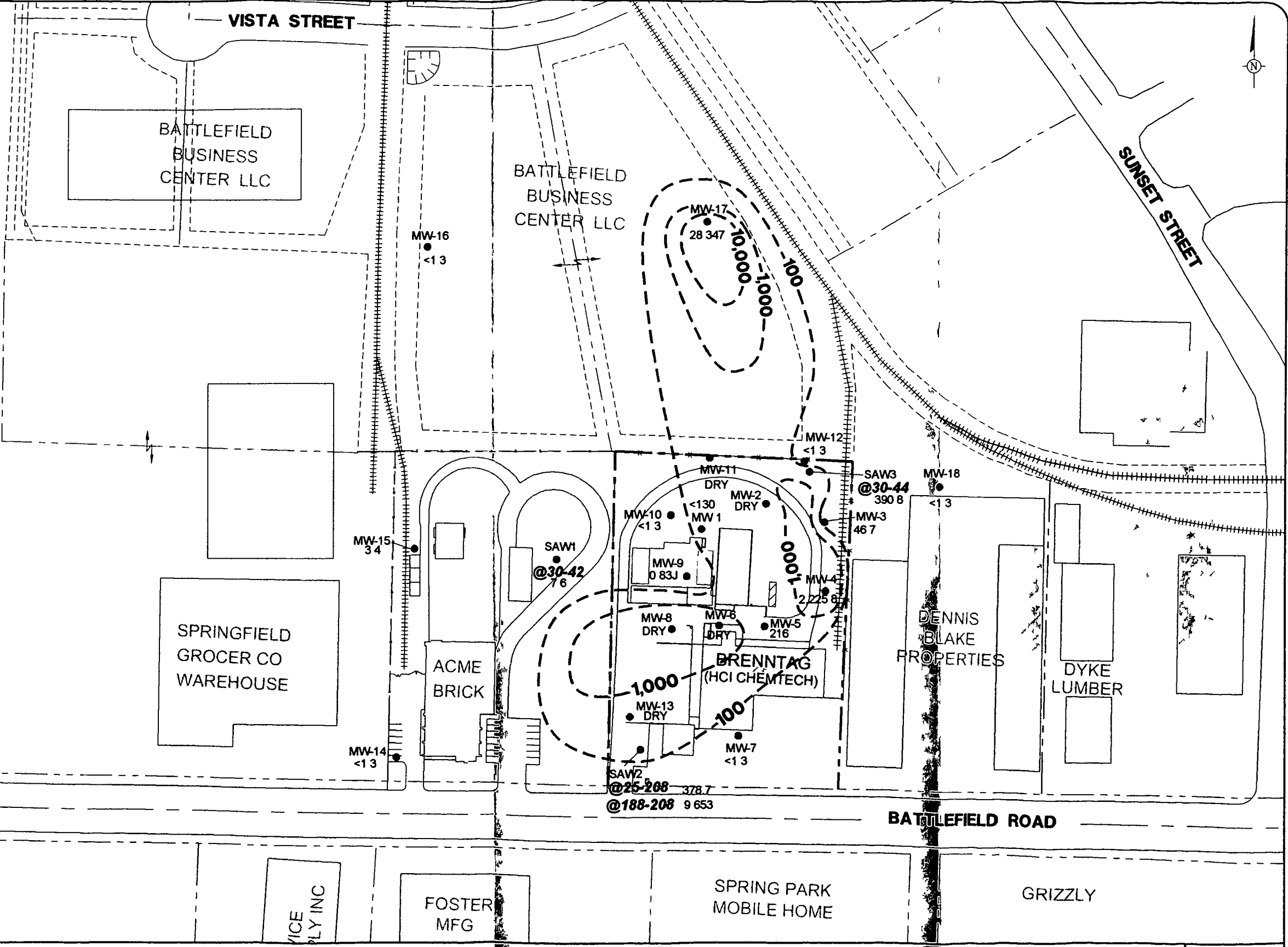
100 ——— TOTAL BTEX CONCENTRATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL VARIES

++++ RAILROAD TRACKS
 x ——— FENCE LINE

0 150 FT

	B	T	E	X	TOTAL
MW-1	<100	<100	<100	<130	<130
MW-2					DRY
MW-3	<1	<1	43	37	46.7
MW-4	5.8J	0.000	110	1.110	2.225.8
MW-5	12	22	25	157	216
MW-6					DRY
MW-7	<1	<1	<1	<1.3	<1.3
MW-8					DRY
MW-9	0.83J	<1	<1	<1.3	0.83J
MW-10	<1	<1	<1	<1.3	<1.3
MW-11					DRY
MW-12	<1	<1	<1	<1.3	<1.3
MW-13					DRY
MW-14	<1	<1	<1	<1.3	<1.3
MW-15	3.4	<1	<1	<1.3	3.4
MW-16	<1	<1	<1	<1.3	<1.3
MW-17	27	18.000	720	9.600	28.347
MW-18	<1	<1	<1	<1.3	<1.3
SAW-1	7.6	<1	<1	<1.3	7.6
SAW-2	7.7	260	24	87	378.7
	73	6.800	490	2.290	9.653
SAW-3	0.8J	45	<1	345	390.8

(9-25-02)
 (9-25-02)
 (9-25-02)
 (9-25-02)
 (9-25-02)
 (9-25-02)
 (9-25-02)



**TOTAL BTEX CONCENTRATIONS IN GROUNDWATER
 AUGUST 14, 2002 AND SEPTEMBER 25, 2002**

BRENNTAG/ HCI CHEMTECH
 2235 W BATTLEFIELD ROAD
 SPRINGFIELD MISSOURI

ARCADIS G&M

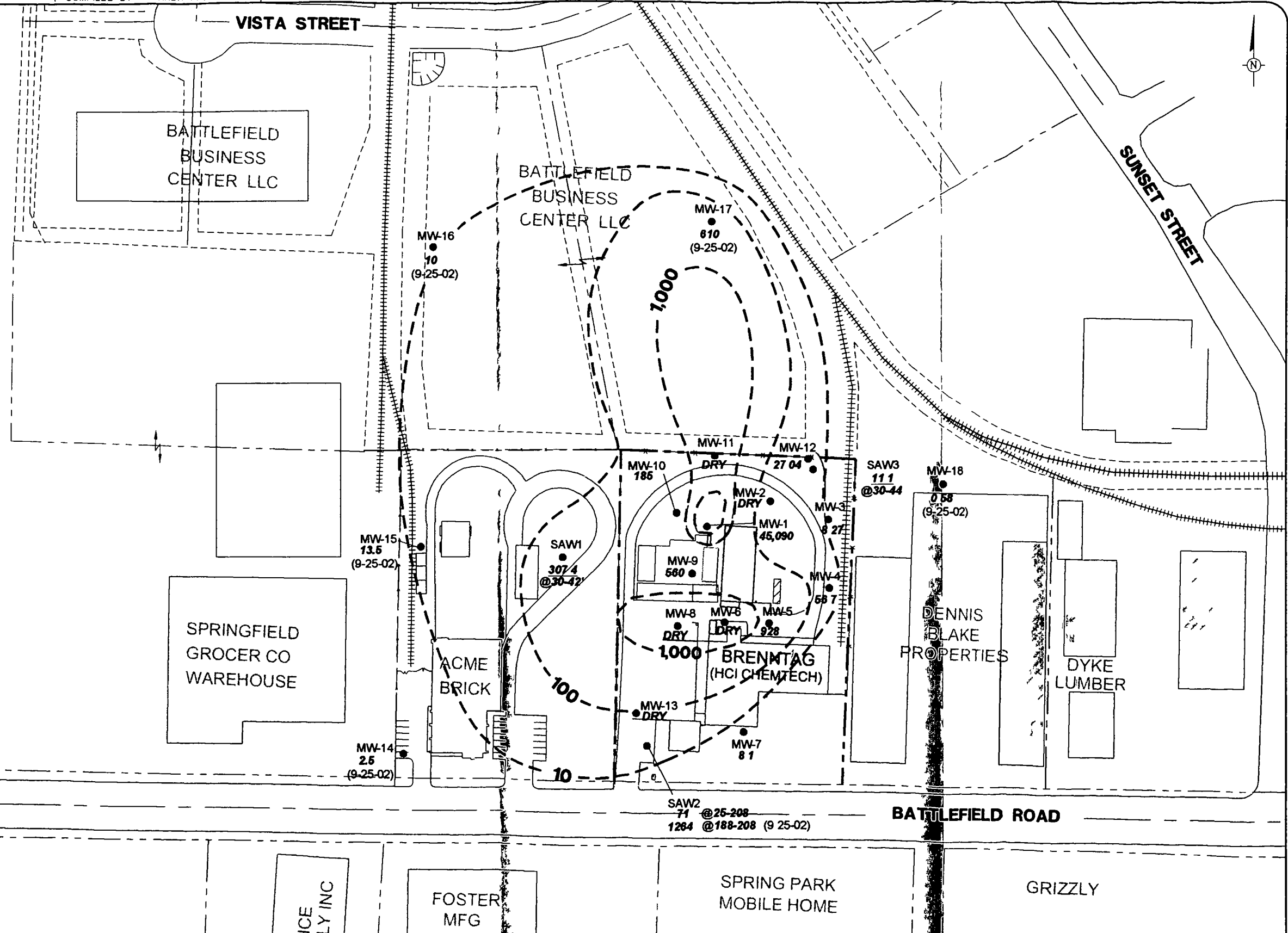
500 E ST SEL DR E SUITE 000
 T S O O 74 35
 T (98) 66 9900 F (918) 66 9925

PROJECT NUMBER
 OK001255 0001

FIGURE NUMBER
9

EXPLANATION

- MW-7 ● MONITORING WELL
- 81 CHLORINATED VOCs (MICROGRAMS PER LITER)
- J ESTIMATED VALUE
- PSH PHASE SEPARATED HYDROCARBONS
- 6123 @30-44 DEEP WELL OPEN HOLE
- 100- - - - - CHLORINATED VOCs CONCENTRATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL VARIES
- +++++ RAILROAD TRACKS
- x - FENCE LINE



**TOTAL CHLORINATED VOCs CONCENTRATIONS IN GROUNDWATER
 AUGUST 14, 2002 AND SEPTEMBER 25, 2002**

ARCADIS G&M
 500 E ST SKELLY DRIVE SUITE 000
 L.S. OK 0 7 35
 7 (9 8) 66 9900 F (9 8) 66 9925

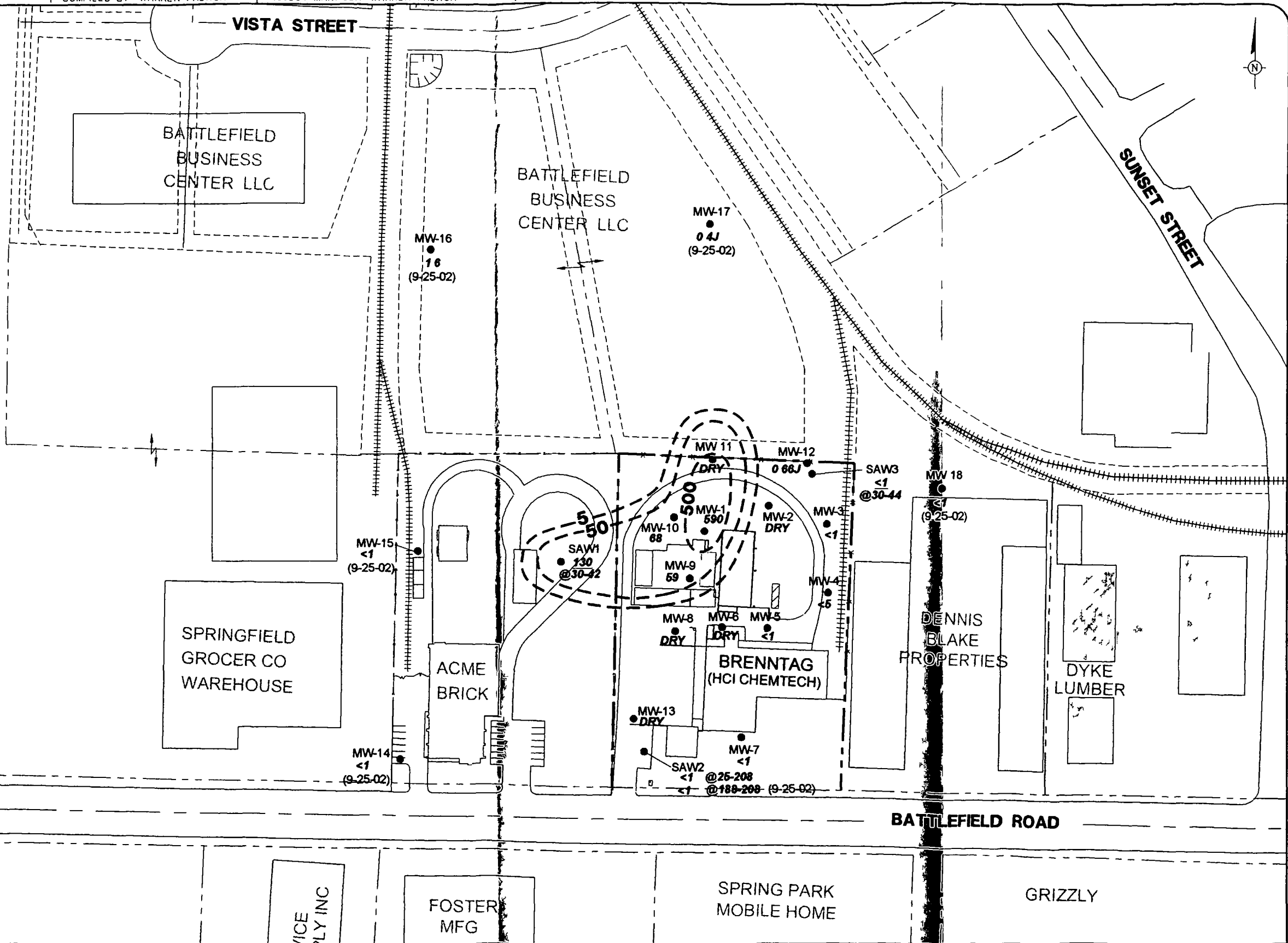
BRENNTAG/ HCI CHEMTECH
 2235 W BATTLEFIELD ROAD
 SPRINGFIELD MISSOURI

PROJECT NUMBER
 OK001255 0001
 FIGURE NUMBER
10

EXPLANATION

- MW-7 ● MONITORING WELL
- <1 TRICHLOROETHANE (MICROGRAMS PER LITER)
- J ESTIMATED VALUE
- PSH PHASE SEPARATED HYDROCARBONS
- 6123 DEEP WELL OPEN HOLE
- @30-44
- 100 — TRICHLOROETHANE CONCENTRATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL VARIES
- ++++ RAILROAD TRACKS
- x - FENCE LINE

0 150 FT



**TRICHLOROETHENE CONCENTRATIONS IN GROUNDWATER
AUGUST 14, 2002 AND SEPTEMBER 25, 2002**



5 00 EAST S ELLY DRIVE SUITE 1000
TU S 0 0 7 35
T (9 8) 66 9900 F (9 8) 66 9925

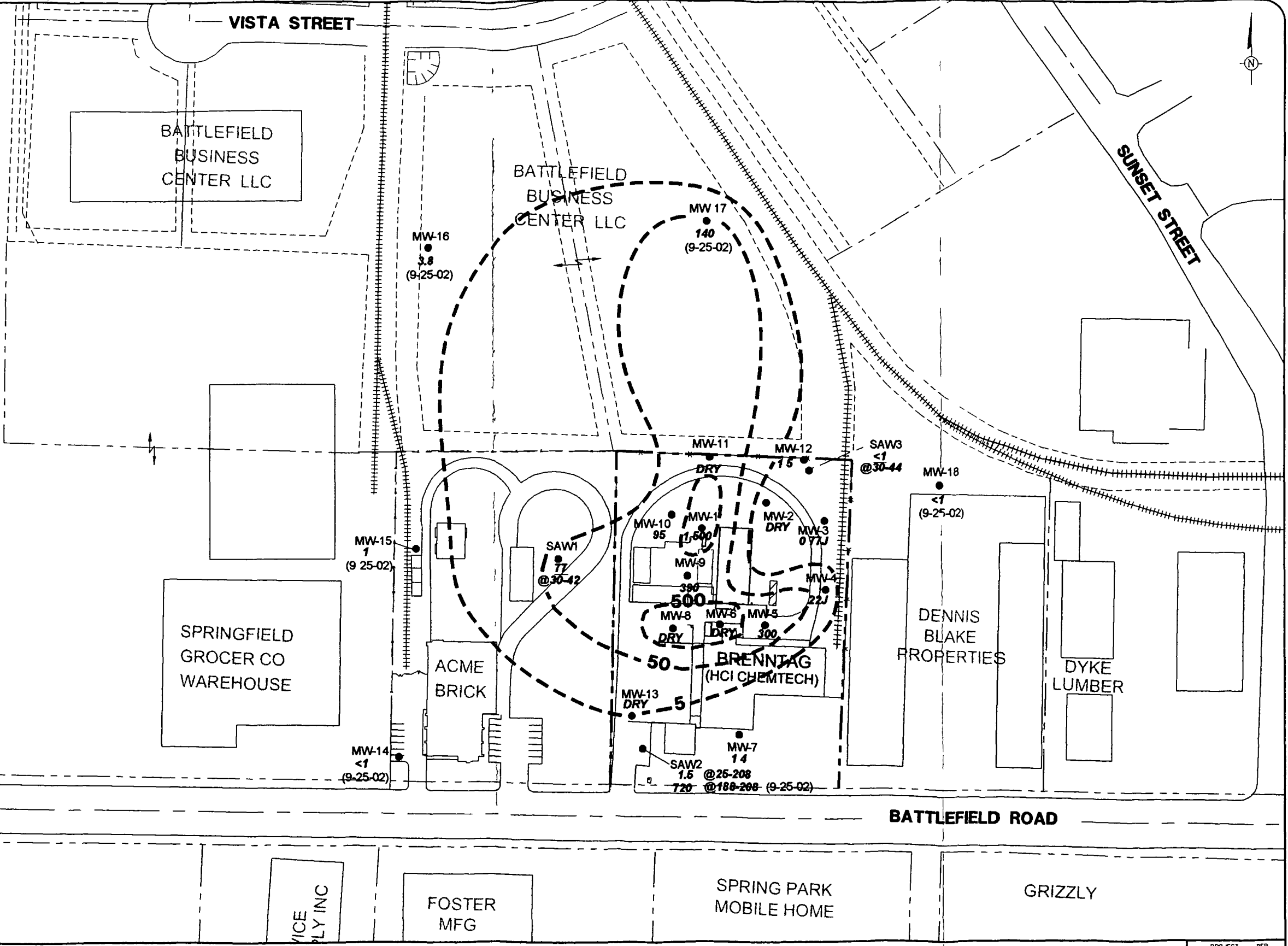
BRENNTAG/ HCI CHEMTECH
2235 W BATTLEFIELD ROAD
SPRINGFIELD MISSOURI

PROJECT NUMBER
OK001255 0001

FIGURE NUMBER
11

EXPLANATION	
MW7 ●	MONITORING WELL
14	CIS 1,2 DICHLOROETHENE (MICROGRAMS PER LITER)
J	ESTIMATED VALUE
PSH	PHASE SEPARATED HYDROCARBONS
16 @30-44	DEEP WELL OPEN HOLE
5 /	CIS 1,2 DICHLOROETHENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL VARIES
+++++	RAILROAD TRACKS
-x-	FENCE LINE

0 150 FT

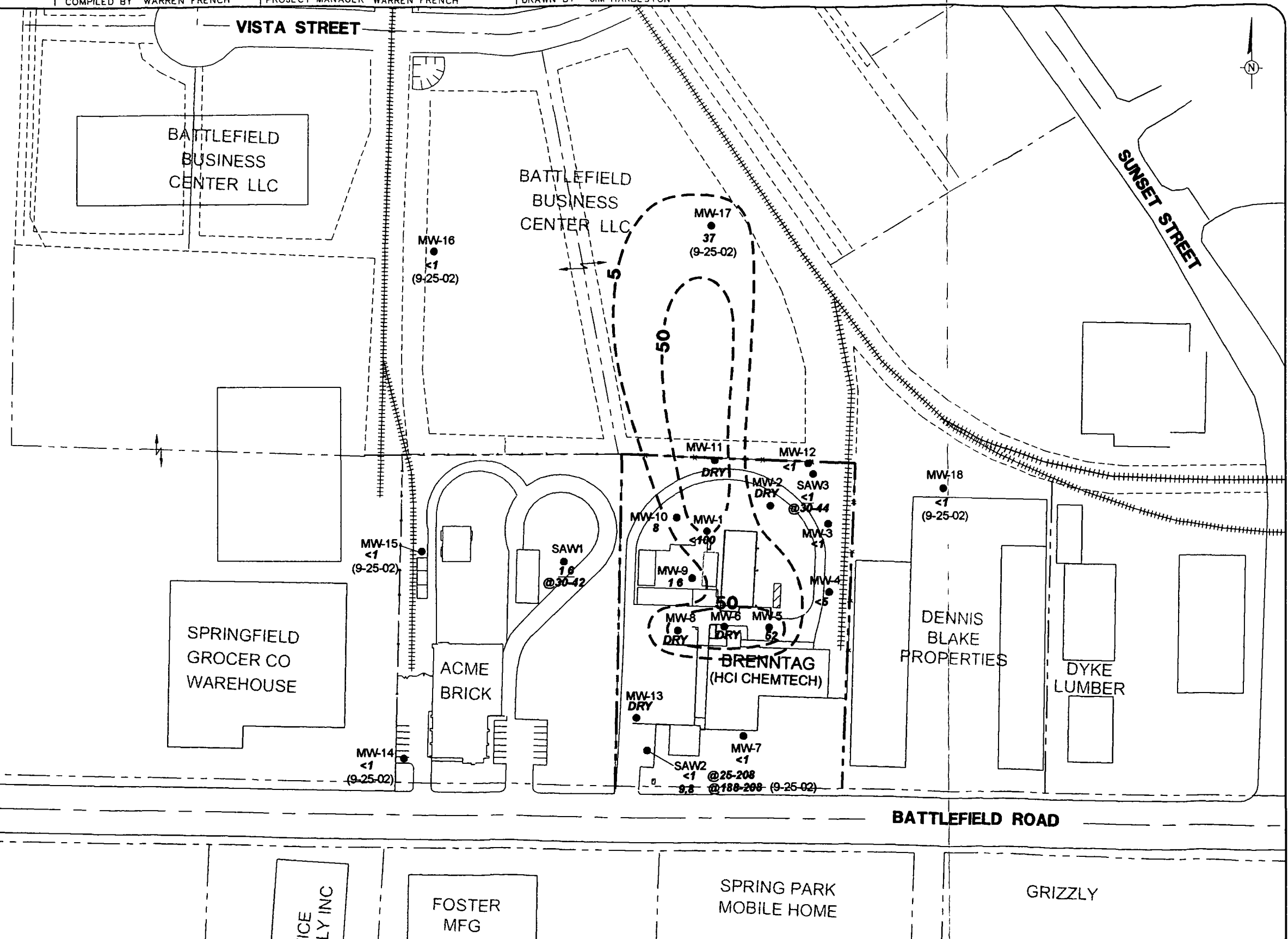


**CIS-1,2-DICHLOROETHENE CONCENTRATIONS IN GROUNDWATER
AUGUST 14, 2002 AND SEPTEMBER 25, 2002**

EXPLANATION

- MW7 ● MONITORING WELL
- <1 1,1-DICHLOROETHENE (MICROGRAMS PER LITER)
- J ESTIMATED VALUE
- PSH PHASE SEPARATED HYDROCARBONS
- 16 @30-44 DEEP WELL OPEN HOLE
- 5' 1,1-DICHLOROETHENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL VARIES
- ++++ RAILROAD TRACKS
- x - FENCE LINE

0  150 FT

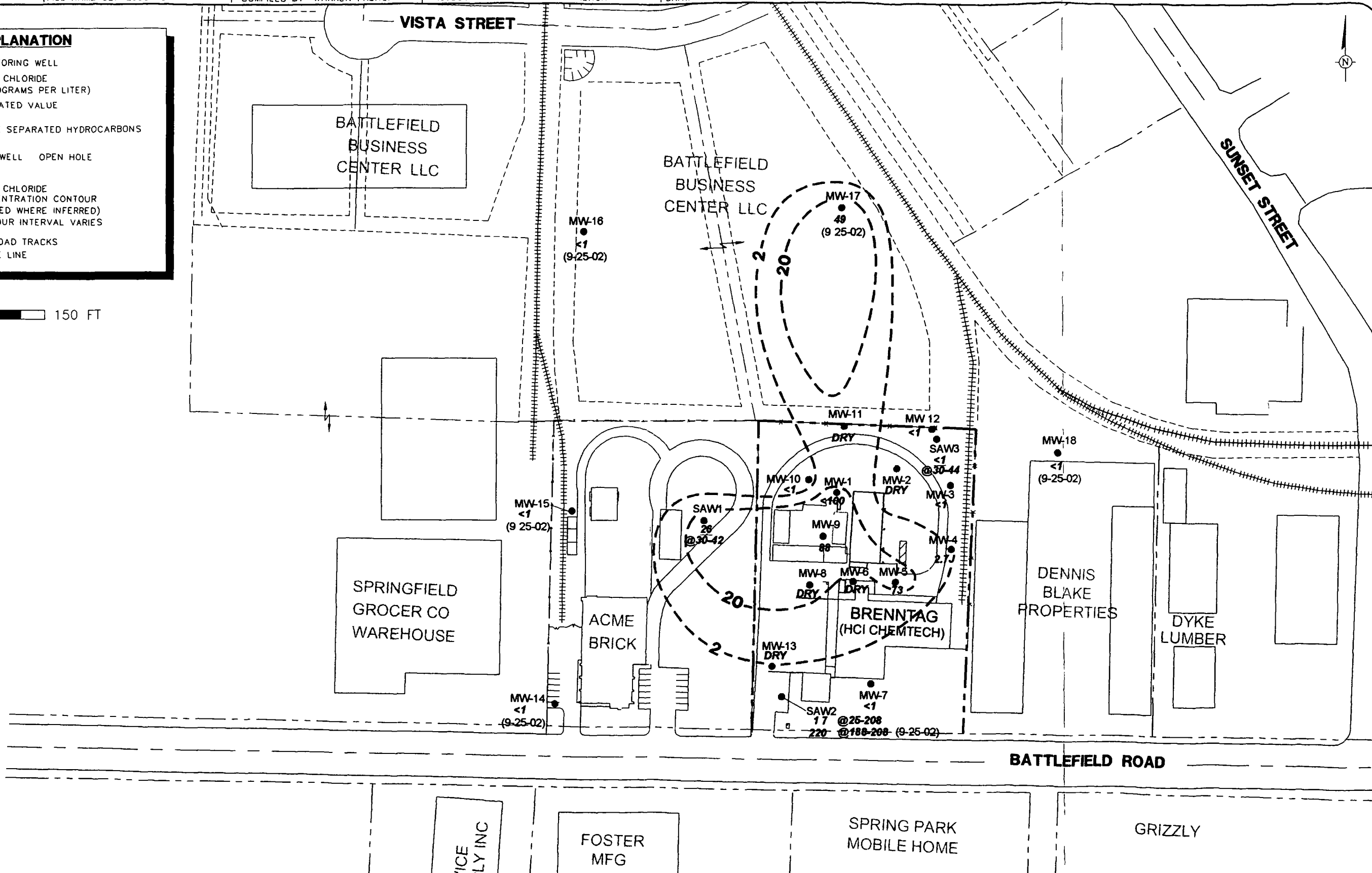


**1,1-DICHLOROETHENE CONCENTRATIONS IN GROUNDWATER
 AUGUST 14, 2002 AND SEPTEMBER 25, 2002**

EXPLANATION

- MW 7 ● MONITORING WELL
- <1 VINYL CHLORIDE (MICROGRAMS PER LITER)
- J ESTIMATED VALUE
- PSH PHASE SEPARATED HYDROCARBONS
- 26 @30-44 DEEP WELL OPEN HOLE
- 5 / VINYL CHLORIDE CONCENTRATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL VARIES
- ++++ RAILROAD TRACKS
- x - FENCE LINE

0  150 FT



**VINYL CHLORIDE CONCENTRATIONS IN GROUNDWATER
AUGUST 14, 2002 AND SEPTEMBER 25, 2002**

BRENNTAG/ HCI CHEMTECH
2235 W BATTLEFIELD ROAD
SPRINGFIELD MISSOURI



5100 E ST SKELLY DRIVE SUITE 000
T L S O Q W 7 35
Tel (9 8) 66 9900 F (9 8) 66 9925

PROJECT NUMBER
OK001255 0001

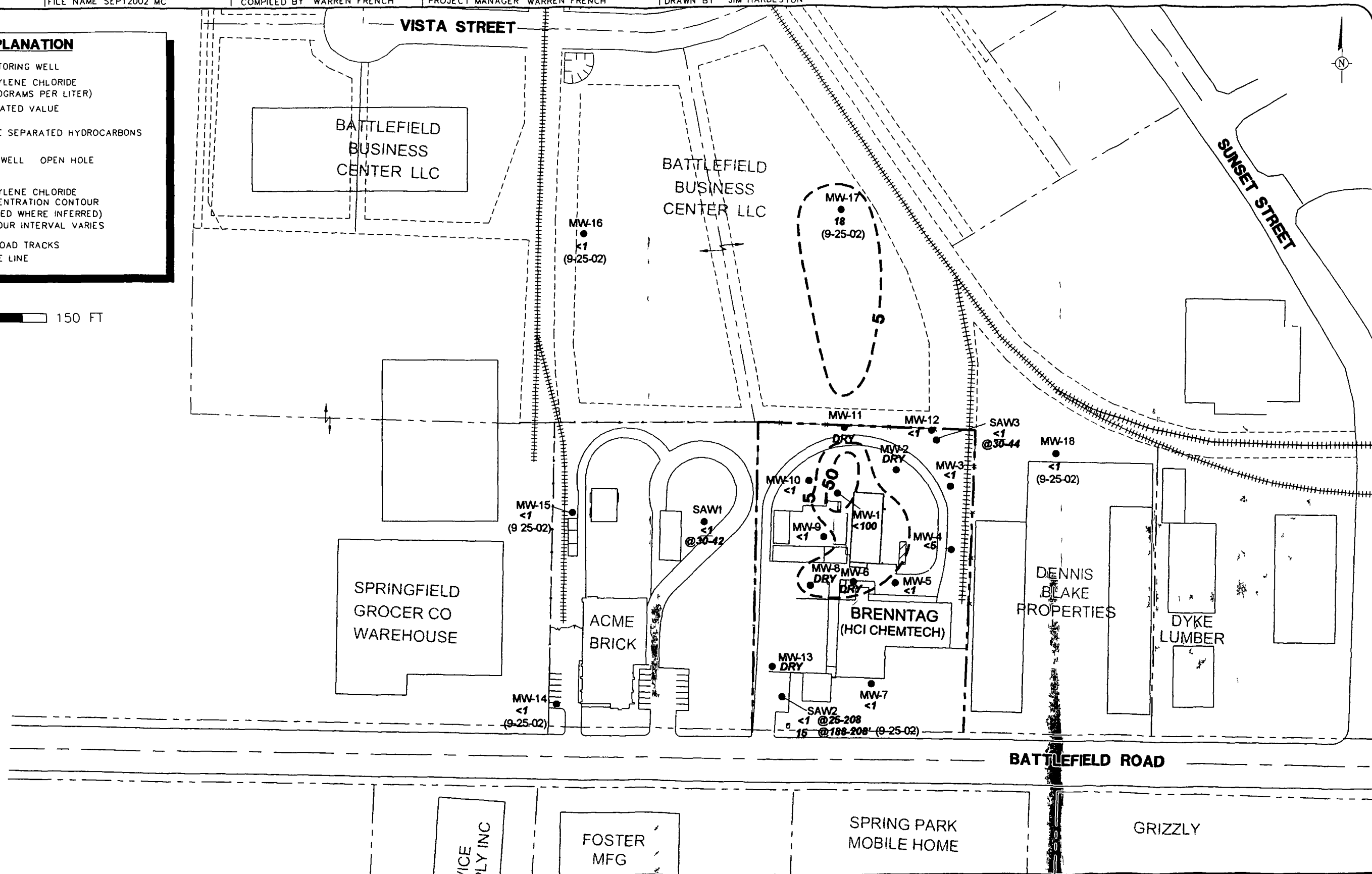
FIGURE NUMBER

14

EXPLANATION

- MW-7 ● MONITORING WELL
- <10 METHYLENE CHLORIDE (MICROGRAMS PER LITER)
- J ESTIMATED VALUE
- PSH PHASE SEPARATED HYDROCARBONS
- 14 @30-44 DEEP WELL OPEN HOLE
- 100 --- METHYLENE CHLORIDE CONCENTRATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL VARIES
- ++++ RAILROAD TRACKS
- x - FENCE LINE

0 150 FT



**METHYLENE CHLORIDE CONCENTRATIONS IN GROUNDWATER
AUGUST 14, 2002 AND SEPTEMBER 25, 2002**

BRENNTAG/ HCI CHEMTECH
2235 W BATTLEFIELD ROAD
SPRINGFIELD MISSOURI



5100 E ST SKELLY DRIVE S ITE 000
T L S OK 0 7 35
T (9 8) 66 9900 F (9 8) 66 9925

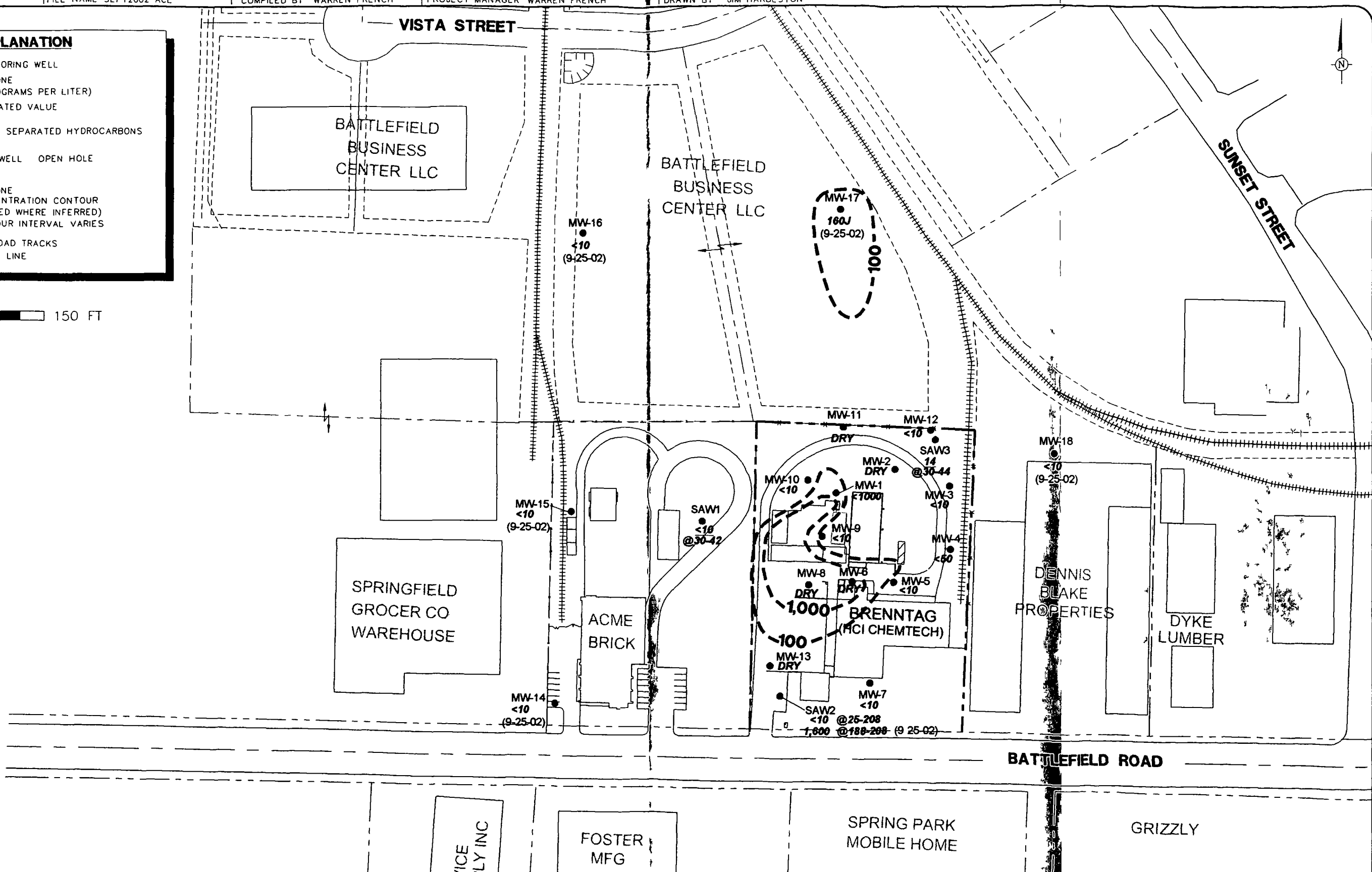
PROJECT NUMBER
OK001255 0001

FIGURE NUMBER
15

EXPLANATION

- MW-7 ● MONITORING WELL
- <10 ACETONE (MICROGRAMS PER LITER)
- J ESTIMATED VALUE
- PSH PHASE SEPARATED HYDROCARBONS
- 14 @30-44 DEEP WELL OPEN HOLE
- 100 --- ACETONE CONCENTRATION CONTOUR (DASHED WHERE INFERRED) CONTOUR INTERVAL VARIES
- +++++ RAILROAD TRACKS
- x - FENCE LINE

0 150 FT



**ACETONE CONCENTRATIONS IN GROUNDWATER
AUGUST 14, 2002 AND SEPTEMBER 25, 2002**



500 E ST S ELLY DR E S TE 000
TULSA O HOM 7 35
Tel (9 8) 66 9900 F (9 8) 66 9925

BRENNTAG/ ICI CHEMTECH
2235 W BATTLEFIELD ROAD
SPRINGFIELD MISSOURI

PROJECT NUMBER
OK001255 0001
FIGURE NUMBER
16

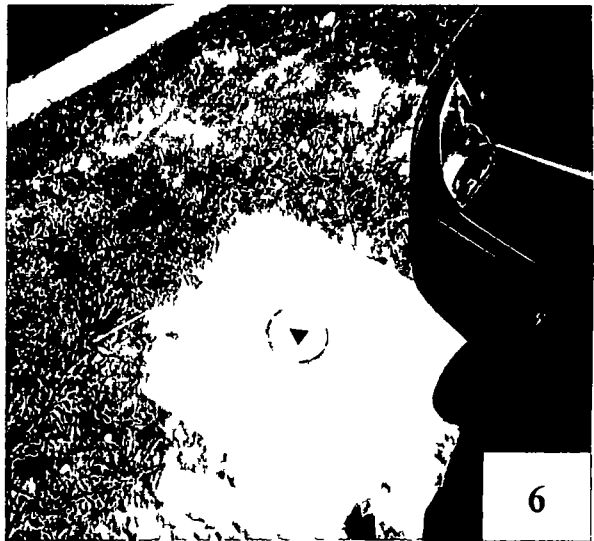
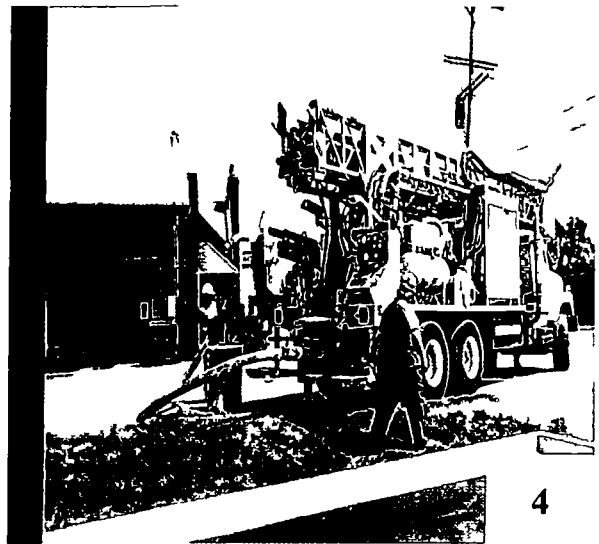
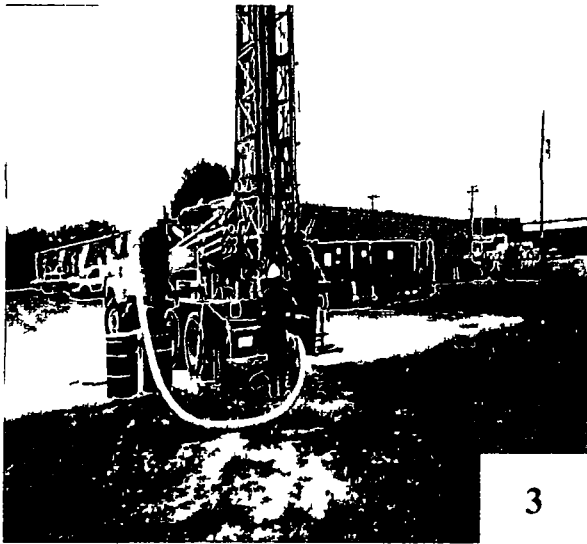
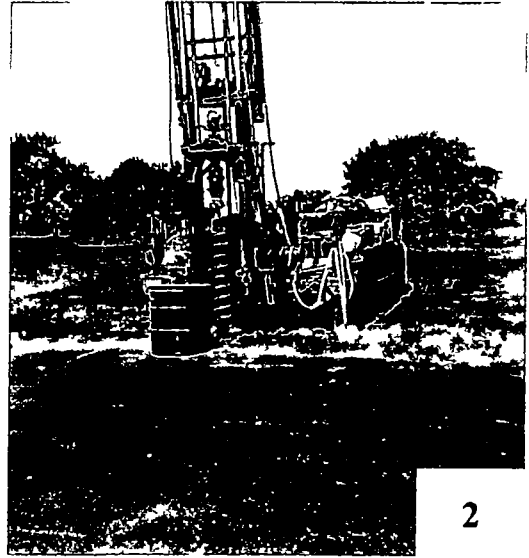
APPENDIX A
PHOTOGRAPH LOG

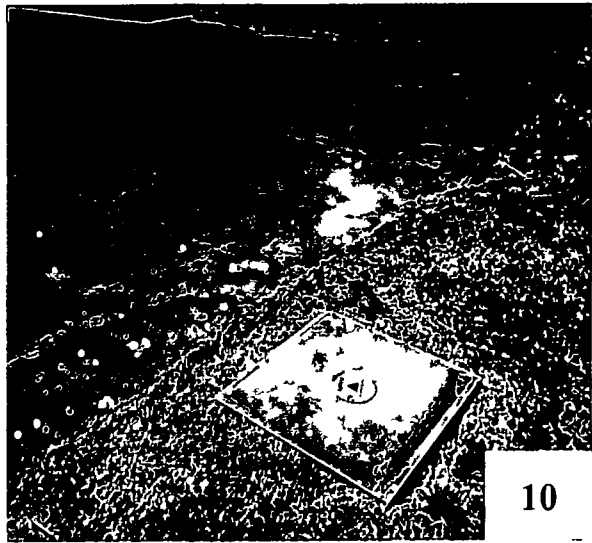
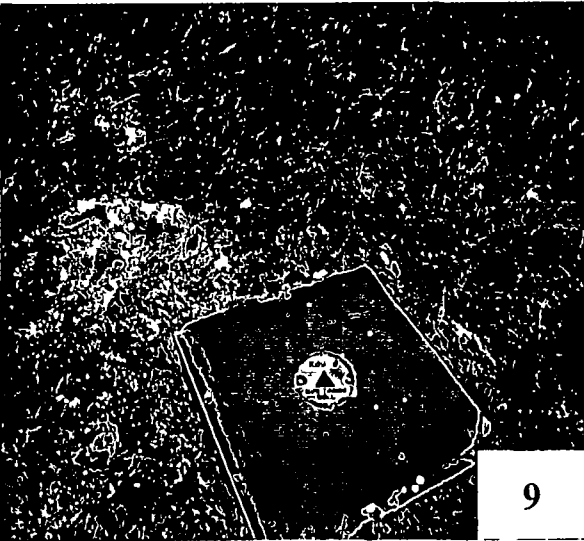
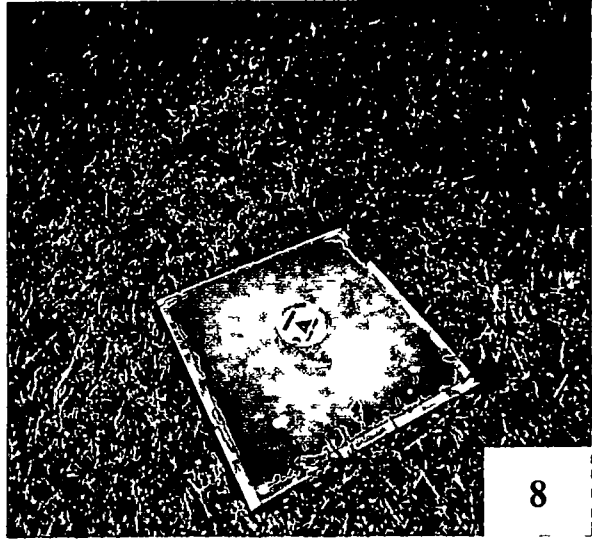
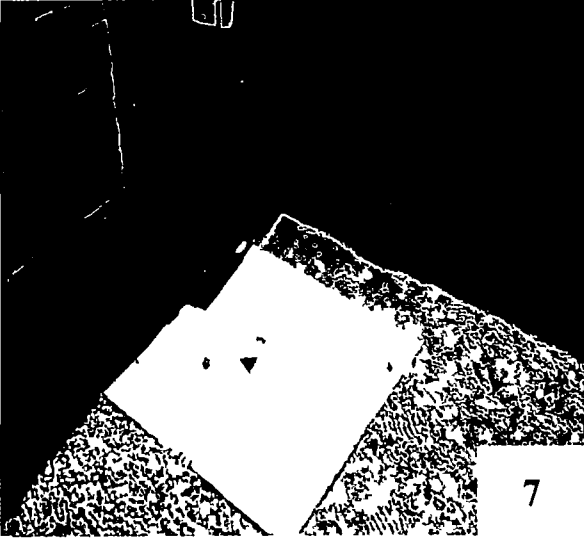
PHOTOGRAPH LOG

Date September 2002 **Project #** OK001255 0002

Offsite Investigation **Site Name** Brenntag Springfield
Site Address 2235 W Battlefield, Road
Springfield, MO

Photo Number	Brief Description of Each Photograph
1	Re-completion of open-hole SAW-2 well
2	Hollow stem auger rig at MW-18 location (Blake Property)
3	Air rotary rig at MW-18 location (Blake Property)
4	Air rotary rig at MW-14 location (Acme Brick Property)
5	Looking west from MW-17 location toward the MW-16 location (Battlefield Business Center LLC Property)
6	Surface pad at offsite monitoring well MW 14 (Acme Brick Property)
7	Surface pad at offsite monitoring well MW 15 (Acme Brick Property)
8	Surface pad at offsite monitoring well MW-16 (Battlefield Business Center LLC Property)
9	Surface pad at offsite monitoring well MW-17 (Battlefield Business Center LLC Property)
10	Surface pad at offsite monitoring well MW-18 (Blake Property)





APPENDIX B

SOIL AND BEDROCK LITHOLOGY LOGS-SEPTEMBER 2002

JOB NUMBER OK1255 0002	CLIENT BRENNTAG	LOCATION SPRINGFIELD MD	WELL NO MW-15	PAGE 1 OF 3	WELL LOCATION ACME BRICK N ↑	
DRILLING METHOD HOLLOW STEM & AIR ROTARY	SAMPLING METHOD CORE BARREL					
DRILLING START 9 9 02 FINISH 9 10 02	DEVEL START 9 12 02 FINISH 9 12 02					
STATIC DTW 3165 DPO	TIME DATE 9-25 02	DRILLED BY ROBERTS ENVIRONMENTAL				
ELEVATION TOC 1280 48 GL 1280 83	LOGGED BY W FRENCH/ C HARWELL					

WELL CONSTRUCTION	DEPTH FEET	CLASS	NAME	COLOR	DESCRIPTION GRADATION SECONDARY CHARACTERISTICS ODOR REMARKS	M	C	HNU (PPM)	SAMPLE NO	SAMPLE DEPTH	BLOWS	RECOV %	TYPE	
	1	CL	CLAY	RD BR	AGGREGATE SILT W/ AGGREGATE PLUGGED CB	D		0	1			10	CB	
	2				MOVED RIG 5 FT NORTH TO CORE SHALLOW SAMPLES									
	3													
	4													
	5	CL	CLAY	RD/BR	CUTTINGS 10 PPM	M		10				0	CB	
	6				DIESEL ODOR FROM ADJACENT FORMER UST BASIN									
	7													
	8	CL	CLAY	RD BR	STIFF NO ODOR									
	9													
	10	CL	CLAY	RD BR										
				CHERT	GY	PLUGGED OFF CB	M		0				10	CB
	11													
	12		LIMESTONE		WH GY	PUT CENTER PLUG ON AND 10 CORE BARREL							82	CB #1
	13					COARSE GRAIN XTALINE LIMESTONE DENSE DRILL RATE IS 4 MIN/FT								
	14													
	15													
	16													
	17													
	18		LIMESTONE		WH GY	AS ABOVE							95	CB #2
19					DENSE COARSE GRAIN FOSSILIFEROUS CRINOIDS									

APPENDIX C

SOIL AND BEDROCK LITHOLOGY LOGS-PREVIOUS INVESTIGATIONS



SELLENS ENVIRONMENTAL			BORING LOG			PROJECT NO _____								
Supervising Geologist Michael Sellens MO RG 0972					Site Name HCI Chemtech/Springfield									
Log By Michael Sellens					Boring No SAW2									
Date July 25, 2000					Boring Diameter 10 to 25 5 625 to 205									
Drilling Contractor Layne					Boring Depth 205									
Contractor Lic No					Boring Location SW portion of Chemtech property in parking area in front of the office									
Rig Type Air Rotary														
Driller														
Depth (ft)	Advanced/Recovered	Blow Counts	First Water/ Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION							Moisture (ppm)
							SOIL TYPE	ROUNDING	SORTING	PERCENT GRAVEL	SANDS	FINES	COLOR	
							GEOLOGY FILL ALLUVIUM BEDROCK							
							Asphalt Paved Area							
5							Cuttings (0 5) Red brown residuum with white chert (30%)							
10							Cuttings (5 10) Red brown residuum with white chert (10%)							
15							Top of limestone bedrock at 13.9 minimal water on top of limestone							
							Cuttings (14 15) Light grey/white hard dry limestone							
20							Cuttings (15 20) Light grey/white hard, dry limestone							
25							Cuttings (20 25) Light grey/white hard dry limestone							
							Drill to 25 case hole with 6.25 ID steel casing							
30							Cuttings (25 30) Light grey/white limestone							
35							Cuttings (30 35) Light grey/white hard limestone with chert							
40							Cuttings (35 40) Light grey/white hard limestone possible trace of water at 35							
45							Cuttings (40 45) Light grey/white hard limestone							
50							Cuttings (45 50) Light grey/white hard limestone							
55							Cuttings (50 55) Light grey/white hard limestone							

SELLENS ENVIRONMENTAL			BORING LOG			PROJECT NO _____									
Supervising Geologist Michael Sellens MO RG 0972					Site Name HCI Chemtech/Springfield										
Log By Michael Sellens					Boring No SAW2										
Date July 25, 2000					Boring Diameter 10 to 25 5 625 to 205										
Drilling Contractor Layne					Boring Depth 205										
Contractor Lic No					Boring Location SW portion of Chemtech property in parking area in front of the office										
Rig Type Air Rotary															
Driller															
Depth (ft)	Advanced/Recovered	Blow Counts	First Water/ Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION							Headspace (ppm)	
							SOIL TYPE	ROUNDING	SORTING	PERCENT GRAVEL	SANDS	FINES	COLOR		MOISTURE
60							Cuttings (55 60) Light grey/white hard dry limestone Very cherty between 58 60 At 60 shut down drilling to see if water collects in borhole No evidence of water								
65							Cuttings (60 65) Light grey/white hard dry limestone								
70							Cuttings (65 70) Light grey/white hard dry limestone								
75							Cuttings (70 75) Light grey/white hard, dry limestone								
80							Cuttings (75 80) Light grey/white hard dry limestone								
85							Cuttings (80 85) Light grey/white limestone								
90							Cuttings (85 90) Light grey/white hard limestone								
95							Cuttings (90 95) Light grey/white hard limestone								
100							Cuttings (95 100) Light grey/white hard limestone								
105							Cuttings (100 105) Light grey white hard limestone								
110							Cuttings (105 110) Light grey/white hard limestone								

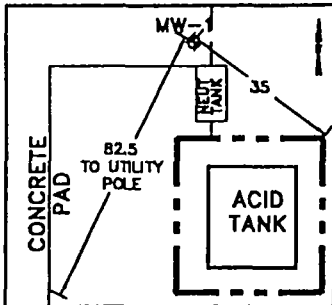
SELLENS ENVIRONMENTAL		BORING LOG		PROJECT NO _____
Supervising Geologist Michael Sellens MO RG 0972			Site Name HCI Chemtech/Springfield	
Log By Michael Sellens			Boring No SAW2	
Date July 25, 2000			Boring Diameter 10 to 25 5 625 to 205	
Drilling Contractor Layne			Boring Depth 205	
Contractor Lic No			Boring Location SW portion of Chemtech property in parking area in front of the office	
Rig Type Air Rotary				
Driller				

Depth (ft)	Advanced/Recovered	Blow Counts	First Water/ Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION		Lead-pb-cu (ppm)
							SOIL TYPE ROUNDING SORTING PERCENT GRAVEL SANDS FINES COLOR MOISTURE DENSITY SECONDARY POROSITY ODORS STAINING GEOLOGY FILL ALLUVIUM BEDROCK		
115							Cuttings (110 115) Light grey/white hard dry limestone		
120							Cuttings (115 120) Light grey white hard dry limestone At 120 shut down drilling to see if water collects in borehole No evidence of water		
125							Cuttings (120 125) Light grey white hard dry limestone Possible fracture at 129		
130							Cuttings (125 130) Light grey white hard dry limestone		
135							Cuttings (130 135) Light grey white hard dry limestone		
140							Cuttings (135 140) Light grey white limestone Possible fracture at 137 137.5		
145							Cuttings (140 145) Light grey/white hard limestone Possible fracture at 142 At 145 shut down drilling for 20 mins to see if water collects in borehole No evidence of water		
150							Cuttings (145 150) Light grey white hard limestone		
155							Cuttings (150 155) Light grey white hard limestone		
160							Cuttings (155 160) Light grey white hard limestone		
165							Cuttings (160 165) Light grey white hard limestone		

SELLENS ENVIRONMENTAL		BORING LOG			PROJECT NO _____				
Supervising Geologist Michael Sellens MO RG 0972				Site Name HCI Chemtech/Springfield					
Log By Michael Sellens				Boring No SAW2					
Date July 25, 2000				Boring Diameter 10 to 25 5 625 to 205					
Drilling Contractor Layne				Boring Depth 205					
Contractor Lic No				Boring Location SW portion of Chemtech property in parking area in front of the office					
Rig Type Air Rotary									
Driller									
Depth (ft)	Advanced/Recovered	Blow Counts	First Water/ Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION		Hc id-space (ppm)
							SOIL TYPE ROUNDING SORTING PERCENT GRAVEL SANDS FINES COLOR, MOISTURE DENSITY SECONDARY POROSITY ODORS STAINING GEOLOGY FILL ALLUVIUM BEDROCK		
170							Cuttings (165 170) Light grey/white hard dry limestone		
175							Cuttings (170 175) Light grey/white hard dry limestone		
180							Apparent change in limestone formation at 178 Cuttings (175 180) Light grey/white hard dry limestone Possible fracture at 129		
185							Cuttings (180 185) Light grey/white, hard, dry limestone		
190							Cuttings (185 190) Light grey/white hard dry limestone		
195							Cuttings (190 195) Light grey/white limestone Possible fracture at 137 137 5		
200							Cuttings (195 200) Light grey/white hard limestone Possible fracture at 142		
205							Cuttings (200 205) Light grey white hard limestone		
210							Stop drilling at 205 No evidence of water leave overnight (approx 14 hours) Water accumulates in hole depth to water measured at 07 30 on 7/26 180		
215									
220									

SELLENS ENVIRONMENTAL			BORING LOG			PROJECT NO _____								
Supervising Geologist Michael Sellens MO RG 0972				Site Name HCI Chemtech/Springfield										
Log By Michael Sellens				Boring No SAW3										
Date July 26, 2000				Boring Diameter 10 to 30 5 625 to 44										
Drilling Contractor Layne				Boring Depth 44										
Contractor Lic No				Boring Location Northeast corner of Chemtech property										
Rig Type Air Rotary														
Driller														
Depth (ft)	Advanced/Recovered	Blow Counts	First Water/ Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION							Lead conc (ppm)
							SOIL TYPE	ROUNDING	SORTING	PERCENT GRAVEL	SANDS	FINES	COLOR	
							GEOLOGY FILL ALLUVIUM BEDROCK							
							Gravel Unpaved Surface							
5			▽				Cuttings (0 5) Red brown residuum with abundant white chert (40%)							
10							Cuttings (5 10) Red brown residuum with some white chert (10%)							
15							Cuttings (10 15) Red brown residuum							
20							Cuttings (15 19.5) Red brown residuum with white chert (10%) Top of limestone bedrock at 19.5 abundant water on top of limestone							
25							Cuttings (20 25) Light grey/white hard dry limestone							
30							Cuttings (25 30) Light grey/white limestone Drill to 30 case hole with 6.25 ID steel casing							
35							Cuttings (30 35) Light grey/white hard dry limestone							
40			▽				Cuttings (35 40) Light grey/white hard limestone with sand Possible fractures at 35 35.5 37 and 38 wet							
45							Cuttings (40 44) Light grey/white hard competent limestone							
50							Total Depth 44 feet							
55														

TECHNICAL OPERATIONS

 BORING No SB/MW-1


LOCATION SKETCH

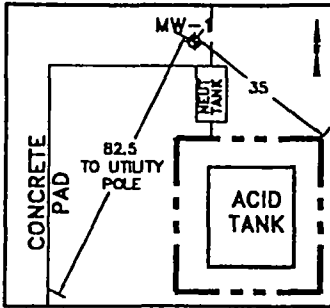
CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH
 LOCATION SPRINGFIELD, MO PROJECT NO 3056001
 LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1288.6
 START DATE 5-31-95 END DATE 5-31-95 TOTAL DEPTH 22.5
 WATER OBSERVATION 20.3 | W/D
 DRILLING COMPANY ANDERSON ENG DRILLER DON S
 DRILLING METHOD 3 1/4 HSA's RIG # CME-75
 REMARKS BACKGROUND = 6PPM

OVER POUNDING SPOON FOR BETTER RECOVERY

SAMPLE No	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL SOIL DESCRIPTION USCS COLOR, CONSISTANCY MOISTURE PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/ TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
									0		GRAVEL FILL 3/4" LS	GP
1						20	5 TO 15	10	1		SILTY CLAY TRACE GRAVEL, SAND DARK REDDISH BROWN MOIST H PLASTIC [5 YR 3/4] SLIGHT ODOR M STIFF TO STIFF	CL
2						20	15	20	3		GRAVELLY CLAY (CHERTY LS) TRACE SAND (0-10%) RED MOIST STIFF SLIGHT ODOR	GC
3						16		20 40	5		[2.5 YR 4/6] RED	
									6		GRAVEL, CHERTY LS SOME CLAY 30-40% (RED) MOIST DIFFICULT SAMPLING/DRILLING	GP
4						20	3 7.5	500	7			
									8		GRAVELLY CLAY VERY STIFF MOIST PLASTIC DARK RED [2.5 YR 2.5/4] ODOROUS (SUBMITTED VOCs)	GC
5						24	4 0	40	10		GRADES TO CLAY TRACE SAND GRAVEL HARD FAT/GREASY TEXTURE	CL
6						11		90	13		SAME AS ABOVE SPOON OBSTRUCTION CHERT/LS	

TECHNICAL OPERATIONS

BORING No SB/MW-1



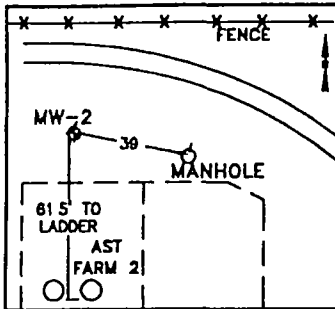
LOCATION SKETCH

CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH
 LOCATION SPRINGFIELD, MO PROJECT NO 3056001
 LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1288.6
 START DATE 5-31-95 END DATE 5-31-95 TOTAL DEPTH 22.5
 WATER OBSERVATION 20.3' | W/D
 DRILLING COMPANY ANDERSON ENG DRILLER DON S
 DRILLING METHOD 3 1/4HSAs RIG # CME-75
 REMARKS APPROX 12-24" OF SATURATED THICKNESS
OF NATIVE CLAY

SAMPLE No	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL SOIL DESCRIPTION USCS COLOR CONSISTANCY MOISTURE PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/ TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
									15			
7						20	20	400	16		SILTY CLAY DARK RED TRACE LS GRAVEL, MOIST VERY STIFF FAT CLAY HIGHLY PLASTIC ODOROUS (SUBMITTED VOCs)	CL
									17			
									18		SAME AS ABOVE	
8						24	25	100	19			
									20			
9						24	5 TO 15	20	21		GRADES TO MOIST-WET MED STIFF TO STIFF (SUBMITTED VOCs)	
									22		SPOON OBSTRUCTION	
									23		AUGER REFUSAL AT 22.5 bgs EOB AT SUSPECTED BEDROCK SURFACE	LS
									24			
									25			

TECHNICAL OPERATIONS

BORING No SB/MW-2



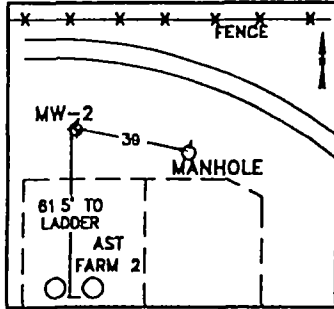
LOCATION SKETCH

CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH
 LOCATION SPRINGFIELD, MO PROJECT NO 3056001
 LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1288.4
 START DATE 5-31-95 END DATE 5-31-95 TOTAL DEPTH 19.5
 WATER OBSERVATION 16.5 | @EOB 4.55 AFTER 18 HRS
 DRILLING COMPANY ANDERSON ENG DRILLER DON S
 DRILLING METHOD 3 1/4 HSA's RIG # CME-75
 REMARKS DUE TO HIGH HUMIDITY AND MOISTURE LAMP FOGGING
DOES NOT ALLOW CONSISTANT SCREENING MEASUREMENTS

SAMPLE No	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL SOIL DESCRIPTION USCS COLOR CONSISTANCY MOISTURE PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/ TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
									0		GRAVEL FILL, WATER INFILTRATING	GP
1						16	2.5	ND	1		SILTY CLAY TRACE GRAVEL, SAND DARK REDDISH BROWN [5 YR 3/4] MOIST VERY STIFF MODERATE PLASTICITY	CL
2						24	1.5	-	4		GRADES TO STIFF SLIGHT ODOR	
3						18	1.5	-	6		INCREASING GRAVEL CONTENT LS/CHERTY (30-40%)	
4						18	4.0	-	8		GRADES TO GRAVELLY CLAY [2.5 YR 2.5/4] DIFFICULT DRILLING/SAMPLING	GC
5						17	2.5	2	11		GRADES TO VERY STIFF (SUBMIT VOCs)	
6						24	3.0		13		GRADES TO SILTY CLAY TRACE GRAVEL GREASY TEXTURE (FAT) DARK RED MOIST (SUBMIT VOCs)	CL
									15			

TECHNICAL OPERATIONS

BORING No SB/MW-2



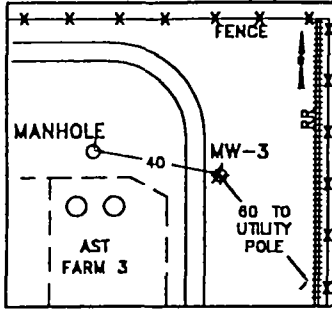
CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH
 LOCATION SPRINGFIELD, MO PROJECT NO 3056001
 LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1288.4
 START DATE 5-31-95 END DATE 5-31-95 TOTAL DEPTH 19.5
 WATER OBSERVATION 16.5 | EOB 4.55 AFTER 18 HRS
 DRILLING COMPANY ANDERSON ENG DRILLER DON S
 DRILLING METHOD 3 1/4 HSA_s RIG # CME-75
 REMARKS APPROX 24" OF SATURATED THICKNESS

LOCATION SKETCH

SAMPLE NO	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL SOIL DESCRIPTION USCS COLOR CONSISTANCY MOISTURE PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/ TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
									15		GRADES TO MOTTLED BLACK/DARK RED	CL
7						24	2	5	16			
									17			
8						24	5	5	18		DIFFICULT DRILLING	
									19			
									20		GRADES TO WET MED STIFF GREASY TEXTURE HIGHLY PLASTIC (SUBMIT FOR VOCs) BOUNCED SPOON WEATHERED LS IN SHOE	LS
									21		SUSPECTED BEDROCKS SURFACE ● 19.5 EOB 16.20	
									22			
									23			
									24			
									25			
									26			
									27			
									28			
									29			
									30			

TECHNICAL OPERATIONS

BORING No SB/MW-3



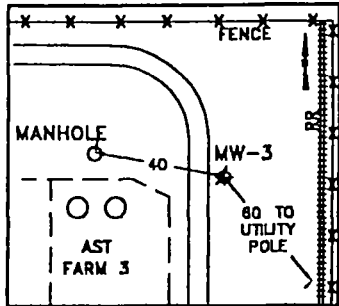
CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH
 LOCATION SPRINGFIELD, MO PROJECT NO 3056001
 LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1288 0'
 START DATE 6-01-95 END DATE 6-01-95 TOTAL DEPTH 17 3
 WATER OBSERVATION 8.8 WHILE DRILLING
 DRILLING COMPANY ANDERSON ENG DRILLER DON S
 DRILLING METHOD 3 1/4HSA RIG # CME-75
 REMARKS PID NOT ABLE TO ZERO UNRELIABLE READINGS
WILL RELY ON ODOR & STAIN OBSERVATIONS

LOCATION SKETCH

SAMPLE No	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL SOIL DESCRIPTION USCS COLOR CONSISTANCY MOISTURE, PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/ TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
									0		GRAVEL FILL (ROADWAY SHOULDER)	GP
1					10	75	-		3		GRAVELLY CLAY TRACE SAND MOIST-WET MED STIFF DARK REDDISH BROWN [2 5 YR 2 5/4]	GC
2					12	2 75	-		6		GRADES TO VERY STIFF WET	
3					24	2 5	-		8		GRADES TO SILTY CLAY TRACE SAND GRAVEL, MOTTLED RED/BLACK MOIST H PLASTIC FAT/GREASY TEXTURE (SUBMITTED VOCs)	CL
4					24	2 5	-		11		SAME AS ABOVE (SUBMITTED VOCs)	
5					24	1 0	-		14		GRADES TO STIFF DETECTED ODOR AND STAINED SAND SEAM 1" THICK AT 15 bgs	

TECHNICAL OPERATIONS

BORING No SB/MW-3



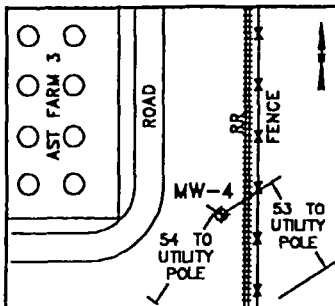
CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH
 LOCATION SPRINGFIELD, MO PROJECT NO 3056001
 LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1288 0
 START DATE 6-01-95 END DATE 6-01-95 TOTAL DEPTH 17 3
 WATER OBSERVATION 8.8 WHILE DRILLING
 DRILLING COMPANY ANDERSON ENG DRILLER DON S
 DRILLING METHOD 3 1/4HSAs RIG # CME-75
 REMARKS APPROX 24" OF SATURATED THICKNESS

LOCATION SKETCH

SAMPLE No	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL <small>SOIL DESCRIPTION USCS COLOR CONSISTANCY MOISTURE PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS</small>	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
									15		GRADES TO SOFT WET-SATURATED STAINED AND ODOROUS FROM 15-16 (SUBMITTED VOCs)	CL
6						24	< 5	-	16		MOTTLED BLACK/RED (NATURAL) FROM 16-17 BOUNCED SPOON RECOVERD LS IN SHOE	
7									17			
									18		EOB AT 17 3 bgs SUSPECTED LS BEDROCK	LS
									19			
									20			
									21			
									22			
									23			
									24			
									25			

TECHNICAL OPERATIONS

BORING No SB/MW-4



CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH

LOCATION SPRINGFIELD, MO PROJECT NO 3056001

LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1284.2

START DATE 6-01-95 END DATE 6-01-95 TOTAL DEPTH 14.9

WATER OBSERVATION 5.4 bgs IN AUGERS AT COMPLETION

DRILLING COMPANY ANDERSON ENG DRILLER DON S

DRILLING METHOD 3-1/4HSAs RIG # CME-75

REMARKS GASOLINE ODOR FROM AUGERS 300 ppm IN AUGERS

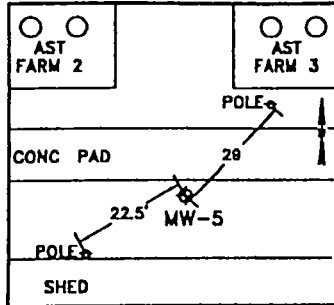
LOCATION SKETCH

APPROX 12-24" OF SATURATED THICKNESS

SAMPLE No	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL <small>SOIL DESCRIPTION USCS COLOR CONSISTANCY MOISTURE, PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS</small>	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
									0		GRAVEL FILL TRACK BALLAST	GP
1						10	4 5		1		SILTY CLAY WITH GRAVEL (LS) (40-50%) TRACE SAND (0-10%) REDDISH BROWN MOIST HARD [2.5 YR 2.5/4]	CL
2						20	4 0 30		3		GRADES TO GRAVELLY CLAY SLIGHT ODOR DIFFICULT DRILLING/SAMPLING	GC
3						24	4 0 70		5		GRADES TO TRACE GRAVEL ODOROUS (SUBMITTED FOR VOCs)	CL
4						24	4 5 60		8		GRADES TO MOTTLED RED/BLACK ODOROUS (SUBMITTED FOR VOCs)	
5						24	4 0 1		10		SAME AS ABOVE/NO ODOR	
6						24	1 5 10		13		GRADES TO STIFF MOIST-WET SLIGHT ODOR (SUBMITTED FOR VOCs)	
									14.3		SPOON REFUSAL AT 14.3 bgs BEDROCK LS IN SHOE EOB AT 14.9 W/AUGER REFUSAL	LS

TECHNICAL OPERATIONS

BORING No SB/MW-5



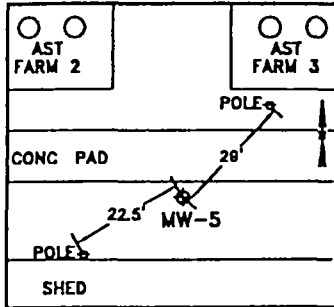
CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH
 LOCATION SPRINGFIELD, MO PROJECT NO 3056001
 LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1288.3
 START DATE 6-01-95 END DATE 6-01-95 TOTAL DEPTH 18.8
 WATER OBSERVATION DRY AT EOB
 DRILLING COMPANY ANDERSON ENG DRILLER DON S
 DRILLING METHOD 3-1/4HSAs RIG # CME-75
 REMARKS NO OBSERVABLE SATURATION

LOCATION SKETCH

SAMPLE No	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL <small>SOIL DESCRIPTION USCS COLOR CONSISTANCY MOISTURE PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS</small>	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
									0		2" ASPHALT PAVEMENT	AC
1						12		100 TO 140	1		GRAVEL FILL TRACE CLAY YELLOW - STRONG ODOR	GW
2						20	20	45 TO 110	3		SILTY CLAY WITH GRAVEL (40-50%) DARK REDDISH BROWN MOIST STIFF ODOROUS	CL
3						16	30	20	5		GRAVEL ZONE AT 5-5.5	GP
									6		SILTY CLAY TRACE GRAVEL (LS) VERY STIFF SLIGHT ODOR REDDISH BROWN MOIST [2.5 YR 2.5/4] FAT/GREASY TEXTURE	CL
4						24	35	96 TO 100	8		ODOROUS SAME AS ABOVE	
5						24	30	100	10		GRADES TO LITTLE GRAVEL (10-20%) ODOROUS	
6						24	30	50	13		GRADES TO MOTTLED BLACK/DARK RED ODOROUS	

TECHNICAL OPERATIONS

BORING No SB/MW-5



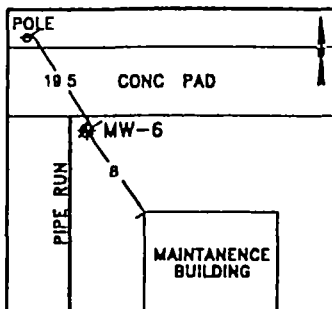
CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH
 LOCATION SPRINGFIELD, MO PROJECT NO 3056001
 LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1288.3
 START DATE 6-01-95 END DATE 6-01-95 TOTAL DEPTH 18.8
 WATER OBSERVATION DRY AT EOB
 DRILLING COMPANY ANDERSON ENG DRILLER DON S
 DRILLING METHOD 3-1/4HSAs RIG # CME-75
 REMARKS NO OBSERVABLE SATURATION

LOCATION SKETCH

SAMPLE No	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL SOIL DESCRIPTION USCS COLOR CONSISTANCY MOISTURE PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/ TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
7									15		NO RECOVERY	CL
8					18		25	20 TO 50	18		GRADES TO DARK REDDISH BROWN WEATHERED LS IN SHOE ODOROUS (SUBMITTED FOR VOCs)	
									19		SPOON REFUSAL AT 18.8 SUSPECTED BEDROCK EOB AT 18.8 bgs	LS
									20			
									21			
									22			

TECHNICAL OPERATIONS

BORING No SB/MW-6



LOCATION SKETCH

CLIENT JOHNSON ENVIRONMENTAL-HCI-CHEMTECH

LOCATION SPRINGFIELD, MO PROJECT NO 3056001

LOGGED BY A ESKO & A NICHOLS GROUND ELEV 1288.4

START DATE 6-01-95 END DATE 6-01-95 TOTAL DEPTH 15.5

WATER OBSERVATION 7.0 | AT EOB

DRILLING COMPANY ANDERSON ENG DRILLER DON S

DRILLING METHOD 3-1/4HSAs RIG # CME-75

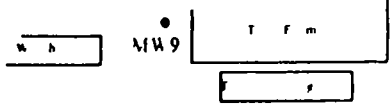
REMARKS SATURATED W/DIESEL-LIKE PRODUCT AT 12-13

PRODUCT MIXED W/WATER APPROX 3 AT SATURATED THICKNESS

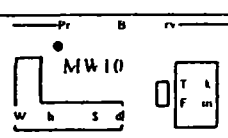
SAMPLE No	BLOWS				"N" VALUE	RECOVERY IN	PENETROMETER	PID DETECTOR	DEPTH (FEET)	SAMPLE	DESCRIPTION OF MATERIAL SOIL DESCRIPTION USCS COLOR CONSISTANCY MOISTURE PLASTICITY/DILATANCY FOR COHESIVE SOILS GRADATION/ TEXTURE FOR GRANULAR SOILS OTHER OBSERVATIONS	USCS SYMBOL
	SET 6"	2nd 6"	3rd 6"	4th 6"								
									0		ASPHALT PAVEMENT	AC
									1		SILTY GRAVEL FILL	GM
1					9	-	6		2		CLAYEY GRAVEL FILL, MOIST BROWN	GC
2					10	-	16		3		GRADES TO SILTY CLAY TRACE GRAVEL SAND DARK REDDISH BROWN [2.5 YR 2.5/4] MOIST	CL
3					24	3.0	175		6		GRADES TO VERY STIFF ODOROUS FAT/GREASY TEXTURE (SUBMITTED FOR VOCs)	
4					24	2.0	55		8		GRADES TO STIFF SLIGHTLY ODOROUS MOTTLED BLACK/RED (SUBMITTED FOR VOCs)	
5					24	0.5	260		10		GRADES TO MED STIFF STRONG PETROLEUM ODOR FINE SAND SEAM AT 12.0	
6					24	< 5	240		13		GRADES TO WET SOFT STAINED FROM 13-13.5 (SUBMITTED FOR VOCs)	
									15		LS IN SHOE SPOON REFUSAL AT 15 AUGER REFUSAL AT 15.3 EOB ON SUSPECTED LS	LS

<i>(JOHNSON ENVIRONMENTAL</i>		BORING LOG		PROJECT NO _____
Supervising Geologist Michael Sellens MO RG 0972			Site Name HCI Chemtech Springfield facility	
Log By Michael Sellens			Boring No MW7	
Date 7/16/99			Boring Diameter 8 inch	
Drilling Contractor Lavne Western			Boring Depth 20 feet	
Contractor Lic No				
Rig Type Hollow Stem Auger				
Driller				

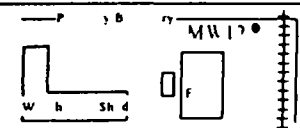
Depth (ft)	Mud mixed/Recovered	Blow Counts	First Water/ Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION		Notes
							SOIL TYPE COLOR GRAIN SIZE (Percentage gravels/Sands/Silts) SHAPE SORTING MOISTURE DENSITY SECONDARY POROSITY ODORS STAINING GEOLOGY FILL ALLUVIUM BEDROCK		
							Landscape Area Grass Stick Up Well Protection		
4	4 5 6 4				SP		MW7 3 (2-4) Sand Light grey Medium to coarse grained (80% Sand 20% Silt) Pred. sub rounded Moderate sorting Dry no staining or odor Fill		
8	2 2				CH		Cuttings Red Brown Clay MW7 8 (7-9) Clay Red Brown, Dense Firm Dry no staining or odor		
10	3 4				CH		Cuttings Red Brown Clay		
14	1 1 2 3				CH		MW7 13 (12-14) No Returns suspected Red Brown Clay Cuttings Red Brown Clay		
18	2 2 3 4				CH		MW7 18 (17-19) Clay Red Brown Dense Plastic Very damp no staining or odor		
20							Refusal @ 20. Unable to collect sample, suspected Limestone bedrock		

<i>(JOHNSON ENVIRONMENTAL</i>		BORING LOG		PROJECT NO _____
Supervising Geologist Michael Sellens MO RG 0972			Site Name HCI Chemtech Springfield facility	
Log By Michael Sellens			Boring No MW9	
Date 7/15/77			Boring Diameter 8 inch	
Drilling Contractor Lavac Western			Boring Depth 23 feet	
Contractor Lic No			Boring Location 	
Rig Type Hollow Stem Auger				
Driller				

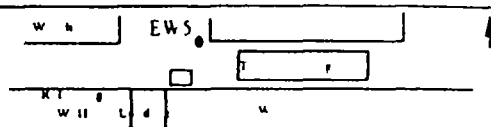
Depth (ft)	Adv. Inced/ Recovered	Blow Count	1st Water/ Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION	
							SOIL TYPE COLOR GRAIN SIZE (Percentage gravels/Sands/Silts) SHAPE SORTING MOISTURE DENSITY SECONDARY POROSITY ODORS STAINING GEOLOGY FILL ALLUVIUM BEDROCK	
4		1 5 6 11			SC	Concrete Surface Cuttings Clayey Silt Dark grey		
6					CH	MW9 3 (2 4) Clay with Chert Red Brown Clay Dense Firm Dry no staining or odor Chert Off White Hard		
8		2 2 4			CH	MW9 8 (7 9) No Recovery suspected Red Brown Clay with Chert		
10					CH	Cuttings Red Brown Clay		
14		3 4 5 4			CH	MW9 13 (12 14) Clay Red Brown Some chert Dense Firm Dry no staining or odor		
16					CH	Cuttings Red Brown Clay		
18		3 4 5 11			CH	MW9 18 (17 19) Clay Red Brown Dense Plastic Very damp no staining or odor		
20					CH	Cuttings Red Brown Clay		

<i>(JOHNSON I NVIRONMENTAL</i>		BORING LOG		PROJECT NO _____
Supervising Geologist Michael Sellens MO RG 0972			Site Name HCI Chemtech Springfield facility	
Log By Michael Sellens			Boring No MW10	
Date 7/15/99			Boring Diameter 8 inch	
Drilling Contractor Lavne Western			Boring Depth 20 feet	
Contractor Lic No			Boring Location 	
Rig Type Hollow Stem Auger				
Driller				

Depth (ft)	Advanced/Recovered	Blow Counts	First Water/ Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION	
							SOIL TYPE COLOR GRAIN SIZE (Percentage gravels/Sands/Silts) SHAPE SORTING MOISTURE DENSITY SECONDARY POROSITY ODORS STAINING GEOLOGY FILL ALLUVIUM BEDROCK	
4					CH	Unpaved Area Cuttings Red Brown Clay MW10 3 (2-4) Sampler refusal suspected Chert in red brown Clay		
6-8	10 12 18 16				CH	MW10 6 (5-7) Clay with Chert Red Brown Clay Off White Chert Dense Firm Dry no staining or odor Cuttings Red Brown Clay		
10-12	5 6 7 9					MW10 10 (9-11) Clay Red Brown Dense Firm Dry No Staining or Odor		
14-16	1 1 3 4				CH	Cuttings Red Brown Clay MW10 15 (14-16) Clay Red Brown Dense Firm Damp No Staining or Odor		
19-20	5 5				CH	Cuttings Red Brown Clay MW10 20 (19-20.5) 19-20 Clay Red Brown Dense Plastic Wet No Staining or Odor 20-20.5 Limestone Light grey Crystalline Hard Wet No Staining or Odor		
20	50(?)					Refusal @ 20 Limestone bedrock		

<i>JOHNSON ENVIRONMENTAL</i>	BORING LOG	PROJECT NO _____
Supervising Geologist Michael Sellens MORG 0972	Site Name HCI Chemtech Springfield facility	
Log By Michael Sellens	Boring No MW12	
Date 7/14/09	Boring Diameter 8 inch	
Drilling Contractor Lavne Western	Boring Depth 19 feet	
Contractor Lic No	Boring Location 	
Rig Type Hollow Stem Auger		
Driller		

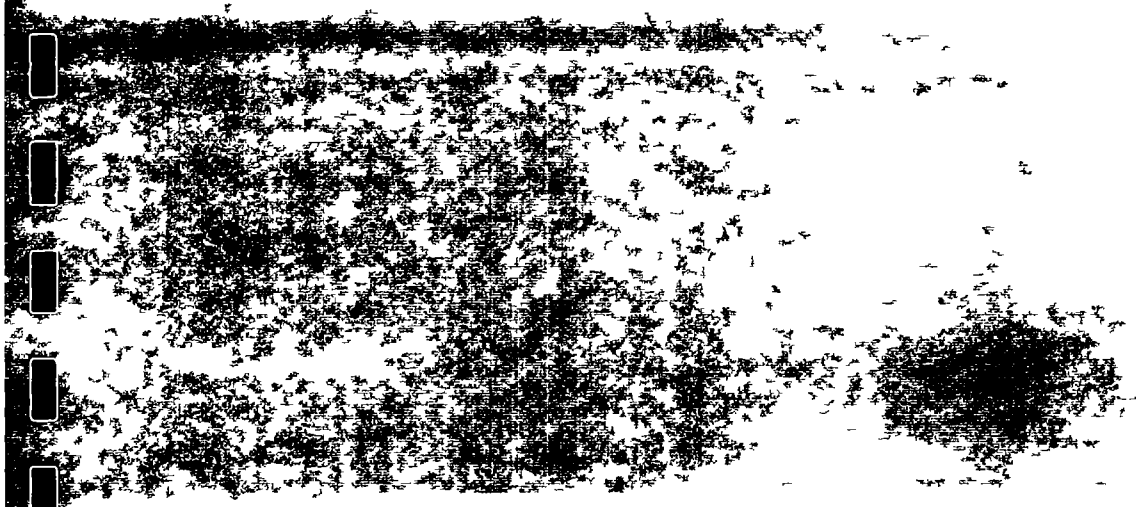
Depth (ft)	Adv. recd./Recovered	Blow Count	First Water/ Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION	
							SOIL TYPE COLOR GRAIN SIZE (Percentage gravels/Sands/Silts) SHAPE SORTING MOISTURE DENSITY SECONDARY POROSITY ODORS STAINING GEOLOGY FILL ALLUVIUM BEDROCK	
0							Unpaved Area	
1							Cuttings Red Brown Clay	
2		1					MW12 3 (2 4) Poor Sample Recovery	
3		9			CH		Clay with Chert Red Brown Dense Firm Dry No Odor or Staining	
4		11						
5		2					MW12 5 (4 6)	
6		10					4 5 5 Clay with Chert Red Brown Clay Off White Chert Dense Firm Dry No Staining or Odor	
7		6					5 5 6 Clay (No chert) Red Brown Dense Firm Dry No Odor or Staining	
8		4					Cuttings Red Brown Clay	
9		7						
10		6			CH		MW12 9 (8 10) Clay Red Brown minor Chert Small black cracks fractures Dense Semi plastic SlID up	
11		8					No Staining or Odor	
12							Cuttings Red Brown Clay	
13								
14		1					MW11 14 (13 15) Clay Red Brown Dense Firm Dry No Staining or Odor	
15		2						
16		1			CH		Cuttings Red Brown Clay	
17		3						
18								
19		1					MW12 19 (18 20)	
20		1					18 19 75 Clay Red Brown Dense Plastic Wet No Staining or Odor	
21		1					19 75 20 Limestone Light grey Crystalline Hard Wet	
22		1					Refusal @ 19 75 Limestone bedrock	

(JOHNSON ENVIRONMENTAL)		BORING LOG		PROJECT NO _____
Supervising Geologist Michael Sellens MO RG 0972			Site Name HCI Chemtech Springfield facility	
Log By Michael Sellens			Boring No EWS	
Date 7/16/99			Boring Diameter 8 inch	
Drilling Contractor Lavne Western			Boring Depth 19 feet	
Contractor Lic No			Boring Location 	
Rig Type Hollow Stem Auger				
Driller				

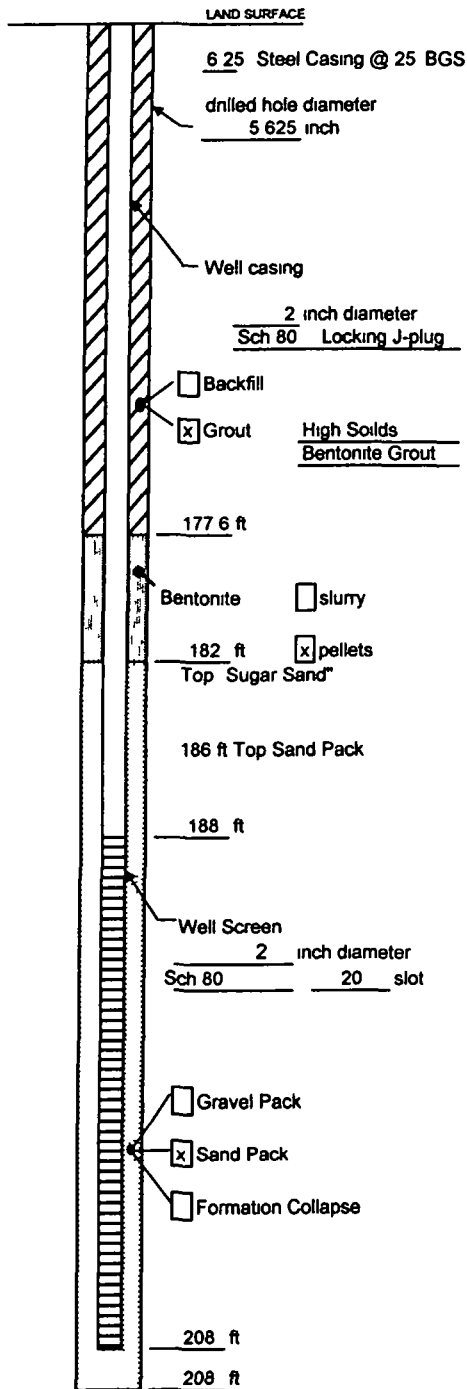
Depth (ft)	Advance / Recovered	Blow Count	Free Water / Water Table	Well Construction	USCS Group	Lithology	USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION		
							SOIL TYPE COLOR GRAIN SIZE (Percentage gravels/Sands/Silts) SHAPE SORTING MOISTURE DENSITY SECONDARY POROSITY ODORS STAINING GEOLOGY FILL ALLUVIUM BEDROCK		
0						Asphalt Paving			
2		2				Cuttings Red Brown Clay			
3		9				EWS 3 (2-4) Poor Sample Recovery			
4		13				Clay with Chert Red Brown (approx 3 discolored grey) Dense Firm Damp Mod Strong Odor			
6		7				EWS 5 (4-6) Clay with Chert Red Brown Clay Off White Chert Dense Firm Damp Grey Staining Mod Strong Odor			
8		6				FWS 7 (6-8) Clay with Chert Reduced chert below 7.5 ft Red Brown Clay Off White Chert Damp Grey Staining Mod Strong Odor			
10		7				EWS 9 (8-10) Clay Red Brown minor Chert Small black veins throughout Clay Dense Semi plastic SI Damp Some discoloration Strong Odor			
12		2				FWS 11 (10-12) Clay Red Brown Small black cracks/fractures Dense Semi plastic SI Damp Strained			
14		3				EWS 13 (12-14) Clay Red Brown Small black cracks/fractures Dense Semi plastic Damp Strong Odor			
16		5				EWS 15 (14-16) Clay Red Brown Small black cracks/fractures Dense Semi plastic Wet Strong Odor			
18		2				EWS 17 (16-18) Clay Red Brown Small black cracks/fractures Dense Plastic Wet Strong Odor			
20		2				EWS 19 (18-20)			
21		2				18-19' Clay Red Brown Dense Plastic Wet Strong Odor			
22		2				19-19.2 Limestone light grey Crystalline Hard Wet			
23		50(2)				Refusal @ 19.2 Limestone bedrock			

APPENDIX D

WELL CONSTRUCTION LOGS



Well Construction Log
(Unconsolidated and Bedrock)



Measuring Point is Top of Well Casing Unless Otherwise Noted
Depth Below Land Surface

Project OK01255 0002 Task #2 Well SAW 2

Town/City Brenntag Springfield

County Greene State MO

Permit No _____

Land Surface (LS) Elevation and Datum

GE 1277 94 feet Surveyed

TOC 1277 41 feet Estimated

Installation Date(s) 9/11/2002

Drilling Method NA

Drilling Contractor Roberts Environmental Drilling

Drilling Fluid NA

Development Technique(s) and Date(s)

Used a Goulds 1/2 hp 4 submersible pump

to dewater open hole boring prior to well install

290 gallons of water on 9/11/02 Bailed (see log)

Fluid Loss During Drilling NA gallons

Water Removed During Development 60 gallons

Static Depth to Water 19 35 feet below M P
In Open Hole

Pumping Depth to Water NA feet below M P

Pumping Duration NA hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring Well

Static DTW in MW on 9/24/02 was 29 58 BTOC

Static DTW in OH on 9/11/02 was 19 35 BTOC

Remarks 6 25 Steel Surface Casing @ 25 BGS 5 625 Open Hole

Pumped well down to place 2' x 20 pvc sch 80 screen in boring

Centerizer placed at top of screen then one every 50 to the top of the well

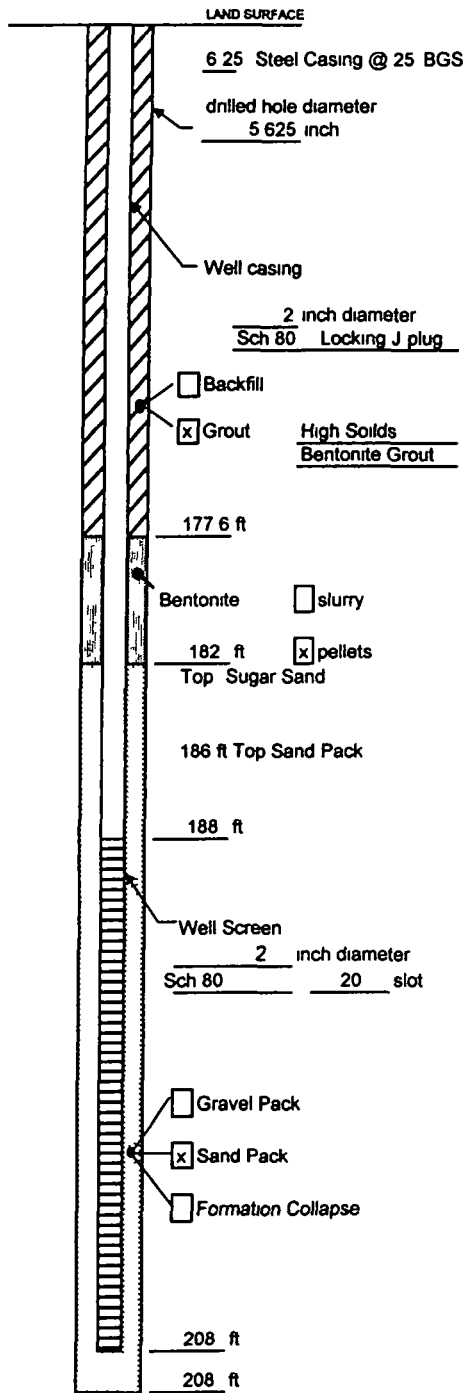
Top of Steel Casing is 1277 41 Total Depth is 208 BTOC

Prepared by Clay Harwell / Warren French

ARCADIS

Well Construction Log

(Unconsolidated and Bedrock)



Measuring Point is Top of Well Casing Unless Otherwise Noted

Depth Below Land Surface

Project OK01255 0002 Task #2 Well SAW 2

Town/City Brenntag Springfield

County Greene State MO

Permit No _____

Land Surface (LS) Elevation and Datum

GE 1277 94 feet Surveyed

TOC 1277 41 feet Estimated

Installation Date(s) 9/11/2002

Drilling Method NA

Drilling Contractor Roberts Environmental Drilling

Drilling Fluid NA

Development Technique(s) and Date(s)

Used a Goulds 1/2 hp 4 submersible pump

to dewater open hole boring prior to well install

290 gallons of water on 9/11/02 Bailed (see log)

Fluid Loss During Drilling NA gallons

Water Removed During Development 60 gallons

Static Depth to Water 19.35 feet below M P

In Open Hole

Pumping Depth to Water NA feet below M P

Pumping Duration NA hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring Well

Static DTW in MW on 9/24/02 was 29.58 BTOC

Static DTW in OH on 9/11/02 was 19.35 BTOC

Remarks 6.25 Steel Surface Casing @ 25 BGS 5.625 Open Hole

Pumped well down to place 2' x 20 pvc sch 80 screen in boring

Centerizer placed at top of screen then one every 50 to the top of the well

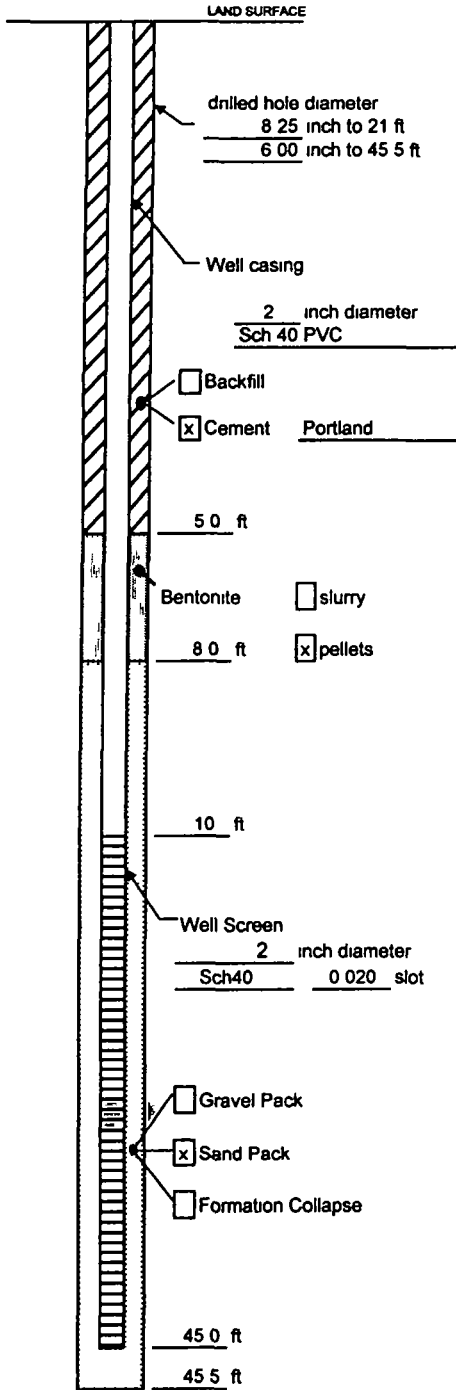
Top of Steel Casing is 1277.41 Total Depth is 208 BTOC

Prepared by Clay Harwell / Warren French

ARCADIS

Well Construction Log

(Unconsolidated and Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted

Depth Below Land Surface

Project OK01255 0002 Task #2 Well MW 14

Town/City Brenntag Springfield

County Greene State MO

Permit No _____

Land Surface (LS) Elevation and Datum

GE 1275 99 feet Surveyed
TOC 1275 55 feet (ARCADIS)
 Estimated

Installation Date(s) 9/10/2002

Drilling Method 8 HSA 0 21
6 Air 21 45 5

Drilling Contractor Roberts Environmental Drilling

Drilling Fluid Added water from 21-45.5 BGS
while air rotary drilling the bedrock

Development Technique(s) and Date(s)

Bailed 9/12/02

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M P

Pumping Depth to Water _____ feet below M P

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring Well

Static DTW in MW on 9/25/02 was 24.85 BTOC

Remarks _____

Soil boring dry at 21 BGS or top of bedrock

Drill bit fell 6' at 28 BGS possible solution zone

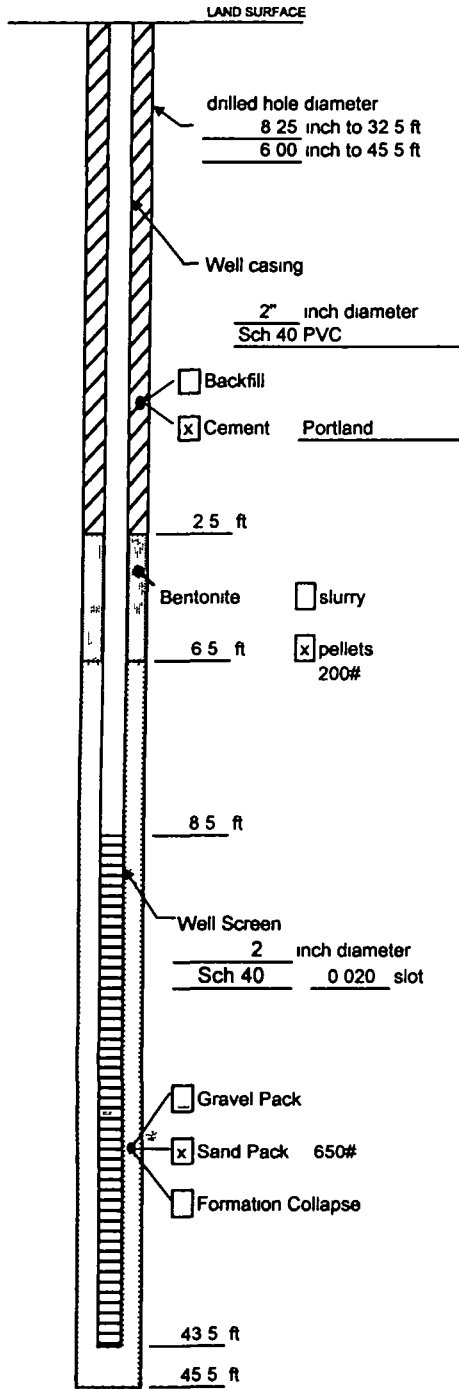
Bottom of Screen is 44.60 BTOC

Prepared by Clay Harwell / Warren French

ARCADIS

Well Construction Log

(Unconsolidated and Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted
Depth Below Land Surface

Project OK01255 0002 Task #2 Well MW 15

Town/City Brenntag Springfield

County Greene State MO

Permit No _____

Land Surface (LS) Elevation and Datum

GE 1280 83 feet Surveyed (ARCADIS)
 TOC 1280 48 feet Estimated

Installation Date(s) 9/10/2002

Drilling Method 8 HSA 0-32 5
6 Air 32 5 45 5

Drilling Contractor Roberts Environmental Drilling

Drilling Fluid Added water from 12-45 5 BGS
while air rotary drilling the bedrock

Development Technique(s) and Date(s)

Bailed 9/12/02

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M P

Pumping Depth to Water _____ feet below M P

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring Well

Static DTW in MW on 9/25/02 was 31 65 BTOC

Remarks Water level at 3 53 from top of Land surface with
open borehole at 32 5 BGS prior to air rotary drilling

Top of bedrock at 12 BGS

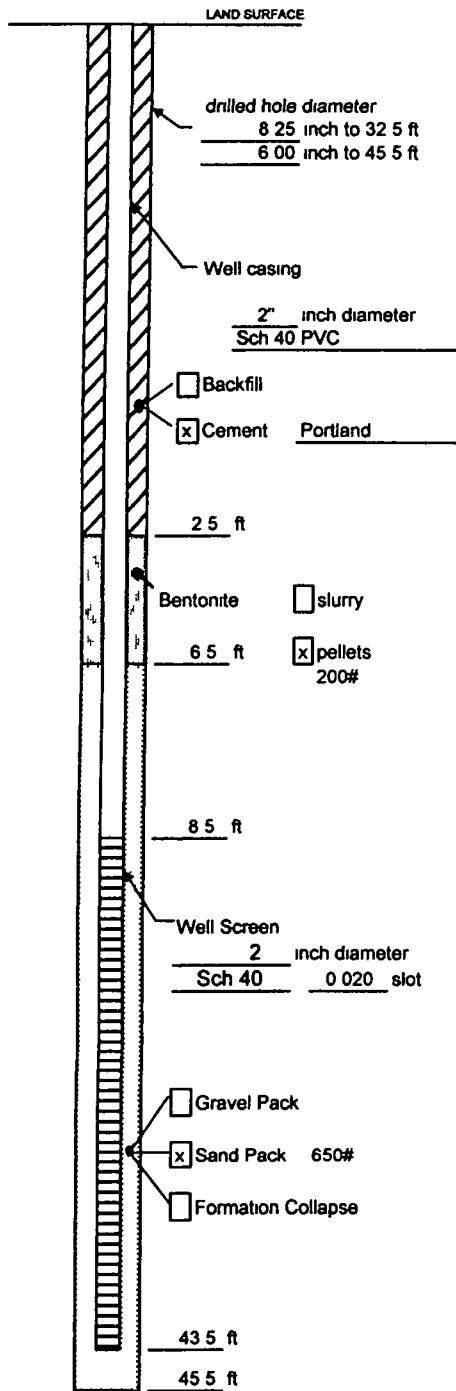
Continuous core sample to 32 5 BGS

Bottom of Screen is 43 05 BTOC

Prepared by Clay Harwell / Warren French

ARCADIS

Well Construction Log (Unconsolidated and Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted
Depth Below Land Surface

Project OK01255 0002 Task #2 Well MW 15

Town/City Brenntag Springfield

County Greene State MO

Permit No _____

Land Surface (LS) Elevation and Datum

GE 1280 83 feet Surveyed (ARCADIS)
 TOC 1280 48 feet Estimated

Installation Date(s) 9/10/2002

Drilling Method 8 HSA 0-32 5
6 Air 32 5 45 5

Drilling Contractor Roberts Environmental Drilling

Drilling Fluid Added water from 12-45 5 BGS
while air rotary drilling the bedrock

Development Technique(s) and Date(s)

Bailed 9/12/02

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M P

Pumping Depth to Water _____ feet below M P

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring Well

Static DTW in MW on 9/25/02 was 31 65 BTOC

Remarks Water level at 3 53 from top of Land surface with
open borehole at 32 5 BGS prior to air rotary drilling

Top of bedrock at 12 BGS

Continuous core sample to 32 5 BGS

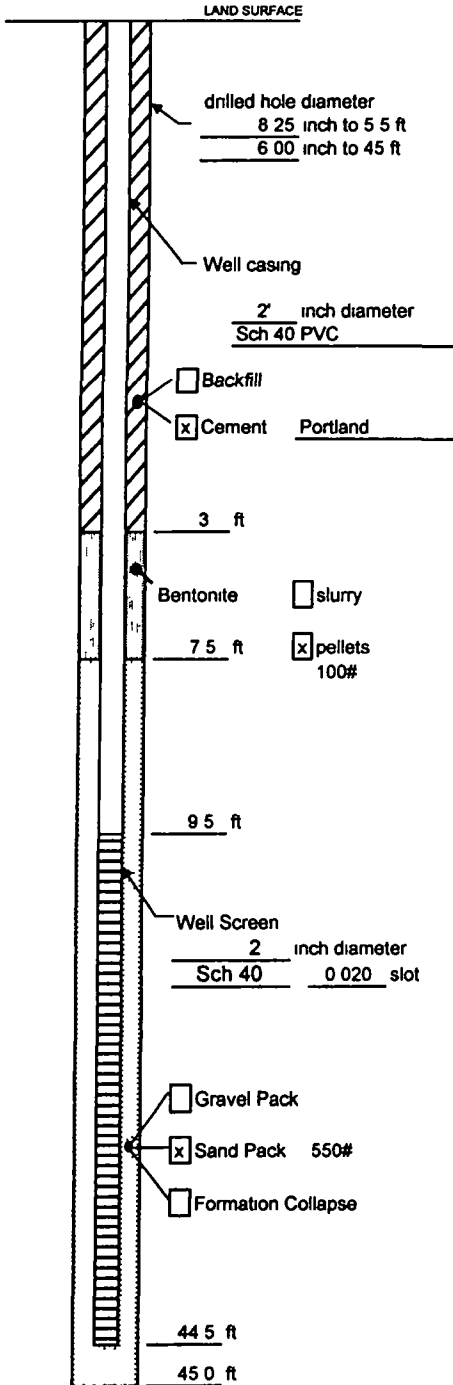
Bottom of Screen is 43 05 BTOC

Prepared by Clay Harwell / Warren French

ARCADIS

Well Construction Log

(Unconsolidated and Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted

Depth Below Land Surface

Project OK01255 0002 Task #2 Well MW 16

Town/City Brenntag Springfield

County Greene State MO

Permit No _____

Land Surface (LS) Elevation and Datum

GE 1271 46 feet Surveyed (ARCADIS)
TOC 1271 01 feet Estimated

Installation Date(s) 9/11/2002

Drilling Method 8 HSA 0 5 5
6 Air 5 5 45

Drilling Contractor Roberts Environmental Drilling

Drilling Fluid Added water from 28 5 45 5 BGS
while air rotary drilling the bedrock

Development Technique(s) and Date(s)

Bailed 9/12/02

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M P

Pumping Depth to Water _____ feet below M P

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring Well

Static DTW in MW on 9/25/02 was 28 83 BTOC

Remarks _____

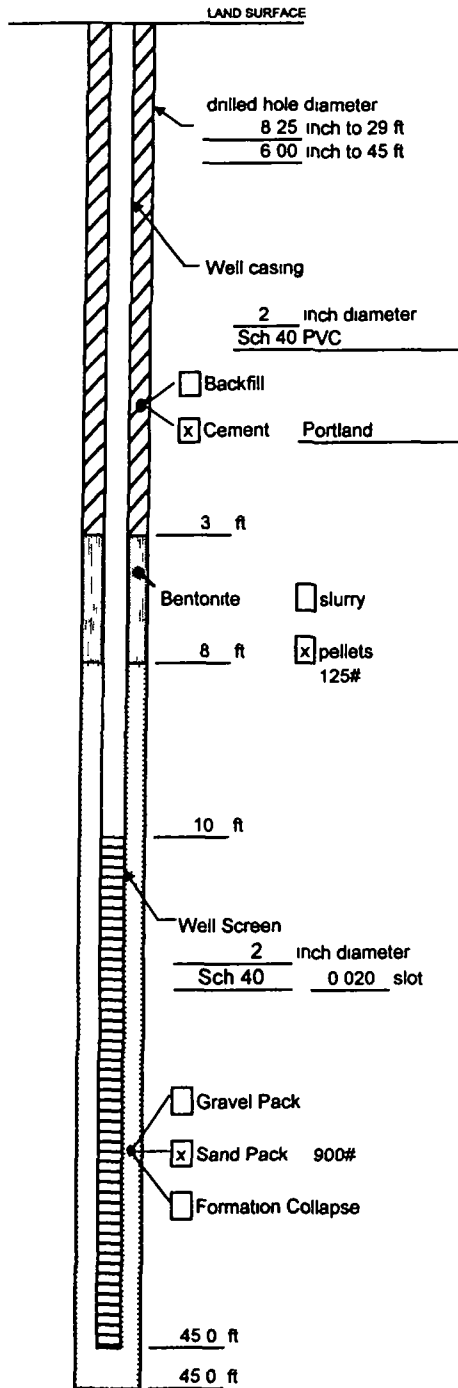
Top of bedrock at 28 5 BGS

Bottom of Screen is 44 10 BTOC

Prepared by Clay Harwell / Warren French

ARCADIS

Well Construction Log
(Unconsolidated and Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted

Depth Below Land Surface

Project OK01255 0002 Task #2 Well MW 17

Town/City Brenntag Springfield

County Greene State MO

Permit No _____

Land-Surface (LS) Elevation and Datum

GE 1271 21 feet Surveyed
TOC 1270 76 feet (ARCADIS)
 Estimated

Installation Date(s) 9/11/2002

Drilling Method 8 HSA 0 29
6 Air 29 45

Drilling Contractor Roberts Environmental Drilling

Drilling Fluid Added water from 29 45 BGS
while air rotary drilling the bedrock

Development Technique(s) and Date(s)

Bailed 9/12/02

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M P

Pumping Depth to Water _____ feet below M P

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring Well

Static DTW in MW on 9/25/02 was 26 62 BTOC

Remarks _____

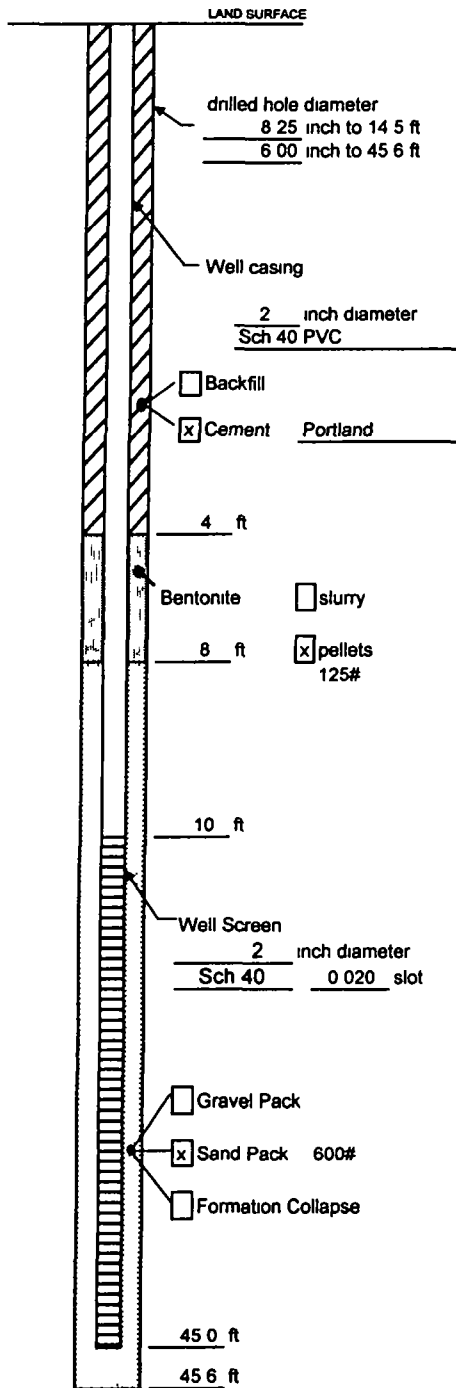
Top of bedrock at 28 5 BGS

Bottom of Screen is 44 80 BTOC

Prepared by Clay Harwell / Warren French

ARCADIS

Well Construction Log
(Unconsolidated and Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted

Depth Below Land Surface

Project OK01255 0002 Task #2 Well MW 18

Town/City Brenntag Springfield

County Greene State MO

Permit No _____

Land Surface (LS) Elevation and Datum

GE 1281 70 feet Surveyed
TOC 1281 16 feet (ARCADIS)
 Estimated

Installation Date(s) 9/10-9/11/02

Drilling Method 8 HSA 0 14 5
6 Air 14 5 45 6

Drilling Contractor Roberts Environmental Drilling

Drilling Fluid Added water from 14 5 45 6 BGS
while air rotary drilling the bedrock

Development Technique(s) and Date(s)

Bailed 9/12/02

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M P

Pumping Depth to Water _____ feet below M P

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring Well

Static DTW in MW on 9/25/02 was 14 92 BTOC

Remarks _____

Top of bedrock at 14 5 BGS

Bottom of Screen is 45 18 BTOC

Prepared by Clay Harwell / Warren French

APPENDIX E

**MDNR ABANDONMENT REGISTRATION RECORD-
GEOTECHNICAL SOIL BORING GSB-1**



MISSOURI DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF GEOLOGY AND
LAND SURVEY
(573) 368-2165
**ABANDONMENT
REGISTRATION RECORD**

OFFICE USE ONLY			DATE RECEIVED	
REF NO	298172			
C/R NO			CHECK NO	
STATE WELL NUMBER			TRANSMITTAL NO	
ENTERED	APPROVED BY	ROUTE		
Ph 1	Ph 2	Ph 3		

INFORMATION SUPPLIED BY WELL OR PUMP INSTALLATION CONTRACTOR

OWNER NAME Brenntag Mid-South, Inc.			TELEPHONE		VARIANCE NUMBER (IF APPLICABLE)
OWNER ADDRESS 139 E. Soper St.			CITY St. Louis	STATE MO	ZIP CODE 63111
ADDRESS OF WELL SITE (IF DIFFERENT THAN ABOVE) 2235 W. Battlefield Rd.			CITY Springfield	STATE MO	ZIP CODE 65807
SITE NAME Brenntag Mid-South Inc. Facility		WELL NUMBER	INFORMATION VERIFIED BY OWNER SIGNATURE (WELL OWNER)		DATE

SKETCH THE LOCATION TO THE WELL INCLUDING MILEAGE ON ALL ROADS TRAVELED FROM NEAREST TOWNS OR HIGHWAYS see attached site map			LOCATION OF WELL LAT 37 9 40 LONG 93 19 27		AREA 10 ELEV ~1280' COUNTY Greene
			SMALLEST	LARGEST	
			SEC 3	TWN 28	N RING 22 E OR W

DESCRIBE LOCATION OF THE WELL SO WE WOULD BE ABLE TO VISIT THE WELL SITE	DRILLER NOTES

ABANDONMENT INFORMATION

FORMER USE OF WELL <input type="checkbox"/> HAND DUG <input type="checkbox"/> DOMESTIC <input type="checkbox"/> MULTI FAMILY <input type="checkbox"/> PUBLIC WATER SUPPLY <input type="checkbox"/> HEAT PUMP <input type="checkbox"/> IRRIGATION <input checked="" type="checkbox"/> SOIL BORING/ GEOTECH <input type="checkbox"/> MONITORING <input type="checkbox"/> MINERAL EXPLORATORY TEST HOLE <input type="checkbox"/> OTHER		ORIGINAL DRILLER (IF KNOWN) REDT	DATE ORIGINALLY DRILLED (IF KNOWN) 9/10/02	STATIC WATER LEVEL -
GROUT INSTALLATION METHOD <input checked="" type="checkbox"/> GRAVITY <input type="checkbox"/> TREMIE <input checked="" type="checkbox"/> EXCAVATION		DEPTH OF THE WELL 11'	LENGTH OF CASING -	CASING DIAMETER -
GROUT MATERIAL USED NEAT CEMENT BENTONITE <input type="checkbox"/> HI EARLY <input type="checkbox"/> SLURRY <input type="checkbox"/> GRANULAR <input type="checkbox"/> OTHER <input type="checkbox"/> TYPE 1 <input checked="" type="checkbox"/> CHIPS <input type="checkbox"/> PELLETS		PUMP REMOVED FROM WELL? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO N/A	WAS THE CASING CUT OFF THREE FEET BELOW GROUND SURFACE? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMOVED N/A	DRILL HOLE DIAMETER (IF KNOWN) 8 75"
TYPE OF FILL MATERIAL USED <input type="checkbox"/> GRAVEL <input type="checkbox"/> AG-LIME <input type="checkbox"/> SAND <input type="checkbox"/> OTHER		HOW MANY GALLONS OF WATER MIXED PER BAG OF CEMENT OR BENTONITE? 12		TYPE OF CASING N/A <input type="checkbox"/> PLASTIC <input type="checkbox"/> CONCRETE <input type="checkbox"/> STEEL <input type="checkbox"/> OTHER
AMOUNT OF FILL MATERIAL USED -		NUMBER OF BAGS OF GROUT USED 5		POUNDS OF GROUT PER BAG 50#
CIRCLE ONE CU YDS./TONS		DEPTH TO TOP OF FILL MATERIAL FROM THE SURFACE -		

MULTIPLE WELLS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	WELL CHLORINATED BEFORE PLUGGING? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	AMOUNT USED FOR THE CHLORINATION GALLONS OF CHLORINE POUNDS OF CHLORINE TABLETS OF CHLORINE	DATE WELL WAS PLUGGED 9/10/02
IF YES WHAT IS THE NAME OF THE WATER DISTRICT		REASON WELL WAS PLUGGED	

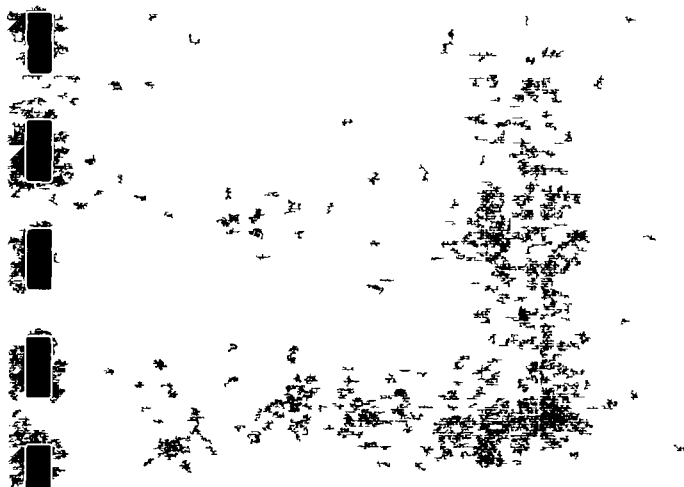
REMARKS Environmental / Geotech Boring
--

I HEREBY CERTIFY THAT THE WELL HEREIN DESCRIBED WAS PLUGGED IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE PLUGGING OF WELLS

SIGNATURE (PRIMARY CONTRACTOR) X Tina Lloyd	PERMIT NUMBER 001754 M	SIGNATURE (CONTRACTOR) X Tom C. Decker	PERMIT NUMBER 003211WPM	DATE 10/7/02
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APPENDIX F

**MDNR MONITORING WELL CERTIFICATION RECORD-
WELLS MW-14 THROUGH MW-18**





MISSOURI DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF GEOLOGY AND
LAND SURVEY
(573) 368 2165
**MONITORING WELL
CERTIFICATION RECORD**

OFFICE USE ONLY		DATE RECEIVED
REF NO 284982		
CR NO	CHECK NO	
STATE WELL NUMBER	REVENUE NO	
ENTERED Ph 1 Ph 2 Ph 3	APPROVED BY	ROUTE / /

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

OWNER NAME Brenntag Mid South, Inc.		WELL NUMBER MW 14	VARIANCE GRANTED BY THE DNR <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES ATTACH A COPY OF THE VARIANCE
OWNER ADDRESS 139 E Super St	CITY St. Louis	STATE MO	ZIP CODE 63111
SITE NAME Brenntag Mid South, Inc. Facility		CONTACT NAME	
SITE ADDRESS 2235 W Battlefield Rd.	CITY Springfield	STATE MO	ZIP CODE 65807
PROPOSED USE OF WELL <input type="checkbox"/> GAS MONITORING WELL <input type="checkbox"/> EXTRACTION WELL	<input checked="" type="checkbox"/> MONITORING WELL <input type="checkbox"/> PIEZOMETERS	TYPE OF POTENTIAL SITE <input checked="" type="checkbox"/> HAZARDOUS MATERIAL <input type="checkbox"/> INITIAL SITE ASSESSMENT <input type="checkbox"/> WATER LEVEL DRAWDOWN	MONITORING FOR (CHECK ALL THAT APPLY) <input type="checkbox"/> RADIONUCLIDES <input type="checkbox"/> EXPLOSIVES <input checked="" type="checkbox"/> SVOCs <input type="checkbox"/> PETROLEUM PRODUCTS ONLY <input checked="" type="checkbox"/> METALS <input checked="" type="checkbox"/> VOC <input type="checkbox"/> PESTICIDES/HERBICIDES

SKETCH LOCATION OF WELL INCLUDING MILEAGE ON ALL ROADS TRAVELLED FROM NEAREST TOWNS see attached site map	LOCATION OF WELL		AREA 1C	ELEV ~1280
	LAT 37 9 40	LONG 13 19 27	COUNTY Greene	
	SMALLEST SE 1/4		LARGEST NW 1/4	
SEC 3		TWN 28	N RNG 22	E OF W (W)

DESCRIBE LOCATION OF THE WELL SO WE WOULD BE ABLE TO VISIT THE WELL SITE	DRILLER NOTES
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TYPE OF SURFACE COMPLETION <input type="checkbox"/> ABOVE GROUND <input checked="" type="checkbox"/> FLUSH MOUNT	LENGTH OF PROTECTIVE CASING — FT	DIAMETER OF PROTECTIVE CASING — IN	DIAMETER AND DEPTH OF THE HOLE PROTECTIVE CASING WAS PLACED — IN — FT	PROTECTIVE CASING MATERIAL <input type="checkbox"/> STEEL <input type="checkbox"/> ALUMINUM <input type="checkbox"/> PLASTIC	LOCKING CAP? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
WEEP HOLE? <input checked="" type="checkbox"/> NO	VENTED CAP? <input checked="" type="checkbox"/> NO	LENGTH OF FLUSH MOUNT 1 FT	DIAMETER OF FLUSH MOUNT 8' IN	DIAMETER AND DEPTH OF THE HOLE FLUSH MOUNT WAS PLACED 14" IN 25' FT	SURFACE COMPLETION GROUT <input checked="" type="checkbox"/> CONCRETE <input type="checkbox"/> OTHER

RISER PIPE DETAIL	LENGTH 10' FT	DIAMETER 2" IN	WEIGHT OR SDR# Sch 40	DIAMETER OF DRILL HOLE 8 7/8" IN	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER	BENTONITE SEAL 3' FT	LENGTH OF SEAL 3' FT	MATERIAL <input type="checkbox"/> SLURRY <input type="checkbox"/> GRANULAR <input checked="" type="checkbox"/> CHIPS
	GLUED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		SECONDARY FILTER PACK <input type="checkbox"/> SATURATED ZONE <input type="checkbox"/> UNSATURATED ZONE HYDRATED <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> BOTH ZONES IF YES HYDRATED <input type="checkbox"/> YES <input type="checkbox"/> NO			DEPTH FROM TO	FORMATION DESCRIPTION	

PRIMARY FILTER PACK	LENGTH 37' FT	DEPTH TO TOP OF PRIMARY FILTER PACK 8' FT	SECONDARY FILTER PACK LENGTH — FT	0	21'	red cherty clay
ANNULAR SEAL	BENTONITE SLURRY <input type="checkbox"/> CEMENT/BENTONITE SLURRY <input checked="" type="checkbox"/> NON SLURRY BENTONITE TYPE Chips		BAGS OF CEMENT USED — % OF BENTONITE USED — WATER USED/BAG — GAL	25	45'	Limestone

WELL SCREEN	LENGTH 35' FT	DIAMETER 2" IN	DIAMETER OF DRILL HOLE 6 7/8" IN	DEPTH TO TOP OF SCREEN 10' FT	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER
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MULTIPLE CASED WELLS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	PUMP INSTALLED FOR REMEDIATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE AND SIZE OF ALL CASING HOLE DIAMETERS AND GROUT USED		TOTAL DEPTH 45'
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SIGNATURE (PRIMARY CONTRACTOR) Tina Lloyd	PERMIT NUMBER 001754m	STATIC WATER LEVEL 24.85' (9/25/02) FEET FROM MEASURING POINT	DATE WELL DRILLING WAS COMPLETED 9/10/02
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I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS.

SIGNATURE (WELL DRILLER) X [Signature]	PERMIT NUMBER 003211WPM	DATE 10/7/02	SIGNATURE (PUMP INSTALLER) X N/A	PERMIT NUMBER —	DATE —
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MISSOURI DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF GEOLOGY AND
LAND SURVEY
(573) 368 2165
**MONITORING WELL
CERTIFICATION RECORD**

OFFICE USE ONLY		DATE RECEIVED	
REF NO 284983			
C R NO		CHECK NO	
STATE WELL NUMBER		REVENUE NO	
ENTERED Ph 1	Ph 2	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

OWNER NAME Brenntag Mid-South, Inc.		WELL NUMBER MW-15		VARIANCE GRANTED BY THE DNR <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES ATTACH A COPY OF THE VARIANCE	
OWNER ADDRESS 139 E. Soper St.		CITY St. Louis		STATE MO	
SITE NAME Brenntag Mid-South, Inc. Facility		CONTACT NAME		VARIANCE NUMBER	
SITE ADDRESS 2235 W. Battlefield Rd.		CITY Springfield		STATE MO	
				ZIP CODE 63111	
				ZIP CODE 65807	

PROPOSED USE OF WELL <input type="checkbox"/> GAS MONITORING WELL <input checked="" type="checkbox"/> MONITORING WELL <input type="checkbox"/> EXTRACTION WELL <input type="checkbox"/> PIEZOMETERS		TYPE OF POTENTIAL SITE <input checked="" type="checkbox"/> HAZARDOUS MATERIAL <input type="checkbox"/> LANDFILL <input type="checkbox"/> INITIAL SITE ASSESSMENT <input type="checkbox"/> LUST <input type="checkbox"/> WATER LEVEL DRAWDOWN		MONITORING FOR (CHECK ALL THAT APPLY) <input type="checkbox"/> RADIONUCLIDES <input type="checkbox"/> PETROLEUM PRODUCTS ONLY <input type="checkbox"/> EXPLOSIVES <input checked="" type="checkbox"/> METALS <input checked="" type="checkbox"/> VOC <input checked="" type="checkbox"/> SVOCs <input type="checkbox"/> PESTICIDES/HERBICIDES	
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SKETCH LOCATION OF WELL INCLUDING MILEAGE ON ALL ROADS TRAVELLED FROM NEAREST TOWNS see attached site map		LOCATION OF WELL LAT 37 7 40 LONG 73 19 27		AREA 1 C	
				ELEV ~1280'	
				COUNTY Greene	
		SMALLEST SE 1/4		LARGEST NW 1/4	
		SEC 3		TWN 28	
				N RNG 22	
				E OR W (W)	

DESCRIBE LOCATION OF THE WELL SO WE WOULD BE ABLE TO VISIT THE WELL SITE

DRILLER NOTES

TYPE OF SURFACE COMPLETION <input type="checkbox"/> ABOVE GROUND <input checked="" type="checkbox"/> FLUSH MOUNT	LENGTH OF PROTECTIVE CASING — FT	DIAMETER OF PROTECTIVE CASING — IN	DIAMETER AND DEPTH OF THE HOLE PROTECTIVE CASING WAS PLACED — IN — FT	PROTECTIVE CASING MATERIAL <input type="checkbox"/> STEEL <input type="checkbox"/> ALUMINUM <input type="checkbox"/> PLASTIC	LOCKING CAP? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
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WEEP HOLE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	VENTED CAP? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	LENGTH OF FLUSH MOUNT 1 FT	DIAMETER OF FLUSH MOUNT 8" IN	DIAMETER AND DEPTH OF THE HOLE FLUSH MOUNT WAS PLACED 14 IN 25' FT	SURFACE COMPLETION GROUT <input checked="" type="checkbox"/> CONCRETE <input type="checkbox"/> OTHER
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RISER PIPE DETAIL	LENGTH 10' FT	DIAMETER 2" IN	WEIGHT OR SDR# Sch 40	DIAMETER OF DRILL HOLE 8 75"	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER	BENTONITE SEAL 3' FT	LENGTH OF SEAL 3' FT	MATERIAL <input type="checkbox"/> SLURRY <input type="checkbox"/> PELLETS <input type="checkbox"/> GRANULAR <input checked="" type="checkbox"/> CHIPS
	GLUED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		SECONDARY FILTER PACK <input type="checkbox"/> SATURATED ZONE <input type="checkbox"/> UNSATURATED ZONE HYDRATED <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> BOTH ZONES <input type="checkbox"/> IF YES HYDRATED <input type="checkbox"/> YES <input type="checkbox"/> NO			DEPTH FROM TO		FORMATION DESCRIPTION

PRIMARY FILTER PACK	LENGTH 37' FT	DEPTH TO TOP OF PRIMARY FILTER PACK 8' FT	SECONDARY FILTER PACK LENGTH — FT	0	12'	red cherty clay
ANNULAR SEAL	<input type="checkbox"/> BENTONITE SLURRY <input type="checkbox"/> CEMENT/BENTONITE SLURRY BAGS OF CEMENT USED _____ <input type="checkbox"/> NON SLURRY BENTONITE TYPE _____ % OF BENTONITE USED _____ WATER USED/BAG _____ GAL		LENGTH 25' FT	12'	45'	limestone

WELL SCREEN	LENGTH 35' FT	DIAMETER 2" IN	DIAMETER OF DRILL HOLE 6" IN	DEPTH TO TOP OF SCREEN 10' FT	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER
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MULTIPLE CASED WELLS YES NO PUMP INSTALLED FOR REMEDIATION YES NO

SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE AND SIZE OF ALL CASING HOLE DIAMETERS AND GROUT USED

TOTAL DEPTH **45'**

SIGNATURE (PRIMARY CONTRACTOR) Tina Lloyd	PERMIT NUMBER 001754 m	STATIC WATER LEVEL 31.65' (9/25/02) FEET FROM MEASURING POINT	DATE WELL DRILLING WAS COMPLETED 9/10/02
I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS			
SIGNATURE (WELL DRILLER) X [Signature]	PERMIT NUMBER 003211WDM	DATE 10/7/02	SIGNATURE (PUMP INSTALLER) X N/A
			PERMIT NUMBER —
			DATE —

MO 780-1145 (12 99)

DISTRIBUTION WHITE/DIVISION CANARY/CONTRACTOR PINK/OWNER
MAIL WHITE COPY TO DEPARTMENT OF NATURAL RESOURCES P O BOX 250 ROLLA, MO 65402
ENCLOSE \$35 MONITORING WELL CERTIFICATION FEE WITHIN 60 DAYS AFTER WELL COMPLETION



MISSOURI DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF GEOLOGY AND
LAND SURVEY
(573) 368 2165
**MONITORING WELL
CERTIFICATION RECORD**

OFFICE USE ONLY		DATE RECEIVED	
REF NO 284984			
CR NO		CHECK NO	
STATE WELL NUMBER		REVENUE NO	
ENTERED	APPROVED BY	ROUTE	
Ph 1	Ph 2	Ph 3	

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

OWNER NAME Brenntag Mid-South, Inc.		WELL NUMBER MW-16		VARIANCE GRANTED BY THE DNR <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES ATTACH A COPY OF THE VARIANCE	
OWNER ADDRESS 139 E. Soper St.		CITY St. Louis	STATE MO	ZIP CODE 63111	
SITE NAME Brenntag Mid-South, Inc. Facility			CONTACT NAME		
SITE ADDRESS 2235 W. Battlefield, RD.		CITY Springfield	STATE MO	ZIP CODE 65807	
PROPOSED USE OF WELL <input type="checkbox"/> GAS MONITORING WELL <input checked="" type="checkbox"/> MONITORING WELL <input type="checkbox"/> EXTRACTION WELL <input type="checkbox"/> PIEZOMETERS		TYPE OF POTENTIAL SITE <input checked="" type="checkbox"/> HAZARDOUS MATERIAL <input type="checkbox"/> LANDFILL <input type="checkbox"/> INITIAL SITE ASSESSMENT <input type="checkbox"/> LUST <input type="checkbox"/> WATER LEVEL DRAWDOWN		MONITORING FOR (CHECK ALL THAT APPLY) <input type="checkbox"/> RADIONUCLIDES <input type="checkbox"/> PETROLEUM PRODUCTS ONLY <input type="checkbox"/> EXPLOSIVES <input checked="" type="checkbox"/> METALS <input checked="" type="checkbox"/> VOC <input checked="" type="checkbox"/> SVOCs <input type="checkbox"/> PESTICIDES/HERBICIDES	

SKETCH LOCATION OF WELL INCLUDING MILEAGE ON ALL ROADS TRAVELLED FROM NEAREST TOWNS see attached site map		LOCATION OF WELL LAT 37 9 40 LONG 93 19 27		AREA 1 C	ELEV ~1280
		SMALLEST NE 1/4		LARGEST NW 1/4	
		SEC 3 TWN 28 N RNG 22 E OR W (W)		COUNTY Greene	

DESCRIBE LOCATION OF THE WELL SO WE WOULD BE ABLE TO VISIT THE WELL SITE	DRILLER NOTES
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TYPE OF SURFACE COMPLETION <input type="checkbox"/> ABOVE GROUND <input checked="" type="checkbox"/> FLUSH MOUNT	LENGTH OF PROTECTIVE CASING — FT	DIAMETER OF PROTECTIVE CASING — IN	DIAMETER AND DEPTH OF THE HOLE PROTECTIVE CASING WAS PLACED — IN — FT	PROTECTIVE CASING MATERIAL <input type="checkbox"/> STEEL <input type="checkbox"/> ALUMINUM <input type="checkbox"/> PLASTIC	LOCKING CAP? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
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WEEP HOLE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	VENTED CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	LENGTH OF FLUSH MOUNT 1' FT	DIAMETER OF FLUSH MOUNT 8" IN	DIAMETER AND DEPTH OF THE HOLE FLUSH MOUNT WAS PLACED 14" IN 25' FT	SURFACE COMPLETION GROUT <input checked="" type="checkbox"/> CONCRETE <input type="checkbox"/> OTHER
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RISER PIPE DETAIL	LENGTH 105' FT	DIAMETER 2" IN	WEIGHT OR SDR# Sch 40	DIAMETER OF DRILL HOLE 5 75"/16" FT	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER	BENTONITE SEAL 3' FT	MATERIAL <input type="checkbox"/> SLURRY <input type="checkbox"/> PELLETS <input type="checkbox"/> GRANULAR <input checked="" type="checkbox"/> CHIPS
	SECONDARY FILTER PACK <input type="checkbox"/> SATURATED ZONE <input type="checkbox"/> UNSATURATED ZONE HYDRATED <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> BOTH ZONES <input type="checkbox"/> IF YES, HYDRATED <input type="checkbox"/> YES <input type="checkbox"/> NO				DEPTH FROM TO		FORMATION DESCRIPTION

PRIMARY FILTER PACK	LENGTH 37 FT	DEPTH TO TOP OF PRIMARY FILTER PACK 85 FT	SECONDARY FILTER PACK LENGTH — FT	0 55 Red cherty clay 55 455 limestone
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ANNULAR SEAL	<input type="checkbox"/> BENTONITE SLURRY <input checked="" type="checkbox"/> NON SLURRY BENTONITE TYPE chips	<input type="checkbox"/> CEMENT/BENTONITE SLURRY BAGS OF CEMENT USED _____ % OF BENTONITE USED _____ WATER USED/BAG _____ GAL	LENGTH 3' FT
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WELL SCREEN	LENGTH 35' FT	DIAMETER 2" IN	DIAMETER OF DRILL HOLE 6" IN	DEPTH TO TOP OF SCREEN 105' FT	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER
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MULTIPLE CASED WELLS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	PUMP INSTALLED FOR REMEDIATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE AND SIZE OF ALL CASING HOLE DIAMETERS AND GROUT USED		TOTAL DEPTH 455'
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SIGNATURE (PRIMARY CONTRACTOR) Tina Lloyd	PERMIT NUMBER 001754 M	STATIC WATER LEVEL 28.83 (9/25/02) FEET FROM MEASURING POINT	DATE WELL DRILLING WAS COMPLETED 9/11/02
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I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS

SIGNATURE (WELL DRILLER) X [Signature]	PERMIT NUMBER 003211wpm	DATE 10/7/02	SIGNATURE (PUMP INSTALLER) X N/A	PERMIT NUMBER	DATE
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MISSOURI DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF GEOLOGY AND
LAND SURVEY
(573) 368 2165
**MONITORING WELL
CERTIFICATION RECORD**

OFFICE USE ONLY		DATE RECEIVED
REF NO 284985		
CR NO	CHECK NO	
STATE WELL NUMBER	REVENUE NO	
ENTERED Ph 1 Ph 2 Ph 3	APPROVED BY	ROUTE

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

OWNER NAME Brenntag Mid-South, Inc.	WELL NUMBER MW 17	VARIANCE GRANTED BY THE DNR <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES ATTACH A COPY OF THE VARIANCE
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OWNER ADDRESS 139 E. Soper St.	CITY St. Louis	STATE MO	ZIP CODE 63111
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SITE NAME Brenntag Mid-South, Inc. Facility	CONTACT NAME	VARIANCE NUMBER
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SITE ADDRESS 2235 W. Battlefield Rd.	CITY Springfield	STATE MO	ZIP CODE 65807
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PROPOSED USE OF WELL <input type="checkbox"/> GAS MONITORING WELL <input type="checkbox"/> EXTRACTION WELL <input checked="" type="checkbox"/> MONITORING WELL <input type="checkbox"/> PIEZOMETERS	TYPE OF POTENTIAL SITE <input checked="" type="checkbox"/> HAZARDOUS MATERIAL <input type="checkbox"/> INITIAL SITE ASSESSMENT <input type="checkbox"/> WATER LEVEL DRAWDOWN <input type="checkbox"/> LANDFILL <input type="checkbox"/> LUST	MONITORING FOR (CHECK ALL THAT APPLY) <input type="checkbox"/> RADIONUCLIDES <input type="checkbox"/> EXPLOSIVES <input checked="" type="checkbox"/> SVOCs <input type="checkbox"/> PETROLEUM PRODUCTS ONLY <input checked="" type="checkbox"/> METALS <input checked="" type="checkbox"/> VOC <input type="checkbox"/> PESTICIDES/HERBICIDES
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SKETCH LOCATION OF WELL INCLUDING MILEAGE ON ALL ROADS TRAVELLED FROM NEAREST TOWNS see attached site map	LOCATION OF WELL LAT <u>37</u> <u>9</u> <u>40</u> LONG <u>93</u> <u>19</u> <u>27</u>	AREA 1C	ELEV ~1280'
	SMALLEST NE 1/4 SE 1/4 NW 1/4		COUNTY Greene
	SEC <u>3</u> TWN <u>28</u> N RNG <u>22</u> E OF (W)		

DESCRIBE LOCATION OF THE WELL SO WE WOULD BE ABLE TO VISIT THE WELL SITE	DRILLER NOTES
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TYPE OF SURFACE COMPLETION <input type="checkbox"/> ABOVE GROUND <input checked="" type="checkbox"/> FLUSH MOUNT	LENGTH OF PROTECTIVE CASING — FT	DIAMETER OF PROTECTIVE CASING — IN	DIAMETER AND DEPTH OF THE HOLE PROTECTIVE CASING WAS PLACED — IN — FT	PROTECTIVE CASING MATERIAL <input type="checkbox"/> STEEL <input type="checkbox"/> ALUMINUM <input type="checkbox"/> PLASTIC	LOCKING CAP? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
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WEEP HOLE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	VENTED CAP? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	LENGTH OF FLUSH MOUNT 1' FT	DIAMETER OF FLUSH MOUNT 8" IN	DIAMETER AND DEPTH OF THE HOLE FLUSH MOUNT WAS PLACED 14" IN 25' FT	SURFACE COMPLETION GROUT <input checked="" type="checkbox"/> CONCRETE <input type="checkbox"/> OTHER
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RISER PIPE DETAIL LENGTH 10' FT DIAMETER 2" IN WEIGHT OR SDR# Sch 40	DIAMETER OF DRILL HOLE 8 7/8"	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER	BENTONITE SEAL LENGTH OF SEAL 3' FT MATERIAL <input type="checkbox"/> SLURRY <input type="checkbox"/> GRANULAR <input checked="" type="checkbox"/> CHIPS
--	---	---	--

GLUED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	SECONDARY FILTER PACK <input type="checkbox"/> SATURATED ZONE <input type="checkbox"/> UNSATURATED ZONE BOTH ZONES <input type="checkbox"/> IF YES HYDRATED <input type="checkbox"/> YES <input type="checkbox"/> NO		DEPTH FROM TO	FORMATION DESCRIPTION
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PRIMARY FILTER PACK LENGTH 37' FT DEPTH TO TOP OF PRIMARY FILTER PACK 8' FT SECONDARY FILTER PACK LENGTH — FT	0	29	red cherty clay
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ANNULAR SEAL <input type="checkbox"/> BENTONITE SLURRY <input checked="" type="checkbox"/> NON SLURRY BENTONITE TYPE chips	<input type="checkbox"/> CEMENT/BENTONITE SLURRY BAGS OF CEMENT USED _____ % OF BENTONITE USED _____ WATER USED/BAG _____ GAL	LENGTH 25' FT	29'	45'	limestone
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WELL SCREEN LENGTH 35' FT DIAMETER 2" IN DIAMETER OF DRILL HOLE 8 7/8" IN DEPTH TO TOP OF SCREEN 10' FT	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER
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MULTIPLE CASED WELLS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	PUMP INSTALLED FOR REMEDIATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	TOTAL DEPTH 45'
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SIGNATURE (PRIMARY CONTRACTOR) Tina Lloyd	PERMIT NUMBER 001754M	STATIC WATER LEVEL 26.62' (9/25/02) FEET FROM MEASURING POINT	DATE WELL DRILLING WAS COMPLETED 9/11/02
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I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS

SIGNATURE (WELL DRILLER) X Tom C. [Signature]	PERMIT NUMBER 003211WPM	DATE 10/7/02	SIGNATURE (PUMP INSTALLER) X N/A	PERMIT NUMBER	DATE
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MISSOURI DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF GEOLOGY AND
LAND SURVEY
(573) 368 2165
**MONITORING WELL
CERTIFICATION RECORD**

OFFICE USE ONLY		DATE RECEIVED
REF NO	284986	
C/R NO	CHECK NO	
STATE WELL NUMBER	REVENUE NO	
ENTERED	APPROVED BY	ROUTE
Ph 1	Ph 2	Ph 3

INFORMATION SUPPLIED BY PRIMARY CONTRACTOR OR DRILLING CONTRACTOR

OWNER NAME Brenntag Mid-South, Inc.	WELL NUMBER MW-18	VARIANCE GRANTED BY THE DNR <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES ATTACH A COPY OF THE VARIANCE
OWNER ADDRESS 139 E. Soper St.	CITY St. Louis	STATE MO
SITE NAME Brenntag Mid-South, Inc. Facility	CONTACT NAME	ZIP CODE 63111
SITE ADDRESS 2235 W. Battlefield Rd.	CITY Springfield	STATE MO
		ZIP CODE 65807

PROPOSED USE OF WELL <input type="checkbox"/> GAS MONITORING WELL <input type="checkbox"/> EXTRACTION WELL	<input checked="" type="checkbox"/> MONITORING WELL <input type="checkbox"/> PIEZOMETERS	TYPE OF POTENTIAL SITE <input checked="" type="checkbox"/> HAZARDOUS MATERIAL <input type="checkbox"/> INITIAL SITE ASSESSMENT <input type="checkbox"/> WATER LEVEL DRAWDOWN	<input type="checkbox"/> LANDFILL <input type="checkbox"/> LUST	MONITORING FOR (CHECK ALL THAT APPLY) <input type="checkbox"/> RADIONUCLIDES <input type="checkbox"/> EXPLOSIVES <input checked="" type="checkbox"/> SVOCs	<input type="checkbox"/> PETROLEUM PRODUCTS ONLY <input checked="" type="checkbox"/> METALS <input checked="" type="checkbox"/> VOC <input type="checkbox"/> PESTICIDES/HERBICIDES
--	---	---	--	---	---

SKETCH LOCATION OF WELL INCLUDING MILEAGE ON ALL ROADS TRAVELLED FROM NEAREST TOWNS see attached site map	LOCATION OF WELL LAT 37 9 40 LONG 93 19 27	AREA 1C	ELEV ~1280'
	SMALLEST SE 1/4	LARGEST NW 1/4	
	SEC 3	TWN 28	N RING 22 E OR W (W)

DESCRIBE LOCATION OF THE WELL SO WE WOULD BE ABLE TO VISIT THE WELL SITE	DRILLER NOTES
--	---------------

TYPE OF SURFACE COMPLETION <input type="checkbox"/> ABOVE GROUND <input checked="" type="checkbox"/> FLUSH MOUNT	LENGTH OF PROTECTIVE CASING — FT	DIAMETER OF PROTECTIVE CASING — IN	DIAMETER AND DEPTH OF THE HOLE PROTECTIVE CASING WAS PLACED — IN — FT	PROTECTIVE CASING MATERIAL <input type="checkbox"/> STEEL <input type="checkbox"/> ALUMINUM <input type="checkbox"/> PLASTIC	LOCKING CAP? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
--	-------------------------------------	---------------------------------------	--	---	--

WEEP HOLE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	VENTED CAP? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	LENGTH OF FLUSH MOUNT 1 FT	DIAMETER OF FLUSH MOUNT 8" IN	DIAMETER AND DEPTH OF THE HOLE FLUSH MOUNT WAS PLACED 14 IN 2.5' FT	SURFACE COMPLETION GROUT <input checked="" type="checkbox"/> CONCRETE <input type="checkbox"/> OTHER
--	---	--------------------------------------	---	--	--

RISER PIPE DETAIL LENGTH 11" FT DIAMETER 2" IN WEIGHT OR SDR# sch 40	DIAMETER OF DRILL HOLE 8 75"	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER	BENTONITE SEAL LENGTH OF SEAL 3 FT MATERIAL <input type="checkbox"/> SLURRY <input type="checkbox"/> GRANULAR <input checked="" type="checkbox"/> CHIPS
GLUED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		SECONDARY FILTER PACK SATURATED ZONE <input type="checkbox"/> UNSATURATED ZONE <input type="checkbox"/> HYDRATED <input type="checkbox"/> YES <input type="checkbox"/> NO BOTH ZONES <input type="checkbox"/> IF YES HYDRATED <input type="checkbox"/> YES <input type="checkbox"/> NO	

PRIMARY FILTER PACK LENGTH 37' FT DEPTH TO TOP OF PRIMARY FILTER PACK 9' FT SECONDARY FILTER PACK LENGTH — FT	DEPTH FROM TO 0 145' red cherty clay 145' 46' limestone
--	--

ANNULAR SEAL <input type="checkbox"/> BENTONITE SLURRY <input checked="" type="checkbox"/> NON SLURRY BENTONITE TYPE chips	CEMENT/BENTONITE SLURRY BAGS OF CEMENT USED _____ % OF BENTONITE USED _____ WATER USED/BAG _____ GAL	LENGTH 35' FT
--	--	-------------------------

WELL SCREEN LENGTH 35' FT DIAMETER 2" IN DIAMETER OF DRILL HOLE 8 75" / 6" IN DEPTH TO TOP OF SCREEN 11' FT	MATERIAL <input type="checkbox"/> STEEL <input checked="" type="checkbox"/> THERMOPLASTIC (PVC) <input type="checkbox"/> OTHER
---	--

MULTIPLE CASED WELLS YES NO PUMP INSTALLED FOR REMEDIATION YES NO

SUBMIT ADDITIONAL AS BUILT DIAGRAMS SHOWING WELL CONSTRUCTION DETAILS INCLUDING TYPE AND SIZE OF ALL CASING HOLE DIAMETERS AND GROUT USED

TOTAL DEPTH **46'**

SIGNATURE (PRIMARY CONTRACTOR) Tina Lloyd	PERMIT NUMBER 001754 M	STATIC WATER LEVEL 14.92' 9/25/02 FEET FROM MEASURING POINT	DATE WELL DRILLING WAS COMPLETED 9/11/02
---	----------------------------------	---	--

I HEREBY CERTIFY THAT THE MONITORING WELL HEREIN DESCRIBED WAS CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE CONSTRUCTION OF MONITORING WELLS

SIGNATURE (WELL DRILLER) X [Signature]	PERMIT NUMBER 003311WPTM	DATE 10/7/02	SIGNATURE (PUMP INSTALLER) X N/A	PERMIT NUMBER —	DATE —
--	------------------------------------	------------------------	--	--------------------	-----------

APPENDIX G

MDNR-RECONSTRUCTION REGISTRATION RECORD-SAW-2



MISSOURI DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF GEOLOGY AND
LAND SURVEY
(573) 368 2165
**RECONSTRUCTION
REGISTRATION RECORD**

OFFICE USE ONLY		RECEIVED	
REF NO 20,027		DATE RECEIVED OCT 15 2002	
CR NO	CHECK NO ARCADIS Geraghty & Mills		
STATE WELL NUMBER		TRANSMITTAL NO	
ENTERED Ph 1 Ph 2 Ph 3	APPROVED BY	ROUTE	

INFORMATION SUPPLIED BY WELL OR PUMP INSTALLATION CONTRACTOR

OWNER NAME Brenntag Mid-South, Inc.		TELEPHONE		VARIANCE NUMBER (IF APPLICABLE)	
OWNER ADDRESS 139 E. Soper St.		CITY St Louis	STATE MO	ZIP CODE 63111	
ADDRESS OF WELL SITE (IF DIFFERENT THAN ABOVE) 2235 W. Battlefield Rd.		CITY Springfield	STATE MO	ZIP CODE 65807	
SITE NAME Brenntag Mid-South Inc.		WELL NUMBER SAW-2		DATE ORIGINALLY DRILLED (IF KNOWN) 7/25/00	

TYPE OF REPAIR <input type="checkbox"/> RAISED CASING <input type="checkbox"/> DEEPENING OF WELL	<input type="checkbox"/> LINING OF WELL <input checked="" type="checkbox"/> OTHER convert to 2" monitoring well	INFORMATION VERIFIED BY OWNER SIGNATURE (WELL OWNER) X	DATE
--	---	---	------

SKETCH THE LOCATION TO THE WELL INCLUDING MILEAGE ON ALL ROADS TRAVELED FROM NEAREST TOWNS OR HIGHWAYS see attached site map	LOCATION OF WELL		AREA 1C
	LAT 37 9 40	ELEV 1280	COUNTY Greene
	LONG 93 19 27	SMALLEST _____ LARGEST _____ SEC 3 TWN 28 N RNG 22 E OR W	

DESCRIBE LOCATION OF THE WELL SO WE WOULD BE ABLE TO VISIT THE WELL SITE	DRILLER NOTES

RECONSTRUCTION INFORMATION

USE OF WELL <input type="checkbox"/> DOMESTIC <input type="checkbox"/> MULTI-FAMILY <input type="checkbox"/> PUBLIC WATER SUPPLY <input type="checkbox"/> HEAT PUMP	<input type="checkbox"/> IRRIGATION <input checked="" type="checkbox"/> MONITORING <input type="checkbox"/> OTHER _____	CASING DIAMETER 6" to 25"	STATIC WATER LEVEL 10' (9/11/02) 21.50 (9/25/02)	ORIGINAL DRILLER (IF KNOWN) Layne
RAISED CASING INFORMATION		LENGTH OF CASING ADDED ---	MATERIAL <input type="checkbox"/> STEEL <input type="checkbox"/> PLASTIC	METHOD OF ATTACHMENT <input type="checkbox"/> THREADED <input type="checkbox"/> COUPLED <input type="checkbox"/> FUSED <input type="checkbox"/> WELDED <input type="checkbox"/> GLUED <input type="checkbox"/> OTHER _____

LINER DETAILS <input type="checkbox"/> USED ONLY TO HOLD BACK THE FORMATION <input checked="" type="checkbox"/> USED TO SEAL OUT CONTAMINATION OR OTHER CONDITIONS <input type="checkbox"/> USED TO SEAL OUT RUST	PURPOSE OF LINER	LENGTH 200' FT	DIAMETER OF LINER 2" IN	WEIGHT OR SDR # Sch. 80	MATERIAL <input checked="" type="checkbox"/> PLASTIC <input type="checkbox"/> STEEL	DEEPENING OF WELL INFORMATION		
	POSITION OF SEAL <input type="checkbox"/> FULL LENGTH <input checked="" type="checkbox"/> BOTTOM <input checked="" type="checkbox"/> TOP 190'	MATERIAL <input type="checkbox"/> CEMENT <input type="checkbox"/> BENTONITE <input type="checkbox"/> TYPE 1 <input type="checkbox"/> SLURRY <input type="checkbox"/> GRANULAR <input type="checkbox"/> HI EARLY <input type="checkbox"/> CHIPS <input type="checkbox"/> PELLETS	DEPTH FROM THE SURFACE TO THE TOP OF THE LINER .5 FT	PACKER USED ON PVC LINER <input checked="" type="checkbox"/> NONE <input type="checkbox"/> RUBBER BOOT	DEPTHS SET	NUMBER OF SACKS USED 50#	LBS PER SACK	DEPTH FROM TO

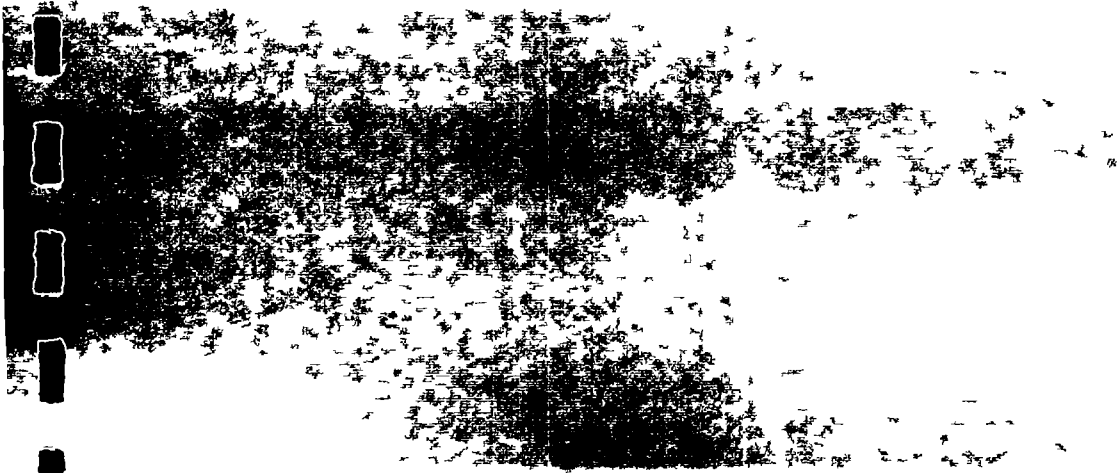
REMARKS Originally constructed as an open bedrock monitoring well. All water was pumped from well (approx. 200 gals) 2" Sch. 80 PVC monitoring well was then constructed with 20' of .010 PVC, screen, 2 1/2' of sand, 5' of secondary sand, 8' bent. chip seal and high solids grout up to reinstalled flush mount protector.	WELL CHLORINATED AFTER RECONSTRUCTION? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	DATE WELL WAS RECONSTRUCTED 9/11/02
--	---	---

I HEREBY CERTIFY THAT THE WELL HEREIN DESCRIBED WAS RECONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE RECONSTRUCTION OF WELLS

SIGNATURE (PRIMARY CONTRACTOR) X Tina Lloyd	PERMIT NUMBER 001754M	DATE 10/7/02	SIGNATURE (CONTRACTOR) X [Signature]	PERMIT NUMBER 003211WPM	DATE 10/7/02
---	---------------------------------	------------------------	--	-----------------------------------	------------------------

APPENDIX H

WELL DEVELOPMENT FORMS



ARCADIS

Well Development Form

Project/No Brenntag-Springfield MO OK1255 0002 Well ID SAW 2 Date 9/12 10/16/2002

Screen Setting 188 208 Measuring Point Description N T O C Casing Diameter (inches) 2

Static Water Level 29 58 BTOC on 9/24/02 Well Materials PVC St Steel

Development Method Pump On Volumes Purged 379 8 Gallons

Total Depth 208 Pump Off _____

Centrifugal _____ Developed By Clay Harwell / Warren French / Bill Blue

Submersible _____ Pump Intake _____

Surge Block _____

Bailed Bailer Type Plastic Other _____

Time/date	Minutes/ Days	Units of Time	DTW	Gallons Purged	pH	Cond umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss O2 (mg/L)	TEMP (C) or (F)	Remarks
9/11/2002											
1305			19 35								static water level begin pumping
1401	56	min	200 03	290							shut down pump
1416	15	min	199 71								0 32 ft recovery in 15 min
1621	2 08	hrs	190 41								water level before bentonite hydration
1636	15 00	min	190 25								water level after bentonite hydration
9/12/2002											
733	15 20	hrs	168 85	4 8							dk tan bail to 206
1310	4 62	hrs	177 70	5 0							start clear finish gray
1400	start		NM								bail to 206
1440	40	min		4 0							start clear finish gray
1740	180	min	185 52								
1800	20	min	187 91	2 0							dK gray
9/13/2002											
930	15 5	hrs	160 92								start clear finish gray
955	25	min	192 30	5 0							
9/17/2002											
1230	4 10	days	60 81								did not Bail
9/24/2002											
1400	7 06	days	29 58								bail clear to 186 28 gals
1645	2 75	hrs	206 00	31							bail gray last 3 gals
9/25/2002											
720	14 58	hrs	157 82								bail clear 8 gals
810	50	min	206 00	9							bail gray last 1 gal
1345	5 58	min	178 92								collect sample for lab analysis
10/2/2002											
1140	7 92	days	37 59								bail clear 25 gals
1315	95	min	198 42	29							bail gray last 4 gal
10/3/2002											
1505	1 08	days	114 60								did not Bail
10/16/2002											
1445	12 99	days	28 30								did not Bail
Total Volume Removed				379 8							

ARCADIS

Well Development Form

Page of

Project/No OK001255 0002 Task #1 Well ID MW 14 Date 9/12/02

Screen Setting 9 6-44 6 ft Measuring Point Description below top of casing Casing Diameter (inches) 2

Static Water Level 24 85 ft btoc on 9/24/02 Well Materials PVC St Steel

Development Method Pump On Volumes Purged 35 gals

Total Depth 44 6 ft btoc Pump Off

Centrifugal Submersible Pump Intake

Surge Block Developed By J Harwell/W French

Bailed Other Bailer Type Disposable

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss O2 (mg/L)	TEMP (C) or (F)	Remarks
			24 21								
1557			27 31	15							dk red silty
1617	20		34 41	10							dk red silty
1636	19		32 65	10							lt red
				35							Gals Purged

APPENDIX I

**LABORATORY ANALYTICAL REPORTS FOR
SITE CHARACTERIZATION SOIL SAMPLES**

Pace Analytical™
www.pacelabs.com

RECEIVED

SEP 30 2002

ARCADIS Geraghty & Miller

Pace Analytical Services Inc
9608 Loiret Blvd
Lenexa KS 66219
Phone 913 599 5665
Fax 913 599 1759

September 25 2002

Mr WARREN FRENCH
ARCADIS GERAGHTY AND MILLER
5100 EAST SKELLY DRIVE
SUITE 1000
TULSA OK 74135

RE Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

Dear Mr FRENCH

Enclosed are the analytical results for sample(s) received by the laboratory on September 12 2002 Results reported herein conform to the most current NELAC standards where applicable unless otherwise narrated in the body of the report

If you have any questions concerning this report please feel free to contact me

Sincerely



Adam Taylor
adam.taylor@pacelabs.com
Project Manager

Kansas/NEIAP Certification Number E 10116

Enclosures

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

www.pacelabs.com

SAMPLE SUMMARY

Pace Analytical Services Inc

9608 Loiret Blvd

Lenexa, KS 66219

Phone 913 599 5665

Fax 913 599 1759

Lab Project Number 6062661

Client Project ID BRENNTAG SPRINGFIELD

<u>Project</u>	<u>Sample</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
<u>Sample Number</u>	<u>Number</u>				
6062661 001	605427962	MW15 1	Soil	09/09/02 18 40	09/12/02 09 30
6062661 002	605427970	MW15-4	Soil	09/09/02 18 50	09/12/02 09 30
6062661 003	605427988	MW15 8	Soil	09/09/02 19 00	09/12/02 09 30
6062661 004	605427996	MW14 1	Soil	09/10/02 08 13	09/12/02 09 30
6062661 005	605428002	MW14 4	Soil	09/10/02 08 19	09/12/02 09 30
6062661 006	605428010	MW18 1	Soil	09/10/02 13 30	09/12/02 09 30
6062661 007	605428036	MW18 4	Soil	09/10/02 13 35	09/12/02 09 30
6062661 008	605428044	MW17 1	Soil	09/10/02 16 00	09/12/02 09 30
6062661 009	605428051	MW17 4	Soil	09/10/02 16 05	09/12/02 09 30
6062661 010	605428077	MW16-1	Soil	09/11/02 07 40	09/12/02 09 30
6062661 011	605428085	MW16 4	Soil	09/11/02 07 45	09/12/02 09 30

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SAMPLE ANALYTE COUNT

Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

Project			Analysis		Analytes
Sample Number	Sample No.	Client Sample ID	Code	Analysis Description	Reported
6062661 001	605427967	MM15 1	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 002	605427970	MM15 4	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 003	605427988	MM15 8	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 004	605427996	MM14 1	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 005	605428002	MM14 4	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 006	605428010	MM18 1	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 007	605428036	MM18 4	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 008	605428044	MM17 1	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 009	605428051	MM17 4	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 010	605428077	MM16 1	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68
6062661 011	605428085	MM16 4	%MOISTURE	Percent Moisture	1
			8260 SPAC	GC/MS VOCs in Soil by 8260	68

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Solid results are reported on a wet weight basis

Lab Sample No 605427962 Project Sample Number 6062661 001 Date Collected 09/09/02 18 40
 Client Sample ID MM15-1 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	ReqLmt
------------	---------	-------	--------------	----------	----	--------	------	--------

Organics Prep

Percent Moisture	Method							
Percent Moisture	10 3	%		09/20/02	MAM			

GC/MS Volatiles

GC/MS VOCs in Soil by 8260	Method	EPA 8260						
1 1 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02	13 08 BME	630 20 6		
1 1 1 Trichloroethane	ND	ug/kg	5 0	09/23/02	13 08 BME	71 55 6		
1 1 2 2-Tetrachloroethane	ND	ug/kg	5 0	09/23/02	13 08 BME	79 34 5		
1 1 2 Trichloroethane	ND	ug/kg	5 0	09/23/02	13 08 BME	79 00 5		
1 1 Dichloroethane	ND	ug/kg	5 0	09/23/02	13 08 BME	75 34 3		
1 1 Dichloroethene	ND	ug/kg	5 0	09/23/02	13 08 BME	75 35 4		
1 1 Dichloropropene	ND	ug/kg	5 0	09/23/02	13 08 BME	563 58 6		
1 2 3 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	13 08 BME	87 61 6		
1 2 3 Trichloropropane	ND	ug/kg	5 0	09/23/02	13 08 BME	96 18 4		
1 2 4 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	13 08 BME	120 82 1		
1 2 4 Trimethylbenzene	ND	ug/kg	5 0	09/23/02	13 08 BME	95 63 6		
1 2 Dibromo 3 chloropropane	ND	ug/kg	5 0	09/23/02	13 08 BME	96 12 8		
1 2 Dibromoethane (EDB)	ND	ug/kg	5 0	09/23/02	13 08 BME	106 93 4		
1 2 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	13 08 BME	95 50 1		
1 2 Dichloroethane	ND	ug/kg	5 0	09/23/02	13 08 BME	107 06 2		
1 2 Dichloropropane	ND	ug/kg	5 0	09/23/02	13 08 BME	78 87 5		
1 3 5 Trimethylbenzene	ND	ug/kg	5 0	09/23/02	13 08 BME	108 67 8		
1 3 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	13 08 BME	541 73 1		
1 3 Dichloropropane	ND	ug/kg	5 0	09/23/02	13 08 BME	142 28 9		
1 4 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	13 08 BME	106 46 7		
2 2 Dichloropropane	ND	ug/kg	5 0	09/23/02	13 08 BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	5 0	09/23/02	13 08 BME	110 75 8		
2 Chlorotoluene	ND	ug/kg	5 0	09/23/02	13 08 BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	5 0	09/23/02	13 08 BME	106 43 4		
Benzene	ND	ug/kg	5 0	09/23/02	13 08 BME	71 43 2		
Bromobenzene	ND	ug/kg	5 0	09/23/02	13 08 BME	108 86 1		
Bromochloromethane	ND	ug/kg	5 0	09/23/02	13 08 BME	74 97 5		
Bromodichloromethane	ND	ug/kg	5 0	09/23/02	13 08 BME	75 27 4		
Bromoform	ND	ug/kg	5 0	09/23/02	13 08 BME	75 25 2		
Bromomethane	ND	ug/kg	5 0	09/23/02	13 08 BME	74 83 9		
Carbon tetrachloride	ND	ug/kg	5 0	09/23/02	13 08 BME	56 23-5		
Chlorobenzene	ND	ug/kg	5 0	09/23/02	13 08 BME	108 90 7		

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605427962 Project Sample Number 6062661 001 Date Collected 09/09/02 18 40
 Client Sample ID MW15 1 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
Chloroethane	ND	ug/kg	5 0	09/23/02 13 08	BME	75 00 3		
Chloroform	ND	ug/kg	5 0	09/23/02 13 08	BME	67 66 3		
Chloromethane	ND	ug/kg	5 0	09/23/02 13 08	BME	74 87 3		
cis 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 13 08	BME	156 59 2		
cis 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 13 08	BME	10061 01-5		
Dibromochloromethane	ND	ug/kg	5 0	09/23/02 13 08	BME	124 48 1		
Dibromomethane	ND	ug/kg	5 0	09/23/02 13 08	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	5 0	09/23/02 13 08	BME	75 71 8		
Ethylbenzene	ND	ug/kg	5 0	09/23/02 13 08	BME	100 41 4		
Hexachloro 1 3 butadiene	ND	ug/kg	5 0	09/23/02 13 08	BME	87 68-3		
Isopropylbenzene (Cumene)	ND	ug/kg	5 0	09/23/02 13 08	BME	98 82 8		
m&p Xylene	ND	ug/kg	5 0	09/23/02 13 08	BME			
Methylene chloride	ND	ug/kg	5 0	09/23/02 13 08	BME	75 09 2		
Naphthalene	ND	ug/kg	10	09/23/02 13 08	BME	91 20 3		
n Butylbenzene	ND	ug/kg	5 0	09/23/02 13 08	BME	104 51 8		
n Propylbenzene	ND	ug/kg	5 0	09/23/02 13 08	BME	103 65 1		
o Xylene	ND	ug/kg	5 0	09/23/02 13 08	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	5 0	09/23/02 13 08	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	5 0	09/23/02 13 08	BME	135 98 8		
Styrene	ND	ug/kg	5 0	09/23/02 13 08	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	5 0	09/23/02 13 08	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	5 0	09/23/02 13 08	BME	127 18 4		
Toluene	ND	ug/kg	5 0	09/23/02 13 08	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 13 08	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 13 08	BME	10061 02 6		
Trichloroethene	ND	ug/kg	5 0	09/23/02 13 08	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	5 0	09/23/02 13 08	BME	75 69 4		
Vinyl chloride	ND	ug/kg	5 0	09/23/02 13 08	BME	75 01 4		
Acetone	ND	ug/kg	20	09/23/02 13 08	BME	67 64 1		
2 Butanone (MEK)	ND	ug/kg	10	09/23/02 13 08	BME	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/kg	10	09/23/02 13 08	BME	108 10-1		
2 Hexanone	ND	ug/kg	100	09/23/02 13 08	BME	591 78 6		
Dibromofluoromethane (S)	96	%		09/23/02 13 08	BME	1868 53 7		
Toluene d8 (S)	96	%		09/23/02 13 08	BME	2037 26 5		
4-Bromofluorobenzene (S)	99	%		09/23/02 13 08	BME	460 00 4		
1 2 Dichloroethane d4 (S)	99	%		09/23/02 13 08	BME	17060 07 0		

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605427970 Project Sample Number 6062661-002 Date Collected 09/09/02 18 50
 Client Sample ID MW15-4 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
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Organics Prep

Percent Moisture	Method							
Percent Moisture	14 7	%		09/20/02	MAM			

GC/MS Volatiles

GC/MS Volatiles In Soil by 8260	Method	EPA 8260						
1 1 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02	13 35 BME	630 20 6		
1 1 1 Trichloroethane	ND	ug/kg	5 0	09/23/02	13 35 BME	71 55 6		
1 1 2 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02	13 35 BME	79 34 5		
1 1 2 Trichloroethane	ND	ug/kg	5 0	09/23/02	13 35 BME	79 00 5		
1 1 Dichloroethane	ND	ug/kg	5 0	09/23/02	13 35 BME	75 34 3		
1 1 Dichloroethene	ND	ug/kg	5 0	09/23/02	13 35 BME	75 35 4		
1 1 Dichloropropene	ND	ug/kg	5 0	09/23/02	13 35 BME	563-58 6		
1 2 3 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	13 35 BME	87 61 6		
1 2 3 Trichloropropane	ND	ug/kg	5 0	09/23/02	13 35 BME	96 18 4		
1 2 4 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	13 35 BME	120 82 1		
1 2 4-Trimethylbenzene	44	ug/kg	5 0	09/23/02	13 35 BME	95 63 6		
1 2 Dibromo 3 chloropropane	ND	ug/kg	5 0	09/23/02	13 35 BME	96 12 8		
1 2 Dibromoethane (EDB)	ND	ug/kg	5 0	09/23/02	13 35 BME	106 93 4		
1 2 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	13 35 BME	95 50 1		
1 2 Dichloroethane	ND	ug/kg	5 0	09/23/02	13 35 BME	107 06 2		
1 2 Dichloropropane	ND	ug/kg	5 0	09/23/02	13 35 BME	78 87 5		
1 3 5 Trimethylbenzene	34	ug/kg	5 0	09/23/02	13 35 BME	108 67 8		
1 3 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	13 35 BME	541 73 1		
1 3 Dichloropropane	ND	ug/kg	5 0	09/23/02	13 35 BME	142 28 9		
1 4 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	13 35 BME	106 46 7		
2 2 Dichloropropane	ND	ug/kg	5 0	09/23/02	13 35 BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	5 0	09/23/02	13 35 BME	110 75 8		
2 Chlorotoluene	ND	ug/kg	5 0	09/23/02	13 35 BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	5 0	09/23/02	13 35 BME	106 43 4		
Benzene	ND	ug/kg	5 0	09/23/02	13 35 BME	71 43 2		
Bromobenzene	ND	ug/kg	5 0	09/23/02	13 35 BME	108 86 1		
Bromochloromethane	ND	ug/kg	5 0	09/23/02	13 35 BME	74 97 5		
Bromodichloromethane	ND	ug/kg	5 0	09/23/02	13 35 BME	75 27 4		
Bromoform	ND	ug/kg	5 0	09/23/02	13 35 BME	75 25 2		
Bromomethane	ND	ug/kg	5 0	09/23/02	13 35 BME	74 83 9		
Carbon tetrachloride	ND	ug/kg	5 0	09/23/02	13 35 BME	56 23 5		
Chlorobenzene	ND	ug/kg	5 0	09/23/02	13 35 BME	108 90 7		
Chloroethane	ND	ug/kg	5 0	09/23/02	13 35 BME	75 00 3		

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Lab Project Number 6062661

Client Project ID BRENNTAG-SPRINGFIELD

Lab Sample No 605427970 Project Sample Number 6062661 002 Date Collected 09/09/02 18 50
 Client Sample ID MW15 4 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
Chloroform	ND	ug/kg	5 0	09/23/02 13 35	BME	67 66 3		
Chloromethane	ND	ug/kg	5 0	09/23/02 13 35	BME	74 87 3		
cis 1 2 Dichloro ethene	ND	ug/kg	5 0	09/23/02 13 35	BME	156 59 2		
cis 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 13 35	BME	10061 01 5		
Dibromochloromethane	ND	ug/kg	5 0	09/23/02 13 35	BME	124 48 1		
Dibromomethane	ND	ug/kg	5 0	09/23/02 13 35	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	5 0	09/23/02 13 35	BME	75 71 8		
Ethylbenzene	ND	ug/kg	5 0	09/23/02 13 35	BME	100 41 4		
Hexachloro 1 3 butadiene	ND	ug/kg	5 0	09/23/02 13 35	BME	87 68 3		
Isopropylbenzene (Cumene)	ND	ug/kg	5 0	09/23/02 13 35	BME	98 82 8		
m&p Xylene	ND	ug/kg	5 0	09/23/02 13 35	BME			
Methylene chloride	ND	ug/kg	5 0	09/23/02 13 35	BME	75 09 2		
Naphthalene	12	ug/kg	10	09/23/02 13 35	BME	91 20 3		
n Butylbenzene	24	ug/kg	5 0	09/23/02 13 35	BME	104 51 8		
n Propylbenzene	6 4	ug/kg	5 0	09/23/02 13 35	BME	103 65 1		
o Xylene	ND	ug/kg	5 0	09/23/02 13 35	BME	95 47 6		
p Isopropyltoluene	19	ug/kg	5 0	09/23/02 13 35	BME	99 87 6		
sec Butylbenzene	17	ug/kg	5 0	09/23/02 13 35	BME	135 98 8		
Styrene	ND	ug/kg	5 0	09/23/02 13 35	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	5 0	09/23/02 13 35	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	5 0	09/23/02 13 35	BME	127 18 4		
Toluene	ND	ug/kg	5 0	09/23/02 13 35	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 13 35	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 13 35	BME	10061 02 6		
Trichloroethene	ND	ug/kg	5 0	09/23/02 13 35	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	5 0	09/23/02 13 35	BME	75 69 4		
Vinyl chloride	ND	ug/kg	5 0	09/23/02 13 35	BME	75 01 4		
Acetone	ND	ug/kg	20	09/23/02 13 35	BME	67 64 1		
2 Butanone (MEK)	ND	ug/kg	10	09/23/02 13 35	BME	78 93 3		
4 Methyl-2 pentanone (MIBK)	ND	ug/kg	10	09/23/02 13 35	BME	108 10 1		
2 Hexanone	ND	ug/kg	100	09/23/02 13 35	BME	591 78 6		
Dibromofluoromethane (S)	99	%		09/23/02 13 35	BME	1868 53 7		
Toluene d8 (S)	99	%		09/23/02 13 35	BME	2037 26 5		
4 Bromofluorobenzene (S)	103	%		09/23/02 13 35	BME	460 00 4		
1 2 Dichloroethane d4 (S)	98	%		09/23/02 13 35	BME	17060 07-0		

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Lab Project Number 6062661

Client Project ID BRENNTAG-SPRINGFIELD

Lab Sample No 605427988 Project Sample Number 6062661 003 Date Collected 09/09/02 19 00
 Client Sample ID MM15 8 Matrix Soil Date Received 09/12/02 09 30

Parameters Results Units Report Limit Analyzed By CAS No Qual RegLmt

Organics Prep

Percent Moisture Method
 Percent Moisture 33.7 % 09/20/02 MAM

GC/MS Volatiles

GC/MS VOC In Soil by 8260	Method	EPA 8260	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
1 1 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02 14 02	BME	630 20 6		
1 1 1 Trichloroethane	ND	ug/kg	5 0	09/23/02 14 02	BME	71 55 6		
1 1 2 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02 14 02	BME	79 34 5		
1 1 2 Trichloroethane	ND	ug/kg	5 0	09/23/02 14 02	BME	79 00 5		
1 1 Dichloroethane	ND	ug/kg	5 0	09/23/02 14 02	BME	75 34 3		
1 1 Dichloroethene	ND	ug/kg	5 0	09/23/02 14 02	BME	75 35 4		
1 1 Dichloropropene	ND	ug/kg	5 0	09/23/02 14 02	BME	563 58 6		
1 2 3 Trichlorobenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	87 61 6		
1 2 3 Trichloropropane	ND	ug/kg	5 0	09/23/02 14 02	BME	96 18 4		
1 2 4 Trichlorobenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	120 82 1		
1 2 4 Trimethylbenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	95 63 6		
1 2 Dibromo-3 chloropropane	ND	ug/kg	5 0	09/23/02 14 02	BME	96 12 8		
1 2 Dibromoethane (EDB)	ND	ug/kg	5 0	09/23/02 14 02	BME	106 93 4		
1 2 Dichlorobenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	95 50 1		
1 2 Dichloroethane	ND	ug/kg	5 0	09/23/02 14 02	BME	107 06 2		
1 2 Dichloropropane	ND	ug/kg	5 0	09/23/02 14 02	BME	78 87 5		
1 3 5 Trimethylbenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	108 67 8		
1 3 Dichlorobenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	541 73 1		
1 3 Dichloropropane	ND	ug/kg	5 0	09/23/02 14 02	BME	142 28 9		
1 4 Dichlorobenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	106 46 7		
2 2 Dichloropropane	ND	ug/kg	5 0	09/23/02 14 02	BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	5 0	09/23/02 14 02	BME	110 75 8		
2 Chlorotoluene	ND	ug/kg	5 0	09/23/02 14 02	BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	5 0	09/23/02 14 02	BME	106 43 4		
Benzene	ND	ug/kg	5 0	09/23/02 14 02	BME	71 43-2		
Bromobenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	108 86 1		
Bromochloromethane	ND	ug/kg	5 0	09/23/02 14 02	BME	74 97 5		
Bromodichloromethane	ND	ug/kg	5 0	09/23/02 14 02	BME	75 27 4		
Bromoform	ND	ug/kg	5 0	09/23/02 14 02	BME	75-25 2		
Bromomethane	ND	ug/kg	5 0	09/23/02 14 02	BME	74 83-9		
Carbon tetrachloride	ND	ug/kg	5 0	09/23/02 14 02	BME	56 23 5		
Chlorobenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	108 90 7		
Chloroethane	ND	ug/kg	5 0	09/23/02 14 02	BME	75 00 3		

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605427988 Project Sample Number 6062661 003 Date Collected 09/09/02 19 00
 Client Sample ID MW15 8 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
Chloroform	ND	ug/kg	5 0	09/23/02 14 02	BME	67 66 3		
Chloromethane	ND	ug/kg	5 0	09/23/02 14 02	BME	74 87 3		
cis 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 14 02	BME	156 59 2		
cis 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 14 02	BME	10061 01 5		
Dibromochloromethane	ND	ug/kg	5 0	09/23/02 14 02	BME	124 48 1		
Dibromomethane	ND	ug/kg	5 0	09/23/02 14 02	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	5 0	09/23/02 14 02	BME	75 71 8		
Ethylbenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	100 41 4		
Hexachloro 1 3 butadiene	ND	ug/kg	5 0	09/23/02 14 02	BME	87 68 3		
Isopropylbenzene (Cumene)	ND	ug/kg	5 0	09/23/02 14 02	BME	98 82 8		
m&p Xylene	ND	ug/kg	5 0	09/23/02 14 02	BME			
Methylene chloride	ND	ug/kg	5 0	09/23/02 14 02	BME	75 09 2		
Naphthalene	ND	ug/kg	10	09/23/02 14 02	BME	91 20 3		
n Butylbenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	104 51 8		
n Propylbenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	103 65 1		
o Xylene	ND	ug/kg	5 0	09/23/02 14 02	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	5 0	09/23/02 14 02	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	135 98 8		
Styrene	ND	ug/kg	5 0	09/23/02 14 02	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	5 0	09/23/02 14 02	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	5 0	09/23/02 14 02	BME	127 18 4		
Toluene	ND	ug/kg	5 0	09/23/02 14 02	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 14 02	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 14 02	BME	10061 02 6		
Trichloroethene	ND	ug/kg	5 0	09/23/02 14 02	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	5 0	09/23/02 14 02	BME	75 69 4		
Vinyl chloride	ND	ug/kg	5 0	09/23/02 14 02	BME	75 01 4		
Acetone	ND	ug/kg	20	09/23/02 14 02	BME	67 64 1		
2 Butanone (MEK)	ND	ug/kg	10	09/23/02 14 02	BME	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/kg	10	09/23/02 14 02	BME	108 10 1		
2 Hexanone	ND	ug/kg	100	09/23/02 14 02	BME	591 78 6		
Dibromofluoromethane (S)	96	%		09/23/02 14 02	BME	1868 53 7		
Toluene d8 (S)	99	%		09/23/02 14 02	BME	2037 26 5		
4 Bromofluorobenzene (S)	98	%		09/23/02 14 02	BME	460 00 4		
1 2 Dichloroethane d4 (S)	96	%		09/23/02 14 02	BME	17060 07 0		

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Lab Project Number 6062661

Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605427996

Client Sample ID MM14-1

Project Sample Number 6062661 004

Matrix Soil

Date Collected 09/10/02 08 13

Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
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Organics Prep

Percent Moisture	Method							
Percent Moisture	12 6	%		09/21/02	MAM			

GC/MS Volatiles

GC/MS Volatiles in Soil by 8260	Method	EPA 8260						
1 1 1 Tetrachloroethane	ND	ug/kg	5 0	09/23/02	18 45 BME	630 20 6		
1 1 1 Trichloroethane	ND	ug/kg	5 0	09/23/02	18 45 BME	71 55 6		
1 1 2 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02	18 45 BME	79 34 5		
1 1 2 Trichloroethane	ND	ug/kg	5 0	09/23/02	18 45 BME	79 00 5		
1 1-Dichloroethane	ND	ug/kg	5 0	09/23/02	18 45 BME	75 34 3		
1 1 Dichloroethene	ND	ug/kg	5 0	09/23/02	18 45 BME	75 35 4		
1 1 Dichloropropene	ND	ug/kg	5 0	09/23/02	18 45 BME	563 58 6		
1 2 3 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	18 45 BME	87 61 6		
1 2 3 Trichloropropane	ND	ug/kg	5 0	09/23/02	18 45 BME	96 18 4		
1 2 4 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	18 45 BME	120 82-1		
1 2 4 Trimethylbenzene	ND	ug/kg	5 0	09/23/02	18 45 BME	95 63 6		
1 2 Dibromo 3 chloropropane	ND	ug/kg	5 0	09/23/02	18 45 BME	96 12 8		
1 2 Dibromoethane (EDB)	ND	ug/kg	5 0	09/23/02	18 45 BME	106 93 4		
1 2 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	18 45 BME	95 50 1		
1 2 Dichloroethane	ND	ug/kg	5 0	09/23/02	18 45 BME	107 06 2		
1 2 Dichloropropane	ND	ug/kg	5 0	09/23/02	18 45 BME	78 87 5		
1 3 5 Trimethylbenzene	ND	ug/kg	5 0	09/23/02	18 45 BME	108 67 8		
1 3 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	18 45 BME	541 73 1		
1 3 Dichloropropane	ND	ug/kg	5 0	09/23/02	18 45 BME	142 28 9		
1 4 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	18 45 BME	106 46 7		
2 2 Dichloropropane	ND	ug/kg	5 0	09/23/02	18 45 BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	5 0	09/23/02	18 45 BME	110 75-8		
2 Chlorotoluene	ND	ug/kg	5 0	09/23/02	18 45 BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	5 0	09/23/02	18 45 BME	106 43 4		
Benzene	ND	ug/kg	5 0	09/23/02	18 45 BME	71 43 2		
Bromobenzene	ND	ug/kg	5 0	09/23/02	18 45 BME	108 86 1		
Bromochloromethane	ND	ug/kg	5 0	09/23/02	18 45 BME	74 97 5		
Bromodichloromethane	ND	ug/kg	5 0	09/23/02	18 45 BME	75-27 4		
Bromoform	ND	ug/kg	5 0	09/23/02	18 45 BME	75 25 2		
Bromomethane	ND	ug/kg	5 0	09/23/02	18 45 BME	74 83 9		
Carbon tetrachloride	ND	ug/kg	5 0	09/23/02	18 45 BME	56 23 5		
Chlorobenzene	ND	ug/kg	5 0	09/23/02	18 45 BME	108-90 7		
Chloroethane	ND	ug/kg	5 0	09/23/02	18 45 BME	75 00 3		

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605427996 Project Sample Number 6062661 004 Date Collected 09/10/02 08 13
 Client Sample ID MW14 1 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
Chloroform	ND	ug/kg	5 0	09/23/02 18 45	BME	67 66 3		
Chloromethane	ND	ug/kg	5 0	09/23/02 18 45	BME	74 87 3		
cis 1 2-Dichloroethene	ND	ug/kg	5 0	09/23/02 18 45	BME	156 59 2		
cis 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 18 45	BME	10061 01 5		
Dibromochloromethane	ND	ug/kg	5 0	09/23/02 18 45	BME	124 48 1		
Dibromomethane	ND	ug/kg	5 0	09/23/02 18 45	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	5 0	09/23/02 18 45	BME	75 71 8		
Ethylbenzene	ND	ug/kg	5 0	09/23/02 18 45	BME	100 41 4		
Hexachloro 1 3 butadiene	ND	ug/kg	5 0	09/23/02 18 45	BME	87 68 3		
Isopropylbenzene (Cumene)	ND	ug/kg	5 0	09/23/02 18 45	BME	98 82 8		
m&p Xylene	ND	ug/kg	5 0	09/23/02 18 45	BME			
Methylene chloride	ND	ug/kg	5 0	09/23/02 18 45	BME	75 09 2		
Naphthalene	ND	ug/kg	10	09/23/02 18 45	BME	91 20 3		
n Butylbenzene	ND	ug/kg	5 0	09/23/02 18 45	BME	104 51 8		
n Propylbenzene	ND	ug/kg	5 0	09/23/02 18 45	BME	103 65 1		
o Xylene	ND	ug/kg	5 0	09/23/02 18 45	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	5 0	09/23/02 18 45	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	5 0	09/23/02 18 45	BME	135 98 8		
Styrene	ND	ug/kg	5 0	09/23/02 18 45	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	5 0	09/23/02 18 45	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	5 0	09/23/02 18 45	BME	127 18 4		
Toluene	ND	ug/kg	5 0	09/23/02 18 45	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 18 45	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 18 45	BME	10061 02 6		
Trichloroethene	ND	ug/kg	5 0	09/23/02 18 45	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	5 0	09/23/02 18 45	BME	75 69-4		
Vinyl chloride	ND	ug/kg	5 0	09/23/02 18 45	BME	75 01 4		
Acetone	ND	ug/kg	20	09/23/02 18 45	BME	67 64 1		
2 Butanone (MEK)	ND	ug/kg	10	09/23/02 18 45	BME	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/kg	10	09/23/02 18 45	BME	108 10 1		
2 Hexanone	ND	ug/kg	100	09/23/02 18 45	BME	591 78 6		
Dibromofluoromethane (S)	97	%		09/23/02 18 45	BME	1868 53 7		
Toluene d8 (S)	96	%		09/23/02 18 45	BME	2037 26 5		
4 Bromofluorobenzene (S)	97	%		09/23/02 18 45	BME	460 00 4		
1 2 Dichloroethane d4 (S)	99	%		09/23/02 18 45	BME	17060-07 0		

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428002 Project Sample Number 6062661 005 Date Collected 09/10/02 08 19
 Client Sample ID MW14 4 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	ReqLmt
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Organics Prep

Percent Moisture	Method							
Percent Moisture	16 2	%		09/21/02	MAM			

GC/MS Volatiles

GC/MS VOCs in Soil by 8260	Method	EPA 8260						
1 1 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02	19 12 BME	630 20 6		
1 1 1 Trichloroethane	ND	ug/kg	5 0	09/23/02	19 12 BME	71 55 6		
1 1 2 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02	19 12 BME	79 34 5		
1 1 2 Trichloroethane	ND	ug/kg	5 0	09/23/02	19 12 BME	79 00 5		
1 1 Dichloroethane	ND	ug/kg	5 0	09/23/02	19 12 BME	75 34 3		
1 1 Dichloroethene	ND	ug/kg	5 0	09/23/02	19 12 BME	75 35 4		
1 1 Dichloropropene	ND	ug/kg	5 0	09/23/02	19 12 BME	563 58 6		
1 2 3 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	19 12 BME	87 61 6		
1 2 3 Trichloropropane	ND	ug/kg	5 0	09/23/02	19 12 BME	96 18 4		
1 2 4 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	19 12 BME	120 82 1		
1 2 4 Trimethylbenzene	ND	ug/kg	5 0	09/23/02	19 12 BME	95 63 6		
1 2 Dibromo 3 chloropropane	ND	ug/kg	5 0	09/23/02	19 12 BME	96 12 8		
1 2 Dibromoethane (EDB)	ND	ug/kg	5 0	09/23/02	19 12 BME	106 93 4		
1 2 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	19 12 BME	95 50 1		
1 2 Dichloroethane	ND	ug/kg	5 0	09/23/02	19 12 BME	107 06 2		
1 2 Dichloropropane	ND	ug/kg	5 0	09/23/02	19 12 BME	78 87 5		
1 3 5 Trimethylbenzene	ND	ug/kg	5 0	09/23/02	19 12 BME	108 67 8		
1 3 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	19 12 BME	541 73 1		
1 3 Dichloropropane	ND	ug/kg	5 0	09/23/02	19 12 BME	142 28 9		
1 4 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	19 12 BME	106 46 7		
2 2 Dichloropropane	ND	ug/kg	5 0	09/23/02	19 12 BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	5 0	09/23/02	19 12 BME	110 75 8		
2 Chlorotoluene	ND	ug/kg	5 0	09/23/02	19 12 BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	5 0	09/23/02	19 12 BME	106 43 4		
Benzene	ND	ug/kg	5 0	09/23/02	19 12 BME	71 43 2		
Bromobenzene	ND	ug/kg	5 0	09/23/02	19 12 BME	108 86 1		
Bromochloromethane	ND	ug/kg	5 0	09/23/02	19 12 BME	74 97 5		
Bromodichloromethane	ND	ug/kg	5 0	09/23/02	19 12 BME	75 27 4		
Bromoform	ND	ug/kg	5 0	09/23/02	19 12 BME	75 25 2		
Bromomethane	ND	ug/kg	5 0	09/23/02	19 12 BME	74 83 9		
Carbon tetrachloride	ND	ug/kg	5 0	09/23/02	19 12 BME	56 23 5		
Chlorobenzene	ND	ug/kg	5 0	09/23/02	19 12 BME	108 90 7		
Chloroethane	ND	ug/kg	5 0	09/23/02	19 12 BME	75 00 3		

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Lab Project Number 6062661

Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428002 Project Sample Number 6062661 005 Date Collected 09/10/02 08 19
 Client Sample ID MW14 4 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	ReqLmt
Chloroform	ND	ug/kg	5 0	09/23/02 19 12	BME	67 66 3		
Chloromethane	ND	ug/kg	5 0	09/23/02 19 12	BME	74 87 3		
cis 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 19 12	BME	156-59-2		
cis 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 19 12	BME	10061 01 5		
Dibromochloromethane	ND	ug/kg	5 0	09/23/02 19 12	BME	124-48-1		
Dibromomethane	ND	ug/kg	5 0	09/23/02 19 12	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	5 0	09/23/02 19 12	BME	75-71 8		
Ethylbenzene	ND	ug/kg	5 0	09/23/02 19 12	BME	100 41-4		
Hexachloro 1 3 butadiene	ND	ug/kg	5 0	09/23/02 19 12	BME	87 68 3		
Isopropylbenzene (Cumene)	ND	ug/kg	5 0	09/23/02 19 12	BME	98 82 8		
m&p Xylene	ND	ug/kg	5 0	09/23/02 19 12	BME			
Methylene chloride	ND	ug/kg	5 0	09/23/02 19 12	BME	75 09 2		
Naphthalene	ND	ug/kg	10	09/23/02 19 12	BME	91 20 3		
n Butylbenzene	ND	ug/kg	5 0	09/23/02 19 12	BME	104 51 8		
n Propylbenzene	ND	ug/kg	5 0	09/23/02 19 12	BME	103 65 1		
o Xylene	ND	ug/kg	5 0	09/23/02 19 12	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	5 0	09/23/02 19 12	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	5 0	09/23/02 19 12	BME	135-98 8		
Styrene	ND	ug/kg	5 0	09/23/02 19 12	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	5 0	09/23/02 19 12	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	5 0	09/23/02 19 12	BME	127-18 4		
Toluene	ND	ug/kg	5 0	09/23/02 19 12	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 19 12	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 19 12	BME	10061 02 6		
Trichloroethene	ND	ug/kg	5 0	09/23/02 19 12	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	5 0	09/23/02 19 12	BME	75 69 4		
Vinyl chloride	ND	ug/kg	5 0	09/23/02 19 12	BME	75 01 4		
Acetone	ND	ug/kg	20	09/23/02 19 12	BME	67 64 1		
2 Butanone (MEK)	ND	ug/kg	10	09/23/02 19 12	BME	78 93 3		
4 Methyl-2 pentanone (MIBK)	ND	ug/kg	10	09/23/02 19 12	BME	108 10 1		
2 Hexanone	ND	ug/kg	100	09/23/02 19 12	BME	591-78 6		
Dibromofluoromethane (S)	98	%		09/23/02 19 12	BME	1868 53-7		
Toluene-d8 (S)	96	%		09/23/02 19 12	BME	2037-26 5		
4 Bromofluorobenzene (S)	96	%		09/23/02 19 12	BME	460 00 4		
1 2 Dichloroethane d4 (S)	98	%		09/23/02 19 12	BME	17060 07 0		

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Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428010 Project Sample Number 6062661 006 Date Collected 09/10/02 13 30
Client Sample ID MW18 1 Matrix Soil Date Received 09/12/02 09 30

Parameters Results Units Report Limit Analyzed By CAS No Qual RegLmt

Organics Prep

Percent Moisture Method
Percent Moisture 13.9 % 09/21/02 NAM

GC/MS Volatiles

GC/MS Volatiles In Soil by 8260	Method	EPA 8260	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
1 1 2 Tetrachloroethane	ND	ug/kg	4.9			09/23/02 19 39	BME	630 20 6		
1 1 Trichloroethane	ND	ug/kg	4.9			09/23/02 19 39	BME	71 55 6		
1 1 2 Tetrachloroethane	ND	ug/kg	4.9			09/23/02 19 39	BME	79 34 5		
1 1 2 Trichloroethane	ND	ug/kg	4.9			09/23/02 19 39	BME	79 00 5		
1 1 Dichloroethane	ND	ug/kg	4.9			09/23/02 19 39	BME	75 34 3		
1 1 Dichloroethene	ND	ug/kg	4.9			09/23/02 19 39	BME	75 35 4		
1 1 Dichloropropene	ND	ug/kg	4.9			09/23/02 19 39	BME	563 58 6		
1 2 3 Trichlorobenzene	ND	ug/kg	4.9			09/23/02 19 39	BME	87 61 6		
1 2 3 Trichloropropane	ND	ug/kg	4.9			09/23/02 19 39	BME	96 18 4		
1 2 4 Trichlorobenzene	ND	ug/kg	4.9			09/23/02 19 39	BME	120 82 1		
1 2 4 Trimethylbenzene	ND	ug/kg	4.9			09/23/02 19 39	BME	95 63 6		
1 2 Dibromo 3 chloropropane	ND	ug/kg	4.9			09/23/02 19 39	BME	96 12 8		
1 2 Dibromoethane (EDB)	ND	ug/kg	4.9			09/23/02 19 39	BME	106 93 4		
1 2 Dichlorobenzene	ND	ug/kg	4.9			09/23/02 19 39	BME	95 50 1		
1 2 Dichloroethane	ND	ug/kg	4.9			09/23/02 19 39	BME	107 06 2		
1 2 Dichloropropane	ND	ug/kg	4.9			09/23/02 19 39	BME	78 87 5		
1 3 5 Trimethylbenzene	ND	ug/kg	4.9			09/23/02 19 39	BME	108 67 8		
1 3 Dichlorobenzene	ND	ug/kg	4.9			09/23/02 19 39	BME	541 73 1		
1 3 Dichloropropane	ND	ug/kg	4.9			09/23/02 19 39	BME	142 28 9		
1 4 Dichlorobenzene	ND	ug/kg	4.9			09/23/02 19 39	BME	106 46 7		
2 2 Dichloropropane	ND	ug/kg	4.9			09/23/02 19 39	BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	4.9			09/23/02 19 39	BME	110 75 8		
2-Chlorotoluene	ND	ug/kg	4.9			09/23/02 19 39	BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	4.9			09/23/02 19 39	BME	106 43 4		
Benzene	ND	ug/kg	4.9			09/23/02 19 39	BME	71 43 2		
Bromobenzene	ND	ug/kg	4.9			09/23/02 19 39	BME	108 86 1		
Bromochloromethane	ND	ug/kg	4.9			09/23/02 19 39	BME	74 97 5		
Bromodichloromethane	ND	ug/kg	4.9			09/23/02 19 39	BME	75 27 4		
Bromoform	ND	ug/kg	4.9			09/23/02 19 39	BME	75 25 2		
Bromomethane	ND	ug/kg	4.9			09/23/02 19 39	BME	74 83 9		
Carbon tetrachloride	ND	ug/kg	4.9			09/23/02 19 39	BME	56 23 5		
Chlorobenzene	ND	ug/kg	4.9			09/23/02 19 39	BME	108 90 7		
Chloroethane	ND	ug/kg	4.9			09/23/02 19 39	BME	75 00 3		

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Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428010 Project Sample Number 6062661 006 Date Collected 09/10/02 13 30
Client Sample ID MW18 1 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
Chloroform	ND	ug/kg	4 9	09/23/02 19 39	BME	67 66 3		
Chloromethane	ND	ug/kg	4 9	09/23/02 19 39	BME	74 87 3		
cis 1 2-Dichloroethene	ND	ug/kg	4 9	09/23/02 19 39	BME	156 59 2		
cis 1 3-Dichloropropene	ND	ug/kg	4 9	09/23/02 19 39	BME	10061 01-5		
Dibromochloromethane	ND	ug/kg	4 9	09/23/02 19 39	BME	124 48-1		
Dibromomethane	ND	ug/kg	4 9	09/23/02 19 39	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	4 9	09/23/02 19 39	BME	75 71 8		
Ethylbenzene	ND	ug/kg	4 9	09/23/02 19 39	BME	100 41-4		
Hexachloro 1 3 butadiene	ND	ug/kg	4 9	09/23/02 19 39	BME	87 68-3		
Isopropylbenzene (Cumene)	ND	ug/kg	4 9	09/23/02 19 39	BME	98 82 8		
m&p Xylene	ND	ug/kg	4 9	09/23/02 19 39	BME			
Methylene chloride	ND	ug/kg	4 9	09/23/02 19 39	BME	75 09 2		
Naphthalene	ND	ug/kg	9 8	09/23/02 19 39	BME	91 20-3		
n Butylbenzene	ND	ug/kg	4 9	09/23/02 19 39	BME	104 51-8		
n Propylbenzene	ND	ug/kg	4 9	09/23/02 19 39	BME	103 65 1		
o Xylene	ND	ug/kg	4 9	09/23/02 19 39	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	4 9	09/23/02 19 39	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	4 9	09/23/02 19 39	BME	135 98-8		
Styrene	ND	ug/kg	4 9	09/23/02 19 39	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	4 9	09/23/02 19 39	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	4 9	09/23/02 19 39	BME	127 18 4		
Toluene	ND	ug/kg	4 9	09/23/02 19 39	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	4 9	09/23/02 19 39	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	4 9	09/23/02 19 39	BME	10061 02 6		
Trichloroethene	ND	ug/kg	4 9	09/23/02 19 39	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	4 9	09/23/02 19 39	BME	75 69 4		
Vinyl chloride	ND	ug/kg	4 9	09/23/02 19 39	BME	75 01 4		
Acetone	ND	ug/kg	20	09/23/02 19 39	BME	67 64 1		
2 Butanone (MEK)	ND	ug/kg	9 8	09/23/02 19 39	BME	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/kg	9 8	09/23/02 19 39	BME	108 10 1		
2 Hexanone	ND	ug/kg	98	09/23/02 19 39	BME	591 78 6		
Dibromofluoromethane (S)	96	%		09/23/02 19 39	BME	1868 53 7		
Toluene-d8 (S)	95	%		09/23/02 19 39	BME	2037 26 5		
4 Bromofluorobenzene (S)	98	%		09/23/02 19 39	BME	460 00 4		
1 2 Dichloroethane d4 (S)	103	%		09/23/02 19 39	BME	17060 07 0		

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Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428036 Project Sample Number 6062661 007 Date Collected 09/10/02 13 35
Client Sample ID MW18 4 Matrix Soil Date Received 09/12/02 09 30

Parameters Results Units Report Limit Analyzed By CAS No Qual RegLmt

Organics Prep

Percent Moisture Method
Percent Moisture 15.8 % 09/21/02 MAM

GC/MS Volatiles

GC/MS VOCs In Soil by 8260

Method	EPA 8260	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
1 1 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02 20 07 BME	630 20 6		
1 1 Trichloroethane	ND	ug/kg	5 0	09/23/02 20 07 BME	71 55 6		
1 1 2 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02 20 07 BME	79-34 5		
1 1 2 Trichloroethane	ND	ug/kg	5 0	09/23/02 20 07 BME	79-00 5		
1 1-Dichloroethane	ND	ug/kg	5 0	09/23/02 20 07 BME	75 34 3		
1 1-Dichloroethene	ND	ug/kg	5 0	09/23/02 20 07 BME	75-35 4		
1 1-Dichloropropene	ND	ug/kg	5 0	09/23/02 20 07 BME	563 58 6		
1 2 3 Trichlorobenzene	ND	ug/kg	5 0	09/23/02 20 07 BME	87 61 6		
1 2 3 Trichloropropane	ND	ug/kg	5 0	09/23/02 20 07 BME	96 18 4		
1 2 4 Trichlorobenzene	ND	ug/kg	5 0	09/23/02 20 07 BME	120 82 1		
1 2 4 Trimethylbenzene	ND	ug/kg	5 0	09/23/02 20 07 BME	95-63 6		
1 2-Dibromo-3 chloropropane	ND	ug/kg	5 0	09/23/02 20 07 BME	96 12 8		
1 2-Dibromoethane (EDB)	ND	ug/kg	5 0	09/23/02 20 07 BME	106 93 4		
1 2-Dichlorobenzene	ND	ug/kg	5 0	09/23/02 20 07 BME	95 50 1		
1 2-Dichloroethane	ND	ug/kg	5 0	09/23/02 20 07 BME	107 06 2		
1 2 Dichloropropane	ND	ug/kg	5 0	09/23/02 20 07 BME	78 87 5		
1 3 5 Trimethylbenzene	ND	ug/kg	5 0	09/23/02 20 07 BME	108 67 8		
1 3-Dichlorobenzene	ND	ug/kg	5 0	09/23/02 20 07 BME	541 73 1		
1 3-Dichloropropane	ND	ug/kg	5 0	09/23/02 20 07 BME	142 28 9		
1 4 Dichlorobenzene	ND	ug/kg	5 0	09/23/02 20 07 BME	106 46 7		
2 2-Dichloropropane	ND	ug/kg	5 0	09/23/02 20 07 BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	5 0	09/23/02 20 07 BME	110 75 8		
2 Chlorotoluene	ND	ug/kg	5 0	09/23/02 20 07 BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	5 0	09/23/02 20 07 BME	106 43 4		
Benzene	ND	ug/kg	5 0	09/23/02 20 07 BME	71 43 2		
Bromobenzene	ND	ug/kg	5 0	09/23/02 20 07 BME	108 86 1		
Bromochloromethane	ND	ug/kg	5 0	09/23/02 20 07 BME	74 97 5		
Bromodichloromethane	ND	ug/kg	5 0	09/23/02 20 07 BME	75 27 4		
Bromoform	ND	ug/kg	5 0	09/23/02 20 07 BME	75 25 2		
Bromomethane	ND	ug/kg	5 0	09/23/02 20 07 BME	74 83 9		
Carbon tetrachloride	ND	ug/kg	5 0	09/23/02 20 07 BME	56 23 5		
Chlorobenzene	ND	ug/kg	5 0	09/23/02 20 07 BME	108 90 7		
Chloroethane	ND	ug/kg	5 0	09/23/02 20 07 BME	75 00 3		

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428036 Project Sample Number 6062661 007 Date Collected 09/10/02 13 35
 Client Sample ID MW18 4 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	ReqLmt
Chloroform	ND	ug/kg	5 0	09/23/02 20 07	BME	67 66 3		
Chloromethane	ND	ug/kg	5 0	09/23/02 20 07	BME	74 87 3		
cis 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 20 07	BME	156-59 2		
cis 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 20 07	BME	10061 01 5		
Dibromochloromethane	ND	ug/kg	5 0	09/23/02 20 07	BME	124 48 1		
Dibromomethane	ND	ug/kg	5 0	09/23/02 20 07	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	5 0	09/23/02 20 07	BME	75 71 8		
Ethylbenzene	ND	ug/kg	5 0	09/23/02 20 07	BME	100 41 4		
Hexachloro 1 3 butadiene	ND	ug/kg	5 0	09/23/02 20 07	BME	87 68 3		
Isopropylbenzene (Cumene)	ND	ug/kg	5 0	09/23/02 20 07	BME	98 82 8		
m&p Xylene	ND	ug/kg	5 0	09/23/02 20 07	BME			
Methylene chloride	ND	ug/kg	5 0	09/23/02 20 07	BME	75 09 2		
Naphthalene	ND	ug/kg	10	09/23/02 20 07	BME	91 20 3		
n Butylbenzene	ND	ug/kg	5 0	09/23/02 20 07	BME	104 51 8		
n Propylbenzene	ND	ug/kg	5 0	09/23/02 20 07	BME	103 65 1		
o Xylene	ND	ug/kg	5 0	09/23/02 20 07	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	5 0	09/23/02 20 07	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	5 0	09/23/02 20 07	BME	135-98 8		
Styrene	ND	ug/kg	5 0	09/23/02 20 07	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	5 0	09/23/02 20 07	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	5 0	09/23/02 20 07	BME	127 18 4		
Toluene	ND	ug/kg	5 0	09/23/02 20 07	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 20 07	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 20 07	BME	10061 02 6		
Trichloroethene	ND	ug/kg	5 0	09/23/02 20 07	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	5 0	09/23/02 20 07	BME	75 69 4		
Vinyl chloride	ND	ug/kg	5 0	09/23/02 20 07	BME	75 01 4		
Acetone	ND	ug/kg	20	09/23/02 20 07	BME	67 64 1		
2 Butanone (MEK)	ND	ug/kg	10	09/23/02 20 07	BME	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/kg	10	09/23/02 20 07	BME	108 10 1		
2 Hexanone	ND	ug/kg	100	09/23/02 20 07	BME	591 78 6		
Dibromofluoromethane (S)	96	‡		09/23/02 20 07	BME	1868 53 7		
Toluene d8 (S)	96	‡		09/23/02 20 07	BME	2037 26 5		
4 Bromofluorobenzene (S)	97	‡		09/23/02 20 07	BME	460 00 4		
1 2 Dichloroethane d4 (S)	98	‡		09/23/02 20 07	BME	17060 07 0		

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428044 Project Sample Number 6062661 008 Date Collected 09/10/02 16 00
 Client Sample ID MW17 1 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	ReqLmt
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Organics Prep

Percent Moisture	Method							
Percent Moisture	5 4	%		09/21/02	MAM			

GC/MS Volatiles

GC/MS Volatiles in Soil by 8260	Method	EPA 8260						
1,1,1,2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02	20 34 BME	630 20 6		
1,1,1 Trichloroethane	ND	ug/kg	5 0	09/23/02	20 34 BME	71 55 6		
1,1,2,2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02	20 34 BME	79 34 5		
1,1,2 Trichloroethane	ND	ug/kg	5 0	09/23/02	20 34 BME	79 00 5		
1,1 Dichloroethane	ND	ug/kg	5 0	09/23/02	20 34 BME	75 34 3		
1,1 Dichloroethene	ND	ug/kg	5 0	09/23/02	20 34 BME	75 35 4		
1,1 Dichloropropene	ND	ug/kg	5 0	09/23/02	20 34 BME	563 58 6		
1,2,3 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	20 34 BME	87 61 6		
1,2,3 Trichloropropane	ND	ug/kg	5 0	09/23/02	20 34 BME	96 18 4		
1,2,4 Trichlorobenzene	ND	ug/kg	5 0	09/23/02	20 34 BME	120 82 1		
1,2,4 Trimethylbenzene	ND	ug/kg	5 0	09/23/02	20 34 BME	95 63 6		
1,2 Dibromo 3 chloropropane	ND	ug/kg	5 0	09/23/02	20 34 BME	96 12 8		
1,2 Dibromoethane (EDB)	ND	ug/kg	5 0	09/23/02	20 34 BME	106 93 4		
1,2 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	20 34 BME	95 50 1		
1,2 Dichloroethane	ND	ug/kg	5 0	09/23/02	20 34 BME	107 06 2		
1,2 Dichloropropane	ND	ug/kg	5 0	09/23/02	20 34 BME	78 87 5		
1,3,5 Trimethylbenzene	ND	ug/kg	5 0	09/23/02	20 34 BME	108 67 8		
1,3 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	20 34 BME	541 73 1		
1,3 Dichloropropane	ND	ug/kg	5 0	09/23/02	20 34 BME	142 28 9		
1,4 Dichlorobenzene	ND	ug/kg	5 0	09/23/02	20 34 BME	106 46 7		
2,2 Dichloropropane	ND	ug/kg	5 0	09/23/02	20 34 BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	5 0	09/23/02	20 34 BME	110 75 8		
2 Chlorotoluene	ND	ug/kg	5 0	09/23/02	20 34 BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	5 0	09/23/02	20 34 BME	106 43 4		
Benzene	ND	ug/kg	5 0	09/23/02	20 34 BME	71 43 2		
Bromobenzene	ND	ug/kg	5 0	09/23/02	20 34 BME	108 86 1		
Bromochloromethane	ND	ug/kg	5 0	09/23/02	20 34 BME	74 97 5		
Bromodichloromethane	ND	ug/kg	5 0	09/23/02	20 34 BME	75 27 4		
Bromoform	ND	ug/kg	5 0	09/23/02	20 34 BME	75 25 2		
Bromomethane	ND	ug/kg	5 0	09/23/02	20 34 BME	74 83 9		
Carbon tetrachloride	ND	ug/kg	5 0	09/23/02	20 34 BME	56 23 5		
Chlorobenzene	ND	ug/kg	5 0	09/23/02	20 34 BME	108 90 7		
Chloroethane	ND	ug/kg	5 0	09/23/02	20 34 BME	75 00 3		

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Lab Project Number 6062661

Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428044 Project Sample Number 6062661 008 Date Collected 09/10/02 16 00
 Client Sample ID MW17 1 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	ReqLmt
Chloroform	ND	ug/kg	5 0	09/23/02 20 34	BME	67 66 3		
Chloromethane	ND	ug/kg	5 0	09/23/02 20 34	BME	74 87 3		
cis 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 20 34	BME	156 59 2		
cis 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 20 34	BME	10061 01 5		
Dibromochloromethane	ND	ug/kg	5 0	09/23/02 20 34	BME	124 48 1		
Dibromomethane	ND	ug/kg	5 0	09/23/02 20 34	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	5 0	09/23/02 20 34	BME	75 71 8		
Ethylbenzene	ND	ug/kg	5 0	09/23/02 20 34	BME	100 41 4		
Hexachloro 1 3 butadiene	ND	ug/kg	5 0	09/23/02 20 34	BME	87 68 3		
Isopropylbenzene (Cumene)	ND	ug/kg	5 0	09/23/02 20 34	BME	98 82 8		
m&p Xylene	ND	ug/kg	5 0	09/23/02 20 34	BME			
Methylene chloride	ND	ug/kg	5 0	09/23/02 20 34	BME	75 09 2		
Naphthalene	ND	ug/kg	9 9	09/23/02 20 34	BME	91 20 3		
n Butylbenzene	ND	ug/kg	5 0	09/23/02 20 34	BME	104 51 8		
n Propylbenzene	ND	ug/kg	5 0	09/23/02 20 34	BME	103 65 1		
o Xylene	ND	ug/kg	5 0	09/23/02 20 34	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	5 0	09/23/02 20 34	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	5 0	09/23/02 20 34	BME	135 98 8		
Styrene	ND	ug/kg	5 0	09/23/02 20 34	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	5 0	09/23/02 20 34	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	5 0	09/23/02 20 34	BME	127 18 4		
Toluene	ND	ug/kg	5 0	09/23/02 20 34	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 20 34	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 20 34	BME	10061 02 6		
Trichloroethene	ND	ug/kg	5 0	09/23/02 20 34	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	5 0	09/23/02 20 34	BME	75 69 4		
Vinyl chloride	ND	ug/kg	5 0	09/23/02 20 34	BME	75 01 4		
Acetone	ND	ug/kg	20	09/23/02 20 34	BME	67 64 1		
2 Butanone (MEK)	ND	ug/kg	9 9	09/23/02 20 34	BME	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/kg	9 9	09/23/02 20 34	BME	108 10 1		
2 Hexanone	ND	ug/kg	99	09/23/02 20 34	BME	591 78 6		
Dibromofluoromethane (S)	103	%		09/23/02 20 34	BME	1868 53 7		
Toluene d8 (S)	100	%		09/23/02 20 34	BME	2037 26 5		
4 Bromofluorobenzene (S)	97	%		09/23/02 20 34	BME	460 00 4		
1 2 Dichloroethane d4 (S)	109	%		09/23/02 20 34	BME	17060 07 0		

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428051 Project Sample Number 6062661 009 Date Collected 09/10/02 16 05
 Client Sample ID MW17 4 Matrix Soil Date Received 09/12/02 09 30

Parameters Results Units Report Limit Analyzed By CAS No Qual ReqLmt

Organics Prep

Percent Moisture Method
 Percent Moisture 14.7 % 09/21/02 MAM

GC/MS Volatiles

GC/MS Volatiles In Soil by 8260	Method	EPA 8260	Report Limit	Analyzed	By	CAS No	Qual	ReqLmt
1 1 1 2-Tetrachloroethane	ND	ug/kg	5 0	09/23/02 21 01	BME	630 20 6		
1 1 1 Trichloroethane	ND	ug/kg	5 0	09/23/02 21 01	BME	71 55 6		
1 1 2 2 Tetrachloroethane	ND	ug/kg	5 0	09/23/02 21 01	BME	79 34 5		
1 1 2 Trichloroethane	ND	ug/kg	5 0	09/23/02 21 01	BME	79 00 5		
1 1 Dichloroethane	ND	ug/kg	5 0	09/23/02 21 01	BME	75 34 3		
1 1 Dichloroethene	ND	ug/kg	5 0	09/23/02 21 01	BME	75 35 4		
1 1 Dichloropropene	ND	ug/kg	5 0	09/23/02 21 01	BME	563 58 6		
1 2 3 Trichlorobenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	87 61 6		
1 2 3 Trichloropropane	ND	ug/kg	5 0	09/23/02 21 01	BME	96 18 4		
1 2 4 Trichlorobenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	120 82 1		
1 2 4 Trimethylbenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	95 63 6		
1 2 Dibromo 3 chloropropane	ND	ug/kg	5 0	09/23/02 21 01	BME	96 12 8		
1 2 Dibromoethane (EDB)	ND	ug/kg	5 0	09/23/02 21 01	BME	106 93 4		
1 2 Dichlorobenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	95 50 1		
1 2 Dichloroethane	ND	ug/kg	5 0	09/23/02 21 01	BME	107 06 2		
1 2 Dichloropropane	ND	ug/kg	5 0	09/23/02 21 01	BME	78 87 5		
1 3 5 Trimethylbenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	108 67 8		
1 3 Dichlorobenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	541 73 1		
1 3 Dichloropropane	ND	ug/kg	5 0	09/23/02 21 01	BME	142 28 9		
1 4 Dichlorobenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	106 46 7		
2 2 Dichloropropane	ND	ug/kg	5 0	09/23/02 21 01	BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	5 0	09/23/02 21 01	BME	110 75 8		
2 Chlorotoluene	ND	ug/kg	5 0	09/23/02 21 01	BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	5 0	09/23/02 21 01	BME	106 43 4		
Benzene	ND	ug/kg	5 0	09/23/02 21 01	BME	71 43 2		
Bromobenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	108 86 1		
Bromochloromethane	ND	ug/kg	5 0	09/23/02 21 01	BME	74 97 5		
Bromodichloromethane	ND	ug/kg	5 0	09/23/02 21 01	BME	75 27 4		
Bromoform	ND	ug/kg	5 0	09/23/02 21 01	BME	75 25 2		
Bromomethane	ND	ug/kg	5 0	09/23/02 21 01	BME	74 83 9		
Carbon tetrachloride	ND	ug/kg	5 0	09/23/02 21 01	BME	56 23 5		
Chlorobenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	108 90 7		
Chloroethane	ND	ug/kg	5 0	09/23/02 21 01	BME	75 00 3		

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Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428051 Project Sample Number 6062661 009 Date Collected 09/10/02 16 05
Client Sample ID MW17 4 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
Chloroform	ND	ug/kg	5 0	09/23/02 21 01	BME	67 66 3		
Chloromethane	ND	ug/kg	5 0	09/23/02 21 01	BME	74 87 3		
cis 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 21 01	BME	156 59 2		
cis-1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 21 01	BME	10061 01 5		
Dibromochloromethane	ND	ug/kg	5 0	09/23/02 21 01	BME	124 48-1		
Dibromomethane	ND	ug/kg	5 0	09/23/02 21 01	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	5 0	09/23/02 21 01	BME	75 71 8		
Ethylbenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	100 41 4		
Hexachloro 1 3 butadiene	ND	ug/kg	5 0	09/23/02 21 01	BME	87 68 3		
Isopropylbenzene (Cumene)	ND	ug/kg	5 0	09/23/02 21 01	BME	98 82 8		
m,p Xylene	ND	ug/kg	5 0	09/23/02 21 01	BME			
Methylene chloride	ND	ug/kg	5 0	09/23/02 21 01	BME	75 09 2		
Naphthalene	ND	ug/kg	9 9	09/23/02 21 01	BME	91 20 3		
n Butylbenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	104 51 8		
n Propylbenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	103 65 1		
o Xylene	ND	ug/kg	5 0	09/23/02 21 01	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	5 0	09/23/02 21 01	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	135 98 8		
Styrene	ND	ug/kg	5 0	09/23/02 21 01	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	5 0	09/23/02 21 01	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	5 0	09/23/02 21 01	BME	127 18 4		
Toluene	ND	ug/kg	5 0	09/23/02 21 01	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	5 0	09/23/02 21 01	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	5 0	09/23/02 21 01	BME	10061 02 6		
Trichloroethene	ND	ug/kg	5 0	09/23/02 21 01	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	5 0	09/23/02 21 01	BME	75 69 4		
Vinyl chloride	ND	ug/kg	5 0	09/23/02 21 01	BME	75 01 4		
Acetone	ND	ug/kg	20	09/23/02 21 01	BME	67 64 1		
2 Butanone (MEK)	ND	ug/kg	9 9	09/23/02 21 01	BME	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/kg	9 9	09/23/02 21 01	BME	108 10 1		
2 Hexanone	ND	ug/kg	99	09/23/02 21 01	BME	591 78 6		
Dibromofluoromethane (S)	98	%		09/23/02 21 01	BME	1868 53 7		
Toluene-d8 (S)	97	%		09/23/02 21 01	BME	2037 26 5		
4 Bromofluorobenzene (S)	96	%		09/23/02 21 01	BME	460 00 4		
1 2 Dichloroethane d4 (S)	103	%		09/23/02 21 01	BME	17060 07-0		

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Lab Project Number 6062661

Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428077

Project Sample Number 6062661-010

Date Collected 09/11/02 07 40

Client Sample ID MW16 1

Matrix Soil

Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	ReqLmt
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Organics Prep

Percent Moisture

Method

Percent Moisture

9.6 %

09/21/02

MAM

GC/MS Volatiles

GC/MS Volatiles in Soil by 8260

Method EPA 8260

1 1 2 Tetrachloroethane	ND	ug/kg	4.9	09/24/02	12 46 BME	630 20 6
1 1 1 Trichloroethane	ND	ug/kg	4.9	09/24/02	12 46 BME	71 55 6
1 1 2 2 Tetrachloroethane	ND	ug/kg	4.9	09/24/02	12 46 BME	79 34 5
1 1 2 Trichloroethane	ND	ug/kg	4.9	09/24/02	12 46 BME	79 00 5
1 1 Dichloroethane	ND	ug/kg	4.9	09/24/02	12 46 BME	75 34 3
1 1 Dichloroethene	ND	ug/kg	4.9	09/24/02	12 46 BME	75 35 4
1 1 Dichloropropene	ND	ug/kg	4.9	09/24/02	12 46 BME	563 58 6
1 2 3 Trichlorobenzene	ND	ug/kg	4.9	09/24/02	12 46 BME	87 61 6
1 2 3-Trichloropropane	ND	ug/kg	4.9	09/24/02	12 46 BME	96 18 4
1 2 4-Trichlorobenzene	ND	ug/kg	4.9	09/24/02	12 46 BME	120 82 1
1 2 4-Trimethylbenzene	ND	ug/kg	4.9	09/24/02	12 46 BME	95 63 6
1 2 Dibromo 3 chloropropane	ND	ug/kg	4.9	09/24/02	12 46 BME	96 12 8
1 2 Dibromoethane (EDB)	ND	ug/kg	4.9	09/24/02	12 46 BME	106 93 4
1 2 Dichlorobenzene	ND	ug/kg	4.9	09/24/02	12 46 BME	95 50 1
1 2 Dichloroethane	ND	ug/kg	4.9	09/24/02	12 46 BME	107 06 2
1 2 Dichloropropane	ND	ug/kg	4.9	09/24/02	12 46 BME	78 87 5
1 3 5 Trimethylbenzene	ND	ug/kg	4.9	09/24/02	12 46 BME	108 67 8
1 3 Dichlorobenzene	ND	ug/kg	4.9	09/24/02	12 46 BME	541 73 1
1 3 Dichloropropane	ND	ug/kg	4.9	09/24/02	12 46 BME	142 28 9
1 4 Dichlorobenzene	ND	ug/kg	4.9	09/24/02	12 46 BME	106 46 7
2 2 Dichloropropane	ND	ug/kg	4.9	09/24/02	12 46 BME	594 20 7
2 Chloroethylvinyl ether	ND	ug/kg	4.9	09/24/02	12 46 BME	110 75 8
2 Chlorotoluene	ND	ug/kg	4.9	09/24/02	12 46 BME	95 49 8
4 Chlorotoluene	ND	ug/kg	4.9	09/24/02	12 46 BME	106 43 4
Benzene	ND	ug/kg	4.9	09/24/02	12 46 BME	71 43 2
Bromobenzene	ND	ug/kg	4.9	09/24/02	12 46 BME	108 86 1
Bromochloromethane	ND	ug/kg	4.9	09/24/02	12 46 BME	74 97 5
Bromodichloromethane	ND	ug/kg	4.9	09/24/02	12 46 BME	75-27 4
Bromoform	ND	ug/kg	4.9	09/24/02	12 46 BME	75 25 2
Bromomethane	ND	ug/kg	4.9	09/24/02	12 46 BME	74 83 9
Carbon tetrachloride	ND	ug/kg	4.9	09/24/02	12 46 BME	56 23 5
Chlorobenzene	ND	ug/kg	4.9	09/24/02	12 46 BME	108 90 7
Chloroethane	ND	ug/kg	4.9	09/24/02	12 46 BME	75 00 3

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428077 Project Sample Number 6062661 010 Date Collected 09/11/02 07 40
 Client Sample ID MW16 1 Matrix Soil Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
Chloroform	ND	ug/kg	4 9	09/24/02 12 46	BME	67 66 3		
Chloromethane	ND	ug/kg	4 9	09/24/02 12 46	BME	74 87 3		
cis 1 2 Dichloroethene	ND	ug/kg	4 9	09/24/02 12 46	BME	156-59-2		
cis 1 3 Dichloropropene	ND	ug/kg	4 9	09/24/02 12 46	BME	10061 01 5		
Dibromochloromethane	ND	ug/kg	4 9	09/24/02 12 46	BME	124 48 1		
Dibromomethane	ND	ug/kg	4 9	09/24/02 12 46	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	4 9	09/24/02 12 46	BME	75 71 8		
Ethylbenzene	1 0	J ug/kg	4 9	09/24/02 12 46	BME	100 41 4	1	
Hexachloro 1 3-butadiene	ND	ug/kg	4 9	09/24/02 12 46	BME	87 68 3		
Isopropylbenzene (Cumene)	ND	ug/kg	4 9	09/24/02 12 46	BME	98 82 8		
m&p Xylene	ND	ug/kg	4 9	09/24/02 12 46	BME			
Methylene chloride	ND	ug/kg	4 9	09/24/02 12 46	BME	75 09 2		
Naphthalene	1 3	J ug/kg	9 8	09/24/02 12 46	BME	91 20 3	1	
n Butylbenzene	ND	ug/kg	4 9	09/24/02 12 46	BME	104 51 8		
n Propylbenzene	ND	ug/kg	4 9	09/24/02 12 46	BME	103 65 1		
o Xylene	ND	ug/kg	4 9	09/24/02 12 46	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	4 9	09/24/02 12 46	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	4 9	09/24/02 12 46	BME	135 98 8		
Styrene	ND	ug/kg	4 9	09/24/02 12 46	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	4 9	09/24/02 12 46	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	4 9	09/24/02 12 46	BME	127 18 4		
Toluene	ND	ug/kg	4 9	09/24/02 12 46	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	4 9	09/24/02 12 46	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	4 9	09/24/02 12 46	BME	10061 02 6		
Trichloroethene	ND	ug/kg	4 9	09/24/02 12 46	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	4 9	09/24/02 12 46	BME	75 69 4		
Vinyl chloride	ND	ug/kg	4 9	09/24/02 12 46	BME	75 01 4		
Acetone	6 8	J ug/kg	20	09/24/02 12 46	BME	67 64 1	1	
2 Butanone (MEK)	ND	ug/kg	9 8	09/24/02 12 46	BME	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/kg	9 8	09/24/02 12 46	BME	108 10 1		
2 Hexanone	ND	ug/kg	98	09/24/02 12 46	BME	591 78 6		
Dibromofluoromethane (S)	102	%		09/24/02 12 46	BME	1868-53 7		
Toluene d8 (S)	96	%		09/24/02 12 46	BME	2037 26 5		
4 Bromofluorobenzene (S)	96	%		09/24/02 12 46	BME	460 00 4		
1 2 Dichloroethane d4 (S)	96	%		09/24/02 12 46	BME	17060 07 0		

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Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428085 Project Sample Number 6062661 011 Date Collected 09/11/02 07 45
 Client Sample ID MW16 4 Matrix Soil Date Received 09/12/02 09 30

Parameters Results Units Report Limit Analyzed By CAS No Qual RegLmt

Organics Prep

Percent Moisture Method
 Percent Moisture 21.8 % 09/21/02 MAM

GC/MS Volatiles

GC/MS Volatiles	Method	EPA 8260	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
GC/MS Volatiles in Soil by 8260	Method	EPA 8260						
1 1 1 2 Tetrachloroethane	ND	ug/kg	5 0	09/24/02 13 13	BME	630 20 6		
1 1 1 Trichloroethane	ND	ug/kg	5 0	09/24/02 13 13	BME	71 55 6		
1 1 2 2 Tetrachloroethane	ND	ug/kg	5 0	09/24/02 13 13	BME	79 34 5		
1 1 2-Trichloroethane	ND	ug/kg	5 0	09/24/02 13 13	BME	79 00 5		
1 1-Dichloroethane	ND	ug/kg	5 0	09/24/02 13 13	BME	75 34 3		
1 1 Dichloroethene	ND	ug/kg	5 0	09/24/02 13 13	BME	75 35 4		
1 1 Dichloropropene	ND	ug/kg	5 0	09/24/02 13 13	BME	563 58 6		
1 2 3 Trichlorobenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	87 61 6		
1 2 3-Trichloropropane	ND	ug/kg	5 0	09/24/02 13 13	BME	96 18 4		
1 2 4 Trichlorobenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	120 82 1		
1 2 4 Trimethylbenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	95 63 6		
1 2 Dibromo 3 chloropropane	ND	ug/kg	5 0	09/24/02 13 13	BME	96 12 8		
1 2 Dibromoethane (EDB)	ND	ug/kg	5 0	09/24/02 13 13	BME	106 93 4		
1 2 Dichlorobenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	95 50 1		
1 2 Dichloroethane	ND	ug/kg	5 0	09/24/02 13 13	BME	107 06 2		
1 2 Dichloropropane	ND	ug/kg	5 0	09/24/02 13 13	BME	78 87 5		
1 3 5 Trimethylbenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	108 67 8		
1 3 Dichlorobenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	541 73 1		
1 3 Dichloropropane	ND	ug/kg	5 0	09/24/02 13 13	BME	142 28 9		
1 4 Dichlorobenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	106 46 7		
2 2 Dichloropropane	ND	ug/kg	5 0	09/24/02 13 13	BME	594 20 7		
2 Chloroethylvinyl ether	ND	ug/kg	5 0	09/24/02 13 13	BME	110 75 8		
2 Chlorotoluene	ND	ug/kg	5 0	09/24/02 13 13	BME	95 49 8		
4 Chlorotoluene	ND	ug/kg	5 0	09/24/02 13 13	BME	106 43 4		
Benzene	ND	ug/kg	5 0	09/24/02 13 13	BME	71 43 2		
Bromobenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	108 86 1		
Bromochloromethane	ND	ug/kg	5 0	09/24/02 13 13	BME	74 97 5		
Bromodichloromethane	ND	ug/kg	5 0	09/24/02 13 13	BME	75 27 4		
Bromoform	ND	ug/kg	5 0	09/24/02 13 13	BME	75 25 2		
Bromomethane	ND	ug/kg	5 0	09/24/02 13 13	BME	74-83 9		
Carbon tetrachloride	ND	ug/kg	5 0	09/24/02 13 13	BME	56 23 5		
Chlorobenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	108 90 7		
Chloroethane	ND	ug/kg	5 0	09/24/02 13 13	BME	75 00 3		

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Lab Project Number 6062661

Client Project ID BRENNTAG SPRINGFIELD

Lab Sample No 605428085
Client Sample ID MW16 4

Project Sample Number 6062661 011
Matrix Soil

Date Collected 09/11/02 07 45
Date Received 09/12/02 09 30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
Chloroform	ND	ug/kg	5 0	09/24/02 13 13	BME	67 66 3		
Chloromethane	ND	ug/kg	5 0	09/24/02 13 13	BME	74 87 3		
cis 1 2 Dichloroethene	ND	ug/kg	5 0	09/24/02 13 13	BME	156 59 2		
cis 1 3 Dichloropropene	ND	ug/kg	5 0	09/24/02 13 13	BME	10061 01 5		
Dibromochloromethane	ND	ug/kg	5 0	09/24/02 13 13	BME	124 48 1		
Dibromomethane	ND	ug/kg	5 0	09/24/02 13 13	BME	74 95 3		
Dichlorodifluoromethane	ND	ug/kg	5 0	09/24/02 13 13	BME	75 71 8		
Ethylbenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	100 41 4		
Hexachloro 1 3 butadiene	ND	ug/kg	5 0	09/24/02 13 13	BME	87 68 3		
Isopropylbenzene (Cumene)	ND	ug/kg	5 0	09/24/02 13 13	BME	98 82 8		
m&p Xylene	ND	ug/kg	5 0	09/24/02 13 13	BME			
Methylene chloride	ND	ug/kg	5 0	09/24/02 13 13	BME	75 09 2		
Naphthalene	ND	ug/kg	10	09/24/02 13 13	BME	91 20 3		
n Butylbenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	104 51 8		
n Propylbenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	103 65 1		
o Xylene	ND	ug/kg	5 0	09/24/02 13 13	BME	95 47 6		
p Isopropyltoluene	ND	ug/kg	5 0	09/24/02 13 13	BME	99 87 6		
sec Butylbenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	135 98 8		
Styrene	ND	ug/kg	5 0	09/24/02 13 13	BME	100 42 5		
tert Butylbenzene	ND	ug/kg	5 0	09/24/02 13 13	BME	98 06 6		
Tetrachloroethene	ND	ug/kg	5 0	09/24/02 13 13	BME	127 18 4		
Toluene	ND	ug/kg	5 0	09/24/02 13 13	BME	108 88 3		
trans 1 2 Dichloroethene	ND	ug/kg	5 0	09/24/02 13 13	BME	156 60 5		
trans 1 3 Dichloropropene	ND	ug/kg	5 0	09/24/02 13 13	BME	10061 02 6		
Trichloroethene	ND	ug/kg	5 0	09/24/02 13 13	BME	79 01 6		
Trichlorofluoromethane	ND	ug/kg	5 0	09/24/02 13 13	BME	75 69 4		
Vinyl chloride	ND	ug/kg	5 0	09/24/02 13 13	BME	75 01 4		
Acetone	7 5	J ug/kg	20	09/24/02 13 13	BME	67 64 1		1
2 Butanone (MEK)	ND	ug/kg	10	09/24/02 13 13	BME	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/kg	10	09/24/02 13 13	BME	108 10 1		
2 Hexanone	ND	ug/kg	100	09/24/02 13 13	BME	591 78 6		
Dibromofluoromethane (S)	97	%		09/24/02 13 13	BME	1868 53 7		
Toluene d8 (S)	94	%		09/24/02 13 13	BME	2037 26 5		
4 Bromofluorobenzene (S)	96	%		09/24/02 13 13	BME	460 00 4		
1 2 Dichloroethane d4 (S)	99	%		09/24/02 13 13	BME	17060 07-0		

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Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

PARAMETER FOOTNOTES

- ND Not detected or above adjusted reporting limit
- NC Not Calculable
- J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- MDL Adjusted Method Detection Limit
- (S) Surrogate
- [1] Detected but below the PRL therefore result is an estimated concentration (CLP J-Flag)

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QUALITY CONTROL DATA

Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

QC Batch 130284 Analysis Method EPA 8260
QC Batch Method EPA 8260 Analysis Description GC/MS VOCs in Soil by 8260
Associated Lab Samples 605427962 605427970 605427988

METHOD BLANK 05454362
Associated Lab Samples 605427962 605427970 605427988

Parameter	Units	Blank Result	Reporting Limit	Footnotes
1 1 2 Tetrachloroethane	ug/kg	ND	5 0	
1 1 1 Trichloroethane	ug/kg	ND	5 0	
1 1 2 2 Tetrachloroethane	ug/kg	ND	5 0	
1 1 2 Trichloroethane	ug/kg	ND	5 0	
1 1 Dichloroethane	ug/kg	ND	5 0	
1 1 Dichloroethene	ug/kg	ND	5 0	
1 1 Dichloropropene	ug/kg	ND	5 0	
1 2 3 Trichlorobenzene	ug/kg	ND	5 0	
1 2 3 Trichloropropane	ug/kg	ND	5 0	
1 2 4 Trichlorobenzene	ug/kg	ND	5 0	
1 2 4 Trimethylbenzene	ug/kg	ND	5 0	
1 2 Dibromo 3 chloropropane	ug/kg	ND	5 0	
1 2 Dibromoethane (EDB)	ug/kg	ND	5 0	
1 2 Dichlorobenzene	ug/kg	ND	5 0	
1 2 Dichloroethane	ug/kg	ND	5 0	
1 2 Dichloropropane	ug/kg	ND	5 0	
1 3 5 Trimethylbenzene	ug/kg	ND	5 0	
1 3 Dichlorobenzene	ug/kg	ND	5 0	
1 3 Dichloropropane	ug/kg	ND	5 0	
1 4 Dichlorobenzene	ug/kg	ND	5 0	
2 2 Dichloropropane	ug/kg	ND	5 0	
2 Chloroethylvinyl ether	ug/kg	ND	5 0	
2 Chlorotoluene	ug/kg	ND	5 0	
4 Chlorotoluene	ug/kg	ND	5 0	
Benzene	ug/kg	ND	5 0	
Bromobenzene	ug/kg	ND	5 0	
Bromochloromethane	ug/kg	ND	5 0	
Bromodichloromethane	ug/kg	ND	5 0	
Bromoform	ug/kg	ND	5 0	
Bromomethane	ug/kg	ND	5 0	
Carbon tetrachloride	ug/kg	ND	5 0	

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QUALITY CONTROL DATA

Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

METHOD BLANK 605454362
Associated Lab Samples 605427962 605427970 605427988

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Chlorobenzene	ug/kg	ND	5 0	
Chloroethane	ug/kg	ND	5 0	
Chloroform	ug/kg	ND	5 0	
Chloromethane	ug/kg	ND	5 0	
cis 1 2-Dichloroethene	ug/kg	ND	5 0	
cis 1 3 Dichloropropene	ug/kg	ND	5 0	
Dibromochloromethane	ug/kg	ND	5 0	
Dibromomethane	ug/kg	ND	5 0	
Dichlorodifluoromethane	ug/kg	ND	5 0	
Ethylbenzene	ug/kg	ND	5 0	
Hexachloro 1 3-butadiene	ug/kg	ND	5 0	
Isopropylbenzene (Cumene)	ug/kg	ND	5 0	
m&p Xylene	ug/kg	ND	5 0	
Methylene chloride	ug/kg	17	5 0	
Naphthalene	ug/kg	ND	10	
n Butylbenzene	ug/kg	ND	5 0	
n Propylbenzene	ug/kg	ND	5 0	
o Xylene	ug/kg	ND	5 0	
p Isopropyltoluene	ug/kg	ND	5 0	
sec Butylbenzene	ug/kg	ND	5 0	
Styrene	ug/kg	ND	5 0	
tert Butylbenzene	ug/kg	ND	5 0	
Tetrachloroethene	ug/kg	ND	5 0	
Toluene	ug/kg	ND	5 0	
trans 1 2 Dichloroethene	ug/kg	ND	5 0	
trans 1 3 Dichloropropene	ug/kg	ND	5 0	
Trichloroethene	ug/kg	ND	5 0	
Trichlorofluoromethane	ug/kg	ND	5 0	
Vinyl chloride	ug/kg	ND	5 0	
Dibromofluoromethane (S)	μ	102		
Toluene d8 (S)	μ	97		
4 Bromofluorobenzene (S)	μ	99		
1 2 Dichloroethane-d4 (S)	μ	104		

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QUALITY CONTROL DATA

Lab Project Number 6062661
Client Project ID BRENTAG SPRINGFIELD

LABORATORY CONTROL SAMPLE 605454370

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Footnotes
1 1 1 2 Tetrachloroethane	ug/kg	50 00	54 72	109	82 123	
1 1 1 Trichloroethane	ug/kg	50 00	56 98	114	74 130	
1 1 2 2-Tetrachloroethane	ug/kg	50 00	53 04	106	71 130	
1 1 2 Trichloroethane	ug/kg	50 00	55 15	110	82 122	
1 1 DFC chloroethane	ug/kg	50 00	61 45	123	75 126	
1 1 1 Dichloroethene	ug/kg	50 00	62 96	126	73 128	
1 1 Dichloropropene	ug/kg	50 00	59 14	118	71 132	
1 2 3 Trichlorobenzene	ug/kg	50 00	54 57	109	69 136	
1 2 3 Trichloropropane	ug/kg	50 00	54 39	109	69 136	
1 2 4 Trichlorobenzene	ug/kg	50 00	53 81	108	67 132	
1 2 4 Trimethylbenzene	ug/kg	50 00	56 74	113	77 121	
1 2 Dibromo 3 chloropropane	ug/kg	50 00	52 36	105	64 145	
1 2 Dibromoethane (EDB)	ug/kg	50 00	55 28	111	80 124	
1 2 Dichlorobenzene	ug/kg	50 00	56 57	113	78 123	
1 2 Dichloroethane	ug/kg	50 00	57 50	115	78 125	
1 2 Dichloropropane	ug/kg	50 00	59 18	118	78 126	
1 3 5 Trimethylbenzene	ug/kg	50 00	59 48	119	77 122	
1 3 Dichlorobenzene	ug/kg	50 00	55 86	112	77 121	
1 3 Dichloropropane	ug/kg	50 00	54 11	108	79 123	
1 4 Dichlorobenzene	ug/kg	50 00	54 58	109	75 122	
2 2 Dichloropropane	ug/kg	50 00	60 28	121	74 128	
2 Chlorotoluene	ug/kg	50 00	58 12	116	79 120	
4 Chlorotoluene	ug/kg	50 00	57 42	115	73 126	
Benzene	ug/kg	50 00	58 88	118	79 123	
Bromobenzene	ug/kg	50 00	54 59	109	77 126	
Bromochloromethane	ug/kg	50 00	59 88	120	75 131	
Bromodichloromethane	ug/kg	50 00	62 21	124	79 129	
Bromoform	ug/kg	50 00	50 10	100	73 135	
Bromomethane	ug/kg	50 00	21 61	43	22 165	
Carbon tetrachloride	ug/kg	50 00	57 87	116	74 129	
Chlorobenzene	ug/kg	50 00	56 76	114	83 116	
Chloroethane	ug/kg	50 00	44 28	89	33 149	
Chloroform	ug/kg	50 00	57 37	115	77 125	
Chloromethane	ug/kg	50 00	49 06	98	38 149	
cis 1 2 Dichloroethene	ug/kg	50 00	59 91	120	78 125	
cis 1 3 Dichloropropene	ug/kg	50 00	58 36	117	79 128	
Dibromochloromethane	ug/kg	50 00	53 34	107	82 124	

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QUALITY CONTROL DATA

Pace Analytical Services Inc
 9608 Loiret Blvd
 Lenexa KS 66219
 Phone 913 599 5665
 Fax 913 599 1759

Lab Project Number 6062661
 Client Project ID BRENNTAG-SPRINGFIELD

LABORATORY CONTROL SAMPLE 60-354370

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Dibromomethane	ug/kg	50 00	57 33	115	76 130	
Dichlorodifluoromethane	ug/kg	50 00	46 51	93	12 161	
Ethylbenzene	ug/kg	50 00	57 51	115	79 121	
Hexachloro 1 3 butadiene	ug/kg	50 00	57 74	115	66 136	
Isopropylbenzene (Cumene)	ug/kg	50 00	55 86	112	76 124	
m-Xylene	ug/kg	100 00	114 2	114	78 121	
Methylene chloride	ug/kg	50 00	78 30	157	69 132	1
Naphthalene	ug/kg	50 00	54 66	109	61 143	
n Butylbenzene	ug/kg	50 00	60 25	121	67 131	
n Propylbenzene	ug/kg	50 00	58 74	117	76 124	
o Xylene	ug/kg	50 00	57 09	114	81 121	
p-Isopropyltoluene	ug/kg	50 00	57 50	115	73 124	
sec Butylbenzene	ug/kg	50 00	61 16	122	74 126	
Styrene	ug/kg	50 00	57 40	115	80 124	
tert Butylbenzene	ug/kg	50 00	59 51	119	72 133	
Tetrachloroethene	ug/kg	50 00	52 58	105	59 150	
Toluene	ug/kg	50 00	53 16	106	78 123	
trans 1 2 Dichloroethene	ug/kg	50 00	62 96	126	70 133	
trans 1 3 Dichloropropene	ug/kg	50 00	54 63	109	72 139	
Trichloroethene	ug/kg	50 00	62 48	125	78 126	
Trichlorofluoromethane	ug/kg	50 00	59 46	119	57 140	
Vinyl chloride	ug/kg	50 00	54 23	108	48-141	
Dibromofluoromethane (S)				102	85 113	
Toluene d8 (S)				99	87 112	
4 Bromofluorobenzene (S)				97	72 124	
1 2 Dichloroethane d4 (S)				104	80 125	

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QUALITY CONTROL DATA

Pace Analytical Services Inc
 9608 Loiret Blvd
 Lenexa, KS 66219
 Phone 913 599 5665
 Fax 913 599 1759

Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

QC Batch 130303 Analysis Method EPA 8260
 QC Batch Method EPA 8260 Analysis Description GC/MS VOCs in Soil by 8260
 Associated Lab Samples 605427996 605428002 605428010 605428036 605428044
 605428051

METHOD BLANK 605455112
 Associated Lab Samples 605427996 605428002 605428010 605428036 605428044 605428051

Parameter	Units	Blank Result	Reporting Limit	Footnotes
1 1 2 Tetrachloroethane	ug/kg	ND	5 0	
1 1 1 Trichloroethane	ug/kg	ND	5 0	
1 1 2 2 Tetrachloroethane	ug/kg	ND	5 0	
1 1 2 Trichloroethane	ug/kg	ND	5 0	
1 1 Dichloroethane	ug/kg	ND	5 0	
1 1 Dichloroethene	ug/kg	ND	5 0	
1 1 Dichloropropene	ug/kg	ND	5 0	
1 2 3 Trichlorobenzene	ug/kg	ND	5 0	
1 2 3 Trichloropropane	ug/kg	ND	5 0	
1 2 4 Trichlorobenzene	ug/kg	ND	5 0	
1 2 4 Trimethylbenzene	ug/kg	ND	5 0	
1 2 Dibromo 3 chloropropane	ug/kg	ND	5 0	
1 2 Dibromoethane (EDB)	ug/kg	ND	5 0	
1 2 Dichlorobenzene	ug/kg	ND	5 0	
1 2 Dichloroethane	ug/kg	ND	5 0	
1 2 Dichloropropane	ug/kg	ND	5 0	
1 3 5 Trimethylbenzene	ug/kg	ND	5 0	
1 3 Dichlorobenzene	ug/kg	ND	5 0	
1 3 Dichloropropane	ug/kg	ND	5 0	
1 4 Dichlorobenzene	ug/kg	ND	5 0	
2 2 Dichloropropane	ug/kg	ND	5 0	
2 Chloroethylvinyl ether	ug/kg	ND	5 0	
2 Chlorotoluene	ug/kg	ND	5 0	
4 Chlorotoluene	ug/kg	ND	5 0	
Benzene	ug/kg	ND	5 0	
Bromobenzene	ug/kg	ND	5 0	
Bromochloromethane	ug/kg	ND	5 0	
Bromodichloromethane	ug/kg	ND	5 0	
Bromoform	ug/kg	ND	5 0	
Bromomethane	ug/kg	ND	5 0	

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QUALITY CONTROL DATA

Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

METHOD BLANK 605455112
 Associated Lab Samples 605427996 605428002 605428010 605428036 605428044 605428051

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
Carbon tetrachloride	ug/kg	ND	5 0	
Chlorobenzene	ug/kg	ND	5 0	
Chloroethane	ug/kg	ND	5 0	
Chloroform	ug/kg	ND	5 0	
Chloromethane	ug/kg	ND	5 0	
cis 1 2 Dichloroethene	ug/kg	ND	5 0	
cis 1 3 Dichloropropene	ug/kg	ND	5 0	
Dibromochloromethane	ug/kg	ND	5 0	
Dibromomethane	ug/kg	ND	5 0	
Dichlorodifluoromethane	ug/kg	ND	5 0	
Ethylbenzene	ug/kg	ND	5 0	
Hexachloro 1 3 butadiene	ug/kg	ND	5 0	
Isopropylbenzene (Cumene)	ug/kg	ND	5 0	
m&p Xylene	ug/kg	ND	5 0	
Methylene chloride	ug/kg	17	5 0	
Naphthalene	ug/kg	ND	10	
n Butylbenzene	ug/kg	ND	5 0	
n Propylbenzene	ug/kg	ND	5 0	
o Xylene	ug/kg	ND	5 0	
p Isopropyltoluene	ug/kg	ND	5 0	
sec Butylbenzene	ug/kg	ND	5 0	
Styrene	ug/kg	ND	5 0	
tert Butylbenzene	ug/kg	ND	5 0	
Tetrachloroethene	ug/kg	ND	5 0	
Toluene	ug/kg	ND	5 0	
trans 1 2 Dichloroethene	ug/kg	ND	5 0	
trans 1 3 Dichloropropene	ug/kg	ND	5 0	
Trichloroethene	ug/kg	ND	5 0	
Trichlorofluoromethane	ug/kg	ND	5 0	
Vinyl chloride	ug/kg	ND	5 0	
Dibromofluoromethane (S)	%	102		
Toluene d8 (S)	%	97		
4 Bromofluorobenzene (S)	%	99		
1 2 Dichloroethane d4 (S)	%	104		

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QUALITY CONTROL DATA

Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

LABORATORY CONTROL SAMPLE 605455120

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Footnotes
1 1 1 2-Tetrachloroethane	ug/kg	50 00	54 72	109	82 123	
1 1 1 Trichloroethane	ug/kg	50 00	56 98	114	74 130	
1 1 2 2 Tetrachloroethane	ug/kg	50 00	53 04	106	71 130	
1 1 2 Trichloroethane	ug/kg	50 00	55 15	110	82 122	
1 1 Dichloroethane	ug/kg	50 00	61 45	123	75 126	
1 Dichloroethene	ug/kg	50 00	62 96	126	73 128	
1 1-Dichloropropene	ug/kg	50 00	59 14	118	71 132	
1 2 3 Trichlorobenzene	ug/kg	50 00	54 57	109	69 136	
1 2 3 Trichloropropane	ug/kg	50 00	54 39	109	69 136	
1 2 4 Trichlorobenzene	ug/kg	50 00	53 81	108	67 132	
1 2 4 Trimethylbenzene	ug/kg	50 00	56 74	113	77 121	
1 2 Dibromo 3 chloropropane	ug/kg	50 00	52 36	105	64 145	
1 2 Dibromoethane (EDB)	ug/kg	50 00	55 28	111	80 124	
1 2 Dichlorobenzene	ug/kg	50 00	56 57	113	78 123	
1 2 Dichloroethane	ug/kg	50 00	57 50	115	78 125	
1 2 Dichloropropane	ug/kg	50 00	59 18	118	78 126	
1 3 5 Trimethylbenzene	ug/kg	50 00	59 48	119	77 122	
1 3 Dichlorobenzene	ug/kg	50 00	55 86	112	77 121	
1 3 Dichloropropane	ug/kg	50 00	54 11	108	79 123	
1 4 Dichlorobenzene	ug/kg	50 00	54 58	109	75 122	
2 2 Dichloropropane	ug/kg	50 00	60 28	121	74 128	
2 Chlorotoluene	ug/kg	50 00	58 12	116	79 120	
4 Chlorotoluene	ug/kg	50 00	57 42	115	73 126	
Benzene	ug/kg	50 00	58 88	118	79 123	
Bromobenzene	ug/kg	50 00	54 59	109	77-126	
Bromochloromethane	ug/kg	50 00	59 88	120	75 131	
Bromodichloromethane	ug/kg	50 00	62 21	124	79 129	
Bromoform	ug/kg	50 00	50 10	100	73 135	
Bromomethane	ug/kg	50 00	21 61	43	22-165	
Carbon tetrachloride	ug/kg	50 00	57 87	116	74 129	
Chlorobenzene	ug/kg	50 00	56 76	114	83 116	
Chloroethane	ug/kg	50 00	44 28	89	33 149	
Chloroform	ug/kg	50 00	57 37	115	77 125	
Chloromethane	ug/kg	50 00	49 06	98	38 149	
cis-1 2 Dichloroethene	ug/kg	50 00	59 91	120	78 125	
cis 1 3-Dichloropropene	ug/kg	50 00	58 36	117	79 128	
Dibromochloromethane	ug/kg	50 00	53 34	107	82-124	

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QUALITY CONTROL DATA

Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

LABORATORY CONTROL SAMPLE 605455120

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Dibromomethane	ug/kg	50 00	57 33	115	76 130	
Dichlorodifluoromethane	ug/kg	50 00	46 51	93	12 161	
Ethylbenzene	ug/kg	50 00	57 51	115	79 121	
Hexachloro-1,3-butadiene	ug/kg	50 00	57 74	115	66 136	
Isopropylbenzene (Cumene)	ug/kg	50 00	55 86	112	76 124	
m-Xylene	ug/kg	100 00	114 2	114	78-121	
Methylene chloride	ug/kg	50 00	78 30	157	69 132	2
Naphthalene	ug/kg	50 00	54 66	109	61 143	
n-Butylbenzene	ug/kg	50 00	60 25	121	67 131	
n-Propylbenzene	ug/kg	50 00	58 74	117	76 124	
o-Xylene	ug/kg	50 00	57 09	114	81 121	
p-Isopropyltoluene	ug/kg	50 00	57 50	115	73 124	
sec-Butylbenzene	ug/kg	50 00	61 16	122	74 126	
Styrene	ug/kg	50 00	57 40	115	80 124	
tert-Butylbenzene	ug/kg	50 00	59 51	119	72 133	
Tetrachloroethene	ug/kg	50 00	52 58	105	59 150	
Toluene	ug/kg	50 00	53 16	106	78 123	
trans-1,2-Dichloroethene	ug/kg	50 00	62 96	126	70 133	
trans-1,3-Dichloropropene	ug/kg	50 00	54 63	109	72 139	
Trichloroethene	ug/kg	50 00	62 48	125	78 126	
Trichlorofluoromethane	ug/kg	50 00	59 46	119	57 140	
Vinyl chloride	ug/kg	50 00	54 23	108	48 141	
Dibromofluoromethane (S)				102	85 113	
Toluene d8 (S)				99	87 112	
4-Bromofluorobenzene (S)				97	72 124	
1,2-Dichloroethane d4 (S)				104	80 125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE 605456516 605456524

Parameter	Units	605428002 Result	Spike Conc	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Footnotes
1,1-Dichloroethene	ug/kg	0	50 00	49 08	58 57	98	119	55 143	18	22	
Benzene	ug/kg	0	50 00	43 12	53 51	86	108	71 126	22	18 3	
Chlorobenzene	ug/kg	0	50 00	39 81	54 49	80	110	65 127	31	19 3	
Toluene	ug/kg	0	50 00	40 33	48 33	81	98	62 130	18	22	
Trichloroethene	ug/kg	0	50 00	49 39	56 33	99	114	57 136	13	19	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Pace Analytical Services Inc
9608 Lorret Blvd
Lenexa KS 66219
Phone 913 599 5665
Fax 913 599 1759

Lab Project Number 6062661
Client Project ID BRENNTAG-SPRINGFIELD

MATRIX SPIKE & MATRIX SPIKE DUPLICATE 605456516 605456524

Parameter	Units	605428002 Result	Spike Conc	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Footnotes
Dibromofluoromethane (S)						98	97	85 113			
Toluene d8 (S)						97	97	87 112			
4 Bromofluorobenzene (S)						99	98	72 124			

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QUALITY CONTROL DATA

Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

QC Batch 130356 Analysis Method EPA 8260
QC Batch Method EPA 8260 Analysis Description GC/MS VOCs in Soil by 8260
Associated Lab Samples 605428077 605428085

METHOD BLANK 05456607
Associated Lab Samples 605428077 605428085

Parameter	Units	Blank Result	Reporting Limit	Footnotes
1 1 2 Tetrachloroethane	ug/kg	ND	5 0	
1 1 1 Trichloroethane	ug/kg	ND	5 0	
1 1 2 2 Tetrachloroethane	ug/kg	ND	5 0	
1 1 2 Trichloroethane	ug/kg	ND	5 0	
1 1 Dichloroethane	ug/kg	ND	5 0	
1 1 Dichloroethene	ug/kg	ND	5 0	
1 1 Dichloropropene	ug/kg	ND	5 0	
1 2 3 Trichlorobenzene	ug/kg	ND	5 0	
1 2 3 Trichloropropane	ug/kg	ND	5 0	
1 2 4 Trichlorobenzene	ug/kg	ND	5 0	
1 2 4 Trimethylbenzene	ug/kg	ND	5 0	
1 2 Dibromo 3 chloropropane	ug/kg	ND	5 0	
1 2 Dibromoethane (EDB)	ug/kg	ND	5 0	
1 2 Dichlorobenzene	ug/kg	ND	5 0	
1 2 Dichloroethane	ug/kg	ND	5 0	
1 2 Dichloropropane	ug/kg	ND	5 0	
1 3 5 Trimethylbenzene	ug/kg	ND	5 0	
1 3 Dichlorobenzene	ug/kg	ND	5 0	
1 3 Dichloropropane	ug/kg	ND	5 0	
1 4 Dichlorobenzene	ug/kg	ND	5 0	
2 2 Dichloropropane	ug/kg	ND	5 0	
2 Chloroethylvinyl ether	ug/kg	ND	5 0	
2 Chlorotoluene	ug/kg	ND	5 0	
4 Chlorotoluene	ug/kg	ND	5 0	
Benzene	ug/kg	ND	5 0	
Bromobenzene	ug/kg	ND	5 0	
Bromochloromethane	ug/kg	ND	5 0	
Bromodichloromethane	ug/kg	ND	5 0	
Bromoform	ug/kg	ND	5 0	
Bromomethane	ug/kg	ND	5 0	
Carbon tetrachloride	ug/kg	ND	5 0	

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QUALITY CONTROL DATA

Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

METHOD BLANK 605456607
Associated Lab Samples 605428077 605428085

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Chlorobenzene	ug/kg	ND	5 0	
Chloroethane	ug/kg	ND	5 0	
Chloroform	ug/kg	ND	5 0	
Chloromethane	ug/kg	ND	5 0	
cis-1 2 Dichloroethene	ug/kg	ND	5 0	
cis-1 3 Dichloropropene	ug/kg	ND	5 0	
Dibromochloromethane	ug/kg	ND	5 0	
Dibromomethane	ug/kg	ND	5 0	
Dichlorodifluoromethane	ug/kg	ND	5 0	
Ethylbenzene	ug/kg	ND	5 0	
Hexachloro 1 3 butadiene	ug/kg	ND	5 0	
Isopropylbenzene (Cumene)	ug/kg	ND	5 0	
m,p Xylene	ug/kg	ND	5 0	
Methylene chloride	ug/kg	ND	5 0	
Naphthalene	ug/kg	ND	10	
n Butylbenzene	ug/kg	ND	5 0	
n Propylbenzene	ug/kg	ND	5 0	
o Xylene	ug/kg	ND	5 0	
p Isopropyltoluene	ug/kg	ND	5 0	
sec Butylbenzene	ug/kg	ND	5 0	
Styrene	ug/kg	ND	5 0	
tert Butylbenzene	ug/kg	ND	5 0	
Tetrachloroethene	ug/kg	ND	5 0	
Toluene	ug/kg	ND	5 0	
trans 1 2 Dichloroethene	ug/kg	ND	5 0	
trans 1 3 Dichloropropene	ug/kg	ND	5 0	
Trichloroethene	ug/kg	ND	5 0	
Trichlorofluoromethane	ug/kg	ND	5 0	
Vinyl chloride	ug/kg	ND	5 0	
Dibromofluoromethane (S)	%	104		
Toluene d8 (S)	%	97		
4 Bromofluorobenzene (S)	%	95		
1 2 Dichloroethane d4 (S)	%	108		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

LABORATORY CONTROL SAMPLE # 605456615

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Footnotes
1 1 1 2 Tetrachloroethane	ug/kg	50 00	51 69	103	82 123	
1 1 1 Trichloroethane	ug/kg	50 00	50 96	102	74 130	
1 1 2 2 Tetrachloroethane	ug/kg	50 00	52 67	105	71 130	
1 1 2 Trichloroethane	ug/kg	50 00	52 93	106	82 122	
1 1 Dichloroethane	ug/kg	50 00	56 47	113	75 126	
1 1 Dichloroethene	ug/kg	50 00	56 17	112	73 128	
1 1 Dichloropropene	ug/kg	50 00	49 93	100	71 132	
1 2 3 Trichlorobenzene	ug/kg	50 00	50 90	102	69 136	
1 2 3 Trichloropropane	ug/kg	50 00	55 17	110	69 136	
1 2 4 Trichlorobenzene	ug/kg	50 00	49 43	99	67 132	
1 2 4 Trimethylbenzene	ug/kg	50 00	53 93	108	77 121	
1 2 Dibromo 3 chloropropane	ug/kg	50 00	52 28	105	64 145	
1 2 Dibromoethane (EDB)	ug/kg	50 00	52 90	106	80 124	
1 2 Dichlorobenzene	ug/kg	50 00	53 10	106	78 123	
1 2 Dichloroethane	ug/kg	50 00	55 93	112	78 125	
1 2 Dichloropropane	ug/kg	50 00	54 73	109	78 126	
1 3 5 Trimethylbenzene	ug/kg	50 00	54 92	110	77-122	
1 3 Dichlorobenzene	ug/kg	50 00	51 78	104	77 121	
1 3 Dichloropropane	ug/kg	50 00	53 47	107	79 123	
1 4 Dichlorobenzene	ug/kg	50 00	51 29	103	75 122	
2 2 Dichloropropane	ug/kg	50 00	53 76	108	74 128	
2 Chlorotoluene	ug/kg	50 00	54 49	109	79 120	
4 Chlorotoluene	ug/kg	50 00	53 61	107	73-126	
Benzene	ug/kg	50 00	54 00	108	79 123	
Bromobenzene	ug/kg	50 00	50 94	102	77 126	
Bromochloromethane	ug/kg	50 00	54 43	109	75 131	
Bromodichloromethane	ug/kg	50 00	56 56	113	79 129	
Bromoform	ug/kg	50 00	48 20	96	73 135	
Bromomethane	ug/kg	50 00	17 09	34	22 165	
Carbon tetrachloride	ug/kg	50 00	49 69	99	74 129	
Chlorobenzene	ug/kg	50 00	53 36	107	83 116	
Chloroethane	ug/kg	50 00	38 96	78	33 149	
Chloroform	ug/kg	50 00	52 71	105	77 125	
Chloromethane	ug/kg	50 00	45 19	90	38 149	
cis 1 2 Dichloroethene	ug/kg	50 00	55 36	111	78 125	
cis 1 3 Dichloropropene	ug/kg	50 00	53 73	107	79 128	
Dibromochloromethane	ug/kg	50 00	51 64	103	82 124	

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QUALITY CONTROL DATA

Pace Analytical Services Inc
 9608 Loiret Blvd
 Lenexa, KS 66219
 Phone 913 599 5665
 Fax 913 599 1759

Lab Project Number 6062661
 Client Project ID BRENNTAG SPRINGFIELD

LABORATORY CONTROL SAMPLE 609456615

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Dibromomethane	ug/kg	50 00	54 28	109	76 130	
Dichlorodifluoromethane	ug/kg	50 00	39 61	79	12 161	
Ethylbenzene	ug/kg	50 00	52 58	105	79 121	
Hexachloro 1,3-butadiene	ug/kg	50 00	55 04	110	66 136	
Isopropylbenzene (Cumene)	ug/kg	50 00	52 08	104	76 124	
m-Xylene	ug/kg	100 00	106 0	106	78 121	
Methylene chloride	ug/kg	50 00	55 27	111	69 132	
Naphthalene	ug/kg	50 00	53 22	106	61 143	
n Butylbenzene	ug/kg	50 00	55 85	112	67 131	
n-Propylbenzene	ug/kg	50 00	55 17	110	76 124	
o Xylene	ug/kg	50 00	53 92	108	81 121	
p Isopropyltoluene	ug/kg	50 00	53 63	107	73 124	
sec Butylbenzene	ug/kg	50 00	57 38	115	74 126	
Styrene	ug/kg	50 00	53 33	107	80 124	
tert Butylbenzene	ug/kg	50 00	56 16	112	72 133	
Tetrachloroethene	ug/kg	50 00	48 88	98	59 150	
Toluene	ug/kg	50 00	48 29	97	78 123	
trans 1 2 Dichloroethene	ug/kg	50 00	56 17	112	70 133	
trans 1 3 Dichloropropene	ug/kg	50 00	52 75	106	72 139	
Trichloroethene	ug/kg	50 00	55 83	112	78 126	
Trichlorofluoromethane	ug/kg	50 00	51 29	103	57 140	
Vinyl chloride	ug/kg	50 00	47 71	95	48 141	
Dibromofluoromethane (S)				102	85 113	
Toluene d8 (S)				96	87 112	
4 Bromofluorobenzene (S)				98	72 124	
1 2 Dichloroethane d4 (S)				98	80 125	

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QUALITY CONTROL DATA

Pace Analytical Services Inc
9608 Loiret Blvd
Lenexa KS 66219
Phone 913 599 5665
Fax 913 599 1759

Lab Project Number 6062661
Client Project ID BRENNTAG SPRINGFIELD

QC Batch 130131	Analysis Method
QC Batch Method	Analysis Description Percent Moisture
Associated Lab Samples 605427962	605427970 605427988

SAMPLE DUPLICATE 605447069

<u>Parameter</u>	<u>Units</u>	<u>605421981</u>	<u>DUP</u>	<u>RPD</u>	<u>RPD</u>	<u>Footnotes</u>
		<u>Result</u>	<u>Result</u>			
Percent Moisture	%	29 60	28 80	3		

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QUALITY CONTROL DATA

Pace Analytical Services Inc
9608 Lorret Blvd
Lenexa, KS 66219
Phone 913 599 5665
Fax 913 599 1759

Lab Project Number 6062661
Client Project ID BRENNTAG-SPRINGFIELD

QC Batch	130217	Analysis Method			
QC Batch Method		Analysis Description	Percent Moisture		
Associated Lab Samples	605427996	605428002	605428010	605428036	605428044
	605428051	605428077	605428085		

SAMPLE DUPLICATE 605450501

Parameter	Units	605428002	DUP	RPD	RPD	Footnotes
		Result	Result			
Percent Moisture	%	16 20	16 20	0		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values

- LCS(D) Laboratory Control Sample (Duplicate)
- MS(D) Matrix Spike (Duplicate)
- DUP Sample Duplicate
- ND Not detected at or above adjusted reporting limit
- NC Not Calculable
- J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- MDL Adjusted Method Detection Limit
- RPD Relative Percent Difference
- (S) Surrogate
- [1] Spike recovery exceeded the upper control limit The associated samples were non detect for this compound therefore the data was accepted
- [2] The spike recovery exceeded the control limit Ten percent of the total spike compounds are allowed to be out without reanalysis therefore the data was accepted
- [3] The calculated RPD was outside QC acceptance limits Acceptable recovery of the LCS indicates the analytical system is in control

REPORT OF LABORATORY ANALYSIS

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646136

Section A Required Client Information

Report To: **WARREN FRENCH**

Company: **BRENNTAG**

Address: **2235 W BATTLEFIELD RD
SPRINGFIELD, MO**

PO: **ARCADIS**

Project Name: **BRENNTAG - SPRINGFIELD MO**

Project Number: **OK 1255 0002**

Phone: **918 664 9900** Fax: **918 664 9925**

Section B Required Client Information

Page **1** of **1**

Client Information (Check quote/contract)

Requested Due Date: _____ TAT: _____

Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge

Turn Around Time (TAT) In calendar days

Section C To Be Completed by Pace Analytical and Client

Quote Reference: _____

Project Manager: _____

Project #: **6062661**

Profile #: _____

Requested Analysis: _____

Section D Required Client Information

SAMPLE ID

One character per box (A-Z 0-9 / -)

Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID										MATRIX CODE	DATE COLLECTED mm/dd/yy	TIME COLLECTED hh mm a/p	# Containers	Preservatives							Remarks / Lab ID
	1	2	3	4	5	6	7	8	9	10					Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	
1	M	W	1	5	-						SL	9/9/02	1840	2								605427962
2	M	W	1	5	-						SL	9/9/02	1850	2								7970
3	M	W	1	5	-						SL	9/9/02	1900	2								7988
4	M	W	1	4	-						SL	9/10/02	813	2								7990
5	M	W	1	4	-						SL	9/10/02	819	2								8002
6	M	W	1	8	-						SL	9/10/02	1330	2								8010
7	M	W	1	8	-						SL	9/10/02	1335	2								8036
8	M	W	1		-						SL	9/10/02	1600	2								8044
9	M	W	1		-						SL	9/10/02	1605	2								8051
10	M	W	1		-						SL	9/11/02	740	2								8077
11	M	W	1		-						SL	9/11/02	745	2								8085
12	M	W	14	4	-						SL	9/10/02	819	2								

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS	ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
					Warren French - ARCADIS	9/11/02	1000	Warren French	9/12/02	1130

SAMPLE CONDITION

Temp in C	27
Received on Ice	ON
Sealed Cooler	Y
Samples Intact	ON

SAMPLE NOTES

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: **WARREN FRENCH**

SIGNATURE of SAMPLER: *Warren French*

DATE Signed (MM/DD/YY): **9/11/02**

Additional Comments

APPENDIX J

**LABORATORY ANALYTICAL REPORTS FOR
GEOTECHNICAL SOIL BORING SAMPLES**

PALMERTON & PARRISH INC

4166 W Kearney Springfield, MO 65803 (417)864 6000 Fax (417)864 6004
 3500 East 13th Street Joplin MO 64801 (417)624 2005 Fax (417)624 5530
 162 Industrial Park Drive Ste A Hollister MO 65672 (417)335 6011 Fax (417)337 9206

FILE

RECEIVED

NOV 04 2002

ARCADIS Geaghty & MINE

TO

Arcadis

 5100 E Skelly Dr STE 1000

 Tulsa OK 74135

PPI Project No	129208	Date	10/29/02
Attn	Warren French		
Re	Laboratory Soils Testing Sample No GGB1 5		

WE ARE SENDING YOU

- The following Attached Under Separate Cover Via _____
- Shop Drawings Specifications Copy of Letter Change Order
- Prints Plans Samples OTHER _____

Copies	Date	Number	Description
			Results of Testing

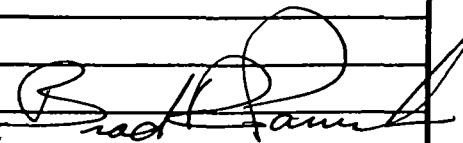
THESE TRANSMISSIONS ARE

- For your approval Approved as Submitted Resubmit with _____ copies for approval
- For your use Approved as noted Submit _____ copies for distribution
- As per your request Corrections Noted Return _____ Corrected prints
- For your review and comment(s) _____
- FOR BIDS DUE _____ 20__ PRINTS RETURNED AFTER LOAN TO US

Remarks

Copy to

Signature Brad R Parrish P E



PALMERTON & PARRISH, INC

CONSULTING GEOTECHNICAL & MATERIALS ENGINEERS TESTING LABORATORIES AND ENVIRONMENTAL SERVICES

4166 W Kearney SPRINGFIELD MISSOURI 65803 ☎ (417)864-6000 FAX (417)864-6004

3500 E 13TH ST JOPLIN, MISSOURI 64801 ☎ (417)624-2005

162 INDUSTRIAL PARK DR SUITE A HOLLISTER, MISSOURI 65672 ☎ (417)335-6011

Report No _____

Original Amended

Date October 29, 2002

CLIENT Arcadis PPI Job No 129208 PROJECT Laboratory Soils Testing Brenntas Springfield, MO

SAMPLE DESCRIPTION Brown Lean Clay SAMPLE NO GGB1 5

SAMPLE LOCATION _____

SUMMARY OF SOIL TESTS

GRADATION (ASTM D 422)

SIEVE SIZE	PERCENT RETAINED	PERCENT PASSING	SPECIFICATION % PASSING

ATTERBERG LIMITS (ASTM D 4318)

LIQUID LIMIT 33 PLASTIC LIMIT 21 PLASTICITY INDEX 12 MOISTURE CONTENT (ASTM D 2216) 12.9%

SPECIFIC GRAVITY (ASTM D 854 MHH A) 2.627 MAXIMUM PARTICLE SIZE _____

COMMENTS Dry Unit Wt = 86 8pcf

TECHNICAL RESPONSIBILITY RM

SIGNED BY  PE

ANALYTICAL REPORT

JOB NUMBER 214852

Prepared For

ARCADIS / G&M
5100 East Skelly Drive
Suite 1000
Tulsa, OK 74135

Attention Warren French

Date 09/30/2002

Emily A Bauer

Signature

9/30/02

Date

Name Emily A Bauer

Title Project Manager

E-Mail ebauer@stl-inc.com

Severn Trent Laboratories
1733 N Padre Island Drive
Corpus Christi, TX 78408

PHONE 361/289-2673
FAX 361/289-2471

SAMPLE INFORMATION
Date 09/30/2002

Job Number	214852	Project Number	98000203
Customer	ARCADIS / G&M	Customer Project ID	OK1255 0002
Attn	Warren French	Project Description	Project EAB

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
214852 1	GSB 1 5	Soil	09/10/2002	11 10	09/12/2002	09 45
214852 2	GSB 1 11	Soil	09/10/2002	11 30	09/12/2002	09 45

LABORATORY TEST RESULTS

Job Number 214852

Date 09/30/2002

CUSTOMER ARCADIS / G&M

PROJECT OK1255 0002

ATTN Warren French

Customer Sample ID GSB 1 5
Date Sampled 09/10/2002
Time Sampled 11 10
Sample Matrix Soil

Laboratory Sample ID 214852 1
Date Received 09/12/2002
Time Received 09 45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
Agronomy 90 3	Organic Carbon (Walkley Black) Organic Carbon Nonpurgeable Tot (TOC)	0 70	0 01	%	09/19/02	Jrd

LABORATORY TEST RESULTS

Job Number 214852

Date 09/30/2002

CUSTOMER ARCADIS / G&M

PROJECT: 0K1255 0002

ATTN Warren French

Customer Sample ID GSB 1 11
Date Sampled 09/10/2002
Time Sampled 11 30
Sample Matrix Soil

Laboratory Sample ID 214852 2
Date Received 09/12/2002
Time Received 09 45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
Agronomy 90 3	Organic Carbon (Walkley Black) Organic Carbon Nonpurgeable Tot (TOC)	0 05	0 01	%	09/19/02	Jrd

Job Number	214852	QUALITY CONTROL RESULTS			Report Date	09/30/2002
------------	--------	-------------------------	--	--	-------------	------------

CUSTOMER	ARCADIS / G&N	PROJECT	OK1255 0002	ATTN	Warren French
----------	---------------	---------	-------------	------	---------------

QC Type	Description	Reag Code	Lab ID	Dilution Factor	Date	Time
---------	-------------	-----------	--------	-----------------	------	------

Test Method	Agronomy 90 3	Units	%	Analyst	jrd
Method Description	Organic Carbon (Walkley Black)	Batch	73242		

MB	Method Blank	091902			09/19/2002	1645
----	--------------	--------	--	--	------------	------

Parameter/Test Description	QC Result	QC Result	True Value	Orig Value	Calc Result	* Limits
Organic Carbon Nonpurgeable Tot (TOC)	0 0					

MD	Method Duplicate		214852 1		09/19/2002	1905
----	------------------	--	----------	--	------------	------

Parameter/Test Description	QC Result	QC Result	True Value	Orig Value	Calc Result	* Limits
Organic Carbon Nonpurgeable Tot (TOC)	0 7271			0 7002	3 8	R 20

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date 09/30/2002

- (1) EPA 600/4 79 020 Methods for Chemical Analysis of Water and Wastes March 1983
- (2) EPA SW 846 Test Methods for Evaluating Solid Waste Third Edition September 1986 and Updates I II IIA IIB and III
- (3) Standard Methods for the Examination of Water and Wastewater 18th Edition 1992
- (4) Methods of Organic Chemical Analysis of Municipal and Industrial Wastewater Federal Register Vol 49 No 209 October 1984 and 40 CFR Part 136 amendments
- (5) EPA 600/2 78 054 Field and Laboratory Methods Applicable to Overburdens and Minesoils
- (6) Methods of Soil Analysis American Society of Agronomy Agronomy No 9 1965
- (7) ASTM Section 11 Water and Environmental Technology Volume 11 01 Water (1) 1991
- (8) American Society for Testing and Materials Petroleum Products Lubricants and Fossil Fuels Section 5 Volumes 05 01 05 05
- (9) Hach Handbook of Water Analysis 1979

Comments

Data in the QC report may differ from final results due to digestion and/or dilution of sample into analytical ranges The Time Analyzed' may not be the actual time of analysis The Date Analyzed is the actual date of analysis Sludge samples are reported on a wet weight basis (i e not corrected for percent moisture) unless otherwise indicated

Quality Control acceptance criteria are based either on limits specified in the referenced method or on actual laboratory performance

All data is reported on sample as received unless noted

Sample IDs with a 00 at the end indicate a blank spike or blank spike duplicate associated with the numbered sample

SAMPLE RESULT IDENTIFICATION

ND = Not detected at a value greater than the reporting limit
TNTC = Too numerous to count

BLANK QC SAMPLE IDENTIFICATION

MB Method Blank
ICB Initial Calibration Blank
CCB Continuing Calibration Blank

SPIKE QC SAMPLE IDENTIFICATION

MS Method (Matrix) Spike
MSD Method (Matrix) Spike Duplicate
PDS Post Digestion/Distillation Spike
SB Spiked Blank
SBD Spiked Blank Duplicate

REFERENCE STANDARD QC SAMPLE IDENTIFICATION

LCS Laboratory Control Standard
RS Reference Standard
ICV Initial Calibration Verification Standard
CCV Continuing Calibration Verification Standard
ISA/ISB ICP Interference Check Sample
DSC Distilled Standard Check

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date 09/30/2002

DUPLICATE QC SAMPLE IDENTIFICATION

MD Method (Matrix) Duplicate
 ED Extraction Duplicate
 DD Digestion Duplicate
 PDD Post Digestion Duplicate
 PSD Post Digestion/Distillation Spike Duplicate

Analyses performed by a subcontract laboratory are indicated on the analytical and/or quality control reports under 'technician' using the following codes

SUBCONTRACT LABORATORIES

Severn Trent Laboratories

Los Angeles CA	*la	Houston TX	*he
Aurora CO	*au	North Canton OH	*nc
Tampa FL	*ta	Valparaiso IN	*vp
Sacramento CA	*sa	Chicago IL	*ch
Pensacola FL	*pe		

Other

Client provided data	*cp	Core Laboratories	*hp
Peak Analytical Inc	*pk	Jordan Laboratories	*jl
Enviro Test Labs	*et	Fugro South Inc	*fg
LCRA Austin	*lr		

EXPLANATION OF DATA FLAGS

- B This flag is used to indicate that an analyte is present the method blank as well as in the sample. It indicates that the client should consider this when evaluating the results.
 - D This flag indicates that surrogates were diluted out of calibration range and cannot be quantified.
 - E Indicates that a sample result is an estimate because the concentration exceeded the calibration range of the instrument.
 - I Used to indicate matrix interference.
 - X Indicates that a surrogate recovery is outside the specified quality control limits.
 - Y Used to identify a spike or spike duplicate recovery is outside the specified quality control limits.
 - * Indicates a relative percent difference for a duplicate analysis is outside the specified quality control limits.
- Used to indicate that a standard is outside specified quality control limits

EXPLANATION OF DATA QUALIFIERS

- B Indicates that a value for an inorganic analysis is an estimate. It is used when a compound is determined to be present but at a concentration less than the quantitation limit of the method.
- J Indicates that a value for an organic analysis is an estimate. It is used when a compound is determined to be present based on chromatographic pattern or mass spectral data but at a concentration less than the quantitation limit of the method. This flag is also used when estimating the concentration of a tentatively identified compound.
- U Indicates that a value is less than the MDL or was not detected.

SEVERN

TRENT

SERVICES

SEVERN TRENT LABORATORIES

No 11983

1.80C
Cooler
seal

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION		PROJECT INFORMATION		BILLING INFORMATION		NUMBER OF CONTAINERS	REMARKS/PRECAUTIONS		
COMPANY	ARCADIS-BRENTAG SPRINGFIELD MO	PROJECT NAME/NUMBER	OK 1255 0002	BILL TO	SAME			WALKLEY BLACK FRACTION ORGANIC CARBON	LAB JOB NO 214852
SEND REPORT TO	WARREN FRENCH	BILL TO	SAME	ADDRESS					
ADDRESS	5100 E SKELLY DR STE 1000 TULSA, OK 74135	PHONE		PHONE					
PHONE	918 664 9900	FAX	664 9925	PO NO					
SAMPLE NO	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER	PRESERVE			
	GSB 1-5	9/10/02	1110	SOIL	GLASS	NONE	1 X		
	GSB 1-11	9/10/02	1130	SOIL	GLASS	NONE	1 X		
SAMPLER		SHIPMENT METHOD		AIRBILL NO					
WARREN FRENCH		FEDEX		8331 8315 4462					
REQUIRED TURNAROUND <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HOURS <input type="checkbox"/> 48 HOURS <input type="checkbox"/> 72 HOURS <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS <input checked="" type="checkbox"/> ROUTINE <input type="checkbox"/> OTHER _____									
RELINQUISHED BY		DATE	RELINQUISHED BY		DATE	RELINQUISHED BY			
SIGNATURE Warren French		9/11/02	SIGNATURE			SIGNATURE			
PRINTED NAME/COMPANY ARCADIS		TIME 1500	PRINTED NAME/COMPANY		TIME	PRINTED NAME/COMPANY			
1. RECEIVED BY		DATE	2. RECEIVED BY		DATE	3. RECEIVED BY			
SIGNATURE Emily A. Bauer		9/12/02	SIGNATURE			SIGNATURE			
PRINTED NAME/COMPANY		TIME 0945	PRINTED NAME/COMPANY		TIME	PRINTED NAME/COMPANY			

RUSH TURNAROUND MAY REQUIRE SURCHARGE

SEVERN TRENT LABORATORIES

1733 N Padre Island Drive
Corpus Christi TX 78408

Phone (261) 280 2672 / Fax (261) 280 247

STL-8222-CC (0700)

rpjsckl

Job Sample Receipt Checklist Report
09/12/2002

V2

Job Number	214852	Location	57203	Check List Number	1	Description	
Customer Job ID				Job Check List Date			
Project Number	98000203	Project Description		Project EAB		Project Manager	eab
Customer	ARCADIS / G&M			Contact	Warren French		

Questions ?	(Y/N)	Comments
-------------	-------	----------

How did samples arrive?		FEDEX
Chain of Custody Present?	Y	
Custody seal on shipping container?	Y	
If yes' custody seal intact?	Y	
Custody seals on sample containers?	N	
If 'yes' custody seal intact?		
Samples chilled?	Y	
Temperature blank in cooler?	Y	1 8 DEGREES C
Temp of cooler acceptable? (0 05 to 6 00 deg C)	Y	
Samples received intact (good condition)?	Y	
Volatile samples acceptable? (no headspace)		N/A
Correct containers used?	Y	
Adequate sample volume provided?	Y	
Samples preserved correctly?	Y	
Samples received within holding time?	Y	
Agreement between COC and sample labels?	Y	
Additional		
Comments		
Sample Custodian Signature		<i>QAB 9/12/02</i>

APPENDIX K

**LABORATORY ANALYTICAL REPORTS FOR
SITE CHARACTERIZATION GROUNDWATER SAMPLES**



Pace Analytical Services Inc
9608 Loriet Blvd
Lenexa, KS 66219
Phone 913 599 5665
Fax 913 599 1759

October 09 2002

Mr WARREN FRENCH
ARCADIS GERAGHTY AND MILLER
5100 EAST SKELLY DRIVE
SUITE 1000
TULSA OK 74135

RE Lab Project Number 6063163
Client Project ID BRENNTAG/ SPRINGFIELD MO

Dear Mr FRENCH

Enclosed are the analytical results for sample(s) received by the laboratory on September 26 2002 Results reported herein conform to the most current NELAC standards where applicable unless otherwise narrated in the body of the report

If you have any questions concerning this report please feel free to contact me

Sincerely

Adam Taylor

Adam Taylor
adam.taylor@pacelabs.com
Project Manager

Kansas/NELAP Certification Number E 10116

Enclosures

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9608 Loriet Blvd
Lenexa, KS 66219
Phone 813 599 5665
Fax 913 599 1759

SAMPLE SUMMARY

Lab Project Number 6063163
Client Project ID BRENNTAG/ SPRINGFIELD MO

<u>Project</u>	<u>Sample</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
<u>Sample Number</u>	<u>Number</u>				
6063163 001	605468560	SPRINGFIELD_MW 18	Water	09/25/02 12 05	09/26/02 09 15
6063163 002	605468578	SPRINGFIELD_MW 17	Water	09/25/02 12 30	09/26/02 09 15
6063163 003	605468586	SPRINGFIELD_MW 16	Water	09/25/02 12 50	09/26/02 09 15
6063163 004	605468594	SPRINGFIELD_MW 15	Water	09/25/02 13 10	09/26/02 09 15
6063163 005	605468644	SPRINGFIELD_MW 14	Water	09/25/02 13 30	09/26/02 09 15
6063163 006	605468651	SPRINGFIELD_SAW 2	Water	09/25/02 13 55	09/26/02 09 15

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SAMPLE ANALYTE COUNT

Lab Project Number 6063163
Client Project ID BRENNTAG/ SPRINGFIELD MO

Project			Analysis		Analytes
<u>Sample Number</u>	<u>Sample No</u>	<u>Client Sample ID</u>	<u>Code</u>	<u>Analysis Description</u>	<u>Reported</u>
6063163 001	605468560	SPRINGFIELD_MW 18	826LL WEPA	GC/MS VOCs by 8260 (Low Level)	67
6063163 002	605468578	SPRINGFIELD_MW 17	826LL WEPA	GC/MS VOCs by 8260 (Low Level)	67
6063163 003	605468586	SPRINGFIELD_MW 16	826LL WEPA	GC/MS VOCs by 8260 (Low Level)	67
6063163 004	605468594	SPRINGFIELD_MW 15	826LL WEPA	GC/MS VOCs by 8260 (Low Level)	67
6063163 005	605468644	SPRINGFIELD_MW 14	826LL WEPA	GC/MS VOCs by 8260 (Low Level)	67
6063163 006	605468651	SPRINGFIELD_SAW 2	826LL WEPA	GC/MS VOCs by 8260 (Low Level)	67

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Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468560 Project Sample Number 6063163 001 Date Collected 09/25/02 12 05
 Client Sample ID SPRINGFIELD_MW 18 Matrix Water Date Received 09/26/02 09 15

Parameters Results Units Report Limit Analyzed By CAS No. Qual RegLmt
 GC/MS Volatiles

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS VOCs by 8260 (Low Level) Method EPA 8260								
Dichlorodifluoromethane	ND	ug/l	1 0	10/09/02 14 26	JSR	75 71 8		
Chloromethane	ND	ug/l	1 0	10/09/02 14 26	JSR	74 87 3		
Vinyl chloride	ND	ug/l	1 0	10/09/02 14 26	JSR	75 01 4		
Bromomethane	ND	ug/l	1 0	10/09/02 14 26	JSR	74 83 9		
Chloroethane	ND	ug/l	1 0	10/09/02 14 26	JSR	75 00 3		
Trichlorofluoromethane	ND	ug/l	1 0	10/09/02 14 26	JSR	75 69 4		
Methylene chloride	ND	ug/l	1 0	10/09/02 14 26	JSR	75 09 2		
1 1 Dichloroethene	ND	ug/l	1 0	10/09/02 14 26	JSR	75 35 4		
trans 1 2 Dichloroethene	ND	ug/l	1 0	10/09/02 14 26	JSR	156 60 5		
1 1 Dichloroethane	0 58	J ug/l	1 0	10/09/02 14 26	JSR	75 34 3	1	
2 2 Dichloropropane	ND	ug/l	1 0	10/09/02 14 26	JSR	594 20 7		
cis 1 2 Dichloroethene	ND	ug/l	1 0	10/09/02 14 26	JSR	156 59 2		
Chloroform	ND	ug/l	1 0	10/09/02 14 26	JSR	67 66 3		
Bromochloromethane	ND	ug/l	1 0	10/09/02 14 26	JSR	74 97 5		
1 1 1 Trichloroethane	ND	ug/l	1 0	10/09/02 14 26	JSR	71 55 6		
Carbon tetrachloride	ND	ug/l	1 0	10/09/02 14 26	JSR	56 23 5		
1 1 Dichloropropene	ND	ug/l	1 0	10/09/02 14 26	JSR	563 58 6		
Benzene	ND	ug/l	1 0	10/09/02 14 26	JSR	71 43 2		
1 2 Dichloroethane	ND	ug/l	1 0	10/09/02 14 26	JSR	107 06 2		
Trichloroethene	ND	ug/l	1 0	10/09/02 14 26	JSR	79 01 6		
1 2 Dichloropropane	ND	ug/l	1 0	10/09/02 14 26	JSR	78 87 5		
Bromodichloromethane	ND	ug/l	1 0	10/09/02 14 26	JSR	75 27 4		
cis 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 14 26	JSR	10061 01 5		
Dibromomethane	ND	ug/l	1 0	10/09/02 14 26	JSR	74 95 3		
Toluene	ND	ug/l	1 0	10/09/02 14 26	JSR	108 88 3		
trans 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 14 26	JSR	10061 02 6		
1 1 2 Trichloroethane	ND	ug/l	1 0	10/09/02 14 26	JSR	79 00 5		
Tetrachloroethene	ND	ug/l	1 0	10/09/02 14 26	JSR	127 18 4		
1 3 Dichloropropane	ND	ug/l	1 0	10/09/02 14 26	JSR	142 28 9		
Dibromochloromethane	ND	ug/l	1 0	10/09/02 14 26	JSR	124 48 1		
1 2 Dibromoethane (EDB)	ND	ug/l	1 0	10/09/02 14 26	JSR	106 93 4		
Chlorobenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	108 90 7		
1 1 1 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 14 26	JSR	630 20 6		
Ethylbenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	100 41 4		
m&p Xylene	ND	ug/l	1 3	10/09/02 14 26	JSR			
o Xylene	ND	ug/l	1 1	10/09/02 14 26	JSR	95 47 6		
Styrene	ND	ug/l	1 0	10/09/02 14 26	JSR	100 42 5		

Date 10/09/02

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 Phone. 913 599 5665
 Fax. 913 599 1759

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468560 Project Sample Number 6063163 001 Date Collected 09/25/02 12 05
 Client Sample ID SPRINGFIELD_MW 18 Matrix Water Date Received 09/26/02 09 15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Bromoform	ND	ug/l	1 0	10/09/02 14 26	JSR	75 25 2		
Isopropylbenzene (Cumene)	1 2	ug/l	1 0	10/09/02 14 26	JSR	98 82 8		
1 1 2 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 14 26	JSR	79 34 5		
Bromobenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	108 86 1		
1 2 3 Trichloropropane	ND	ug/l	2 5	10/09/02 14 26	JSR	96 18 4		
n Propylbenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	103 65 1		
2 Chlorotoluene	ND	ug/l	1 0	10/09/02 14 26	JSR	95 49 8		
1 3 5 Trimethylbenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	108 67 8		
4 Chlorotoluene	ND	ug/l	1 0	10/09/02 14 26	JSR	106 43 4		
1 2 4 Trimethylbenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	95 63 6		
sec Butylbenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	135 98 8		
tert Butylbenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	98 06 6		
p Isopropyltoluene	ND	ug/l	1 0	10/09/02 14 26	JSR	99 87 6		
1 3 Dichlorobenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	541 73 1		
1 4 Dichlorobenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	106 46 7		
n Butylbenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	104 51 8		
1 2 Dichlorobenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	95 50 1		
1 2 Dibromo 3 chloropropane	ND	ug/l	2 5	10/09/02 14 26	JSR	96 12 8		
1 2 4 Trichlorobenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	120 82 1		
Hexachloro 1 3 butadiene	ND	ug/l	1 0	10/09/02 14 26	JSR	87 68 3		
Naphthalene	ND	ug/l	1 0	10/09/02 14 26	JSR	91 20 3		
1 2 3 Trichlorobenzene	ND	ug/l	1 0	10/09/02 14 26	JSR	87 61 6		
Acetone	ND	ug/l	10	10/09/02 14 26	JSR	67 64 1		
2 Butanone (MEK)	ND	ug/l	10	10/09/02 14 26	JSR	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/l	10	10/09/02 14 26	JSR	108 10 1		
2 Hexanone	ND	ug/l	10	10/09/02 14 26	JSR	591 78 6		
Dibromofluoromethane (S)	100	%		10/09/02 14 26	JSR	1868 53 7		
Toluene d8 (S)	105	%		10/09/02 14 26	JSR	2037 26 5		
4 Bromofluorobenzene (S)	96	%		10/09/02 14 26	JSR	460 00 4		
1 2 Dichloroethane d4 (S)	95	%		10/09/02 14 26	JSR	17060 07 0		

Date 10/09/02

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Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468578 Project Sample Number 6063163 002 Date Collected 09/25/02 12 30
 Client Sample ID SPRINGFIELD_MW 17 Matrix Water Date Received 09/26/02 09 15

Parameters Results Units Report Limit Analyzed By CAS No Qual RegLmt
 GC/MS Volatiles

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
GC/MS VOCs by 8260 (Low Level) Method EPA 8260								
Dichlorodifluoromethane	ND	ug/l	1 0	10/09/02 10 17	JSR	75 71 8		
Chloromethane	ND	ug/l	1 0	10/09/02 10 17	JSR	74 87 3		
Vinyl chloride	49	ug/l	1 0	10/09/02 10 17	JSR	75 01 4		
Bromomethane	ND	ug/l	1 0	10/09/02 10 17	JSR	74 83 9		
Chloroethane	220	ug/l	100	10/09/02 13 27	JSR	75 00 3		
Trichlorofluoromethane	ND	ug/l	1 0	10/09/02 10 17	JSR	75 69 4		
Methylene chloride	18	ug/l	1 0	10/09/02 10 17	JSR	75 09 2		
1 1 Dichloroethene	37	ug/l	1 0	10/09/02 10 17	JSR	75 35 4		
trans 1 2 Dichloroethene	1 9	ug/l	1 0	10/09/02 10 17	JSR	156 60 5		
1 1 Dichloroethane	140	ug/l	100	10/09/02 13 27	JSR	75 34 3		
2 2 Dichloropropane	ND	ug/l	1 0	10/09/02 10 17	JSR	594 20 7		
cis 1 2 Dichloroethene	140	ug/l	100	10/09/02 13 27	JSR	156 59 2		
Chloroform	ND	ug/l	1 0	10/09/02 10 17	JSR	67 66 3		
Bromochloromethane	ND	ug/l	1 0	10/09/02 10 17	JSR	74 97 5		
1 1 1 Trichloroethane	ND	ug/l	1 0	10/09/02 10 17	JSR	71 55 6		
Carbon tetrachloride	ND	ug/l	1 0	10/09/02 10 17	JSR	56 23 5		
1 1 Dichloropropene	ND	ug/l	1 0	10/09/02 10 17	JSR	563 58 6		
Benzene	27	ug/l	1 0	10/09/02 10 17	JSR	71 43 2		
1 2 Dichloroethane	3 9	ug/l	1 0	10/09/02 10 17	JSR	107 06 2		
Trichloroethene	0 40	J ug/l	1 0	10/09/02 10 17	JSR	79 01 6	1	
1 2 Dichloropropane	ND	ug/l	1 0	10/09/02 10 17	JSR	78 87 5		
Bromodichloromethane	ND	ug/l	1 0	10/09/02 10 17	JSR	75 27 4		
cis 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 10 17	JSR	10061 01 5		
Dibromomethane	ND	ug/l	1 0	10/09/02 10 17	JSR	74 95 3		
Toluene	18000	ug/l	100	10/09/02 13 27	JSR	108 88 3		
trans 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 10 17	JSR	10061 02 6		
1 1 2 Trichloroethane	ND	ug/l	1 0	10/09/02 10 17	JSR	79 00 5		
Tetrachloroethane	ND	ug/l	1 0	10/09/02 10 17	JSR	127 18 4		
1 3 Dichloropropane	ND	ug/l	1 0	10/09/02 10 17	JSR	142 28 9		
Dibromochloromethane	ND	ug/l	1 0	10/09/02 10 17	JSR	124 48 1		
1 2 Dibromoethane (EDB)	ND	ug/l	1 0	10/09/02 10 17	JSR	106 93 4		
Chlorobenzene	ND	ug/l	1 0	10/09/02 10 17	JSR	108 90 7		
1 1 1 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 10 17	JSR	630 20 6		
Ethylbenzene	720	ug/l	100	10/09/02 13 27	JSR	100 41 4		
m&p Xylene	6800	ug/l	130	10/09/02 13 27	JSR			
o Xylene	2800	ug/l	110	10/09/02 13 27	JSR	95 47 6		
Styrene	ND	ug/l	1 0	10/09/02 10 17	JSR	100 42 5		

Dat 10/09/02

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 Lenexa, KS 66219
 Phone 913 599 5665
 Fax 913 599 1759

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468578 Project Sample Number 6063163 002 Date Collected 09/25/02 12 30
 Client Sample ID SPRINGFIELD_MW 17 Matrix Water Date Received 09/26/02 09 15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	RegLmt
Bromoform	ND	ug/l	1 0	10/09/02 10 17	JSR	75 25 2		
Isopropylbenzene (Cumene)	170	ug/l	100	10/09/02 13 27	JSR	98 82 8		
1 1 2 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 10 17	JSR	79 34 5		
Bromobenzene	ND	ug/l	1 0	10/09/02 10 17	JSR	108 86 1		
1 2 3 Trichloropropane	ND	ug/l	2 5	10/09/02 10 17	JSR	96 18 4		
n Propylbenzene	200	ug/l	100	10/09/02 13 27	JSR	103 65 1		
2 Chlorotoluene	ND	ug/l	1 0	10/09/02 10 17	JSR	95 49 8		
1 3 5 Trimethylbenzene	590	ug/l	100	10/09/02 13 27	JSR	108 67 8		
4 Chlorotoluene	ND	ug/l	1 0	10/09/02 10 17	JSR	106 43 4		
1 2 4 Trimethylbenzene	720	ug/l	100	10/09/02 13 27	JSR	95 63 6		
sec Butylbenzene	5 9	ug/l	1 0	10/09/02 10 17	JSR	135 98 8		
tert Butylbenzene	ND	ug/l	1 0	10/09/02 10 17	JSR	98 06 6		
p Isopropyltoluene	4 3	ug/l	1 0	10/09/02 10 17	JSR	99 87 6		
1 3 Dichlorobenzene	ND	ug/l	1 0	10/09/02 10 17	JSR	541 73 1		
1 4 Dichlorobenzene	ND	ug/l	1 0	10/09/02 10 17	JSR	106 46 7		
n Butylbenzene	19	ug/l	1 0	10/09/02 10 17	JSR	104 51 8		
1 2 Dichlorobenzene	ND	ug/l	1 0	10/09/02 10 17	JSR	95 50 1		
1 2 Dibromo 3 chloropropane	ND	ug/l	2 5	10/09/02 10 17	JSR	96 12 8		
1 2 4 Trichlorobenzene	ND	ug/l	1 0	10/09/02 10 17	JSR	120 82 1		
Hexachloro 1 3 butadiene	ND	ug/l	1 0	10/09/02 10 17	JSR	87 68 3		
Naphthalene	85	ug/l	1 0	10/09/02 10 17	JSR	91 20 3		
1 2 3 Trichlorobenzene	ND	ug/l	1 0	10/09/02 10 17	JSR	87 61 6		
Acetone	160	J ug/l	1000	10/09/02 13 27	JSR	67 64 1	1	
2 Butanone (MEK)	ND	ug/l	10	10/09/02 10 17	JSR	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/l	10	10/09/02 10 17	JSR	108 10 1		
2 Hexanone	ND	ug/l	10	10/09/02 10 17	JSR	591 78 6		
Dibromofluoromethane (S)	97	%		10/09/02 10 17	JSR	1868 53 7		
Toluene d8 (S)	45	%		10/09/02 10 17	JSR	2037 26 5	2	
4 Bromofluorobenzene (S)	87	%		10/09/02 10 17	JSR	460 00 4		
1 2 Dichloroethane d4 (S)	96	%		10/09/02 10 17	JSR	17060 07 0		

Date 10/09/02

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 Lenexa, KS 66219
 Phone 913 599 5665
 Fax 913 599 1759

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468586 Project Sample Number 6063163 003 Date Collected 09/25/02 12 50
 Client Sample ID SPRINGFIELD_MW 16 Matrix Water Date Received 09/26/02 09 15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
GC/MS Volatiles								
GC/MS VOCs by 8260 (Low Level) Method EPA 8260								
Dichlorodifluoromethane	ND	ug/l	1 0	10/09/02 12 57	JSR	75 71 8		
Chloromethane	ND	ug/l	1 0	10/09/02 12 57	JSR	74 87 3		
Vinyl chloride	ND	ug/l	1 0	10/09/02 12 57	JSR	75 01 4		
Bromomethane	ND	ug/l	1 0	10/09/02 12 57	JSR	74 83 9		
Chloroethane	ND	ug/l	1 0	10/09/02 12 57	JSR	75 00 3		
Trichlorofluoromethane	ND	ug/l	1 0	10/09/02 12 57	JSR	75 69 4		
Methylene chloride	ND	ug/l	1 0	10/09/02 12 57	JSR	75 09 2		
1 1 Dichloroethene	ND	ug/l	1 0	10/09/02 12 57	JSR	75 35 4		
trans 1 2 Dichloroethene	ND	ug/l	1 0	10/09/02 12 57	JSR	156 60 5		
1 1 Dichloroethane	0 91	J ug/l	1 0	10/09/02 12 57	JSR	75 34 3	1	
2 2 Dichloropropane	ND	ug/l	1 0	10/09/02 12 57	JSR	594 20 7		
cis 1 2 Dichloroethene	3 8	ug/l	1 0	10/09/02 12 57	JSR	156 59 2		
Chloroform	2 3	ug/l	1 0	10/09/02 12 57	JSR	67 66 3		
Bromochloromethane	ND	ug/l	1 0	10/09/02 12 57	JSR	74 97 5		
1 1 1 Trichloroethane	ND	ug/l	1 0	10/09/02 12 57	JSR	71 55 6		
Carbon tetrachloride	ND	ug/l	1 0	10/09/02 12 57	JSR	56 23 5		
1 1 Dichloropropene	ND	ug/l	1 0	10/09/02 12 57	JSR	563 58 6		
Benzene	ND	ug/l	1 0	10/09/02 12 57	JSR	71 43 2		
1 2 Dichloroethane	ND	ug/l	1 0	10/09/02 12 57	JSR	107 06 2		
Trichloroethene	1 6	ug/l	1 0	10/09/02 12 57	JSR	79 01 6		
1 2 Dichloropropane	ND	ug/l	1 0	10/09/02 12 57	JSR	78 87 5		
Bromodichloromethane	0 59	J ug/l	1 0	10/09/02 12 57	JSR	75 27 4	1	
cis 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 12 57	JSR	10061 01 5		
Dibromomethane	ND	ug/l	1 0	10/09/02 12 57	JSR	74 95 3		
Toluene	ND	ug/l	1 0	10/09/02 12 57	JSR	108 88 3		
trans 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 12 57	JSR	10061 02 6		
1 1 2 Trichloroethane	ND	ug/l	1 0	10/09/02 12 57	JSR	79 00 5		
Tetrachloroethene	0 86	J ug/l	1 0	10/09/02 12 57	JSR	127 18 4	1	
1 3 Dichloropropane	ND	ug/l	1 0	10/09/02 12 57	JSR	142 28 9		
Dibromochloromethane	ND	ug/l	1 0	10/09/02 12 57	JSR	124 48 1		
1 2 Dibromoethane (EDB)	ND	ug/l	1 0	10/09/02 12 57	JSR	106 93 4		
Chlorobenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	108 90 7		
1 1 1 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 12 57	JSR	630 20 6		
Ethylbenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	100 41 4		
m&p Xylene	ND	ug/l	1 3	10/09/02 12 57	JSR			
o Xylene	ND	ug/l	1 1	10/09/02 12 57	JSR	95 47 6		
Styrene	ND	ug/l	1 0	10/09/02 12 57	JSR	100 42 5		

Date 10/09/02

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 Lenexa, KS 66219
 Phone 913 599 5665
 Fax 913 599 1759

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468586 Project Sample Number 6063163 003 Date Collected 09/25/02 12 50
 Client Sample ID SPRINGFIELD_MW 16 Matrix Water Date Received 09/26/02 09 15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No	Qual	ReqLmt
Bromoform	ND	ug/l	1 0	10/09/02 12 57	JSR	75 25 2		
Isopropylbenzene (Cumene)	ND	ug/l	1 0	10/09/02 12 57	JSR	98 82 8		
1 1 2 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 12 57	JSR	79 34 5		
Bromobenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	108 86 1		
1 2 3 Trichloropropane	ND	ug/l	2 5	10/09/02 12 57	JSR	96 18 4		
n Propylbenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	103 65 1		
2 Chlorotoluene	ND	ug/l	1 0	10/09/02 12 57	JSR	95 49 8		
1 3 5 Trimethylbenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	108 67 8		
4 Chlorotoluene	ND	ug/l	1 0	10/09/02 12 57	JSR	106 43 4		
1 2 4 Trimethylbenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	95 63 6		
sec Butylbenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	135 98 8		
tert Butylbenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	98 06 6		
p Isopropyltoluene	ND	ug/l	1 0	10/09/02 12 57	JSR	99 87 6		
1 3 Dichlorobenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	541 73 1		
1 4 Dichlorobenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	106 46 7		
n Butylbenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	104 51 8		
1 2 Dichlorobenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	95 50 1		
1 2 Dibromo 3 chloropropane	ND	ug/l	2 5	10/09/02 12 57	JSR	96 12 8		
1 2 4 Trichlorobenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	120 82 1		
Hexachloro 1 3 butadiene	ND	ug/l	1 0	10/09/02 12 57	JSR	87 68 3		
Naphthalene	ND	ug/l	1 0	10/09/02 12 57	JSR	91 20 3		
1 2 3 Trichlorobenzene	ND	ug/l	1 0	10/09/02 12 57	JSR	87 61 6		
Acetone	ND	ug/l	10	10/09/02 12 57	JSR	67 64 1		
2 Butanone (MEK)	ND	ug/l	10	10/09/02 12 57	JSR	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/l	10	10/09/02 12 57	JSR	108 10 1		
2 Hexanone	ND	ug/l	10	10/09/02 12 57	JSR	591 78 6		
Dibromofluoromethane (S)	99	%		10/09/02 12 57	JSR	1868 53 7		
Toluene d8 (S)	104	%		10/09/02 12 57	JSR	2037 26 5		
4 Bromofluorobenzene (S)	99	%		10/09/02 12 57	JSR	460 00 4		
1 2 Dichloroethane d4 (S)	97	%		10/09/02 12 57	JSR	17060 07 0		

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Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468594 Project Sample Number 6063163 004 Date Collected 09/25/02 13 10
 Client Sample ID SPRINGFIELD_MW 15 Matrix Water Date Received 09/26/02 09 15

Parameters Results Units Report Limit Analyzed By CAS No. Qual ReqLmt
 GC/MS Volatiles

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
GC/MS VOCs by 8260 (Low Level) Method EPA 8260								
Dichlorodifluoromethane	ND	ug/l	1 0	10/09/02 03 04	JSR	75 71 8		
Chloromethane	ND	ug/l	1 0	10/09/02 03 04	JSR	74 87 3		
Vinyl chloride	ND	ug/l	1 0	10/09/02 03 04	JSR	75 01 4		
Bromomethane	ND	ug/l	1 0	10/09/02 03 04	JSR	74 83 9		
Chloroethane	7 3	ug/l	1 0	10/09/02 03 04	JSR	75 00 3		
Trichlorofluoromethane	ND	ug/l	1 0	10/09/02 03 04	JSR	75 69 4		
Methylene chloride	ND	ug/l	1 0	10/09/02 03 04	JSR	75 09 2		
1 1 Dichloroethene	ND	ug/l	1 0	10/09/02 03 04	JSR	75 35 4		
trans 1 2 Dichloroethene	ND	ug/l	1 0	10/09/02 03 04	JSR	156 60 5		
1 1 Dichloroethane	1 9	ug/l	1 0	10/09/02 03 04	JSR	75 34 3		
2 2 Dichloropropane	ND	ug/l	1 0	10/09/02 03 04	JSR	594 20 7		
cis 1 2 Dichloroethene	1 0	ug/l	1 0	10/09/02 03 04	JSR	156 59 2		
Chloroform	3 3	ug/l	1 0	10/09/02 03 04	JSR	67 66 3		
Bromochloromethane	ND	ug/l	1 0	10/09/02 03 04	JSR	74 97 5		
1 1 1 Trichloroethane	ND	ug/l	1 0	10/09/02 03 04	JSR	71 55 6		
Carbon tetrachloride	ND	ug/l	1 0	10/09/02 03 04	JSR	56 23 5		
1 1 Dichloropropane	ND	ug/l	1 0	10/09/02 03 04	JSR	563 58 6		
Benzene	3 4	ug/l	1 0	10/09/02 03 04	JSR	71 43 2		
1 2 Dichloroethane	ND	ug/l	1 0	10/09/02 03 04	JSR	107 06 2		
Trichloroethene	ND	ug/l	1 0	10/09/02 03 04	JSR	79 01 6		
1 2 Dichloropropane	ND	ug/l	1 0	10/09/02 03 04	JSR	78 87 5		
Bromodichloromethane	ND	ug/l	1 0	10/09/02 03 04	JSR	75 27 4		
cas 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 03 04	JSR	10061 01 5		
Dibromomethane	ND	ug/l	1 0	10/09/02 03 04	JSR	74 95 3		
Toluene	ND	ug/l	1 0	10/09/02 03 04	JSR	108 88 3		
trans 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 03 04	JSR	10061 02 6		
1 1 2 Trichloroethane	ND	ug/l	1 0	10/09/02 03 04	JSR	79 00 5		
Tetrachloroethene	ND	ug/l	1 0	10/09/02 03 04	JSR	127 18 4		
1 3 Dichloropropane	ND	ug/l	1 0	10/09/02 03 04	JSR	142 28 9		
Dibromochloromethane	ND	ug/l	1 0	10/09/02 03 04	JSR	124 48 1		
1 2 Dibromoethane (EDB)	ND	ug/l	1 0	10/09/02 03 04	JSR	106 93 4		
Chlorobenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	108 90 7		
1 1 1 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 03 04	JSR	630 20 6		
Ethylbenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	100 41 4		
m&p Xylene	ND	ug/l	1 3	10/09/02 03 04	JSR			
o Xylene	ND	ug/l	1 1	10/09/02 03 04	JSR	95 47 6		
Styrene	ND	ug/l	1 0	10/09/02 03 04	JSR	100 42 5		

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 Phone 913 599 5665
 Fax 913 599 1759

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468594 Project Sample Number 6063163 004 Date Collected 09/25/02 13 10
 Client Sample ID SPRINGFIELD_MW 15 Matrix Water Date Received 09/26/02 09 15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Bromoform	ND	ug/l	1 0	10/09/02 03 04	JSR	75 25 2		
Isopropylbenzene (Cumene)	ND	ug/l	1 0	10/09/02 03 04	JSR	98 82 8		
1 1 2 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 03 04	JSR	79 34 5		
Bromobenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	108 86 1		
1 2 3 Trichloropropane	ND	ug/l	2 5	10/09/02 03 04	JSR	96 18 4		
n Propylbenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	103 65 1		
2 Chlorotoluene	ND	ug/l	1 0	10/09/02 03 04	JSR	95 49 8		
1 3 5 Trimethylbenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	108 67 8		
4 Chlorotoluene	ND	ug/l	1 0	10/09/02 03 04	JSR	106 43 4		
1 2 4 Trimethylbenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	95 63 6		
sec Butylbenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	135 98 8		
tert Butylbenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	98 06 6		
p Isopropyltoluene	ND	ug/l	1 0	10/09/02 03 04	JSR	99 87 6		
1 3 Dichlorobenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	541 73 1		
1 4 Dichlorobenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	106 46 7		
n Butylbenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	104 51 8		
1 2 Dichlorobenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	95 50 1		
1 2 Dibromo 3 chloropropane	ND	ug/l	2 5	10/09/02 03 04	JSR	96 12 8		
1 2 4 Trichlorobenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	120 82 1		
Hexachloro 1 3 butadiene	ND	ug/l	1 0	10/09/02 03 04	JSR	87 68 3		
Naphthalene	ND	ug/l	1 0	10/09/02 03 04	JSR	91 20 3		
1 2 3 Trichlorobenzene	ND	ug/l	1 0	10/09/02 03 04	JSR	87 61 6		
Acetone	ND	ug/l	10	10/09/02 03 04	JSR	67 64 1		
2 Butanone (MEK)	ND	ug/l	10	10/09/02 03 04	JSR	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/l	10	10/09/02 03 04	JSR	108 10 1		
2 Hexanone	ND	ug/l	10	10/09/02 03 04	JSR	591 78 6		
Dibromofluoromethane (S)	100	%		10/09/02 03 04	JSR	1868 53 7		
Toluene d8 (S)	98	%		10/09/02 03 04	JSR	2037 26 5		
4 Bromofluorobenzene (S)	91	%		10/09/02 03 04	JSR	460 00 4		
1 2 Dichloroethane d4 (S)	95	%		10/09/02 03 04	JSR	17060 07 0		

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Lab Project Number 6063163
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Lab Sample No 605468644 Project Sample Number 6063163 005 Date Collected 09/25/02 13 30
 Client Sample ID SPRINGFIELD_MW 14 Matrix Water Date Received 09/26/02 09 15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles								
GC/MS VOCs by 8260 (Low Level)	Method	EPA 8260						
Dichlorodifluoromethane	ND	ug/l	1 0	10/09/02 09 07	JSR	75 71 8		
Chloromethane	ND	ug/l	1 0	10/09/02 09 07	JSR	74 87 3		
Vinyl chloride	ND	ug/l	1 0	10/09/02 09 07	JSR	75 01 4		
Bromomethane	ND	ug/l	1 0	10/09/02 09 07	JSR	74 83 9		
Chloroethane	ND	ug/l	1 0	10/09/02 09 07	JSR	75 00 3		
Trichlorofluoromethane	ND	ug/l	1 0	10/09/02 09 07	JSR	75 69 4		
Methylene chloride	ND	ug/l	1 0	10/09/02 09 07	JSR	75 09 2		
1 1 Dichloroethene	ND	ug/l	1 0	10/09/02 09 07	JSR	75 35 4		
trans 1 2 Dichloroethene	ND	ug/l	1 0	10/09/02 09 07	JSR	156 60 5		
1 1 Dichloroethane	2 5	ug/l	1 0	10/09/02 09 07	JSR	75 34 3		
2 2 Dichloropropane	ND	ug/l	1 0	10/09/02 09 07	JSR	594 20 7		
cis 1 2 Dichloroethene	ND	ug/l	1 0	10/09/02 09 07	JSR	156 59 2		
Chloroform	ND	ug/l	1 0	10/09/02 09 07	JSR	67 66 3		
Bromochloromethane	ND	ug/l	1 0	10/09/02 09 07	JSR	74 97 5		
1 1 1 Trichloroethane	ND	ug/l	1 0	10/09/02 09 07	JSR	71 55 6		
Carbon tetrachloride	ND	ug/l	1 0	10/09/02 09 07	JSR	56 23 5		
1 1 Dichloropropene	ND	ug/l	1 0	10/09/02 09 07	JSR	563 58 6		
Benzene	ND	ug/l	1 0	10/09/02 09 07	JSR	71 43 2		
1 2 Dichloroethane	ND	ug/l	1 0	10/09/02 09 07	JSR	107 06 2		
Trichloroethene	ND	ug/l	1 0	10/09/02 09 07	JSR	79 01 6		
1 2 Dichloropropane	ND	ug/l	1 0	10/09/02 09 07	JSR	78 87 5		
Bromodichloromethane	ND	ug/l	1 0	10/09/02 09 07	JSR	75 27 4		
cis 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 09 07	JSR	10061 01 5		
Dibromomethane	ND	ug/l	1 0	10/09/02 09 07	JSR	74 95 3		
Toluene	ND	ug/l	1 0	10/09/02 09 07	JSR	108 88 3		
trans 1 3 Dichloropropene	ND	ug/l	1 0	10/09/02 09 07	JSR	10061 02 6		
1 1 2 Trichloroethane	ND	ug/l	1 0	10/09/02 09 07	JSR	79 00 5		
Tetrachloroethene	ND	ug/l	1 0	10/09/02 09 07	JSR	127 18 4		
1 3 Dichloropropane	ND	ug/l	1 0	10/09/02 09 07	JSR	142 28 9		
Dibromochloromethane	ND	ug/l	1 0	10/09/02 09 07	JSR	124 48 1		
1 2 Dibromoethane (EDB)	ND	ug/l	1 0	10/09/02 09 07	JSR	106 93 4		
Chlorobenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	108 90 7		
1 1 1 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 09 07	JSR	630 20 6		
Ethylbenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	100 41 4		
m&p Xylene	ND	ug/l	1 3	10/09/02 09 07	JSR			
o Xylene	ND	ug/l	1 1	10/09/02 09 07	JSR	95 47 6		
Styrene	ND	ug/l	1 0	10/09/02 09 07	JSR	100 42 5		

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 Phone 913 599 5665
 Fax 913 599 1759

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468644 Project Sample Number 6063163 005 Date Collected 09/25/02 13 30
 Client Sample ID SPRINGFIELD_MW 14 Matrix Water Date Received 09/26/02 09 15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Bromoform	ND	ug/l	1 0	10/09/02 09 07	JSR	75 25 2		
Isopropylbenzene (Cumene)	ND	ug/l	1 0	10/09/02 09 07	JSR	98 82 8		
1 1 2 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 09 07	JSR	79 34 5		
Bromobenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	108 86 1		
1 2 3 Trichloropropane	ND	ug/l	2 5	10/09/02 09 07	JSR	96 18 4		
n Propylbenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	103 65 1		
2 Chlorotoluene	ND	ug/l	1 0	10/09/02 09 07	JSR	95 49 8		
1 3 5 Trimethylbenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	108 67 8		
4 Chlorotoluene	ND	ug/l	1 0	10/09/02 09 07	JSR	106 43 4		
1 2 4 Trimethylbenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	95 63 6		
sec Butylbenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	135 98 8		
tert Butylbenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	98 06 6		
p Isopropyltoluene	ND	ug/l	1 0	10/09/02 09 07	JSR	99 87 6		
1 3 Dichlorobenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	541 73 1		
1 4 Dichlorobenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	106 46 7		
n Butylbenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	104 51 8		
1 2 Dichlorobenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	95 50 1		
1 2 Dibromo 3 chloropropane	ND	ug/l	2 5	10/09/02 09 07	JSR	96 12 8		
1 2 4 Trichlorobenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	120 82 1		
Hexachloro 1 3 butadiene	ND	ug/l	1 0	10/09/02 09 07	JSR	87 68 3		
Naphthalene	ND	ug/l	1 0	10/09/02 09 07	JSR	91 20 3		
1 2 3 Trichlorobenzene	ND	ug/l	1 0	10/09/02 09 07	JSR	87 61 6		
Acetone	ND	ug/l	10	10/09/02 09 07	JSR	67 64 1		
2 Butanone (MEK)	ND	ug/l	10	10/09/02 09 07	JSR	78 93 3		
4 Methyl 2 pentanone (MIBK)	ND	ug/l	10	10/09/02 09 07	JSR	108 10 1		
2 Hexanone	ND	ug/l	10	10/09/02 09 07	JSR	591 78 6		
Dibromofluoromethane (S)	102	%		10/09/02 09 07	JSR	1868 53 7		
Toluene d8 (S)	97	%		10/09/02 09 07	JSR	2037 26 5		
4 Bromofluorobenzene (S)	89	%		10/09/02 09 07	JSR	460 00 4		
1 2 Dichloroethane d4 (S)	97	%		10/09/02 09 07	JSR	17060 07 0		

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Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

Lab Sample No 605468651 Project Sample Number 6063163 006 Date Collected 09/25/02 13 55
 Client Sample ID SPRINGFIELD_SAW 2 Matrix Water Date Received 09/26/02 09 15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Bromoform	ND	ug/l	1 0	10/09/02 09 42	JSR	75 25 2		
Isopropylbenzene (Cumene)	25	ug/l	1 0	10/09/02 09 42	JSR	98 82 8		
1 1 2 2 Tetrachloroethane	ND	ug/l	1 0	10/09/02 09 42	JSR	79 34 5		
Bromobenzene	ND	ug/l	1 0	10/09/02 09 42	JSR	108 86 1		
1 2 3 Trichloropropane	ND	ug/l	2 5	10/09/02 09 42	JSR	96 18 4		
n Propylbenzene	38	ug/l	1 0	10/09/02 09 42	JSR	103 65 1		
2 Chlorotoluene	ND	ug/l	1 0	10/09/02 09 42	JSR	95 49 8		
1 3 5 Trimethylbenzene	85	ug/l	1 0	10/09/02 09 42	JSR	108 67 8		
4 Chlorotoluene	ND	ug/l	1 0	10/09/02 09 42	JSR	106 43 4		
1 2 4 Trimethylbenzene	190	ug/l	100	10/09/02 13 56	JSR	95 63 6		
sec Butylbenzene	1 6	ug/l	1 0	10/09/02 09 42	JSR	135 98 8		
tert Butylbenzene	ND	ug/l	1 0	10/09/02 09 42	JSR	98 06 6		
p Isopropyltoluene	1 2	ug/l	1 0	10/09/02 09 42	JSR	99 87 6		
1 3 Dichlorobenzene	ND	ug/l	1 0	10/09/02 09 42	JSR	541 73 1		
1 4 Dichlorobenzene	2 1	ug/l	1 0	10/09/02 09 42	JSR	106 46 7		
n Butylbenzene	5 4	ug/l	1 0	10/09/02 09 42	JSR	104 51 8		
1 2 Dichlorobenzene	14	ug/l	1 0	10/09/02 09 42	JSR	95 50 1		
1 2 Dibromo 3 chloropropane	ND	ug/l	2 5	10/09/02 09 42	JSR	96 12 8		
1 2 4 Trichlorobenzene	ND	ug/l	1 0	10/09/02 09 42	JSR	120 82 1		
Hexachloro 1 3 butadiene	ND	ug/l	1 0	10/09/02 09 42	JSR	87 68 3		
Naphthalene	100	ug/l	1 0	10/09/02 09 42	JSR	91 20 3		
1 2 3 Trichlorobenzene	ND	ug/l	1 0	10/09/02 09 42	JSR	87 61 6		
Acetone	1600	ug/l	1000	10/09/02 13 56	JSR	67 64 1		
2 Butanone (MEK)	ND	ug/l	10	10/09/02 09 42	JSR	78 93 3		
4 Methyl 2 pentanone (MIBK)	1400	ug/l	1000	10/09/02 13 56	JSR	108 10 1		
2 Hexanone	ND	ug/l	10	10/09/02 09 42	JSR	591 78 6		
Dibromofluoromethane (S)	103	%		10/09/02 09 42	JSR	1868 53 7		
Toluene d8 (S)	85	%		10/09/02 09 42	JSR	2037 26 5	2	
4 Bromofluorobenzene (S)	100	%		10/09/02 09 42	JSR	460 00 4		
1 2 Dichloroethane d4 (S)	98	%		10/09/02 09 42	JSR	17060 07 0		

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Lab Project Number 6063163
Client Project ID BRENTAG/ SPRINGFIELD MO

PARAMETER FOOTNOTES

- ND Not detected at or above adjusted reporting limit
- NC Not Calculable
- J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- MDL Adjusted Method Detection Limit
- (S) Surrogate
- [1] Detected but below the PRL therefore result is an estimated concentration (CLP J Flag)
- [2] Surrogate recovery outside of acceptance window confirmed as a matrix effect by the analysis of a duplicate or MS/MSD on this sample

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QUALITY CONTROL DATA

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

QC Batch 131128 Analysis Method EPA 8260
 QC Batch Method EPA 8260 Analysis Description GC/MS VOCs by 8260 (Low Level)
 Associated Lab Samples 605468578 605468594 605468644 605468651

METHOD BLANK 605492396
 Associated Lab Samples 605468578 605468594 605468644 605468651

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	1 0	
Bromobenzene	ug/l	ND	1 0	
Bromochloromethane	ug/l	ND	1 0	
Bromodichloromethane	ug/l	ND	1 0	
Bromoform	ug/l	ND	1 0	
Bromomethane	ug/l	ND	1 0	
n Butylbenzene	ug/l	ND	1 0	
sec Butylbenzene	ug/l	ND	1 0	
tert Butylbenzene	ug/l	ND	1 0	
Carbon tetrachloride	ug/l	ND	1 0	
Chlorobenzene	ug/l	ND	1 0	
Chloroethane	ug/l	ND	1 0	
Chloroform	ug/l	ND	1 0	
Chloromethane	ug/l	ND	1 0	
2 Chlorotoluene	ug/l	ND	1 0	
4 Chlorotoluene	ug/l	ND	1 0	
1 2 Dibromo 3 chloropropane	ug/l	ND	2 5	
Dibromochloromethane	ug/l	ND	1 0	
1 2 Dibromoethane (EDB)	ug/l	ND	1 0	
Dibromomethane	ug/l	ND	1 0	
1 2 Dichlorobenzene	ug/l	ND	1 0	
1 3 Dichlorobenzene	ug/l	ND	1 0	
1 4 Dichlorobenzene	ug/l	ND	1 0	
Dichlorodifluoromethane	ug/l	ND	1 0	
1 1 Dichloroethane	ug/l	ND	1 0	
1 2 Dichloroethane	ug/l	ND	1 0	
1 1 Dichloroethene	ug/l	ND	1 0	
cis 1 2 Dichloroethene	ug/l	ND	1 0	
trans 1 2 Dichloroethene	ug/l	ND	1 0	
1 2 Dichloropropane	ug/l	ND	1 0	
1 3 Dichloropropane	ug/l	ND	1 0	

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QUALITY CONTROL DATA

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

METHOD BLANK 605492396
 Associated Lab Samples 605468578 605468594 605468644 605468651

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
2 2 Dichloropropane	ug/l	ND	1 0	
1 1 Dichloropropene	ug/l	ND	1 0	
cis 1 3 Dichloropropene	ug/l	ND	1 0	
trans 1 3 Dichloropropene	ug/l	ND	1 0	
Ethylbenzene	ug/l	ND	1 0	
Hexachloro 1 3 butadiene	ug/l	ND	1 0	
Isopropylbenzene (Cumene)	ug/l	ND	1 0	
p Isopropyltoluene	ug/l	ND	1 0	
Methylene chloride	ug/l	ND	1 0	
Naphthalene	ug/l	ND	1 0	
n Propylbenzene	ug/l	ND	1 0	
Styrene	ug/l	ND	1 0	
1 1 1 2 Tetrachloroethane	ug/l	ND	1 0	
1 1 2 2 Tetrachloroethane	ug/l	ND	1 0	
Tetrachloroethene	ug/l	ND	1 0	
Toluene	ug/l	ND	1 0	
1 2 3 Trichlorobenzene	ug/l	ND	1 0	
1 2 4 Trichlorobenzene	ug/l	ND	1 0	
1 1 1 Trichloroethane	ug/l	ND	1 0	
1 1 2 Trichloroethane	ug/l	ND	1 0	
Trichloroethene	ug/l	ND	1 0	
Trichlorofluoromethane	ug/l	ND	1 0	
1 2 3 Trichloropropane	ug/l	ND	2 5	
1 2 4 Trimethylbenzene	ug/l	ND	1 0	
1 3 5 Trimethylbenzene	ug/l	ND	1 0	
Vinyl chloride	ug/l	ND	1 0	
m&p Xylene	ug/l	ND	1 3	
o Xylene	ug/l	ND	1 1	
Toluene d8 (S)	%	98		
4 Bromofluorobenzene (S)	%	89		
Dibromofluoromethane (S)	%	100		
1 2 Dichloroethane d4 (S)	%	93		

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QUALITY CONTROL DATA

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

LABORATORY CONTROL SAMPLE 605492404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	10 00	9 510	95	73 127	
Bromobenzene	ug/l	10 00	9 329	93	72 127	
Bromochloromethane	ug/l	10 00	9 476	95	72 127	
Bromodichloromethane	ug/l	10 00	9 462	95	76 127	
Bromoform	ug/l	10 00	9 070	91	68 132	
Bromomethane	ug/l	10 00	9 462	95	10 171	
n Butylbenzene	ug/l	10 00	9 194	92	67 132	
sec Butylbenzene	ug/l	10 00	9 747	98	71 130	
tert Butylbenzene	ug/l	10 00	9 789	98	71 134	
Carbon tetrachloride	ug/l	10 00	10 43	104	70 136	
Chlorobenzene	ug/l	10 00	9 704	97	76 121	
Chloroethane	ug/l	10 00	8 529	85	39 147	
Chloroform	ug/l	10 00	9 197	92	76 123	
Chloromethane	ug/l	10 00	6 287	63	20 157	
2 Chlorotoluene	ug/l	10 00	9 574	96	76 124	
4 Chlorotoluene	ug/l	10 00	9 435	94	75 125	
1 2 Dibromo 3 chloropropane	ug/l	10 00	8 473	85	64 133	
Dibromochloromethane	ug/l	10 00	9 447	94	74 126	
1 2 Dibromoethane (EDB)	ug/l	10 00	9 044	90	76 125	
Dibromomethane	ug/l	10 00	8 824	88	74 125	
1 2 Dichlorobenzene	ug/l	10 00	8 711	87	78 122	
1 3 Dichlorobenzene	ug/l	10 00	8 937	89	77 121	
1 4 Dichlorobenzene	ug/l	10 00	8 725	87	76 120	
Dichlorodifluoromethane	ug/l	10 00	4 969	50	10 171	
1 1 Dichloroethane	ug/l	10 00	9 537	95	68 129	
1 2 Dichloroethane	ug/l	10 00	8 693	87	72 126	
1 1 Dichloroethene	ug/l	10 00	11 46	115	58 139	
cis 1 2 Dichloroethene	ug/l	10 00	9 396	94	74 123	
trans 1 2 Dichloroethene	ug/l	10 00	10 15	101	63 134	
1 2 Dichloropropane	ug/l	10 00	9 005	90	75 124	
1 3 Dichloropropane	ug/l	10 00	9 199	92	78 122	
2 2 Dichloropropane	ug/l	10 00	10 63	106	61 139	
1 1 Dichloropropene	ug/l	10 00	10 66	107	63 139	
cis 1 3 Dichloropropene	ug/l	10 00	9 048	90	74 125	
trans 1 3 Dichloropropene	ug/l	10 00	9 255	93	70 135	
Ethylbenzene	ug/l	10 00	9 789	98	77 125	
Hexachloro 1 3 butadiene	ug/l	10 00	9 875	99	66 131	

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QUALITY CONTROL DATA

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

LABORATORY CONTROL SAMPLE 605492404

<u>Parameter</u>	<u>Units</u>	<u>Spike Conc.</u>	<u>LCS Result</u>	<u>LCS % Rec</u>	<u>% Rec Limits</u>	<u>Footnotes</u>
Isopropylbenzene (Cumene)	ug/l	10 00	9 612	96	71 126	
p Isopropyltoluene	ug/l	10 00	9 243	92	73 124	
Methylene chloride	ug/l	10 00	10 35	104	56 142	
Naphthalene	ug/l	10 00	6 606	66	53 142	
n Propylbenzene	ug/l	10 00	9 730	97	76 124	
Styrene	ug/l	10 00	9 748	98	76 126	
1 1 1 2 Tetrachloroethane	ug/l	10 00	9 994	100	77 125	
1 1 2 2 Tetrachloroethane	ug/l	10 00	9 652	96	68 128	
Tetrachloroethene	ug/l	10 00	11 17	112	66 136	
Toluene	ug/l	10 00	9 245	92	76 125	
1 2 3 Trichlorobenzene	ug/l	10 00	7 553	76	61 133	
1 2 4 Trichlorobenzene	ug/l	10 00	7 900	79	63 130	
1 1 1 Trichloroethane	ug/l	10 00	10 18	102	68 135	
1 1 2 Trichloroethane	ug/l	10 00	9 600	96	77 124	
Trichloroethene	ug/l	10 00	9 426	94	72 129	
Trichlorofluoromethane	ug/l	10 00	9 214	92	50 150	
1 2 3 Trichloropropane	ug/l	10 00	8 866	89	75 128	
1 2 4 Trimethylbenzene	ug/l	10 00	9 029	90	74 127	
1 3 5 Trimethylbenzene	ug/l	10 00	9 438	94	72 128	
Vinyl chloride	ug/l	10 00	7 865	79	32 147	
m&p Xylene	ug/l	20 00	19 88	99	75 125	
o Xylene	ug/l	10 00	9 776	98	77 126	
Toluene d8 (S)				98	89 109	
4 Bromofluorobenzene (S)				101	81 118	
Dibromofluoromethane (S)				101	86 115	
1 2 Dichloroethane d4 (S)				95	79 126	

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QUALITY CONTROL DATA

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

QC Batch 131418 Analysis Method EPA 8260
 QC Batch Method EPA 8260 Analysis Description GC/MS VOCs by 8260 (Low Level)
 Associated Lab Samples 605468560 605468586

METHOD BLANK 605505122
 Associated Lab Samples 605468560 605468586

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	1 0	
Bromobenzene	ug/l	ND	1 0	
Bromochloromethane	ug/l	ND	1 0	
Bromodichloromethane	ug/l	ND	1 0	
Bromoform	ug/l	ND	1 0	
Bromomethane	ug/l	ND	1 0	
n Butylbenzene	ug/l	ND	1 0	
sec Butylbenzene	ug/l	ND	1 0	
tert Butylbenzene	ug/l	ND	1 0	
Carbon tetrachloride	ug/l	ND	1 0	
Chlorobenzene	ug/l	ND	1 0	
Chloroethane	ug/l	ND	1 0	
Chloroform	ug/l	ND	1 0	
Chloromethane	ug/l	ND	1 0	
2 Chlorotoluene	ug/l	ND	1 0	
4 Chlorotoluene	ug/l	ND	1 0	
1 2 Dibromo 3 chloropropane	ug/l	ND	2 5	
Dibromochloromethane	ug/l	ND	1 0	
1 2 Dibromoethane (EDB)	ug/l	ND	1 0	
Dibromomethane	ug/l	ND	1 0	
1 2 Dichlorobenzene	ug/l	ND	1 0	
1 3 Dichlorobenzene	ug/l	ND	1 0	
1 4 Dichlorobenzene	ug/l	ND	1 0	
Dichlorodifluoromethane	ug/l	ND	1 0	
1 1 Dichloroethane	ug/l	ND	1 0	
1 2 Dichloroethane	ug/l	ND	1 0	
1 1 Dichloroethene	ug/l	ND	1 0	
cis 1 2 Dichloroethene	ug/l	ND	1 0	
trans 1 2 Dichloroethene	ug/l	ND	1 0	
1 2 Dichloropropane	ug/l	ND	1 0	
1 3 Dichloropropane	ug/l	ND	1 0	

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QUALITY CONTROL DATA

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

METHOD BLANK 605505122
 Associated Lab Samples 605468560 605468586

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
2 2 Dichloropropane	ug/l	ND	1 0	
1 1 Dichloropropene	ug/l	ND	1 0	
cis 1 3 Dichloropropene	ug/l	ND	1 0	
trans 1 3 Dichloropropene	ug/l	ND	1 0	
Ethylbenzene	ug/l	ND	1 0	
Hexachloro 1 3 butadiene	ug/l	ND	1 0	
Isopropylbenzene (Cumene)	ug/l	ND	1 0	
p Isopropyltoluene	ug/l	ND	1 0	
Methylene chloride	ug/l	ND	1 0	
Naphthalene	ug/l	ND	1 0	
n Propylbenzene	ug/l	ND	1 0	
Styrene	ug/l	ND	1 0	
1 1 1 2 Tetrachloroethane	ug/l	ND	1 0	
1 1 2 2 Tetrachloroethane	ug/l	ND	1 0	
Tetra hloroethene	ug/l	ND	1 0	
Toluene	ug/l	ND	1 0	
1 2 3 Trichlorobenzene	ug/l	ND	1 0	
1 2 4 Trichlorobenzene	ug/l	ND	1 0	
1 1 1 Trichloroethane	ug/l	ND	1 0	
1 1 2 Trichloroethane	ug/l	ND	1 0	
Trichloroethene	ug/l	ND	1 0	
Trichlorofluoromethane	ug/l	ND	1 0	
1 2 3 Trichloropropane	ug/l	ND	2 5	
1 2 4 Trimethylbenzene	ug/l	ND	1 0	
1 3 5 Trimethylbenzene	ug/l	ND	1 0	
Vinyl chloride	ug/l	ND	1 0	
m&p Xylene	ug/l	ND	1 3	
o Xylene	ug/l	ND	1 1	
Toluene d8 (S)	%	103		
4 Bromofluorobenzene (S)	%	99		
Dibromofluoromethane (S)	%	98		
1 2 Dichloroethane d4 (S)	%	96		

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QUALITY CONTROL DATA

Lab Project Number 6063163
 Client Project ID BRENNTAG/ SPRINGFIELD MO

LABORATORY CONTROL SAMPLE 605505130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Footnotes
Benzene	ug/l	10 00	9 514	95	73 127	
Bromobenzene	ug/l	10 00	9 634	96	72 127	
Bromochloromethane	ug/l	10 00	9 637	96	72 127	
Bromodichloromethane	ug/l	10 00	9 198	92	76 127	
Bromoform	ug/l	10 00	9 135	91	68 132	
Bromomethane	ug/l	10 00	10 77	108	10 171	
n Butylbenzene	ug/l	10 00	9 358	94	67 132	
sec Butylbenzene	ug/l	10 00	9 696	97	71 130	
tert Butylbenzene	ug/l	10 00	9 539	95	71 134	
Carbon tetrachloride	ug/l	10 00	9 549	96	70 136	
Chlorobenzene	ug/l	10 00	10 04	100	76 121	
Chloroethane	ug/l	10 00	8 444	84	39 147	
Chloroform	ug/l	10 00	9 188	92	76 123	
Chloromethane	ug/l	10 00	7 509	75	20 157	
2 Chlorotoluene	ug/l	10 00	9 599	96	76 124	
4 Chlorotoluene	ug/l	10 00	9 694	97	75 125	
1 2 Dibromo 3 chloropropane	ug/l	10 00	9 128	91	64 133	
Dibromochloromethane	ug/l	10 00	9 695	97	74 126	
1 2 Dibromoethane (EDB)	ug/l	10 00	9 603	96	76 125	
Dibromomethane	ug/l	10 00	9 515	95	74 125	
1 2 Dichlorobenzene	ug/l	10 00	9 370	94	78 122	
1 3 Dichlorobenzene	ug/l	10 00	9 404	94	77 121	
1 4 Dichlorobenzene	ug/l	10 00	9 064	91	76 120	
Dichlorodifluoromethane	ug/l	10 00	4 339	43	10 171	
1 1 Dichloroethane	ug/l	10 00	9 407	94	68 129	
1 2 Dichloroethane	ug/l	10 00	10 30	103	72 126	
1 1 Dichloroethene	ug/l	10 00	9 793	98	58 139	
cis 1 2 Dichloroethene	ug/l	10 00	9 326	93	74 123	
trans 1 2 Dichloroethene	ug/l	10 00	9 859	99	63 134	
1 2 Dichloropropane	ug/l	10 00	9 178	92	75 124	
1 3 Dichloropropane	ug/l	10 00	9 490	95	78 122	
2 2 Dichloropropane	ug/l	10 00	9 595	96	61 139	
1 1 Dichloropropene	ug/l	10 00	9 779	98	63 139	
cis 1 3 Dichloropropene	ug/l	10 00	9 196	92	74 125	
trans 1 3 Dichloropropene	ug/l	10 00	9 534	95	70 135	
Ethylbenzene	ug/l	10 00	9 871	99	77 125	
Hexachloro 1 3 butadiene	ug/l	10 00	9 609	96	66 131	

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QUALITY CONTROL DATA

Lab Project Number 6063163
Client Project ID BRENNTAG/ SPRINGFIELD MO

LABORATORY CONTROL SAMPLE 605505130

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
Isopropylbenzene (Cumene)	ug/l	10 00	9 149	92	71 126	
p Isopropyltoluene	ug/l	10 00	9 539	95	73 124	
Methylene chloride	ug/l	10 00	9 775	98	56 142	
Naphthalene	ug/l	10 00	9 222	92	53 142	
n Propylbenzene	ug/l	10 00	9 699	97	76 124	
Styrene	ug/l	10 00	9 834	98	76 126	
1 1 1 2 Tetrachloroethane	ug/l	10 00	9 783	98	77 125	
1 1 2 2 Tetrachloroethane	ug/l	10 00	8 944	89	68 128	
Tetrachloroethene	ug/l	10 00	10 11	101	66 136	
Toluene	ug/l	10 00	9 880	99	76 125	
1 2 3 Trichlorobenzene	ug/l	10 00	9 274	93	61 133	
1 2 4 Trichlorobenzene	ug/l	10 00	9 304	93	63 130	
1 1 1 Trichloroethane	ug/l	10 00	9 543	95	68 135	
1 1 2 Trichloroethane	ug/l	10 00	9 563	96	77 124	
Trichloroethene	ug/l	10 00	9 315	93	72 129	
Trichlorofluoromethane	ug/l	10 00	9 203	92	50 150	
1 2 3 Trichloropropane	ug/l	10 00	10 12	101	75 128	
1 2 4 Trimethylbenzene	ug/l	10 00	9 042	90	74 127	
1 3 5 Trimethylbenzene	ug/l	10 00	9 402	94	72 128	
Vinyl chloride	ug/l	10 00	7 234	72	32 147	
m&p Xylene	ug/l	20 00	19 62	98	75 125	
o Xylene	ug/l	10 00	9 966	100	77 126	
Toluene d8 (S)				103	89 109	
4 Bromofluorobenzene (S)				96	81 118	
Dibromofluoromethane (S)				100	86 115	
1 2 Dichloroethane d4 (S)				95	79 126	

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Lab Project Number 6063163
Client Project ID BRENNTAG/ SPRINGFIELD MO

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate % Rec and RPD values

- LCS(D) Laboratory Control Sample (Duplicate)
- MS(D) Matrix Spike (Duplicate)
- DUP Sample Duplicate
- ND Not detected at or above adjusted reporting limit
- NC Not Calculable
- J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- MDL Adjusted Method Detection Limit
- RPD Relative Percent Difference
- (S) Surrogate

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REPORT OF LABORATORY ANALYSIS

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669750

Section A Required Client Information

Company: **ARCADIS**

Address: **5100 E SKELLY DR**
SUITE 1000
TULSA, OK 74135

Phone: **918 664 9900** Fax: **918 664 9925**

Section B Required Client Information

Report To: **WARREN FRENCH**

Copy To: _____

Invoice To: **ARCADIS**

PO: _____

Project Name: **BRENTAG / SPRINGFIELD, Mo**

Project Number: **0K001255.0002 TASK# 00001**

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Section C To Be Completed by Pace Analytical and Client

Quote Reference: _____

Project Manager: _____

Project #: **6063163**

Profile #: _____

Requested Analysis: _____

ITEM #	Section D Required Client Information										MATRIX CODE	DATE COLLECTED mm / dd / yy	TIME COLLECTED hh mm a/p	# Containers	Preservatives							Remarks / Lab ID		
	SAMPLE ID One character per box (A-Z 0-9 / -) Sample IDs MUST BE UNIQUE														Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol		Other	
1	M	W										WT	09/25/02	1205	3				X			X	370 ✓	63468560
2	M	W	-									WT	09/25/02	1230	3				X			X		578
3	M	W	-									WT	09/25/02	1250	3				X			X		586
4	M	W	-									WT	09/25/02	1310	3				X			X		594
5	M	W										WT	09/25/02	1330	3				X			X		6A4
6	S	A	W	-								WT	09/25/02	1355	3				X			X		651
7																								
8																								
9																								
10																								
11																								
12																								

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS	ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
FEDEX	833193154094	9/25/02	1		Bill Blue	9/25/02	1854	Jff Out	9/26/02	915

SAMPLE CONDITION

Temp in C	09
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES
Any QUESTION CONTACT WARREN FRENCH
At ARCADIS 918 664-9900

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: **BILL BLUE**

SIGNATURE of SAMPLER: *Bill Blue*

DATE Signed (MM / DD / YY): **9/25/02**

Additional Comments