Defining Area of Property Subject to Restrictions for the Vapor Intrusion Exposure Pathway

Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa
RCRA ID No. IAD005136023

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List of Abbreviations and Acronyms

bgs	below ground surface
COPCs	chemicals of potential concern
MCLs	Maximum Contaminant Levels
µg/Kg	microgram per kilogram
µg/L	microgram per liter
Facility	Former Sheller-Globe Facility Property
IC	Institutional Control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facilities Investigation
SOW	Scope of Work
USEPA	United States Environmental Protection Agency
VI	vapor intrusion
VOC	volatile organic chemical

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1.0 Introduction

This report provides an evaluation to identify the portion of the Former Sheller-Globe Facility Property (Facility) located at 3200 Main Street, Keokuk, Iowa where restrictions will be applied as part of the Institutional Control (IC) Covenant to mitigate potential health risks associated with the vapor intrusion (VI) exposure pathway.

The technical approach that is used for this evaluation was provided to the United States Environmental Protection Agency (USEPA) in a Scope of Work (SOW) dated August 7, 2007. USEPA concurred with the SOW via electronic mail communication on August 10, 2007 and requested only one minor modification to the SOW, which is described below. In summary, this evaluation uses the existing soil and groundwater volatile organic chemical (VOC) data for the Facility in conjunction with the USEPA November 2002 "*Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils*" (commonly referred to as the EPA Vapor Intrusion (VI) Guidance), to identify the portion of the Property where land use restrictions to mitigate the VI pathway must be applied.

2.0 Background

On June 21, 2007, the USEPA communicated a summary of the provisions of the draft IC Covenant that covers exposure pathways to soil, groundwater, and vapor intrusion at the Former Sheller-Globe Facility Property in Keokuk, Iowa. In the June 21, 2007 communication from USEPA, USEPA indicated that the portion of the property to which restrictions will be applied cannot be based solely on the area of groundwater contamination, because vapors can migrate some distance from the location of VOCs in soil and groundwater. However, USEPA indicated that measures could be taken to further evaluate the vapor intrusion exposure pathway and thereby limit the portion of the property where restrictions are applied. A subsequent electronic mail communication from USEPA on June 22, 2007 indicated that the USEPA VI Guidance is "appropriate for use in evaluating vapor intrusion in a potential future residential use scenario at the facility, including the primary screening matrix".

A SOW was prepared to define the technical approach to be used to identify the portion of the Property that will be subject to restrictions concerning the VI exposure pathway. USEPA concurred with the SOW, with one modification: the screening values used to evaluate VI pathway completeness consider the lower of the EPA VI screening values and federal drinking water standards (i.e., Maximum Contaminant Levels [MCLs]).

3.0 Conceptual Site Model

The Conceptual Site Model is based on the results of the previous investigations conducted at the Facility (Woodward-Clyde, 1995, URS Greiner Woodward Clyde, 1999, URS, 2001, URS, 2002, URS, 2003, URS, 2007). The Facility is characterized by a release of a mixture of solvents that include chlorinated VOCs (methylene chloride,

trichloroethene, tetrachloroethene, and breakdown products), benzene, ethylbenzene, toluene, xylenes, and hexane. The release occurred to the soil near the Chemical Mixing Building. The VOCs released to the soil infiltrated and leached through the unsaturated soil column to the overburden groundwater, approximately 10 to 15 feet below ground surface (bgs) at the release area. VOCs then migrated downgradient with groundwater flow.

The overburden soils are characterized as clay and silty clay. These soils have very low hydraulic conductivity that does not facilitate rapid movement of liquids or soil gas through the soil column. Therefore, the solvents that were released to the soil tended to remain in the vicinity of the release areas, and groundwater that became contaminated from leaching of the VOCs from the soil did not migrate a substantial distance from the release area (i.e., less than 200 feet).

Potential exposure pathways to contamination in soil and groundwater can include:

- incidental ingestion and dermal contact with contaminated soil,
- inhalation of vapors and dust that may be released from unsaturated soil to the ambient air,
- contact with groundwater used as potable (drinking) water,
- contact with shallow contaminated groundwater during intrusive excavation activities, and
- inhalation of vapors that may be released from unsaturated soil or groundwater to soil pore space, migrate within the soil pore space, and then passively migrate or be actively drawn into air within occupied structures, whereupon occupants may inhale the vapors; this pathway is referred to as vapor intrusion. Vapor intrusion pathways are not complete for soil within the saturated zone because VOCs cannot migrate from soil to soil gas; they migrate from soil to groundwater, and then to soil gas; groundwater is therefore the actual source medium for transfer to soil gas in saturated soil.

Remedial actions performed at the Facility included installation and operation of a soil vapor extraction system. The system was effective in reducing groundwater contamination, as evidenced by long-term monitoring groundwater concentration trends that have been generally decreasing. To further reduce residual contamination, a soil removal action was performed in July 2007. The soil removal action involved the excavation and off-site disposal of 2,395 tons of VOC contaminated soil from an area to the south and an area to the east of the Chemical Mixing Building. The purpose of this removal action was to eliminate on-going sources of contamination to groundwater. With the residual sources removed, the VOC concentrations in groundwater are expected to continue to decrease. Long-term monitoring of the natural attenuation of groundwater VOCs is to be performed.

The soil removal action was designed to result in residual VOC concentrations in soil and groundwater that did not pose an unacceptable health risk to commercial/industrial workers who may be exposed to soil and groundwater through the pathways listed above.

The closure plan for the Facility includes application of Institutional Controls that will prevent unrestricted use of the Facility in areas where residual contamination remains, and will prevent use of groundwater beneath the Facility.

With respect to the vapor intrusion exposure pathway, USEPA VI Guidance indicates that VI exposure pathways may be complete at occupied structures that are located at distance from subsurface vapor sources. Key factors that can influence the completeness of this pathway include:

- the soil type, whereby soils with larger pore spaces such as sands are more conducive to vapor flow and soils with smaller pore spaces, such as silts and clays are less conducive to flow;
- preferential pathways such as underground utility conduits and storm water pipes that may allow vapors to migrate laterally along the conduit, resulting in transfer of vapors a greater distance from the source than they otherwise would migrate;
- depth to groundwater, whereby shallow groundwater brings volatile sources closer to buildings; and
- building construction attributes, whereby buildings with basements have more surface area in which vapors can infiltrate.

The purpose of this evaluation is to identify the area of the Facility where vapor intrusion pathways from subsurface vapor sources in groundwater and unsaturated soil are incomplete for unrestricted land use (i.e., vapor intrusion into single family residential structures constructed with subsurface basements).

4.0 Evaluation

The technical approach described in the SOW uses the USEPA VI Guidance as the basis for this evaluation.

The USEPA VI Guidance is a tiered analysis that allows users of the guidance to determine if the VI exposure pathway is complete and, if complete, whether the pathway poses a health risk of regulatory concern. Likewise, the USEPA VI Guidance may be used to identify if, and where, the VI pathway is incomplete. The USEPA VI Guidance moves from a fairly non-site-specific Primary Screening, through a semi-site-specific Secondary Screening, to a Site-Specific Pathway Assessment. Through each successive screening step and tier of evaluation, application of the guidance may allow the VI pathway to be identified as 'incomplete'. For this evaluation, the primary objective is to identify the area of the Facility where the VI pathway is incomplete; this relies principally on use of the Primary Screening Matrix in the USEPA VI Guidance, as described in the following subsections.

4.1 Step 1 -- Identify the Volatile and Toxic Chemicals that are Present

Table 1 of the USEPA VI guidance lists chemicals that are considered to have sufficient volatility and toxicity to pose a potential VI pathway concern. The chemicals analyzed in soil and groundwater at the Facility were compared to the list of chemicals in Table 1 of the VI guidance. Table 3-1 of this evaluation identifies the chemicals analyzed in soil and groundwater and whether they are considered to be of sufficient volatility and toxicity to pose a potential vapor intrusion concern in accordance with the VI guidance. As shown in Table 3-1, all but three of the chemicals analyzed in soil groundwater are considered to be of sufficient volatility and toxicity to pose a potential VI concern. These chemicals are therefore identified as chemicals of potential concern (COPCs) for VI.

4.2 Step 2 -- Identify a 100 foot Perimeter from All Subsurface Volatile Sources

The USEPA VI Guidance indicates that buildings that are within 100 feet horizontally and vertically of a volatile source in the subsurface could have a potentially complete VI pathway. Key to this is defining 'subsurface volatile source'. The USEPA VI Guidance defines a subsurface volatile source as VOCs in the unsaturated soil or groundwater. The guidance further defines a series of screening steps that may be used to determine if the subsurface volatile source does, in fact, represent a complete VI pathway.

For this assessment, the objective is to identify the area of the Property where a VI pathway is incomplete. Therefore, this evaluation identifies the area of the Property that is more than 100 feet from a subsurface volatile source; this is the area of the Property where the VI pathway is incomplete and will not need to be subject to restrictions for the VI pathway. The following paragraphs describe how subsurface volatile sources in unsaturated soil and groundwater at the Property were defined in order to establish the area of the Property where the VI pathway is incomplete.

4.2.1 Unsaturated Soil

The USEPA VI Guidance indicates that VOCs in unsaturated soil can represent a subsurface volatile source and recommends that the VI pathway evaluation for unsaturated soil be performed using soil gas measurements with fate and transport modeling. Because soil gas data are not available for this Facility, this assessment incorporates the assumption that detected VOCs in unsaturated soil could represent a potential subsurface volatile source that would make the VI pathway complete. Therefore, identification of the area of the Property where the VI pathway from unsaturated soil is incomplete is identified by determining a 100-foot contour (buffer) around the sampling locations where VOCs were not detected in unsaturated soil.

The source of the soil data used for this evaluation is pre-excavation sampling that was performed by URS in support of the remedial design for the soil remediation that was completed in July, 2007. Figure 1, which was excerpted from the Remedial Design prepared by URS, shows the VOC data for soil. A review of this figure indicates that

VOCs were detected in most of the samples that were collected. As indicated in Figure 1, the peripheral soil sampling locations include ISB-3, SB-PLI-1, SB-PLI-2, DP-7, and ISB-7. The soil samples collected at location SB-PLI-2 are from within the saturated zone. Therefore, VOCs detected in the soil samples collected at location SB-PLI-2 do not represent a subsurface volatile source. Similarly, the groundwater elevation south of the retaining wall is within two feet of the ground surface. Any VOC contamination in soil at this area is isolated to the saturated zone, and present in soil only as a result of migration of the VOCs with downgradient groundwater flow from the source area on the north side of the retaining wall. Therefore, it is assumed that no subsurface volatile sources are present in unsaturated soil on the south side of the retaining wall.

VOCs were detected at each of the other four periphery sampling locations at low part-per billion (microgram per kilogram [μg/Kg]) concentrations, as follows:

- ISB-3 – toluene (6.3 μg/Kg)
- SB-PLI-1 – toluene (1.9 μg/Kg)
- DP-7 – ethylbenzene (0.97 μg/Kg), toluene (17 B μg/Kg), xylenes (total) (3.6 J μg/Kg)
- ISB-7 – xylenes (total) (5.6 μg/Kg)

The SOW indicated that the 100 foot buffer would be established around the soil sampling locations that exhibited non-detect results for VOCs. However, the VOC concentrations reported in these samples are extremely low and clearly do not suggest the presence of any residual sources of VOC contamination. In addition, these sampling locations are physically separated from volatile source areas in soil (Figure 1). Specifically:

- ISB-3 is separated from the release areas by the hazardous waste storage area and Chemical Mixing Building, and is cross gradient from these areas.
- SB-PLI-1 is downgradient of the release areas, but is separated from the release areas by locations DP-53 and DP-54, which also show extremely low VOC concentrations (e.g., toluene reported at less than 3 μg/Kg).
- DP-7 and ISB-7 are upgradient of the release areas.

Consequently, it is unlikely that VOC concentrations in unsaturated soil would be increasing with distance from these periphery sampling locations. Moreover, concentrations of ethylbenzene, toluene, and xylene at in the 1 μg/Kg to 6 μg/Kg range in the unsaturated soil would not constitute a vapor intrusion concern. This is in particular the case at this Facility because the overburden soil is silty clay, a soil type which tends to substantially retard vapor movement. Therefore, a 100-foot perimeter may be established around these four periphery sampling locations. The area within this buffer is the portion of the Property where the VI pathway from unsaturated soil may be complete, and the area outside of this buffer is the area of the Property where the VI pathway from unsaturated soil is incomplete. As discussed in subsection 4.2.2, the 100-buffer around these soil sampling locations falls within the buffer zone that is established for groundwater. Consequently, the buffer zone for groundwater is protective for unsaturated soil.

Soil sampling data for VOCs that was submitted in the Resource Conservation and Recovery Act (RCRA) Facilities Investigation (RFI) were also reviewed to determine if additional soil sampling locations had VOCs at concentrations that might be a concern. A review of the data from the RFI indicates that any VOCs reported in soil were detected at concentrations well below the USEPA Region IX Preliminary Remediation Goals for residential soil. This indicates that VOCs in soil in other portions of the Facility do not require restrictions.

4.2.2 Groundwater

The USEPA VI Guidance indicates that VOCs in groundwater can represent a subsurface volatile source, but that screening values can be used to determine if the VI pathway would actually be complete for a given subsurface volatile source. Specifically, the Generic Screening Levels for groundwater provided on Table 2C of the USEPA VI Guidance may be used to screen VOC concentrations in groundwater. VOC concentrations that are greater than these screening values are assumed to pose a potentially complete VI pathway unless additional, more site-specific, evaluations are completed. Therefore, identification of the area of the Property where the VI pathway from groundwater is incomplete can be identified as the groundwater locations where VOC concentrations do not exceed the screening values. However, to provide added conservatism, the area where the VI pathway from groundwater is incomplete is being defined as the area that is outside of a 100-foot contour (buffer) around the sampling locations where VOCs were detected in groundwater at concentrations in excess of the VI screening values.

The VI screening levels presented in Table 2C of the USEPA VI Guidance are protective for migration of vapors from groundwater, through a sandy overburden soil, to air within a residential structure constructed with a subsurface basement. The screening levels correspond to a target excess lifetime cancer risk of $1x10^{-6}$ and a hazard index of 1. The VI screening values from Table 2C of the USEPA VI Guidance are presented in Table 3-1. At USEPA's request, federal drinking water standards (MCLs) are also used to screen the VI pathway from groundwater in this evaluation. The available MCLs are presented in Table 3-1. As indicated in Table 3-1, the lower of the USEPA VI screening values and MCLs are used as the VI screening values in this evaluation.

The source of the groundwater VOC data used in this evaluation is the groundwater data collected from monitoring wells at the Facility that have been monitored over a period of several years (beginning in 1991 for several of the wells). Table 3-2 presents the groundwater data that are available for the monitoring wells at the Facility. The groundwater monitoring results presented in Table 3-2 cover a time period between May 1991 and May 2007. Table 3-2 also provides a comparison of the VOC data to the VI screening values from Table 1; in Table 3-2, values that are shaded yellow exceed the VI screening values.

The 2007 Annual Groundwater Monitoring Report (URS, 2007) includes a statistical analysis of VOC concentration trends in groundwater. The results of the analysis indicate that VOC concentrations are either stable or decreasing in all wells analyzed, the only exception being trichloroethene in well MW-10, for which an increasing trend was identified. These trends are also evident from the information presented in Table 3-2. Because groundwater VOC concentrations have been steadily declining or are stable, identification of monitoring wells with VOCs detected at concentrations greater than the VI screening values are based on comparison of the most recent groundwater data for each monitoring well to the VI screening values.

The monitoring wells with VOCs detected in the most recent sampling round at concentrations greater than the VI screening values are identified on Figure 2. As indicated on Figure 2, these include wells MW-5, MW-7, MW-8, MW-10, MW-11R, and MW-13. Figure 2 identifies the 100-foot buffer zone around these monitoring wells. The area that is outside of this line will represent the area of the Property where the VI pathway is incomplete. The area within this line will represent the area of the Property where the VI pathway may be complete, and restrictions for the VI pathway will be applied.

A review of Figure 2 and Table 3-2 shows that monitoring wells located downgradient of MW-10, MW-11R, and MW-13 are generally non-detect for VOCs. These wells (MW-23A/23B, MW-16, MW-18) are located approximately 100 feet downgradient; the observation that these wells are non-detect for VOCs provides additional confidence that the 100 foot buffer zone in the downgradient direction defines a zone outside of which the VI pathway would be incomplete.

Wells MW-7 and MW-8 are not directly bounded by other wells. The most recent data for these two wells was collected in May 2002. In that sampling round, VOCs (trichloroethene, tetrachloroethene, vinyl chloride) were detected in these wells at concentrations slightly above the VI screening values, generally in the 4 to 18 µg/L range. In interpreting the significance of VOCs in these wells at concentrations greater than the VI screening values, it is important to consider groundwater flow, and the conservative nature of the generic screening values. Specifically:

- The groundwater flow suggests that groundwater in the vicinity of these wells would flow in the general direction of MW-17A/17B; no VOCs have been detected in these wells in recent rounds.
- The screening levels from Table 2C of the USEPA VI Guidance are very conservative for application to this Facility because they are based on VI through a sandy overburden whereas the overburden at the Facility has been characterized as silty clay. Sandy soils are conducive to vapor movement, whereas silty clay soils attenuate vapor movement. In fact, the attenuation factor that describes the ratio of groundwater concentration to indoor air concentration is approximately 250 times lower for silty clay soils than it is for sandy soils. The VI screening value is in direct proportion to the attenuation coefficient. Therefore, VI screening values that are based on silty-clay soils would be substantially higher

than the VI screening values used in this evaluation, and substantially higher than the VOC concentrations detected in groundwater at MW-7 and MW-8.

The only subsurface utility lines that are located in close proximity to the VOC source areas are water and sewer lines that run in an east-west direction in the southern-most portion of the Facility (Figure 3). The utility lines are almost completely contained with in the area that is proposed for restrictions. Therefore, in the unlikely event that these utility corridors represented a preferential pathway for vapor migration, the vapor intrusion exposure pathway to potential residents would not be complete. Therefore, there are no known preferential pathways that could cause localized migration of VOCs at elevated concentrations to locations at the area of the Facility where the restrictions will not apply.

Collectively, this analysis suggests that the VI pathway would not be complete in the area of the Facility that is outside of the buffer zone that is indicated in Figure 2.

5.0 Conclusions

This evaluation has applied the USEPA VI Guidance with site-specific soil and groundwater data to identify the area of the Former Sheller-Globe Facility Property where the VI exposure pathway is incomplete. The area where the VI exposure pathway is incomplete will not be subject to restrictions in the IC Covenant for the Property for the VI exposure pathway. The area where the VI pathway is potentially complete will be subject to restrictions in the IC Covenant.

In consideration of the evaluation presented herein and associated uncertainties, including future migration of the groundwater plume, the area of the Property at which restrictions will apply based on the VI exposure pathway are defined as an area that is larger than the 100-foot buffer zone, as shown on Figure 3. This area extends the restriction area to the property boundary in the downgradient plume direction.

6.0 References:

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URS Corporation (URS). 2001. Technical Memorandum #1 – Exposure Assessment, Former Sheller-Globe Facility, 3200 Main Street Keokuk, Iowa. June 2001.

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URS Corporation. 2003. Corrective Measure Study Report, Former Sheller-Globe Facility, 3200 Main Street Keokuk, Iowa. October 2003 - Revision 1.

URS Corporation. 2007. Annual Groundwater Monitoring Report. Former Sheller-Globe Facility, 3200 Main Street Keokuk, Iowa.

United States Environmental Protection Agency (USEPA). 2002. "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils" November.

USEPA. 2004. Statement of Basis for Proposed Corrective Measures, Former Sheller-Globe Facility, Keokuk, Iowa. December 13, 2004.

Woodward-Clyde Consultants. 1995. RCRA Facility Investigation Report, Facility at 3200 Main Street, Keokuk, Iowa. March 1995 - Revision 1.

Tables

Table 3-1
Identification of Chemicals of Potential Concern for Vapor Intrusion and Pathway Completeness Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

Volatile Organic Chemical	COPC for Vapor Intrusion? (1)	Screening Value (2)		
		Vapor Intrusion (ug/L)	MCL (ug/L)	Lowest Screening Value (ug/L)
1,1,1-Trichloroethane	Yes	3100	200	200
1,1,2,2-Tetrachloroethane	Yes	3	NA	3
1,1,2-Trichloroethane	Yes	5	5	5
1,1-Dichloroethane	Yes	2200	NA	2200
1,1-Dichloroethene	Yes	190	7	7
1,2-Dichloroethane	Yes	5	5	5
1,2-Dichloroethene	Yes	180	NA	180
1,2-Dichloropropane	Yes	35	5	5
1,2,4-Trimethylbenzene	Yes	24	NA	24
1,3,5-Trimethylebenzene	Yes	25	NA	25
2-Butanone (MEK)	Yes	440000	NA	440000
2-Hexanone	No	NA	NA	NA
4-Methyl-2-pentanone (MIBK)	Yes	14000	NA	14000
Acetone	Yes	220000	NA	220000
Benzene	Yes	5	5	5
Bromodichloromethane	Yes	2.1	NA	2.1
Bromoform	Yes	0.0083	NA	0.0083
Bromomethane	Yes	20	NA	20
Carbon disulfide	Yes	560	NA	560
Carbon tetrachloride	Yes	5	5	5
Chlorobenzene	Yes	390	NA	390
Chloroethane	Yes	28000	NA	28000
Chloroform	Yes	80	NA	80
Chloromethane	Yes	6.7	NA	6.7
Dibromochloromethane	Yes	3.2	NA	3.2
Ethylbenzene	Yes	700	700	700
Hexane	Yes	2.9	NA	2.9
Isobutyl alcohol	Yes	2200000	NA	2200000
Methylene chloride	Yes	58	5	5
Styrene	Yes	8900	100	100
Tetrachloroethene	Yes	5	5	5
Toluene	Yes	1500	1000	1000
Trichloroethene	Yes	5	5	5
Vinyl Acetate	Yes	9600	NA	9600
Vinyl Chloride	Yes	2	2	2
Xylenes (total)	Yes	22000	10000	10000
cis-1,2-Dichloroethene	Yes	210	70	70
cis-1,3-Dichloropropene	Yes	0.84	NA	0.84
n-Butanol	No	NA	NA	NA
tert-Butyl methyl ether	Yes	120000	NA	120000
trans-1,2-Dichloroethene	Yes	180	100	100
trans-1,3-Dichloropropene	Yes	0.84	NA	0.84
trans-1,4-Dichloro-2-butene	No	NA	NA	NA

(1) COPC - Chemical of Potential Concern. VOCs are identified as COPCs for vapor intrusion if they are listed on Table 1 of the EPA Vapor Intrusion Guidance (USEPA, 2002) as chemicals with sufficient volatility and toxicity to pose a vapor intrusion concern.

(2) Screening values are defined below. In accordance with EPA's requested modification to the scope of work for this evaluation, the screening value used to evaluate vapor intrusion pathway completeness is the lower of the vapor intrusion screening value and federal drinking water standard.

Vapor Intrusion Screening Value: Obtained from Table 2c of the EPA Vapor Intrusion Guidance (USEPA, 2002). These values are protective for migration of vapors from groundwater to indoor air in a residence constructed with a subsurface basement, at a target excess lifetime cancer risk of 1 in 1 million or a target hazard index of 1.

MCL - Maximum Contaminant Level. (http://www.epa.gov/safewater/contaminants/index.html#primary)

NA - Not Available / Not Applicable

ug/L - micrograms per liter

USEPA, 2002. "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils" November.

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-1[(1)] May 1991			MW-1[(1)] November 1991			MW-1 June 1997			MW-1 December 1998			MW-1 May 1999			MW-1 August 1999			MW-1 December 1999			MW-1 April 2001			MW-1 May 2002		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit
VOLATILES (UG/L)																												
1,1,1-Trichloroethane	200		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
1,1,2-Trichloroethane	5		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
1,1-Dichloroethane	2200		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400	1.3		1	0.66	J	
1,1-Dichloroethene	7		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
1,2-Dichloroethane	5		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
1,2-Dichloroethene	180		U	25000		U	17000		U	10000		NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			NA			NA			U	1		NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			NA			NA			U	1		NA	
2-Butanone (MEK)	440000		U	50000		U	33000		U	40000	22000	J	50000		U	10000	3400	J	5000		U	2000		U	5		U	5
2-Hexanone	NA		U	50000		U	33000		U	40000		U	50000		U	10000		U	5000		U	2000		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	50000		U	33000		U	40000		U	50000		U	10000		U	5000		U	2000		U	5		U	5
Acetone	220000		U	50000		U	33000	4800	JB	40000		UBJ	100000		UBJ	20000		U	10000		U	4000		U	10		U	10
Benzene	5		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1	0.81	J	
Bromodichloromethane	2.1		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
Bromoform	0.0083		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
Bromomethane	20		U	50000		U	33000		U	20000		U	20000		U	4000		U	2000		U	800		U	2		U	1
Carbon disulfide	560	7300	J	25000		U	17000		U	10000	16000		10000		U	2000		U	1000		U	400		U	1		U	1
Carbon tetrachloride	5		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
Chlorobenzene	390		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
Chloroethane	28000		U	50000		U	33000		U	20000		U	20000		U	4000		U	2000		U	800		U	2		U	1
Chloroform	80		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
Chloromethane	6.7		U	50000		U	33000		U	20000		U	20000		U	4000		U	2000		U	800		U	2		U	1
Dibromochloromethane	3.2		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
Ethylbenzene	700		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1	0.54	J	
Hexane	2.9		U		3300				U	20000		NA			U	2000		U	1000		U	400		U	1		U	1
Isobutyl alcohol	2200000		U	1000000		U	670000		U	400000		U	500000		U	100000		U	50000		U	20000		U	5		U	50
Methylene chloride	5	15000	J	25000	13000	J	17000	14000		10000		UBJ	20000		UBJ	2000		UBJ	1000		U	400		U	1		U	1
Styrene	100		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
Tetrachloroethene	5		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
Toluene	1000	470000		25000	410000		17000	260000		10000	200000		10000	87000		2000	44000		1000	12000		400		U	1	22		
Trichloroethene	5		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1	0.3	J	
Vinyl Acetate	9600		NA	25000		NA	17000		NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2		U	50000		U	33000		U	20000		U	20000		U	4000		U	2000		U	800		U	2		U	1
Xylenes (total)	10000		U	25000		U	17000		U	10000	2400	J	10000		U	2000		U	1000		U	400		U	2	0.43	J	
cis-1,2-Dichloroethene	70		NA			NA			NA			U	5000		U	2000		U	1000		U	400		U	0.5		U	0.5
cis-1,3-Dichloropropene	0.84		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
n-Butanol	NA		U			U			U	400000		U	500000		U	100000		U	50000		U	20000		U	50		U	50
tert-Butyl methyl ether	120000		U	25000		U	17000		NA			NA			NA			NA			NA			NA			U	5
trans-1,2-Dichloroethene	100		NA			NA			NA			U	5000		U	1000		U	500		U	200		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	25000		U	17000		U	10000		U	10000		U	2000		U	1000		U	400		U	1		U	1
trans-1,4-Dichloro-2-butene	NA		NA	25000		NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		492300			426300			278800			240400			87000			47400			12000			1.3			24.74		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-1 May 2003 Result	MW-1 May 2003 Qualifier	MW-1 May 2003 Detection Limit	MW-1 May 2004 Result	MW-1 May 2004 Qualifier	MW-1 May 2004 Detection Limit	MW-1 May 2007 Result	MW-1 May 2007 Qualifier	MW-1 May 2007 Detection Limit	MW-1-DUP May 2007 Duplicate Result	MW-1-DUP May 2007 Duplicate Qualifier	MW-1-DUP May 2007 Duplicate Detection Limit	MW-2[(1)] May 1991 Result	MW-2[(1)] May 1991 Qualifier	MW-2[(1)] May 1991 Quantitation Limit	MW-2[(1)] November 1991 Result	MW-2[(1)] November 1991 Qualifier	MW-2[(1)] November 1991 Quantitation Limit	MW-2 June 1997 Result	MW-2 June 1997 Qualifier	MW-2 June 1997 Quantitation Limit	MW-2 December 1998 Result	MW-2 December 1998 Qualifier	MW-2 December 1998 Quantitation Limit	MW-2 August 1999 Result	MW-2 August 1999 Qualifier	MW-2 August 1999 Quantitation Limit	MW-2 December 1999 Result	MW-2 December 1999 Qualifier	MW-2 December 1999 Quantitation Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1		U	1	ND		0.4	ND		0.4		U	25000		U	17000		U	5000	5	J	10		U	2500		U	2000
1,1,2,2-Tetrachloroethane	3		U	1		U	1	ND		0.5	ND		0.5		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
1,1,2-Trichloroethane	5		U	1		U	1	ND		0.7	ND		0.7		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
1,1-Dichloroethane	2200	1.4			1.9			1.7	J	0.5	1.8	J	0.5		U	25000		U	17000		U	5000	110	J	10		U	2500		U	2000
1,1-Dichloroethene	7		U	1		U	1	ND		0.7	ND		0.7		U	25000		U	17000		U	5000	2	J	10		U	2500		U	2000
1,2-Dichloroethane	5		U	1		U	1	ND		0.5	ND		0.5		U	25000		U	17000		U	5000	5	J	10		U	2500		U	2000
1,2-Dichloroethene	180		NA			NA		NA			NA				U	25000		U	17000		U	5000		NA			NA			NA	
1,2-Dichloropropane	5		U	1	0.26	J		ND		0.6	ND		0.6		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
1,2,4-Trimethylbenzene	24		NA			NA		NA			NA				NA			NA			NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA		NA			NA				NA			NA			NA			NA			NA			NA	
2-Butanone (MEK)	440000		U	5		U	5	ND		3.0	ND		3.0		U	50000		U	33000		U	20000	120	J	50		U	12000		U	10000
2-Hexanone	NA		U	5		U	5	ND		1.9	ND		1.9		U	50000		U	33000		U	20000		UJ	50		U	12000		U	10000
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5	ND		7.3	ND		7.3		U	50000		U	33000		U	20000	140	J	50		U	12000		U	10000
Acetone	220000		U	10		U	10	8.1	UJ	2.8	5.2	UJ	2.8		U	50000	12000	J	33000	2800	JB	20000	170	JB	100		U	25000		U	20000
Benzene	5	0.56	J		1.7			1.3	J	0.2	1.3	J	0.2		U	25000		U	17000		U	5000	**74**	J	10		U	2500		U	2000
Bromodichloromethane	2.1		U	1		U	1	ND		0.3	ND		0.3		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
Bromoform	0.0083		U	1		U	1	ND		0.7	ND		0.7		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
Bromomethane	20		U	1		U	1	ND		0.5	ND		0.5		U	50000		U	33000		U	10000		UJ	20		U	5000		U	4000
Carbon disulfide	560		U	1		U	1	ND		0.6	ND		0.6		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
Carbon tetrachloride	5		U	1		U	1	ND		0.5	ND		0.5		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
Chlorobenzene	390		U	1		U	1	ND		0.5	ND		0.5		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
Chloroethane	28000		U	1		U	1	ND		0.5	ND		0.5		U	50000		U	33000		U	10000		UJ	20		U	5000		U	4000
Chloroform	80		U	1		U	1	ND		0.7	ND		0.7		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
Chloromethane	6.7		U	1		U	1	ND		0.6	ND		0.6		U	50000		U	33000		U	10000		UJ	20		U	5000		U	4000
Dibromochloromethane	3.2		U	1		U	1	ND		0.7	ND		0.7		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
Ethylbenzene	700		U	1		U	1	ND		0.5	ND		0.5		U	25000		U	17000	**1400**	J	5000	**1400**	JE	10	**1000**	J	2500	**3900**		2000
Hexane	2.9		U	1		U	1	ND		0.6	ND		0.6		U		**4600**				U	10000		U			U	2500		U	2000
Isobutyl alcohol	2200000		U	50		U	50	NA			NA				U	1000000		U	670000		U	200000		UJ	500		U	120000		U	100000
Methylene chloride	5		U	1		U	1	ND		0.7	ND		0.7	**20000**	J	25000	**23000**		17000	**1300**	J	5000	**170**	JB	20		UJB	2500		U	2000
Styrene	100		U	1		U	1	ND		0.5	ND		0.5		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
Tetrachloroethene	5		U	1		U	1	ND		0.7	ND		0.7		U	25000		U	17000		U	5000	**7**	J	10		U	2500		U	2000
Toluene	1000		U	1	0.2	J		0.6	J	0.5	ND		0.5	**450000**		25000	**410000**		17000	**170000**		5000	**270000**	JD	10	**110000**		2500	**100000**		2000
Trichloroethene	5	0.47	J		0.34	J		ND		0.6	ND		0.6		U	25000		U	17000		U	5000	**55**	J	10		U	2500		U	2000
Vinyl Acetate	9600		NA			NA		NA			NA				NA	25000		NA	17000		NA			J			NA			NA	
Vinyl Chloride	2	0.37	J		2			0.71	J	0.3	0.69	J	0.3		U	50000		U	33000		U	10000	**23**	J	20		U	5000		U	4000
Xylenes (total)	10000	1.2				U	1	ND		1.1	ND		1.1		U	25000		U	17000	3600	J	5000	4300	JD	10	3800		2500	9600		2000
cis-1,2-Dichloroethene	70	1.5			1.8			ND		0.8	ND		0.8		NA			NA			NA		**110**	J	5		U	2500		U	2000
cis-1,3-Dichloropropene	0.84		U	1		U	1	ND		0.6	ND		0.6		U	25000		U	17000		U	5000		UJ	10		U	2500		U	2000
n-Butanol	NA		U	50		U	50	NA			NA				U			U			U	200000		UJ	1000		U	120000		U	100000
tert-Butyl methyl ether	120000		U	5		U	5	NA			NA				NA	25000		U	17000		NA			NA			NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	0.5	ND		0.8	ND		0.8		NA			NA			UJ	5		U	5000		U	1000		NA	
trans-1,3-Dichloropropene	0.84		U	1		U	1	ND		0.6	ND		0.6		U	17000		U	5000		UJ	10		U	10000		U	2000		U	5
trans-1,4-Dichloro-2-butene	NA		NA			NA		NA			NA				NA			NA			NA			NA			NA			NA	
Total VOCs		5.5			8.2			12.41			8.99			470000			449600			179100			276691			114800			113500		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.
(2) - MW-2 was dry in May 1999 due to SVE system operation and was not sampled.
- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-2			MW-2			MW-2			MW-2			MW-2D			MW-2			MW-3[1]			MW-3[1]			MW-3			MW-3		
		Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
		April 2001			May 2002			May 2003			May 2004			May 2004 Duplicate			May 2007			May 1991			November 1991			June 1997			December 1998		
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1		U	8.3		U	6.2		U	5		U	5	ND		0.4		U	5		U	10		U	5		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	*8.3*		U	*6.2*		U	*5*		U	*5*	ND		0.5		U	*5*		U	*10*		U	*5*		U	1
1,1,2-Trichloroethane	5		U	1		U	*8.3*		U	*6.2*		U	5		U	5	ND		0.7		U	5		U	*10*		U	5		U	1
1,1-Dichloroethane	2200	1.9		1	6	J		2.1	J		1.3	J		2.1	J		1.2	J	0.5		U	5		U	10		U	5	0.5	J	1
1,1-Dichloroethene	7		U	1		U	*8.3*		U	6.2		U	5		U	5	ND		0.7		U	5		U	*10*		U	5		U	1
1,2-Dichloroethane	5		U	1		U	*8.3*		U	*6.2*		U	5		U	5	ND		0.5		U	5		U	*10*		U	5		U	1
1,2-Dichloroethene	180		NA			NA			NA			NA			NA		NA				U	5		U	10		U	5		NA	
1,2-Dichloropropane	5		U	1		U	*8.3*		U	*6.2*		U	5		U	5	ND		0.6		U	5		U	*10*		U	5		U	1
1,2,4-Trimethylbenzene	24	0.54	J	1		NA			NA			NA			NA		NA				NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25		U	1		NA			NA			NA			NA		NA				NA			NA			NA			NA	
2-Butanone (MEK)	440000		U	5		U	42		U	31		U	25		U	25	ND		3.0		U	10	7.5	J	20		U	20		U	5
2-Hexanone	NA		U	5		U	42		U	31		U	25		U	25	ND		1.9		U	10		U	20		U	20		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	42		U	31		U	25		U	25	ND		7.3		U	10		U	20		U	20		U	5
Acetone	220000		U	10		U	83		U	62		U	50		U	50	6.8	UJ	2.8	36		10	33		20		U	20		U	10
Benzene	5	1		1	4.1	J		3	J		3.9	J		2.8	J		ND		0.2		U	5		U	*10*		U	5	2		1
Bromodichloromethane	2.1		U	1		U	*8.3*		U	*6.2*		U	*5*		U	*5*	ND		0.3		U	*5*		U	*10*		U	*5*		U	1
Bromoform	0.0083		U	*1*		U	*8.3*		U	*6.2*		U	*5*		U	*5*	ND		*0.7*		U	*5*		U	*10*		U	*5*		U	*1*
Bromomethane	20		U	2		U	8.3		U	6.2		U	5		U	5	ND		0.5		U	10		U	20		U	10		U	2
Carbon disulfide	560		U	1		U	8.3		U	6.2		U	5		U	5	ND		0.6		U	5		U	10		U	5		U	1
Carbon tetrachloride	5		U	1		U	*8.3*		U	*6.2*		U	5		U	5	ND		0.5		U	5		U	*10*		U	5		U	1
Chlorobenzene	390		U	1		U	8.3		U	6.2		U	5		U	5	ND		0.5		U	5		U	10		U	5		U	1
Chloroethane	28000		U	2		U	8.3		U	6.2		U	5		U	5	0.68	J	0.5		U	10		U	20		U	10		U	2
Chloroform	80		U	1		U	8.3		U	6.2		U	5		U	5	ND		0.7		U	5		U	10		U	5		U	1
Chloromethane	6.7		U	2		U	*8.3*		U	6.2		U	5		U	5	ND		0.6		U	*10*		U	*20*		U	*10*		U	2
Dibromochloromethane	3.2		U	1		U	*8.3*		U	*6.2*		U	*5*		U	*5*	ND		0.7		U	*5*		U	*10*		U	*5*		U	1
Ethylbenzene	700	51		1	72			67			17			3.9	J		7.6		0.5		U	5		U	10		U	5	1		1
Hexane	2.9		U	1		U	*8.3*		U	*6.2*		U	*5*		U	*5*	ND		0.6		U			U		1.8	J	*10*		NA	
Isobutyl alcohol	2200000		U	5		U	420		U	310		U	250		U	250	NA				U	200		U	400		U	200		U	50
Methylene chloride	5		U	1		U	*8.3*		U	*6.2*	2.3	JB		3.6	JB		ND		0.7	1.1	J	5	4.3	J	*10*	1	J	5		UBJ	2
Styrene	100		U	1		U	8.3		U	6.2		U	5		U	5	ND		0.5		U	5		U	10		U	5		U	1
Tetrachloroethene	5		U	1		U	*8.3*		U	*6.2*		U	5		U	5	ND		0.7		U	5		U	*10*		U	5		U	1
Toluene	1000	160	D	5	220			140			75			24			16.1		0.5	39		5	170		10		U	5	5		1
Trichloroethene	5		U	1	1.7	J			U	*6.2*		U	5		U	5	ND		0.6		U	5		U	*10*		U	5		U	1
Vinyl Acetate	9600		NA			NA			NA			NA			NA		NA				NA	5		NA	10		NA			NA	
Vinyl Chloride	2		U	2		U	*8.3*		U	*6.2*		U	*5*		U	*5*	ND		0.3		U	*10*		U	*20*		U	*10*		U	2
Xylenes (total)	10000	160	D	4	340			460			230			240			18		1.1		U	5		U	10		U	5	1		1
cis-1,2-Dichloroethene	70	0.4	J	0.5		U	4.2		U	3.1		U	2.5		U	2.5	ND		0.8		NA			NA			NA			U	0.5
cis-1,3-Dichloropropene	0.84		U	*1*		U	*8.3*		U	*6.2*		U	*5*		U	*5*	ND		0.6		U	*5*		U	*10*		U	*5*		U	*1*
n-Butanol	NA		U	50		U	420		U	310		U	250		U	250	NA				U			U			U	200		U	50
tert-Butyl methyl ether	120000		NA			U	42		U	31		U	25		U	25	NA				U	5		NA	10		NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	4.2		U	3.1		U	2.5		U	2.5	ND		0.8		NA			NA			U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	*1*		U	*8.3*		U	*6.2*		U	*5*		U	*5*	ND		0.6		U	*10*		U	*5*		U	*1*		U	*1*
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA		NA				NA			NA			NA			NA	
Total VOCs		374.84			643.8			672.1			329.5			276.4			50.38			76.1			214.8			2.8			9.5		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.
(2) - MW-2 was dry in May 1999 due to SVE system operation and was not sampled.
- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-3 May 1999 Result	Qualifier	Quantitation Limit	MW-3 August 1999 Result	Qualifier	Quantitation Limit	MW-3 December 1999 Result	Qualifier	Quantitation Limit	MW-3 April 2001 Result	Qualifier	Detection Limit	MW-3 May 2002 Result	Qualifier	Detection Limit	MW-3 May 2003 Result	Qualifier	Detection Limit	MW-3 May 2004 Result	Qualifier	Detection Limit	MW-3 May 2007 Result	Qualifier	Detection Limit	MW-4[1] May 1991 Result	Qualifier	Quantitation Limit	MW-4[1] November 1991 Result	Qualifier	Quantitation Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1		U	1	0.14	J	1		U	1		U	1		U	1		U	1	ND		0.4		U	100		U	50
1,1,2,2-Tetrachloroethane	3		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	*100*		U	*50*
1,1,2-Trichloroethane	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	*100*		U	*50*
1,1-Dichloroethane	2200	0.26	J	1	0.27	J	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	100		U	50
1,1-Dichloroethene	7		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	*100*		U	*50*
1,2-Dichloroethane	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	*100*		U	*50*
1,2-Dichloroethene	180		NA			NA			NA			NA			NA			NA			NA		NA				U	100		U	50
1,2-Dichloropropane	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		U	*100*		U	*50*
1,2,4-Trimethylbenzene	24		NA			NA			NA			U	1		NA			NA			NA		NA				NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			U	1		NA			NA			NA		NA				NA			NA	
2-Butanone (MEK)	440000		U	5		U	5		UJ	5		U	5		U	5		U	5		U	5	ND		3.0		U	200		U	100
2-Hexanone	NA		U	5		U	5		U	5		U	5		U	5		U	5		U	5	ND		1.9		U	200		U	100
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5		U	5		U	5		U	5		U	5		U	5	ND		7.3		U	200		U	100
Acetone	220000		U	10		U	10		U	10		U	10		U	10		U	10		U	10	ND		2.8		U	200	220		100
Benzene	5	0.44	J	1	0.69	J	1		U	1		U	1	0.2	J			U	1		U	1	ND		0.2		U	*100*		U	*50*
Bromodichloromethane	2.1		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.3		U	*100*		U	*50*
Bromoform	0.0083		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*	ND		*0.7*		U	*100*		U	*50*
Bromomethane	20		U	2		U	2		U	2		U	2		U	1		U	1		U	1	ND		0.5		U	*200*		U	*100*
Carbon disulfide	560		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		U	100		U	50
Carbon tetrachloride	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	*100*		U	*50*
Chlorobenzene	390		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	100		U	50
Chloroethane	28000		U	2		U	2		U	2		U	2		U	1		U	1		U	1	ND		0.5		U	200		U	100
Chloroform	80		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	*100*		U	50
Chloromethane	6.7		U	2		U	2		U	2		U	2	0.2	J			U	1		U	1	ND		0.6		U	*200*		U	*100*
Dibromochloromethane	3.2		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	*100*		U	*50*
Ethylbenzene	700		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	100		U	50
Hexane	2.9		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		U		**13**		
Isobutyl alcohol	2200000		U	50		U	50		U	50		U	5		U	50		U	50		U	50	NA				U	4000		U	2000
Methylene chloride	5		U	1		UJB	1		U	1		U	1		U	1		U	1		U	1	ND		0.7	**81**	J	*100*	**24**	J	*50*
Styrene	100		U	1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	100		U	50
Tetrachloroethene	5		U	1		U	1	0.17	J	1		U	1		U	1		U	1		U	1	ND		0.7		U	*100*		U	*50*
Toluene	1000	0.19	J	1		UJ	1		UJ	1		U	1		U	1		U	1	0.21	J		ND		0.5	**1100**		100	770		50
Trichloroethene	5		U	1	0.12	J	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		U	*100*		U	*50*
Vinyl Acetate	9600		NA			NA			NA			NA			NA			NA			NA		NA				U	100		U	50
Vinyl Chloride	2		U	2		U	2		U	2		U	2		U	1		U	1		U	1	ND		0.3		U	*200*		U	*100*
Xylenes (total)	10000		U	1		U	1		U	1		U	2		U	1		U	1		U	1	ND		1.1		U	100		U	50
cis-1,2-Dichloroethene	70		U	1		U	1		U	1		U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8		NA			NA	50
cis-1,3-Dichloropropene	0.84		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*	ND		0.6		U	*100*		U	
n-Butanol	NA		U	50		U	50		U	50		U	50		U	50		U	50		U	50	NA				U			U	
tert-Butyl methyl ether	120000		NA			NA			NA			NA			U	5		U	5		U	5	NA				U	100		U	50
trans-1,2-Dichloroethene	100		U	0.5		U	0.5		NA			U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8		NA			NA	
trans-1,3-Dichloropropene	0.84		U	*1*		U	*1*		U	*100*		U	*1*		U	*1*		U	*1*		U	*1*	ND		0.6		U	*50*		U	*500*
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA		NA				NA			NA	
Total VOCs		0.89			1.08			0.31			0			0.4			0			0.21			0			1181			1027		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-4 June 1997 Result	Qualifier	Quantitation Limit	MW-4 December 1998 Result	Qualifier	Quantitation Limit	MW-4 May 1999 Result	Qualifier	Quantitation Limit	MW-4 August 1999 Result	Qualifier	Quantitation Limit	MW-4 December 1999 Result	Qualifier	Quantitation Limit	MW-4 April 2001 Result	Qualifier	Detection Limit	MW-4 May 2002 Result	Qualifier	Detection Limit	MW-4 May 2003 Result	Qualifier	Detection Limit	MW-4 May 2004 Result	Qualifier	Detection Limit	MW-5[1] November 1991 Result	Qualifier	Quantitation Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	*500*		U	10		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	5
1,1,2,2-Tetrachloroethane	3		U	*500*		U	*10*		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	*5*
1,1,2-Trichloroethane	5		U	*500*		U	*10*		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	5
1,1-Dichloroethane	2200		U	500	16		10	4.4		2	3.7		1	0.74	J	1	1.6		1	1.8		1	1.2		1	1.4		1		U	5
1,1-Dichloroethene	7		U	*500*		U	*10*		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	5
1,2-Dichloroethane	5		U	*500*		U	*10*		U	2		U	1		U	1		U	1		U	1		U	1		U	1	**45**		5
1,2-Dichloroethene	180		U	*500*		NA			NA			NA			NA			NA			NA			NA			NA		3.1	J	5
1,2-Dichloropropane	5		U	*500*		U	*10*		U	2	0.24	J	1		U	1		U	1		U	1		U	1		U	1		U	5
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			U	1		NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			U	1		NA			NA			NA			NA	
2-Butanone (MEK)	440000		U	2000	42		25		U	10	2.2	J	5		U	5		U	5		U	5		U	5		U	5		U	10
2-Hexanone	NA		U	2000		U	25		U	10		U	5		U	5		U	5		U	5		U	5		U	5		U	10
4-Methyl-2-pentanone (MIBK)	14000	190	J	2000	28		25		U	10		U	5		U	5		U	5		U	5		U	5		U	5		U	10
Acetone	220000	340	JB	2000		UBJ	50		U	20		UJ	10	11		10		U	10		U	10		U	10		U	10		U	10
Benzene	5		U	*500*	**20**		*10*	3.2		2	**5.7**		1	3.1		1	**9.9**		1	**14**		1	2.8		1	3.5		1	1.6	J	5
Bromodichloromethane	2.1		U	*500*		U	*10*		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	*5*
Bromoform	0.0083		U	*500*		U	*10*		U	*2*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*5*
Bromomethane	20		U	*1000*		U	10		U	4		U	2		U	2		U	2		U	1		U	1		U	1		U	10
Carbon disulfide	560		U	500		U	10		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	5
Carbon tetrachloride	5		U	*500*		U	*10*		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	5
Chlorobenzene	390		U	*500*		U	10		U	2		U	1		U	1		U	1		U	1		U	1		U	1	2.6	J	5
Chloroethane	28000		U	1000		U	10		U	4		U	2		U	2		U	2		U	1		U	1		U	1		U	10
Chloroform	80		U	*500*		U	10		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	5
Chloromethane	6.7		U	*1000*		U	*10*		U	4		U	2		U	2		U	2		U	1		U	1		U	1		U	*10*
Dibromochloromethane	3.2		U	*500*		U	*10*		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	5
Ethylbenzene	700		U	500		U	10	0.62	J	2	0.42	J	1		U	1		U	1		U	1		U	1	0.65	J			U	5
Hexane	2.9		U	*1000*		NA			U	2		U	1		U	1	0.23	J	1		U	1		U	1		U	1	1.5		
Isobutyl alcohol	2200000		U	20000		U	250		U	100		U	50		U	50		U	5		U	50		U	50		U	50		U	200
Methylene chloride	5	**130**	J	*500*		UB	*10*		UJB	2		UJB	1		U	1		U	1		U	1		U	1		U	1	1.1	J	5
Styrene	100		U	*500*		U	10		U	2		U	1		U	1		U	1		U	1		U	1		U	1		U	5
Tetrachloroethene	5		U	*500*		U	*10*		U	2		U	1		U	1		U	1		U	1		U	1		U	1	1	J	5
Toluene	1000	**10000**		500	**1200**	JD	10	57		2		U	1	0.76	J	1		U	1	2.6				U	1	1				U	5
Trichloroethene	5		U	*500*		U	*10*		U	2	0.23	J	1		U	1		U	1		U	1		U	1		U	1	**26**		5
Vinyl Acetate	9600		NA			NA			NA			NA			NA			NA			NA			NA			NA			U	5
Vinyl Chloride	2		U	*1000*	**3**	J	*10*		U	*4*	0.26	J	2		U	2		U	2	0.66	J			U	1	1.2				U	*10*
Xylenes (total)	10000		U	500	9		10	2		2	0.97	J	1	0.34	J	1		U	2		U	1	0.71	J		4.9				U	5
cis-1,2-Dichloroethene	70		NA		4		2		U	2	0.3	J	1		U	1		U	0.5	0.38	J			U	0.5	1.7				NA	
cis-1,3-Dichloropropene	0.84		U	*500*		U	*10*		U	*2*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	5
n-Butanol	NA		U	20000		U	500		U	100		U	50		U	50		U	50		U	50		U	50		U	50		U	
tert-Butyl methyl ether	120000		NA			NA			NA			NA			NA			NA			U	5		U	5		U	5		U	5
trans-1,2-Dichloroethene	100		U	2		U	25		U	0.5		U	0.5		NA			U	0.5		U	0.5		U	0.5	0.68				NA	
trans-1,3-Dichloropropene	0.84		U	*10*		U	*50*		U	*1*		U	*1*		U	*5*		U	*1*		U	*1*		U	*1*		U	*1*		U	5
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		10660			1322			67.22			14.02			15.94			11.73			19.44			4.71			15.03			81.9		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-5			MW-5			MW-5			MW-5			MW-5			MW-5			MW-5			MW-5		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit
		June 1997			December 1998			May 1999			August 1999			December 1999			April 2001			April 2001 Duplicate			May 2002		
VOLATILES (UG/L)																									
1,1,1-Trichloroethane	200		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
1,1,2,2-Tetrachloroethane	3		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
1,1,2-Trichloroethane	5		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
1,1-Dichloroethane	2200		U	5	0.6	J	1		U	10	0.79	J	5	0.71	J	6.7		U	10		U	5		U	5
1,1-Dichloroethene	7		U	5	0.5	J	1		U	10		U	5		U	6.7		U	10		U	5		U	5
1,2-Dichloroethane	5	**15**		5	**29**		1	**22**		10	5		5	**5.2**	J	6.7	**7**	J	10	**7.2**		5	**7**		
1,2-Dichloroethene	180	33		5		NA			NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			U	10		U	5		NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			U	10		U	5		NA	
2-Butanone (MEK)	440000		U	20		U	5		U	50		U	25		U	33		U	50		U	25		U	25
2-Hexanone	NA		U	20		U	5		U	50		U	25		U	33		U	50		U	25		U	25
4-Methyl-2-pentanone (MIBK)	14000		U	20		U	5		U	50		U	25		U	33		U	50		U	25		U	25
Acetone	220000	3.1	JB	20		U	10		U	100		UJ	50		U	67		U	100		U	5		U	50
Benzene	5	1.2	J	5	2		1	3.4	J	10	**5.1**		5	**5.2**	J	6.7		U	10	2.6	J	5	2.1	J	
Bromodichloromethane	2.1		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
Bromoform	0.0083		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
Bromomethane	20		U	10		U	2		U	20		U	10		U	13		U	20		U	10		U	5
Carbon disulfide	560		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
Carbon tetrachloride	5		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
Chlorobenzene	390	1.6	J	5	4		1		U	10	4.8	J	5	4.8	J	6.7		U	10	3.4	J	5	2.9	J	
Chloroethane	28000		U	10		U	2		U	20		U	10		U	13		U	20		U	10		U	5
Chloroform	80		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5	1.5	J	
Chloromethane	6.7		U	10		U	2		U	20		U	10		U	13		U	20		U	10		U	5
Dibromochloromethane	3.2		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
Ethylbenzene	700		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
Hexane	2.9	2.1	J	10		NA			U	10		U	5		U	6.7		U	10		U	5		U	5
Isobutyl alcohol	2200000		U	200		U	50		U	500		U	250		U	330		U	5		U	5		U	250
Methylene chloride	5		U	5		UBJ	2		U	10		UJB	5		UJB	6.7		U	10		U	5		U	5
Styrene	100		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
Tetrachloroethene	5		U	5	**7**		1	**16**		10		U	5		U	6.7	**41**		10	**41**		5	**44**		
Toluene	1000	1.1	J	5	2		1		U	10		U	5		U	6.7		U	10		U	5		U	5
Trichloroethene	5	1.1	J	5	**36**		1	**54**		10	**5.1**		5	**5.5**	J	6.7	**57**		10	**59**		5	**45**		
Vinyl Acetate	9600		NA			NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2	1.7	J	10	**10**		2	**9**	J	20	**20**		10	**18**		13	**13**	J	20	**13**		10	**9.1**		
Xylenes (total)	10000		U	5		U	1		U	10		U	5		U	6.7		U	20		U	10		U	5
cis-1,2-Dichloroethene	70		NA		**150**	D	0.5	**230**		10	**210**		5	**260**		6.7	**240**		5	**240**		2.5	**190**		
cis-1,3-Dichloropropene	0.84		U	5		U	1		U	10		U	5		U	6.7		U	10		U	5		U	5
n-Butanol	NA		U	200		U	50		U	500		U	250		U	330		U	500		U	250		U	250
tert-Butyl methyl ether	120000					NA			NA			NA			NA			NA			NA		1.1	J	
trans-1,2-Dichloroethene	100	0.9		0.5		U	5	1.6	J	2.5	1.9	J	3.3		NA			U	5		U	2.5	0.91	J	
trans-1,3-Dichloropropene	0.84		U	1		U	10		U	5		U	6.7		U	1600		U	10		U	5		U	5
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		60.8			241.1			336			252.69			299.41			358			366.2			303.61		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-6A[1] May 1991 Result	Qualifier	Quantitation Limit	MW-6A[1] November 1991 Result	Qualifier	Quantitation Limit	MW-6A June 1997 Result	Qualifier	Quantitation Limit	MW-6A December 1998 Result	Qualifier	Quantitation Limit	MW-6A May 1999 Result	Qualifier	Quantitation Limit	MW-6A August 1999 Result	Qualifier	Quantitation Limit	MW-6A December 1999 Result	Qualifier	Quantitation Limit	MW-6A May 2001 Result	Qualifier	Detection Limit	MW-6A May 2002 Result	Qualifier	Detection Limit	MW-6A May 2003 Result	Qualifier	Detection Limit	MW-6A May 2004 Result	Qualifier	Detection Limit
VOLATILES (UG/L)																																		
1,1,1-Trichloroethane	200		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	1600		U	1200		U	500	21	J	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
1,1,2-Trichloroethane	5		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
1,1-Dichloroethane	2200		U	1600		U	1200		U	500	30	J	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
1,1-Dichloroethene	7		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
1,2-Dichloroethane	5		U	1600		U	1200		U	500	39	J	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
1,2-Dichloroethene	180		U	1600		U	1200		U	500		NA			NA			NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			NA			NA		3.6	J	5		NA			NA			NA	
1,3,5-Trimethylbenzene	25		NA			NA			NA			NA			NA			NA			NA			U	5		NA			NA			NA	
2-Butanone (MEK)	440000		U	3300		U	2500		U	2000		U	500		U	420	69	J	250		U	200		UJ	25		U	100		U	5		U	5
2-Hexanone	NA		U	3300		U	2500		U	2000		U	500		U	420		U	250		U	200		U	25		U	100		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	3300		U	2500		U	2000		U	500		U	420		U	250		U	200		U	25		U	100		U	5		U	5
Acetone	220000	3600		3300	1500	J	2500	230	JB	2000		U	1000		UJB	830		U	500		U	400		U	50		U	200		U	10		U	10
Benzene	5		U	1600		U	1200		U	500	300		100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Bromodichloromethane	2.1		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Bromoform	0.0083		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Bromomethane	20		U	3300		U	2500		U	1000		U	200		U	170		U	100		U	80		U	10		U	20		U	1		U	1
Carbon disulfide	560		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Carbon tetrachloride	5		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Chlorobenzene	390		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Chloroethane	28000		U	3300		U	2500		U	1000	34	J	200		U	170		U	100		U	80		U	10		U	20		U	1		U	1
Chloroform	80		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Chloromethane	6.7		U	3300		U	2500		U	1000		U	200		U	170		U	100		U	80		U	10		U	20		U	1		U	1
Dibromochloromethane	3.2		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Ethylbenzene	700	19000		1600	19000		1200	7200		500	1700	JE	100	1100		83	850		50	230		40	5.7		5	750			7.3		1	4.9		
Hexane	2.9		U		440				U	1000		NA			U	83		U	50		U	40	0.5	J	5		U	20		U	1		U	1
Isobutyl alcohol	2200000		U	66000		U	50000		U	20000		U	5000		U	4200		U	2500		U	2000	19	J	5		U	1000		U	50		U	50
Methylene chloride	5	400		1600	850	J	1200		U	500	89	BJ	200		UJB	83		UJB	50		UJ	40		U	5		U	20		U	1		U	1
Styrene	100		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Tetrachloroethene	5		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Toluene	1000	25000		1600	18000		1200		U	500	95	J	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Trichloroethene	5		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
Vinyl Acetate	9600		NA	1600		NA			NA			NA			NA			NA			NA						NA			NA			NA	
Vinyl Chloride	2		U	3300		U	2500		U	1000		U	200		U	170		U	100		U	80		U	10		U	20		U	1		U	1
Xylenes (total)	10000	56000		1600	57000		1200	15000		500	8800	JD	100	5700		83	3500		50	2400		40	360		10	500			0.75	J		77		
cis-1,2-Dichloroethene	70		NA			NA			NA		61	J	50		U	83		U	50		U	40		U	2.5		U	10		U	0.5		U	0.5
cis-1,3-Dichloropropene	0.84		U	1600		U	1200		U	500		U	100		U	83		U	50		U	40		U	5		U	20		U	1		U	1
n-Butanol	NA		U			U			U	20000		U	5000		U	4200		U	2500		U	2000		U	250		U	1000		U	50		U	50
tert-Butyl methyl ether	120000		U	1600		U	1200		NA			NA			NA			NA			NA			NA			U	100		U	5		U	5
trans-1,2-Dichloroethene	100		NA			NA			U	50		U	500		U	25		U	20		NA			U	2.5		U	10		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	1200		U	500		U	100		U	1000		U	50		U	40		U	25		U	5		U	20		U	1		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA	5		NA			NA			NA			NA	
Total VOCs		104000			96790			22430			11169			6800			4419			2630			388.8			1250			8.05			81.9		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exeeds Vapor Intrusion Screening Value

Prepared by: KJC
Checked by: JHP
10/2/2007

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-6A			MW-6B(1)			MW-6B(1)			MW-6B			MW-6B			MW-6B(1)			MW-6B			MW-6BD			MW-6B			MW-6BD			MW-6B		
		Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit
		May 2007			May 1991			November 1991			June 1997			December 1998			May 1999			August 1999			August 1999 - Duplicate			December 1999			December 1999 - Duplicate			May 2001		
VOLATILES (UG/L)																																		
1,1,1-Trichloroethane	200	ND		0.4		U	25		U	5		U	10		U	10		U	8.3		U	4		U	4		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3	ND		0.5		U	*25*		U	*5*		U	*10*		U	*10*		U	*8.3*		U	*4*		U	*4*		U	1		U	1		U	1
1,1,2-Trichloroethane	5	ND		0.7		U	*25*		U	5		U	*10*		U	*10*		U	*8.3*		U	4		U	4		U	1		U	1		U	1
1,1-Dichloroethane	2200	ND		0.5		U	25	2.1	J	5	2.5	J	10	2	J	10	1.5	J	8.3	1.5	J	4	1.5	J	4	1.5		1	1.5		1	1.9		1
1,1-Dichloroethene	7	ND		0.7		U	*25*		U	5		U	*10*		U	*10*		U	*8.3*		U	4		U	4		U	1		U	1		U	1
1,2-Dichloroethane	5	ND		0.5		U	*25*		U	5		U	*10*		U	*10*		U	*8.3*		U	4		U	4	0.4	J	1	0.41	J	1	0.53	J	1
1,2-Dichloroethene	180	NA			18	J	25	5.7		5	10	J	10		NA			NA			NA			NA			NA			NA			NA		
1,2-Dichloropropane	5	ND		0.6		U	*25*		U	5		U	*10*		U	*10*		U	*8.3*		U	4		U	4		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA			U	1
1,3,5-Trimethylebenzene	25	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA			U	1
2-Butanone (MEK)	440000	ND		3.0		U	50	25		10		U	40	22	J	50		U	42		U	20		U	20		U	5		U	5		U	5
2-Hexanone	NA	ND		1.9		U	50		U	10		U	40		U	50		U	42		U	20		U	20		U	5		U	5		U	1
4-Methyl-2-pentanone (MIBK)	14000	ND		7.3		U	50		U	10		U	40		U	50		U	42		U	20		U	20		U	5		U	5		U	5
Acetone	220000	ND		2.8		U	50	69		10	3.6	JB	40		UBJ	100		UJB	83		U	40		UJ	40		U	10		U	10		U	10
Benzene	5	ND		0.2		U	*25*		U	5		U	*10*		U	*10*		U	*8.3*	0.41	J	4		U	4	0.36	J	1	0.36	J	1	0.58	J	1
Bromodichloromethane	2.1	ND		0.3		U	*25*		U	*5*		U	*10*		U	*10*		U	*8.3*		U	*4*		U	*4*		U	1		U	1		U	1
Bromoform	0.0083	ND		*0.7*		U	*25*		U	5		U	*10*		U	*10*		U	*8.3*		U	*4*		U	*4*		U	*1*		U	*1*		U	*1*
Bromomethane	20	ND		0.5		U	*50*		U	10		U	20		U	20		U	17		U	8		U	8		U	2		U	2		U	2
Carbon disulfide	560	ND		0.6		U	25	4	J	5		U	10		U	10		U	8.3		U	4		U	4		U	1		U	1		U	1
Carbon tetrachloride	5	ND		0.5		U	*25*		U	5		U	*10*		U	*10*		U	*8.3*		U	4		U	4		U	1		U	1		U	1
Chlorobenzene	390	ND		0.5		U	25		U	5		U	10		U	10		U	8.3		U	4		U	4		U	1		U	1		U	1
Chloroethane	28000	ND		0.5		U	50		U	10		U	20		U	20		U	17	0.54	J	8	0.74	J	8	0.63	J	2	0.62	J	2		U	2
Chloroform	80	ND		0.7		U	25		U	5		U	10		U	10		U	8.3		U	4		U	4		U	1		U	1		U	1
Chloromethane	6.7	ND		0.6		U	*50*		U	*10*		U	*20*		U	*20*		U	*17*		U	*8*		U	*8*		U	2		U	2		U	2
Dibromochloromethane	3.2	ND		0.7		U	*25*		U	*5*		U	*10*		U	*10*		U	*8.3*		U	*4*		U	*4*		U	1		U	1		U	1
Ethylbenzene	700	ND		0.5	170		25	4.6	J	5	210		10	7	J	10	180		8.3	33		4	35		4	11		1	11		1	100	D	1
Hexane	2.9	ND		0.6		U		1.3				U	*20*		NA			U	*8.3*		U	*4*		U	*4*	0.21	J	1	0.28	J	1		U	*5*
Isobutyl alcohol	2200000	NA				U	1000		U	200		U	400		U	10		U	420		U	200		U	200		U	50		U	50		U	5
Methylene chloride	5	ND		0.7	**5.8**	J	*25*	3.2	J	5	**6.2**	J	*10*	**77**	B	*20*		UJB	*8.3*		UJB	4		UJB	4		UJ	1		UJ	1		U	1
Styrene	100	ND		0.5		U	25		U	5		U	10		U	10		U	8.3		U	4		U	4		U	1		U	1		U	1
Tetrachloroethene	5	ND		0.7		U	*25*		U	5		U	*10*	**6**	J	*10*		U	*8.3*		U	4		U	4		U	1		U	1		U	1
Toluene	1000	ND		0.5	680		25	3.4	J	5	37		10		U	10	33		8.3		UJ	4		UJ	4	1.3		1	1.1		1	26		1
Trichloroethene	5	ND		0.6	**11**	J	*25*	3.8	J	5	4.8	J	*10*	**15**		*10*	3	J	*8.3*	2.3	J	4	2.4	J	4	2.7		1	2.7		1	2.3		1
Vinyl Acetate	9600	NA				NA			NA	5		NA			NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2	ND		0.3		U	*50*		U	*10*	**2.1**	J	*20*	2	J	*20*		U	*17*	1.1	J	*8*	1.1	J	*8*	1.2	J	2	1.1	J	2	1.6	J	2
Xylenes (total)	10000	16.3		1.1	460		25	66		5	620		10	50		10	520		8.3	190		4	200		4	88		1	89		1	190	D	2
cis-1,2-Dichloroethene	70	ND		0.8		NA			NA			NA		9		5	7.6	J	8.3	7.2		4	7.5		4	7.2		1	7.4		1	8.5		0.5
cis-1,3-Dichloropropene	0.84	ND		0.6		U	25		U	*5*		U	*10*		U	*10*		U	*8.3*		U	*4*		U	*4*		U	*1*		U	*1*		U	*1*
n-Butanol	NA	NA				U			U			U	400		U	10		U	420		U	200		U	200		U	50		U	50		U	50
tert-Butyl methyl ether	120000	NA				U	25		U	5		NA			NA			NA			NA			NA			NA			NA			NA	
trans-1,2-Dichloroethene	100	ND		0.8		NA			NA			U	5		U	4.2		U	2		U	2	0.24	J	0.5	0.25	J	0.5		NA			U	0.5
trans-1,3-Dichloropropene	0.84	ND		0.6		U	*5*		U	*10*		U	*10*		U	*8.3*		U	*4*		U	*4*		U	*1*		U	*1*		U	*5*		U	*1*
trans-1,4-Dichloro-2-butene	NA	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		16.3			1344.8			188.1			896.2			190			745.1			236.05			248.48			114.75			115.47			331.41		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-6B			MW-7[1]			MW-7			MW-7			MW-7D			MW-7			MW-7D			MW-7			MW-7			MW-7			MW-7		
		Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit
		May 2002			November 1991			June 1997			January 1999			January 1999 - Duplicate			May 1999			May 1999 Duplicate			August 1999			December 1999			May 2001			May 2002		
VOLATILES (UG/L)																																		
1,1,1-Trichloroethane	200		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	2200	1.5				U	5		U	5	0.9	J	1	0.9	J	1	0.78	J	1	0.78	J	1	0.83	J	1	0.61	J	1	0.55	J	1	0.62	J	
1,1-Dichloroethene	7		U	1		U	5		U	5	0.2	J	1	0.2	J	1		U	1		U	1	0.19	J	1	0.19	J	1		U	1		U	1
1,2-Dichloroethane	5	0.42	J			U	5		U	5	0.8	J	1	0.7	J	1	0.63	J	1	0.86	J	1	0.59	J	1	0.45	J	1		U	1	0.49	J	
1,2-Dichloroethene	180		NA		16		5	33		5		NA			NA			NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			NA			NA			NA			NA			U	1		NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			NA			NA			NA			NA			U	1		NA	
2-Butanone (MEK)	440000		U	5		U	10		U	20	170	D	5	150	D	2		U	5		U	5		U	5		U	5		U	5		U	5
2-Hexanone	NA		U	5		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
Acetone	220000		U	10	3	J	10	1.8	JB	20		U	10		U	10		U	10		U	10		UJ	10	3.4	J	10		U	10		U	20
Benzene	5	0.2	J			U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	2
Bromodichloromethane	2.1		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	2
Bromoform	0.0083		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	2
Bromomethane	20		U	1		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Carbon disulfide	560		U	1	16		5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	2
Carbon tetrachloride	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	2
Chlorobenzene	390		U	1		U	5		U	5		U	1		U	1		U	1	0.24	J	1		U	1		U	1		U	1		U	2
Chloroethane	28000		U	1		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Chloroform	80		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		UJ	1		U	1		U	2
Chloromethane	6.7		U	1		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Dibromochloromethane	3.2		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	2
Ethylbenzene	700	1.8				U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	2
Hexane	2.9		U	1	1.2				U	10		NA			NA			U	1		U	1		U	1		U	1		U	1		U	2
Isobutyl alcohol	2200000		U	50		U	200		U	200		U	50		U	50		U	50		U	50		U	50		U	50		U	5		U	100
Methylene chloride	5		U	1	2.7	J	5		U	5		UBJ	2		UBJ	2		U	1		UJ	1		UJB	1		U	1		U	1	0.69	J	
Styrene	100		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	2
Tetrachloroethene	5		U	1	2.2	J	5	2.7	J	5	2		1	3		1	4.4		1	4.2		1	2.7		1	3.5		1	**9**		1	**7.7**		
Toluene	1000	0.27	J			U	5		U	5	0.6	J	1	0.5	J	1		U	1		U	1		U	1		U	1		U	1		U	2
Trichloroethene	5	1.2			**8.5**		5	**11**		5		U	1	**11**		1	**14**		1	**14**		1	**10**		1	**11**		1	**24**		1	**20**		
Vinyl Acetate	9600		NA			NA	5		NA			NA			NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2		U	1	**4.1**	J	10	**2.7**	J	10	**3**	B	2	**4**	B	2	**3**		2	**3**		2	**2.5**		2	**2.2**		2	**7.3**		2	**4.4**		
Xylenes (total)	10000	1.7				U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	2		U	2
cis-1,2-Dichloroethene	70	6.6				NA			NA		33		0.5	34		0.5	40		1	41		1	32		1	32		1	**100**	D	2.5	**76**		
cis-1,3-Dichloropropene	0.84		U	1		U	5		U	5	**11**		1		U	1		U	1		U	1		U	1		U	1		U	1		U	2
n-Butanol	NA		U	50		U			U	200		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	100
tert-Butyl methyl ether	120000		U	5		U	5		NA			NA			NA			NA			NA			NA			NA			NA			U	10
trans-1,2-Dichloroethene	100		U	0.5		NA		0.4	J	0.5		NA			U	5	0.36	J	0.5	0.33	J	0.5	0.34	J	0.5		NA		0.62		0.5	0.56	J	
trans-1,3-Dichloropropene	0.84		U	1		U	5		U	1		U	10		U	10		U	1		U	1		U	1		U	12		U	1		U	2
trans-1,4-Dichloro-2-butene	NA		NA			NA			U	5		NA			NA			NA			NA			NA	NA		NA			NA			NA	
Total VOCs		13.69			53.7			51.6			221.5			204.3			63.17			64.41			49.15			53.35			141.47			110.46		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Prepared by: KJC
Checked by: JHP
10/2/2007

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-7 May 2007			MW-8(1) November 1991			MW-8 June 1997			MW-8 December 1998			MW-8D December 1998 - Duplicate			MW-8 May 1999			MW-8 August 1999			MW-8 December 1999			MW-8 April 2001			MW-8 May 2002			MW-9(1) May 1991		
		Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit
VOLATILES (UG/L)																																		
1,1,1-Trichloroethane	200	ND		0.4		U	12		U	5	0.5	J	1	0.5	J	1		U	2		U	1		U	1		U	1		U	1		U	25
1,1,2,2-Tetrachloroethane	3	ND		0.5		U	*12*		U	*5*		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	*25*
1,1,2-Trichloroethane	5	ND		0.7		U	*12*		U	5		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	*25*
1,1-Dichloroethane	2200	0.85	J	0.5		U	12		U	5	0.4	J	1	0.4	J	1		U	2		U	1		U	1		U	1		U	1		U	25
1,1-Dichloroethene	7	ND		0.7		U	*12*		U	5	0.9	J	1	1		1		U	2		U	1	0.16	J	1		U	1		U	1		U	*25*
1,2-Dichloroethane	5	0.87	J	0.5		U	*12*		U	5		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	*25*
1,2-Dichloroethene	180	NA			75		12	53		5		NA			NA			NA			NA			NA			NA			NA			U	25
1,2-Dichloropropane	5	ND		0.6		U	*12*		U	5		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	*25*
1,2,4-Trimethylbenzene	24	NA				NA			NA			NA			NA			NA			NA			NA			U	1		NA			NA	
1,3,5-Trimethylebenzene	25	NA				NA			NA			NA			NA			NA			NA			NA			U	1		NA			NA	
2-Butanone (MEK)	440000	ND		3.0		U	25		U	20		U	5		U	5	2.8	J	10		UJ	5		U	5		U	5		U	5		U	50
2-Hexanone	NA	ND		1.9		U	25		U	20		U	5		U	5		U	10		U	5		U	5		U	5		U	5		U	50
4-Methyl-2-pentanone (MIBK)	14000	ND		7.3		U	25		U	20		U	5		U	5		U	10		U	5		U	5		U	5		U	5		U	50
Acetone	220000	ND		2.8		U	25	6	J	20		U	10		U	10		UJB	20		UJ	10		U	10		U	10		U	10		U	50
Benzene	5	ND		0.2		U	*12*		U	5		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	*25*
Bromodichloromethane	2.1	ND		0.3		U	*12*		U	5		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	*25*
Bromoform	0.0083	ND		*0.7*		U	*12*		U	*5*		U	*1*		U	*1*		U	*2*		U	*1*		U	*1*		U	*1*		U	*1*		U	*25*
Bromomethane	20	ND		0.5		U	*25*		U	10		U	2		U	2		U	4		U	2		U	2		U	2		U	1		U	*50*
Carbon disulfide	560	ND		0.6		U	12		U	5		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	25
Carbon tetrachloride	5	ND		0.5	**43**		*12*	**9.2**		5	1	J	1	0.9	J	1	2		2	1.4		1	2		1		U	1	1.3				U	*25*
Chlorobenzene	390	ND		0.5		U	12		U	5		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	25
Chloroethane	28000	ND		0.5		U	25		U	10		U	2		U	2		U	4		U	2		U	2		U	2		U	1		U	50
Chloroform	80	0.98	UJ	0.7	9.8	J	12	4.3	J	5	2		1	2		1	1.9	J	2	2.3		1	2.1		1		U	1	1.6				U	25
Chloromethane	6.7	ND		0.6		U	*25*		U	*10*		U	2		U	2		U	4		U	2		U	2		U	2		U	1		U	*50*
Dibromochloromethane	3.2	ND		0.7		U	*12*		U	*5*		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	*25*
Ethylbenzene	700	ND		0.5		U	12		U	5	3		1	3		1		U	2		U	1		U	1		U	1		U	1		U	25
Hexane	2.9	ND		0.6		U		1.7	J	*10*		U			U			U	2		U	1		U	1		U	1		U	1		U	
Isobutyl alcohol	2200000	NA				U	500		U	200		U	1		U	1		U	100		U	50		U	50		U	5		U	50		U	1000
Methylene chloride	5	ND		0.7	4	J	*12*	1	J	5		UB	2		UB	2		UJB	2		UJB	1		U	1	0.5	J	1		U	1		U	*25*
Styrene	100	ND		0.5		U	12		U	5		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	25
Tetrachloroethene	5	**5.7**		0.7	**86**		*12*	**51**		5	**13**		1	**13**		1	**21**		1	**19**		1	**26**		1	**16**		1	**18**				U	*25*
Toluene	1000	ND		0.5		U	12		U	5	1		1	2		1		U	2		UJ	1		UJ	1		U	1		U	1	460		25
Trichloroethene	5	**15.5**		0.6	**84**		*12*	**51**		5	**22**		1	**23**		1	**19**		2	**19**		1	**21**		1	**15**		1	**13**				U	25
Vinyl Acetate	9600	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2	**4.6**		0.3		U	*25*	**2.8**	J	*10*	2	J	2	2	J	2	0.81	J	*4*	0.48	J	2	0.81	J	2	0.93	J	2	0.73	J			U	*50*
Xylenes (total)	10000	ND		1.1		U	12		U	5	4		1	5		1		U	2		U	1		U	1		U	2		U	1	9.8	J	25
cis-1,2-Dichloroethene	70	62.2		0.8		NA			NA		24		0.5	24		0.5	23		2	23		1	24		1	22		0.5	18				NA	
cis-1,3-Dichloropropene	0.84	ND		0.6		U	*12*		U	*5*		U	*1*		U	*1*		U	*2*		U	*1*		U	*1*		U	*1*		U	*1*		U	25
n-Butanol	NA	NA				U			U	200		U	1		U	1		U	100		U	50		U	50		U	50		U	50		U	
tert-Butyl methyl ether	120000	NA				U	12		NA			NA			NA			NA			NA			NA			NA			U	5		U	25
trans-1,2-Dichloroethene	100	0.92	J	0.8		NA			U	0.5	0.3	J	0.5	0.36	J	1	0.27	J	0.5	0.28	J	0.5		NA			U	0.5	0.2	J			NA	
trans-1,3-Dichloropropene	0.84	ND		0.6		U	*5*		U	*1*		U	*1*		U	*2*		U	*1*		U	*1*		U	*25*		U	*1*		U	*1*		U	*5*
trans-1,4-Dichloro-2-butene	NA	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		91.62			301.8			180			74.1			77.16			70.78			65.46			76.07			54.43			52.83			469.8	

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-9[1] November 1991			MW-9 December 1998			MW-9 May 1999			MW-9 August 1999			MW-9 December 1999			MW-9D December 1999 - Duplicate			MW-9 April-01		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit
VOLATILES (UG/L)																						
1,1,1-Trichloroethane	200		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	2200	1.3	J	5	1		1	1		1	0.84	J	1	0.79	J	1	0.81	J	1	0.84	J	1
1,1-Dichloroethene	7		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane	5		U	5		U	1	0.5	J	1		U	1		U	1	0.21	J	1		U	1
1,2-Dichloroethene	180		U	5		NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			NA			U	1
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			NA			U	1
2-Butanone (MEK)	440000		U	10		U	5		U	5	2.9	J	5		U	5		U	5		U	5
2-Hexanone	NA		U	10		U	5		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	10		U	5		U	5		U	5		U	5		U	5		U	5
Acetone	220000	3.6	J	10		U	10		U	10		UJ	10		U	10		U	10		U	10
Benzene	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Bromodichloromethane	2.1		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Bromoform	0.0083		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Bromomethane	20		U	10		U	2		U	2		U	2		U	2		U	2		U	2
Carbon disulfide	560	1.8	J	5		U	1		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Chlorobenzene	390		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Chloroethane	28000		U	10		U	2	0.23	J	2	0.19	J	2	0.14	J	2	0.15	J	2		U	2
Chloroform	80		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Chloromethane	6.7		U	10		U	2		U	2		U	2		U	2		U	2		U	2
Dibromochloromethane	3.2		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Ethylbenzene	700		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Hexane	2.9	2.7				U			U	1		U	1		U	1		U	1		U	1
Isobutyl alcohol	2200000		U	200		U	50		U	50		U	50		U	50		U	50		U	5
Methylene chloride	5	2.5	J	5		UBJ	2		U	1		UJB	1		U	1		U	1		U	1
Styrene	100		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Toluene	1000		U	5	0.9	J	1	2.9		1		U	1	9.1	J	1	15	J	1		U	1
Trichloroethene	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Vinyl Acetate	9600		NA	5		NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2		U	10		U	2		U	2		U	2		U	2		U	2		U	2
Xylenes (total)	10000		U	5		U	1		U	1		U	1		U	1	0.31	J	1		U	2
cis-1,2-Dichloroethene	70		NA			U	0.5	0.2	J	1		U	1		U	1		U	1		U	0.5
cis-1,3-Dichloropropene	0.84		U	5		U	1		U	1		U	1		U	1		U	1		U	1
n-Butanol	NA		U			U	50		U	50		U	50		U	50		U	50		U	50
tert-Butyl methyl ether	120000		U	5		NA			NA			NA			NA			NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1		U	1		U	1		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA	
Total VOCs		11.9			1.9			4.83			3.93			10.03			16.48			0.84		

	MW10[1] May 1991			MW-10[1] November 1991			MW-10D November 1991 - Duplicate			MW-10 November 1992		
	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
VOLATILES (UG/L)												
1,1,1-Trichloroethane	1400		1000	1600		500	1500		500	1200	D	1000
1,1,2,2-Tetrachloroethane		U	1000		U	500		U	500		U	1000
1,1,2-Trichloroethane		U	1000		U	500		U	500		U	1000
1,1-Dichloroethane		U	1000		U	500		U	500		U	1000
1,1-Dichloroethene	660	J	1000	540		500	680		500		U	1000
1,2-Dichloroethane		U	1000		U	500		U	500		U	1000
1,2-Dichloroethene	290	J	1000	110	J	500	110		500		U	1000
1,2-Dichloropropane		U	1000		U	500		U	500		U	1000
1,2,4-Trimethylbenzene		NA			NA			NA			NA	
1,3,5-Trimethylebenzene		NA			NA			NA			NA	
2-Butanone (MEK)		U	2000		U	1000		U	1000		U	2000
2-Hexanone		U	2000		U	1000		U	1000		U	2000
4-Methyl-2-pentanone (MIBK)		U	2000		U	1000		U	1000		U	2000
Acetone		U	2000	450	J	1000	620	J	1000		U	2000
Benzene		U	1000		U	500		U	500		U	1000
Bromodichloromethane		U	1000		U	500		U	500		U	1000
Bromoform		U	1000		U	500		U	500		U	1000
Bromomethane		U	2000		U	1000		U	1000		U	2000
Carbon disulfide		U	1000		U	500		U	500		U	1000
Carbon tetrachloride		U	1000		U	500		U	500		U	1000
Chlorobenzene		U	1000		U	500		U	500		U	1000
Chloroethane		U	2000		U	1000		U	1000		U	2000
Chloroform		U	1000		U	500		U	500		U	1000
Chloromethane	670	J	2000		U	1000		U	1000		U	2000
Dibromochloromethane		U	1000		U	500		U	500		U	1000
Ethylbenzene	370	J	1000	140	J	500	120	J	500		U	1000
Hexane		U		220	J		210				U	1000
Isobutyl alcohol		U	40000		U	20000		U	20000		NA	
Methylene chloride	23000		1000	11000		500	11000		500	12000	D	1000
Styrene		U	1000		U	500		U	500		U	1000
Tetrachloroethene	840	J	1000	810		500	740		500		U	1000
Toluene	9000		1000	1000		500	910		500		U	1000
Trichloroethene	1900		1000	2000		500	2000		500	1800	D	1000
Vinyl Acetate		U	1000		NA			NA			NA	1000
Vinyl Chloride		U	2000		U	1000		U	1000		U	2000
Xylenes (total)	1100		1000	360	J	500	220	J	500		U	1000
cis-1,2-Dichloroethene		U	1000		NA			NA			NA	
cis-1,3-Dichloropropene		NA			U	500		U	500		U	1000
n-Butanol		U			U			U			NA	
tert-Butyl methyl ether		U	1000		U	500		U	500		U	1000
trans-1,2-Dichloroethene		NA			NA			NA			NA	
trans-1,3-Dichloropropene		U	1000		U	500		U	500		U	1000
trans-1,4-Dichloro-2-butene		U	1000		NA			NA			NA	
Total VOCs	39230			18230			18110			15000		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-10D			MW-10			MW-10D			MW-10			MW-10			MW-10			MW-10			MW-10			MW-10			MW-10			MW-10		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit
		November 1992 - Duplicate			June 1997			June 1997 - Duplicate			December 1998			May 1999			August 1999			December 1999			April 2001			May 2002			May 2003			May 2004		
VOLATILES (UG/L)																																		
1,1,1-Trichloroethane	200		U	1000	340		250	380		250	660		500	550		170	1.8		1	300		200	160		20	140	J		410	J		450	J	
1,1,2,2-Tetrachloroethane	3		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
1,1,2-Trichloroethane	5		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
1,1-Dichloroethane	2200		U	1000		U	250		U	250		U	500	52	J	170	0.12	J	1	36	J	200	29		20		U	400		U	670		U	1700
1,1-Dichloroethene	7		U	1000	250		250	270		250	560		500	480		170	1.5		1	290		200	160		20	140	J		400	J		630	J	
1,2-Dichloroethane	5		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
1,2-Dichloroethene	180		U	1000	130	J	250	140	J	250		NA			NA			NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			NA			NA			U	20		NA			NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			NA			NA			U	20		NA			NA			NA	
2-Butanone (MEK)	440000		U	2000		U	1000		U	1000	1200	J	2500		U	830		UJ	5		U	1000		U	100		U	2000		U	3300		U	8300
2-Hexanone	NA		U	2000		U	1000		U	1000		U	2500		U	830		U	5		U	1000		U	100		U	2000		U	3300		U	8300
4-Methyl-2-pentanone (MIBK)	14000		U	2000		U	1000		U	1000		U	2500		U	830		U	5		U	1000		U	100		U	2000		U	3300		U	8300
Acetone	220000		U	2000	130	JB	1000	110	JB	1000		UBJ	5000		U	1700		U	10		U	2000		U	200		U	4000		U	6700	3300	J	
Benzene	5		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Bromodichloromethane	2.1		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Bromoform	0.0083		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Bromomethane	20		U	2000		U	500		U	500		U	1000		U	330		U	2		U	400		U	20		U	400		U	670		U	1700
Carbon disulfide	560		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Carbon tetrachloride	5		U	1000		U	250		U	250		U	500		U	170	0.22	J	1		U	200		U	20		U	400		U	670		U	1700
Chlorobenzene	390		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Chloroethane	28000		U	2000		U	500		U	500		U	1000		U	330		U	2		U	400		U	40		U	400		U	670		U	1700
Chloroform	80		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Chloromethane	6.7		U	2000		U	500		U	500		U	1000		U	330		U	2		U	400		U	40		U	400		U	670		U	1700
Dibromochloromethane	3.2		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Ethylbenzene	700		U	1000	68	J	250	74	J	250		U	500	76	J	170		U	1	58	J	200	22		20		U	400		U	670		U	1700
Hexane	2.9		U	1000		U	500		U	500		NA			U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Isobutyl alcohol	2200000		NA			U	10000		U	10000		U	500		U	8300		U	50		U	10000		U	5		U	20000		U	33000		U	83000
Methylene chloride	5	10000	D	1000	5000		250	5300		250	14000	B	1000	8300		170	34	B	1	4600	B	200	1500	D	50		U	400	5000			10000	B	
Styrene	100		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Tetrachloroethene	5		U	1000	550		250	610		250	750		500	960		170	2.9		1	570		200	330		20	250	J		830			770	J	
Toluene	1000		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
Trichloroethene	5	1400	D	1000	950		250	1000		250	1800		500	1700		170	5.7		1	1100		200	650		20	550			1700			2000		
Vinyl Acetate	9600		NA	1000		NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2		U	2000		U	500		U	500		U	1000		U	330		U	2		U	400		U	40		U	400		U	670		U	1700
Xylenes (total)	10000		U	1000	100	J	250	110	J	250		U	500	110	J	170		U	1		U	200		U	40		U	400		U	670		U	1700
cis-1,2-Dichloroethene	70		NA			NA			NA			U	250	160	J	170	0.4	J	1	130	J	200	71		10		U	200		U	330		U	830
cis-1,3-Dichloropropene	0.84		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
n-Butanol	NA		NA			U	10000		U	10000		U	500		U	8300		U	50		U	10000		U	1000		U	20000		U	33000		U	83000
tert-Butyl methyl ether	120000		U	1000		NA			NA			NA			NA			NA			NA			NA			U	2000		U	3300		U	8300
trans-1,2-Dichloroethene	100		NA			NA			NA			U	250		U	83		U	0.5		U	100		U	10		U	200		U	330		U	830
trans-1,3-Dichloropropene	0.84		U	1000		U	250		U	250		U	500		U	170		U	1		U	200		U	20		U	400		U	670		U	1700
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		11400			7518			7994			18970			12388			46.64			7084			2922			1080			8340			17150		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-10			MW-10A			MW-10AD			MW-10AP(1)			MW-10A			MW-10A			MW-10A			MW-10A			MW-10A			MW-10AD		
		Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit
		May 2007			December 1998			December 1998 - Duplicate			December 1998			May 1999			August 1999			December 1999			April 2001			May 2002			May 2002 Duplicate		
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200	**364**	J	190		U	50		U	50		U	1		U	5		U	1		U	2		U	1		U	1.7		U	1.4
1,1,2,2-Tetrachloroethane	3	ND		0.5		U	*50*		U	*50*		U	1		U	5		U	1		U	2		U	1		U	1.7		U	1.4
1,1,2-Trichloroethane	5	**5.3**		0.7		U	*50*		U	*50*		U	1		U	5		U	1		U	2		U	1		U	1.7		U	1.4
1,1-Dichloroethane	2200	28.7		0.5		U	50		U	50	8		1	10	J	5	8		1	14		2	9.3		1	5			5.2		
1,1-Dichloroethene	7	**600**	J	*340*		U	*50*		U	*50*	0.6	J	1		U	5	0.38	J	1		U	2		U	1		U	1.7	0.53	J	
1,2-Dichloroethane	5	3.2		0.5		U	*50*		U	*50*		U	1		U	5	0.41	J	1		U	2		U	1		U	1.7			1.4
1,2-Dichloroethene	180	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5	**11.8**		0.6		U	*50*		U	*50*	0.8	J	1	0.94	J	5		U	1		U	2		U	1	0.56	J		0.47	J	
1,2,4-Trimethylbenzene	24	NA				NA			NA			NA			NA			NA			NA			U	1		NA			NA	
1,3,5-Trimethylebenzene	25	NA				NA			NA			NA			NA			NA			NA			U	1		NA			NA	
2-Butanone (MEK)	440000	ND		3.0		U	250		U	250		U	5	6.2	J	25		UJ	5		U	10		U	5		U	8.4		U	7.2
2-Hexanone	NA	ND		1.9		U	250		U	250		U	5		U	25		U	5		U	10		U	5		U	8.4		U	7.2
4-Methyl-2-pentanone (MIBK)	14000	ND		7.3		U	250		U	250		U	5		U	25		U	5		U	10		U	5		U	8.4		U	7.2
Acetone	220000	ND		2.8		UBJ	500		UBJ	500		U	10		U	50		UJ	10		U	20		U	10		U	17		U	14
Benzene	5	0.74	J	0.2		U	*50*		U	*50*	2		1	4.7	J	5	3.9		1	2		2	4.6		1	2.7			3		
Bromodichloromethane	2.1	ND		0.3		U	*50*		U	*50*		U	1		U	5		U	1		U	2		U	1		U	1.7		U	1.4
Bromoform	0.0083	ND		*0.7*		U	*50*		U	*50*		U	*1*		U	5		U	*1*		U	*2*		U	*1*		U	*1.7*		U	*1.4*
Bromomethane	20	ND		0.5		U	*100*		U	*100*		U	2		U	10		U	2		U	4		U	2		U	1.7		U	1.4
Carbon disulfide	560	ND		0.6		U	50		U	50		U	1		U	5		U	1		U	2		U	1		U	1.7		U	1.4
Carbon tetrachloride	5	ND		0.5		U	*50*		U	*50*		U	1		U	5		U	1		U	2		U	1		U	1.7		U	1.4
Chlorobenzene	390	ND		0.5		U	50		U	50		U	1		U	5		U	1		U	2		U	1		U	1.7		U	1.4
Chloroethane	28000	0.55	J	0.5		U	100		U	100		U	2	13	J	10	39		2	45		4	6.1		2	4			4.4		
Chloroform	80	3.7		0.7		U	50		U	50		U	1		U	5		U	1		U	2		U	1		U	1.7		U	1.4
Chloromethane	6.7	ND		0.6		U	*100*		U	*100*		U	2		U	*10*		U	2		U	4		U	2		U	1.7		U	1.4
Dibromochloromethane	3.2	ND		0.7		U	*50*		U	*50*		U	1		U	*5*		U	1		U	2		U	1		U	1.7		U	1.4
Ethylbenzene	700	ND		0.5	47	J	50	42	J	50	23		1	89	J	5	9.9		1	11		2	67	D	2	3.2			3.6		
Hexane	2.9	ND		0.6		NA			NA			NA			U	*5*		U	1		U	2		U	1		U	1.7		U	1.4
Isobutyl alcohol	2200000	NA				U	2500		U	2500		U	50		U	250		U	50		U	100		U	5		U	84		U	72
Methylene chloride	5	**8680**		*340*		UBJ	*100*		UBJ	*100*		UBJ	2	**5.3**	J	5		UB	1		UJ	2		U	1		U	1.7		U	1.4
Styrene	100	ND		0.5		U	50		U	50		U	1		U	5		U	1		U	2		U	1		U	1.7		U	1.4
Tetrachloroethene	5	**1260**		*370*		U	*50*		U	*50*	2		1	2.4	J	5	0.94	J	1	0.5	J	2	0.54	J	1	1.6	J		1.7		
Toluene	1000	ND		0.5	**1200**		50	**1600**		50	28		1	13	J	5		UJ	1	0.98	J	2		U	1		U	1.7		U	1.4
Trichloroethene	5	**2040**		*320*		U	*50*		U	*50*	3		1	5	J	5	1.8		1	1	J	2	1.1		1	2.6			2.5		
Vinyl Acetate	9600	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2	**4.4**		0.3		U	*100*		U	*100*		U	2	1.4	J	*10*	1.5	J	2	0.6	J	*4*	0.59	J	2	0.88	J		0.9	J	
Xylenes (total)	10000	2.8	J	1.1	72		50	59		50	48	D	1	220	J	5	51		1	160		2	47		2	91			83		
cis-1,2-Dichloroethene	70	46.5		0.8		U	25		U	25	6		0.5	8.3	J	5	3.7		1	1.8	J	2	2.5		0.5	6			6.3		
cis-1,3-Dichloropropene	0.84	ND		0.6		U	*50*		U	*50*		U	*1*		U	5		U	*1*		U	2		U	*1*		U	*1.7*		U	*1.4*
n-Butanol	NA	NA				U	5000		U	5000		U	50		U	250		U	50		U	100		U	50		U	84		U	72
tert-Butyl methyl ether	120000	NA				NA			NA			NA			NA			NA			NA			NA			U	8.4		U	7.2
trans-1,2-Dichloroethene	100	1.9	J	0.8		U	25		U	25	0.4	J	0.5		U	2.5	0.4	J	0.5	0.3	J	1		U	0.5		U	0.84	0.26	J	
trans-1,3-Dichloropropene	0.84	ND		0.6		U	*50*		U	*50*		U	*1*		U	*5*		U	*1*		U	*2*		U	*1*		U	*1.7*		U	*1.4*
trans-1,4-Dichloro-2-butene	NA	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		13053.59			1319			1701			121.8			379.24			120.93			237.18			138.73			117.54			111.86		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-10A May 2003 Result	MW-10A May 2003 Qualifier	MW-10A May 2003 Detection Limit	MW-10A May 2004 Result	MW-10A May 2004 Qualifier	MW-10A May 2004 Detection Limit	MW-10A May 2007 Result	MW-10A May 2007 Qualifier	MW-10A May 2007 Detection Limit	MW-11[1] May 1991 Result	MW-11[1] May 1991 Qualifier	MW-11[1] May 1991 Quantitation Limit	MW-11[1] November 1991 Result	MW-11[1] November 1991 Qualifier	MW-11[1] November 1991 Quantitation Limit	MW-11 November 1992 Result	MW-11 November 1992 Qualifier	MW-11 November 1992 Quantitation Limit	MW-11 June 1997 Result	MW-11 June 1997 Qualifier	MW-11 June 1997 Quantitation Limit	MW-11R December 1998 Result	MW-11R December 1998 Qualifier	MW-11R December 1998 Quantitation Limit	MW-11R May 1999 Result	MW-11R May 1999 Qualifier	MW-11R May 1999 Quantitation Limit	MW-11R August 1999 Result	MW-11R August 1999 Qualifier	MW-11R August 1999 Quantitation Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1		U	1	ND		0.4		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	1	ND		0.5		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
1,1,2-Trichloroethane	5		U	1		U	1	ND		0.7		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
1,1-Dichloroethane	2200	4.6			5.5			27.5		0.5		U	5		U	5		U	5		U	5	0.4	J	1	0.8	J	1	0.83	J	1
1,1-Dichloroethene	7	0.35	J		0.34	J		ND		0.7		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
1,2-Dichloroethane	5		U	1		U	1	ND		0.5		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
1,2-Dichloroethene	180		NA			NA		NA			4.3	J	5	6.4		5	6		5		U	5		NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	1	ND		0.6		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA		NA				NA			NA			NA			NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA		NA				NA			NA			NA			NA			NA			NA			NA	
2-Butanone (MEK)	440000		U	5		U	5	ND		3.0		U	10		U	10		U	5	24		20		UJ	5		U	5		U	5
2-Hexanone	NA		U	5		U	5	ND		1.9		U	10		U	10		U	10		U	20		UJ	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5	ND		7.3		U	10		U	10		U	10		U	20		UJ	5		U	5		U	5
Acetone	220000	2.1	J		0.79	J		ND		2.8	12		10	4.7	J	10		U	10	71		20		UJ	10		UJB	10		U	10
Benzene	5	3.5			1.4			1.4	J	0.2		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
Bromodichloromethane	2.1		U	1		U	1	ND		0.3		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
Bromoform	0.0083		U	*1*		U	*1*	ND		*0.7*		U	*5*		U	*5*		U	*5*		U	*5*		UJ	*1*		U	*1*		U	*1*
Bromomethane	20		U	1		U	1	ND		0.5		U	10		U	10		U	10		U	10		UJ	2		U	2		U	2
Carbon disulfide	560		U	1	0.4	J		ND		0.6		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
Carbon tetrachloride	5		U	1		U	1	ND		0.5		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
Chlorobenzene	390		U	1	0.2	J		ND		0.5		U	5		U	5		U	5		U	5		UJ	1		UJ	1		U	1
Chloroethane	28000	7.7			8.9			15.8		0.5		U	10		U	10		U	10		U	10		UJ	2		U	2		U	2
Chloroform	80		U	1		U	1	ND		0.7		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
Chloromethane	6.7		U	1		U	1	ND		0.6		U	*10*		U	*10*		U	*10*		U	*10*		UJ	2		UJ	2		U	2
Dibromochloromethane	3.2		U	1		U	1	ND		0.7		U	*5*		U	*5*		U	*5*		U	*5*		UJ	1		U	1		U	1
Ethylbenzene	700	0.7	J		2			0.5	J	0.5		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
Hexane	2.9		U	1		U	1	ND		0.6		U		2.3				U	*5*	1.8	J	*10*		U			U	1		U	1
Isobutyl alcohol	2200000		U	50		U	50	NA				U	200		U	200		NA			U	200		UJ	1		U	50		U	50
Methylene chloride	5	1.7			0.53	JB		ND		0.7	1	J	5	2.6	J	5		U	5		U	5		UJB	2		UJB	1		UJB	1
Styrene	100		U	1		U	1	ND		0.5		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
Tetrachloroethene	5	1.1		1	1.4			0.96	J	0.7		U	5		U	5		U	5		U	5		UJ	1		U	1		U	1
Toluene	1000		U	1		U	1	ND		0.5	1.6	J	5		U	5		U	5	1.1	J	5	0.3	J	1		U	1		U	1
Trichloroethene (TCE)	5	1.5			1.9			1.6	J	0.6	2.2	J	5	3.2	J	5		U	5		U	5	1	J	1	5.1		1	4.6		1
Vinyl acetate	9600		NA			NA		NA				NA	5		NA	5		U	5		NA			J			NA			NA	
Vinyl chloride	2	0.8	J		1			3.4		0.3		U	*10*		U	*10*		U	5		U	*10*	0.3	J	2	0.38	J	2	0.44	J	2
Xylenes (total)	10000	0.75	J		0.47	J		ND		1.1		U	5		U	5		U	10		U	5		UJ	1		U	1		U	1
cis-1,2-Dichloroethene	70	4			5			5.2		0.8		NA			NA			NA			NA		2	J	0.5	6.7		1	6.5		1
cis-1,3-Dichloropropene	0.84		U	*1*		U	*1*	ND		0.6		U	*5*		U	*5*		U	*5*		U	*5*		UJ	*1*		U	*1*		U	*1*
n-Butanol	NA		U	50		U	50	NA				U			U			NA			U	200		UJ	1		U	50		U	50
tert-Butyl methyl ether	120000		U	5		U	5	NA				U	5		U	5		NA			NA			J			NA			NA	
trans-1,2-Dichloroethene	100	0.36	J		0.32	J		ND		0.8		NA			NA			NA			NA			UJ	0.5	0.25	J	0.5	0.17	J	0.5
trans-1,3-Dichloropropene	0.84		U	*1*		U	*1*	ND		0.6		U	*5*		U	*5*		U	*5*		U	*5*		UJ	*1*		U	*1*		U	*1*
trans-1,4-Dichloro-2-butene	NA		NA			NA		NA				NA			NA			NA			NA			NA			NA			NA	
Total VOCs		29.16			30.15			56.36			21.1			19.2			6			97.9			4			13.23			12.54		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-11R August 1999			MW-11R April 2001			MW-12[(1)] May 1991			MW-12[(1)] November 1991			MW-12D November 1991 - Duplicate			MW-12 June 1997			MW-12 December 1998			MW-12 May 1999			MW-12 August 1999		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
VOLATILES (UG/L)																												
1,1,1-Trichloroethane	200		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
1,1,2-Trichloroethane	5		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
1,1-Dichloroethane	2200	0.73	J	1	1.2		1		U	5		U	5		U	5		U	5	0.4	J	1	0.33	J	2	0.38	J	1
1,1-Dichloroethene	7		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
1,2-Dichloroethane	5		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
1,2-Dichloroethene	180		NA			NA		1.8	J	5		U	5		U	5	1.1	J	5		NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
1,2,4-Trimethylbenzene	24		NA			U	1		NA			NA			NA			NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25		NA			U	1		NA			NA			NA			NA			NA			NA			NA	
2-Butanone (MEK)	440000		U	5		U	5		U	10		U	10		U	10		U	20		UJ	5		U	10		U	5
2-Hexanone	NA		U	5		U	5		U	10		U	10		U	10		U	20		UJ	5		U	10		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5		U	10		U	10		U	10		U	20		UJ	5		U	10		U	5
Acetone	220000		U	10		U	10	7.4	J	10	4.2	J	10	3.5	J	10	3	JB	20		UJ	10		U	20		UJ	10
Benzene	5		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Bromodichloromethane	2.1		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Bromoform	0.0083		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Bromomethane	20		U	2		U	2		U	10		U	10		U	10		U	10		UJ	2		U	4		U	2
Carbon disulfide	560		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Carbon tetrachloride	5		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Chlorobenzene	390		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Chloroethane	28000		U	2		U	2		U	10		U	10		U	10		U	10		UJ	2		U	4	0.45	J	2
Chloroform	80		UJ	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Chloromethane	6.7		U	2		U	2		U	*10*		U	*10*		U	*10*		U	*10*		UJ	2		U	4		U	2
Dibromochloromethane	3.2		U	1		U	1		U	*5*		U	*5*		U	5		U	5		UJ	1		U	2		U	1
Ethylbenzene	700		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Hexane	2.9		U	1		U	1		U		2.3			2.3				U	*10*		NA			U	2		U	1
Isobutyl alcohol	2200000		U	50		U	5		U	200		U	200		U	200		U	200		UJ	1		U	100		U	50
Methylene chloride	5		U	1		U	1	1.4	J	5	2.8	J	5	2.7	J	5		U	5		UJB	2		UJB	2		UJB	1
Styrene	100		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Tetrachloroethene	5		U	1		U	1		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
Toluene	1000		U	1		U	1	5.7		5	3.9	J	5	4.2	J	5		U	5		UJ	1		U	2		UJ	1
Trichloroethene (TCE)	5	4.9		1	**6.7**		1		U	5		U	5		U	5		U	5		UJ	1		U	2	0.1	J	1
Vinyl acetate	9600		NA			NA			NA	5		NA	5		NA	5		NA			J			NA			NA	
Vinyl chloride	2	0.32	J	2		U	2	**3.1**	J	*10*		U	*10*		U	*10*	**2.3**	J	*10*	2	J	2		U	*4*	0.35	J	2
Xylenes (total)	10000		U	1		U	2		U	5		U	5		U	5		U	5		UJ	1		U	2		U	1
cis-1,2-Dichloroethene	70	6.3		1	8.8		0.5		NA			NA			NA			NA		0.9	J	0.5	0.44	J	2	0.41	J	1
cis-1,3-Dichloropropene	0.84		U	*1*		U	*1*		U	*5*		U	*5*		U	*5*		U	*5*		UJ	*1*		U	*2*		U	*1*
n-Butanol	NA		U	50		U	50		U			U			U			U	200		UJ	1		U	100		U	50
tert-Butyl methyl ether	120000		NA			NA			U	5		U	5		U	5		NA			J			NA			NA	
trans-1,2-Dichloroethene	100	0.2	J	0.5		U	0.5		NA			NA			NA			NA			UJ	0.5		U	1		U	0.5
trans-1,3-Dichloropropene	0.84		U	*1*		U	*1*		U	*5*		U	*5*		U	*5*		U	*5*		UJ	*1*		U	*2*		U	*1*
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		12.45			16.7			19.4			13.2			12.7			6.4			3.3			0.77			1.69		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exeeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-12D			MW-12			MW-12			MW-13[1]			MW-13			MW-13			MW-13			MW-13			MW-13			MW-13			MW-13		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
		August 1999 - Duplicate			December 1999			May 2001			November 1991			November 1992			January 1993			June 1997			December 1998			May 1999			August 1999		
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1		U	1		U	1	**2100**	J	2500		U	2500		U	2500		U	1700		U	2000	170		100	150	J	500
1,1,2,2-Tetrachloroethane	3		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
1,1,2-Trichloroethane	5		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
1,1-Dichloroethane	2200	0.41	J	1	0.34	J	1	0.47	J	1		U	2500		U	2500		U	2500		U	1700		U	2000	140		100	120	J	500
1,1-Dichloroethene	7		U	1		U	1		U	1	**1200**	J	2500		U	2500		U	2500	**440**	J	1700		U	2000	**370**		100	**300**	J	500
1,2-Dichloroethane	5		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
1,2-Dichloroethene	180		NA			NA			NA		**780**	J	2500		U	2500		U	2500	**720**	J	1700		NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000	**29**	J	100		U	500
1,2,4-Trimethylbenzene	24		NA			NA			U	1		NA			NA			NA			NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA			U	1		NA			NA			NA			NA			NA			NA			NA	
2-Butanone (MEK)	440000		U	5		U	5		U	5	1600		5000		U	5000		U	2500		U	6700		U	10000		U	500		U	2500
2-Hexanone	NA		U	5		U	5		U	5		U	5000		U	5000		U	2500		U	6700		U	10000		U	500		U	2500
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5		U	5		U	5000		U	5000		U	2500		U	6700		U	10000		U	500		U	2500
Acetone	220000		UJ	10		U	10		U	10	3200	J	5000		U	5000		U	2500	600	JB	6700		UJB	20000		U	1000		U	5000
Benzene	5		U	1	0.11	J	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
Bromodichloromethane	2.1		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
Bromoform	0.0083		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
Bromomethane	20		U	2		U	2		U	2		U	5000		U	5000		U	2500		U	3300		U	4000		U	200		U	1000
Carbon disulfide	560		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700	**1500**	J	2000		U	100		U	500
Carbon tetrachloride	5		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000	**56**	J	100		U	500
Chlorobenzene	390		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
Chloroethane	28000	0.62	J	2	0.58	J	2		U	2		U	5000		U	5000		U	2500		U	3300		U	4000		U	200		U	1000
Chloroform	80		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
Chloromethane	6.7		U	2		U	2		U	2		U	5000		U	5000		U	2500		U	3300		U	4000		U	200		U	1000
Dibromochloromethane	3.2		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
Ethylbenzene	700		U	1	0.13	J	1		U	1	**1200**	J	2500		U	2500		U	2500	470	J	1700		U	2000	620		100	350	J	500
Hexane	2.9		U	1		U	1	0.22	J	1	**880**				U	2500		U	2500		U	3300		NA			U	100		U	500
Isobutyl alcohol	2200000		U	50		U	50		U	5		U	100000		NA			NA			U	67000		U	2000		U	5000		U	25000
Methylene chloride	5		UJB	1		U	1		U	1	**55000**		2500	**91000**	D	2500	**63000**		2500	**38000**		1700		UB	4000	**21000**	DB	100	**20000**	B	500
Styrene	100		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
Tetrachloroethene	5		U	1		U	1		U	1	**2100**	J	2500	**2700**	D	2500		U	2500	**880**	J	1700	**590**	J	2000	**890**		100	**590**		500
Toluene	1000		UJ	1		UJ	1		U	1	**31000**		2500	**33000**	D	2500	**19000**		2500		U	1700		U	2000	44	J	100		U	500
Trichloroethene (TCE)	5		U	1		U	1		U	1	**5500**		2500	**6000**	D	2500	**4300**		2500	**1800**		1700	**1300**	J	2000	**1600**		100	**1200**		500
Vinyl acetate	9600		NA			NA			NA			NA	2500		U	5000		U	2500		NA			NA			NA			NA	
Vinyl chloride	2	0.6	J	2	1	J	2	1.1	J	2		U	5000		U	5000		U	2500		U	3300		U	4000		U	200		U	1000
Xylenes (total)	10000		U	1		U	1		U	2	2700		2500	2900	D	2500	3000		2500		U	1700		U	2000	820		100	440	J	500
cis-1,2-Dichloroethene	70	0.52	J	1	0.68	J	1	0.48	J	0.5		U			NA			NA			NA		**670**	J	1000	**580**		100	**500**		500
cis-1,3-Dichloropropene	0.84		U	1		U	1		U	1		NA	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
n-Butanol	NA		U	50		U	50		U	50		U			NA			NA			U	67000		U	2000		U	5000		U	25000
tert-Butyl methyl ether	120000		NA			NA			NA			U	2500		NA			NA			NA			NA			NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	0.5		U	0.5		NA			NA			NA			NA			U	1000		U	50		U	250
trans-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	2500		U	2500		U	2500		U	1700		U	2000		U	100		U	500
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		2.15			2.84			2.27			107260			135600			89300			42910			4060			26319			23650		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-13 December 1999			MW-13 April 2001			MW-13 April 2001 Duplicate			MW-13 May 2002			MW-13 May 2003			MW-13D May 2003 Duplicate			MW13 May 2004			MW13 May 2007			MW-13A November 1992			MW-13A January 1993		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200	49	J	200	110		50		U	500	68	J			U	500		U	500		U	330	40.4		0.4		U	620		U	250
1,1,2,2-Tetrachloroethane	3		U	200		U	50		U	500		U	420		U	500		U	500		U	330	ND		0.5		U	620		U	250
1,1,2-Trichloroethane	5		U	200		U	50		U	500		U	420		U	500		U	500		U	330	6.4		0.7		U	620		U	250
1,1-Dichloroethane	2200	58	J	200	160		50	150	J	500	110	J		150	J			U	500	87	J		129		0.5		U	620		U	250
1,1-Dichloroethene	7	120	J	200	280		50		U	500	210	J		220	J		220	J		170	J		208		0.7		U	620		U	250
1,2-Dichloroethane	5		U	200		U	50		U	500		U	420		U	500		U	500		U	330	6.8		0.5		U	620		U	250
1,2-Dichloroethene	180		NA			NA			NA			NA			NA			NA			NA		NA				U	620		U	250
1,2-Dichloropropane	5		U	200	28	J	50		U	500		U	420		U	500		U	500		U	330	20.3		0.6		U	620		U	250
1,2,4-Trimethylbenzene	24		NA			U	50		U	500		NA			NA			NA			NA		NA				NA			NA	
1,3,5-Trimethylebenzene	25		NA			U	50		U	500		NA			NA			NA			NA		NA				NA			NA	
2-Butanone (MEK)	440000		U	1000		U	250		U	2500		U	2100		U	2500		U	2500		U	1700	ND		3.0		U	1200		U	500
2-Hexanone	NA		U	1000		U	250		U	2500		U	2100		U	500		U	500		U	1700	ND		1.9		U	1200		U	500
4-Methyl-2-pentanone (MIBK)	14000		U	1000		U	250		U	2500		U	2100		U	2500		U	2500		U	1700	ND		7.3		U	1200		U	500
Acetone	220000		U	2000		U	500		U	5000		U	4200		U	5000		U	5000	310	J B		6.8	UJ	2.8		U	1200		U	500
Benzene	5		U	200		U	50		U	500		U	420		U	500		U	500		U	330	4.6		0.2		U	620		U	250
Bromodichloromethane	2.1		U	200		U	50		U	500		U	420		U	500		U	500		U	330	ND		0.3		U	620		U	250
Bromoform	0.0083		U	200		U	50		U	500		U	420		U	500		U	500		U	330	ND		0.7		U	620		U	250
Bromomethane	20		U	400		U	100		U	1000		U	420		U	500		U	500		U	330	ND		0.5		U	1200		U	500
Carbon disulfide	560		U	200		U	50		U	500		U	420		U	500		U	500		U	330	1.2	J	0.6		U	620		U	250
Carbon tetrachloride	5		U	200		U	50		U	500		U	420		U	500		U	500		U	330	ND		0.5		U	620		U	250
Chlorobenzene	390		U	200		U	50		U	500		U	420		U	500		U	500		U	330	ND		0.5		U	620		U	250
Chloroethane	28000		U	400		U	100		U	1000		U	420		U	500		U	500		U	330	0.96	J	0.5		U	1200		U	500
Chloroform	80		U	200		U	50		U	500		U	420		U	500		U	500		U	330	3.6	U	0.7		U	620		U	250
Chloromethane	6.7		U	400		U	100		U	1000		U	420		U	500		U	500		U	330	ND		0.6		U	1200		U	500
Dibromochloromethane	3.2		U	200		U	50		U	500		U	420		U	500		U	500		U	330	ND		0.7		U	620		U	250
Ethylbenzene	700	140	J	200	340		50	280	J	500	270	J			U	500		U	500		U	330	4.8		0.5	2300		620	2800		250
Hexane	2.9		U	200		U	50		U	500		U	420		U	2500		U	2500		U	330	ND		0.6		U	620		U	250
Isobutyl alcohol	2200000		U	10000		U	5		U	5		U	21000		U	25000		U	25000		U	17000	NA				NA			NA	
Methylene chloride	5	7100	B	200	13000	D	500	12000		500	14000			14000			14000			11000	B		11300	U	0.7		U	620		U	250
Styrene	100		U	200		U	50		U	500		U	420		U	500		U	500		U	330	ND		0.5		U	620		U	250
Tetrachloroethene	5	250		200	530		50	520		500	440			520			390	J		330			437		0.7		U	620		U	250
Toluene	1000		UJ	200		U	50		U	500		U	420		U	500		U	500		U	330	2.4		0.5		U	620		U	250
Trichloroethene (TCE)	5	520		200	1300		50	1200		500	1000			950			910			620			876		0.6		U	620		U	250
Vinyl acetate	9600		NA			NA			U			NA			NA			NA			NA		NA				U	1200		U	250
Vinyl chloride	2		U	400	32	J	100		U	1000		U	420		U	500		U	500		U	330	27.7		0.3		U	1200		U	500
Xylenes (total)	10000	140	J	200	290		100		U	1000		U	420		U	500		U	500		U	330	4.3	J	1.1	8600		620	9800		250
cis-1,2-Dichloroethene	70	260		200	710		25	670		250	580			580			570			410			537		0.8		NA			NA	
cis-1,3-Dichloropropene	0.84		U	200		U	50		U	500		U	420		U	500		U	500		U	330	ND		0.6		U	620		U	250
n-Butanol	NA		U	10000		U	2500		U	25000		U	21000		U	25000		U	25000		U	17000	NA				NA			NA	
tert-Butyl methyl ether	120000		NA			NA			NA			U	2100		U	2500		U	2500		U	1700	NA				NA			NA	
trans-1,2-Dichloroethene	100		U	100		U	25		U	250		U	210		U	250		U	250		U	170	5.9		0.8		NA			NA	
trans-1,3-Dichloropropene	0.84		U	200		U	50		U	500		U	420		U	500		U	500		U	330	ND		0.6		U	620		U	250
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA		NA				NA			NA	
Total VOCs		8637			16780			14820			16678			16420			16090			12927			13623.16			10900			12600		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-13A Result	MW-13A Qualifier	MW-13A Quantitation Limit	MW-13A Result	MW-13A Qualifier	MW-13A Quantitation Limit	MW-13A Result	MW-13A Qualifier	MW-13A Quantitation Limit	MW-13A Result	MW-13A Qualifier	MW-13A Quantitation Limit	MW-13A Result	MW-13A Qualifier	MW-13A Quantitation Limit	MW-13A Result	MW-13A Qualifier	MW-13A Detection Limit	MW-13A Result	MW-13A Qualifier	MW-13A Detection Limit	MW-13A Result	MW-13A Qualifier	MW-13A Detection Limit	MW-13A Result	MW-13A Qualifier	MW-13A Detection Limit	MW-13A Result	MW-13A Qualifier	MW-13A Detection Limit
			June 1997			December 1998			May 1999			August 1999			December 1999			April 2001			May 2002			May 2003			May 2004			May 2007	
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.4
1,1,2,2-Tetrachloroethane	3		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.5
1,1,2-Trichloroethane	5		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.7
1,1-Dichloroethane	2200	1.7	J	5	2	J	1	1.3	J	1.7	1.3	J	4	1.3		1	1.8		1	0.8	J		0.4	J		0.36	J		ND		0.5
1,1-Dichloroethene	7		U	5		U	1		U	1.7		U	4		U	1	1		1		U	1		U	1		U	1	ND		0.7
1,2-Dichloroethane	5		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.5
1,2-Dichloroethene	180	1.3	J	5		NA			NA			NA			NA			NA			NA			NA			NA		NA		
1,2-Dichloropropane	5		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.6
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA		2		1		NA			NA			NA		NA		
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			U	1		NA			NA			NA		NA		
2-Butanone (MEK)	440000		U	20		U	5	3.4	J	8.3		U	20		U	5		U	5		U	5		U	5		U	5	ND		3.0
2-Hexanone	NA		U	20		U	5		U	8.3		U	20		U	5		U	5		U	5		U	5		U	5	ND		1.9
4-Methyl-2-pentanone (MIBK)	14000		U	20		U	5		U	8.3		U	20		U	5		U	5		U	5		U	5		U	5	ND		7.3
Acetone	220000	4.4	JB	20		UJB	10		UJB	17		UJ	40	3.9	J	10	2.6	J	10		U	10		U	10	2.3	J B		7.9	UJ	2.8
Benzene	5	3.8	J	5	**6**	J	1	4.8		1.7	**6.3**		4	**6.6**		1	3		1	**5.5**			4.5			4.5			5.2		0.2
Bromodichloromethane	2.1		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.3
Bromoform	0.0083		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.7
Bromomethane	20		U	10		U	2		U	3.3		U	8		U	2		U	2		U	1		U	1		U	1	ND		0.5
Carbon disulfide	560		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1	1.5				U	1	ND		0.6
Carbon tetrachloride	5		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.5
Chlorobenzene	390		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.5
Chloroethane	28000	2.4	J	10	3	J	2		U	3.3	1.9	J	8	1.4	J	2	1.7	J	2	1.1				U	1	0.52	J		ND		0.5
Chloroform	80		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.7
Chloromethane	6.7		U	10		U	2		U	3.3		U	8		U	2		U	2		U	1		U	1		U	1	ND		0.6
Dibromochloromethane	3.2		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.7
Ethylbenzene	700	13		5	0.5	J	1	5.6		1.7	8.8		4	1.8		1		U	1	3				U	1		U	1	ND		0.5
Hexane	2.9		U	10		NA			U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.6
Isobutyl alcohol	2200000		U	200		NA			U	83		U	200		U	50		U	5		U	50		U	50		U	50	NA		
Methylene chloride	5		U	5		UB	2		UJ	1.7		UJB	4		UJB	1		U	1	0.44	J		0.39	J			U	1	ND		0.7
Styrene	100		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.5
Tetrachloroethene	5		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.7
Toluene	1000		U	5	67	JD	1		U	1.7		UJ	4	0.68	J	1		U	1		U	1		U	1	0.41	J		ND		0.5
Trichloroethene (TCE)	5		U	5		U	1		U	1.7		U	4	0.15	J	1	2.4		1		U	1		U	1		U	1	ND		0.6
Vinyl acetate	9600		NA			NA			NA			NA			NA			NA			NA			NA			NA		NA		
Vinyl chloride	2		U	10	0.9	J	2		U	3.3	0.58	J	8	0.52	J	2	0.89	J	2	0.35	J			U	1	0.31	J		0.41	J	0.3
Xylenes (total)	10000	350		5	27	J	1	46		1.7	310		4	33		1	2.3		2	17				U	1	1.8			ND		1.1
cis-1,2-Dichloroethene	70		NA		1	J	0.5	0.94	J	1.7	1.2	J	4	0.98	J	1	2.4		0.5	0.61			0.45	J		0.54			ND		0.8
cis-1,3-Dichloropropene	0.84		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.6
n-Butanol	NA		U	200		U	50		U	83		U	200		U	50		U	50		U	50		U	50		U	50	NA		
Tert-Butyl methyl ether	120000		NA			NA			NA			NA			NA			NA			U	5		U	5		U	5	NA		
trans-1,2-Dichloroethene	100		NA			U	0.5		U	0.83		U	2		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8
trans-1,3-Dichloropropene	0.84		U	5		U	1		U	1.7		U	4		U	1		U	1		U	1		U	1		U	1	ND		0.6
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA			NA			NA		NA		
Total VOCs		376.6			107.4			62.04			330.08			50.33			20.09			28.8			7.24			10.74			13.51		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-13B November 1992 Result	Qualifier	Quantitation Limit	MW-13B January 1993 Result	Qualifier	Quantitation Limit	MW-13B June 1997 Result	Qualifier	Quantitation Limit	MW-13B December 1998 Result	Qualifier	Quantitation Limit	MW-13B May 1999 Result	Qualifier	Quantitation Limit	MW-13B August 1999 Result	Qualifier	Quantitation Limit	MW-13B December 1999 Result	Qualifier	Quantitation Limit	MW-13B April 2001 Result	Qualifier	Detection Limit	MW-13B May 2003 Result	Qualifier	Detection Limit	MW-13B May 2004 Result	Qualifier	Detection Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	85		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	*85*		U	*5*		U	*5*		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	5		U	*85*		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	2200		U	85		U	5		U	5	0.2	J	1		U	1	0.11	J	1		U	1		U	1		U	1		U	1
1,1-Dichloroethene	7		U	*85*		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane	5		U	*85*		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethene	180		U	85		U	5		U	5		NA			NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	*85*		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			NA			NA			U	1		NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			NA			NA			U	1		NA			NA	
2-Butanone (MEK)	440000		U	170		U	10		U	20		U	5		U	5		UJ	5		U	5		U	5		U	5		U	5
2-Hexanone	NA		U	170		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	170		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5		U	5
Acetone	220000		U	170		U	10	2.7	JB	20		UJB	10		UJB	10		UJ	10		U	10		U	1		U	10		U	10
Benzene	5		U	*85*		U	5		U	5		U	1		U	1		U	1		U	1		U	*10*		U	1		U	1
Bromodichloromethane	2.1		U	*85*		U	*5*		U	*5*		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromoform	0.0083		U	*85*		U	*5*		U	*5*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*
Bromomethane	20		U	*170*		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	1		U	1
Carbon disulfide	560		U	85		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	5		U	*85*		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chlorobenzene	390		U	85		U	5		U	5		U	1		UJ	1		U	1		U	1		U	1		U	1		U	1
Chloroethane	28000		U	170		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	1		U	1
Chloroform	80		U	*85*		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chloromethane	6.7		U	*170*		U	*10*		U	*10*		U	2		U	2		U	2		U	2		U	2		U	1		U	1
Dibromochloromethane	3.2		U	*85*		U	*5*		U	*5*		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Ethylbenzene	700		U	85		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Hexane	2.9		U	*85*		U	*5*		U	*10*		NA			U	1		U	1		U	1		U	1		U	1		U	1
Isobutyl alcohol	2200000		NA			NA			U	200		NA			U	50		U	50		U	50		U	5		U	50		U	50
Methylene chloride	5	**1900**		*85*	**5.9**		5		U	5		UJB	2		U	1		UJB	1		UJB	1		U	1	**5.6**				U	1
Styrene	100		U	85		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene	5		U	*85*		U	5	1.4	J	5	1	J	1	0.97	J	1	0.74	J	1	0.88	J	1	0.58	J	1	0.94	J		0.79	J	
Toluene	1000		U	85		U	5		U	5	120	JD	1	0.89	J	1		U	1		UJ	1		U	1		U	1	0.43	J	
Trichloroethene (TCE)	5		U	*85*	**7.6**		5	2.5	J	5	2	J	1	1.9		1	1.5		1	1.8		1	1.2		1	2.3			1.1		
Vinyl acetate	9600		U	170		U	5		NA			NA			NA			NA			NA			NA			NA			NA	
Vinyl chloride	2		U	*170*		U	*10*		U	*10*		U	2		U	2		U	2		U	2		U	2		U	1		U	1
Xylenes (total)	10000		U	85		U	5		U	5		U	1		U	1		U	1		U	1		U	2		U	1		U	1
cis-1,2-Dichloroethene	70		NA			NA			NA		0.9	J	0.5	0.57	J	1	0.45	J	1	0.45	J	1		U	0.5	0.78		0.29	J	
cis-1,3-Dichloropropene	0.84		U	*85*		U	*5*		U	*5*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*
n-Butanol	NA		NA			NA			U	200		U	50		U	50		U	50		U	50		U	50		U	50		U	50
tert-Butyl methyl ether	120000		NA			NA			NA			NA			NA			NA			NA			NA			U	5		U	5
trans-1,2-Dichloroethene	100		NA			NA			NA			U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	*85*		U	*5*		U	*5*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*		U	*1*
trans-1,4-Dichloro-2-butene	NA		NA			NA	5		NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		1900			13.5			6.6			124.1			4.33			2.8			3.13			1.78			9.62			2.61	

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed.
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-13B			MW-14(1)			MW-14(1)			MW-14			MW-14			MW-14			MW-14			MW-14D			MW-14			MW-14		
		Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
		May 2007			May 1991			November 1991			November 1992			June 1997			January 1999			May 1999			May 1999 Duplicate			August 1999			December 1999		
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200	ND		0.4		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
1,1,2,2-Tetrachloroethane	3	ND		0.5		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
1,1,2-Trichloroethane	5	ND		0.7		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
1,1-Dichloroethane	2200	ND		0.5		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
1,1-Dichloroethene	7	ND		0.7		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
1,2-Dichloroethane	5	ND		0.5		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
1,2-Dichloroethene	180	NA				U	25		U	5		U	5		U	5		NA			NA			NA			NA			NA	
1,2-Dichloropropane	5	ND		0.6		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
1,2,4-Trimethylbenzene	24	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA	
2-Butanone (MEK)	440000	ND		3.0		U	50		U	10		U	10		U	20		U	5		U	25		U	25		U	5		U	5
2-Hexanone	NA	ND		1.9		U	50		U	10		U	10		U	20		U	5		U	25		U	25		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000	ND		7.3		U	50		U	10		U	10		U	20		U	5		U	25		U	25		U	5		U	5
Acetone	220000	2.9	UJ	2.8		U	50		U	10		U	10	2.7	JB	20		UJB	10		UJ	50		UJ	50		U	10		U	10
Benzene	5	ND		0.2		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Bromodichloromethane	2.1	ND		0.3		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Bromoform	0.0083	ND		0.7		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Bromomethane	20	ND		0.5		U	50		U	10		U	10		U	10		U	2		U	10		U	10		U	2		U	2
Carbon disulfide	560	ND		0.6		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Carbon tetrachloride	5	ND		0.5		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Chlorobenzene	390	ND		0.5		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Chloroethane	28000	ND		0.5		U	50		U	10		U	10		U	10		U	2		U	10		U	10		U	2		U	2
Chloroform	80	ND		0.7		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Chloromethane	6.7	ND		0.6		U	50		U	10		U	10		U	10		U	2		U	10		U	10		U	2		U	2
Dibromochloromethane	3.2	ND		0.7		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Ethylbenzene	700	ND		0.5		U	25		U	5		U	5		U	5	0.3	J	1		U	5		U	5		U	1		U	1
Hexane	2.9	ND		0.6		U		2.2				U	5		U	10		U			U	5		U	5		U	1		U	1
Isobutyl alcohol	2200000	NA				U	1000		U	200		NA			U	200		U	50		U	250		U	250		U	50		U	50
Methylene chloride	5	1.2	UJ	0.7		U	25	3	J	5		U	5		U	5		UJB	2		UJB	5		UJB	5		UJB	1		U	1
Styrene	100	ND		0.5		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Tetrachloroethene	5	0.85	J	0.7		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Toluene	1000	ND		0.5	410		25		U	5		U	5		U	5	0.6	J	1		U	5		U	5		UJ	1		UJ	1
Trichloroethene (TCE)	5	1.3	J	0.6		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
Vinyl acetate	9600	NA				U	50		U	5		U	5		NA			NA			NA			NA			NA			NA	
Vinyl chloride	2	ND		0.3		U	50		U	10		U	10		U	10		U	2		U	10		U	10		U	2		U	2
Xylenes (total)	10000	ND		1.1	7.3	J	25		U	5		U	5		U	5	2		1		U	5		U	5		U	1		U	1
cis-1,2-Dichloroethene	70	ND		0.8		NA			NA			NA			NA			U	0.5		U	5		U	5		U	1		U	1
cis-1,3-Dichloropropene	0.84	ND		0.6		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
n-Butanol	NA	NA				U			U			NA			U	200		U	50		U	250		U	250		U	50		U	50
tert-Butyl methyl ether	120000	NA				NA			U	5		U	5		NA			NA			NA			NA			NA			NA	
trans-1,2-Dichloroethene	100	ND		0.8		NA			NA			NA			NA			U	0.5		U	2.5		U	2.5		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84	ND		0.6		U	25		U	5		U	5		U	5		U	1		U	5		U	5		U	1		U	1
trans-1,4-Dichloro-2-butene	NA	NA				NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		6.25			417.3			5.2			0			2.7			2.9			0			0			0			0		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-14			MW-15(1)			MW-15			MW-15			MW-15			MW-15			MW-15		
		Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit
			April 2001			November 1991			December 1998			May 1999			August 1999			December 1999			April 2001	
VOLATILES (UG/L)																						
1,1,1-Trichloroethane	200		U	1		U	5		U	1		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	5		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	5		U	1		U	5		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	2200		U	1	1.1	J	5	1	J	1		U	1		U	1		U	1	0.53	J	1
1,1-Dichloroethene	7		U	1		U	5		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane	5		U	1		U	5		U	1	0.36	J	1		U	1		U	1		U	1
1,2-Dichloroethene	180		NA		14		5		NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	5		U	1		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24		U	1		NA			NA			NA			NA			NA			U	1
1,3,5-Trimethylebenzene	25		U	1		NA			NA			NA			NA			NA			U	1
2-Butanone (MEK)	440000		U	5		U	10		U	5		U	5		U	5		U	5		U	5
2-Hexanone	NA		U	5		U	10		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	10		U	5		U	5		U	5		U	5		U	5
Acetone	220000		U	10	5.6	J	10		U	10		U	10		U	10		U	10		U	10
Benzene	5		U	1		U	5		U	1		U	1		U	1		U	1		U	1
Bromodichloromethane	2.1		U	1		U	5		U	1		U	1		U	1		U	1		U	1
Bromoform	0.6083		U	1		U	5		U	1		U	1		U	1		U	1		U	1
Bromomethane	20		U	2		U	10		U	2		U	2		U	2		U	2		U	2
Carbon disulfide	560		U	1		U	5		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	5		U	1	3.4	J	5	4		1		U	1		U	1		U	1		U	1
Chlorobenzene	390		U	1		U	5		U	1		U	1		U	1		U	1		U	1
Chloroethane	28000		U	2		U	10		U	2		U	2		U	2		U	2		U	2
Chloroform	80		U	1	7.9		5	4		1		UJ	1	0.21	J	1		UJ	1	2.3		1
Chloromethane	6.7		U	2		U	10		U	2	0.2	J	2		U	2		U	2		U	2
Dibromochloromethane	3.2		U	1		U	5		U	1		U	1		U	1		U	1		U	1
Ethylbenzene	700		U	1		U	5		U	1		U	1		U	1		U	1		U	1
Hexane	2.9		U	1	2				NA			U	1		U	1		U	1		U	1
Isobutyl alcohol	2200000		U	5		U	200		NA			U	50		U	50		U	50		U	5
Methylene chloride	5		U	1	3	J	5		UJB	2		UJB	1		UJB	1		U	1		U	1
Styrene	100		U	1		U	5		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene	5		U	1		U	5		U	1		U	1		U	1		U	1		U	1
Toluene	1000	0.49	J	1		U	5	13		1	0.54	J	1		UJ	1	1		1		U	1
Trichloroethene (TCE)	5		U	1	8.4		5	2		1	0.39	J	1	0.21	J	1	0.27	J	1	1.7		1
Vinyl acetate	9600		NA			NA	5		NA			NA			NA			NA			NA	
Vinyl chloride	2		U	2		U	10	1	J	2		U	2		U	2		U	2		U	2
Xylenes (total)	10000		U	2		U	5		U	1		U	1		U	1		U	1		U	2
cis-1,2-Dichloroethene	70		U	0.5		NA		8		0.5	0.71	J	1	0.52	J	1	0.6	J	1	4.6		0.5
cis-1,3-Dichloropropene	0.84		U	1		U	5		U	1		U	1		U	1		U	1		U	1
n-Butanol	NA		U	50		U			U	50		U	50		U	50		U	50		U	50
tert-Butyl methyl ether	120000		NA			U	5		NA			NA			NA			NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		NA			U	0.5		U	0.5		U	0.5		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	1		U	5		U	1		U	1		U	1		U	1		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA	
Total VOCs		0.49			45.4			33			2.2			0.94			1.87			9.13		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-15 May 2002 Result	Qualifier	Detection Limit	MW-16 November 1992 Result	Qualifier	Quantitation Limit	MW-16 June 1997 Result	Qualifier	Quantitation Limit	MW-16 December 1998 Result	Qualifier	Quantitation Limit	MW-16 May 1999 Result	Qualifier	Quantitation Limit	MW-16 August 1999 Result	Qualifier	Quantitation Limit	MW-16 December 1999 Result	Qualifier	Quantitation Limit	MW-16 April 2001 Result	Qualifier	Detection Limit	MW-16 May 2002 Result	Qualifier	Detection Limit	MW-16 May 2007 Result	Qualifier	Detection Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.4
1,1,2,2-Tetrachloroethane	3		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5
1,1,2-Trichloroethane	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7
1,1-Dichloroethane	2200		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5
1,1-Dichloroethene	7		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7
1,2-Dichloroethane	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5
1,2-Dichloroethene	180		NA			U	5		U	5		NA			NA			NA			NA			NA			NA		NA		
1,2-Dichloropropane	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			NA			NA			U	1		NA		NA		
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			NA			NA			U	1		NA		NA		
2-Butanone (MEK)	440000		U	5		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5	ND		3.0
2-Hexanone	NA		U	5		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5	ND		1.9
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5	ND		7.3
Acetone	220000		U	10		U	10	2.1	J	20		UJB	10		UJB	10		U	10		U	10		U	10		U	10	ND		2.8
Benzene	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1	0.55	J	1		U	1	ND		0.2
Bromodichloromethane	2.1		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.3
Bromoform	0.0083		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7
Bromomethane	20		U	1		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	1	ND		0.5
Carbon disulfide	560		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6
Carbon tetrachloride	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5
Chlorobenzene	390		U	1		U	5		U	5		U	1		UJ	1		U	1		U	1		U	1		U	1	ND		0.5
Chloroethane	28000		U	1		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	1	ND		0.5
Chloroform	80		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7
Chloromethane	6.7		U	1		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	1	ND		0.6
Dibromochloromethane	3.2		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7
Ethylbenzene	700		U	1		U	5		U	5	0.7	J	1	0.2	J	1		U	1		U	1		U	1		U	1	ND		0.5
Hexane	2.9		U	1		U	5	1.7	J	10		NA			U	1		U	1		U	1		U	1		U	1	ND		0.6
Isobutyl alcohol	2200000		U	50		NA			U	200		U	50		U	50		U	50		U	50		U	5		U	50	NA		
Methylene chloride	5		U	1		U	5		U	5		U	2		U	1		UJB	1		U	1		U	1		U	1	ND		0.7
Styrene	100		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5
Tetrachloroethene	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7
Toluene	1000		U	1		U	5		U	5	0.4	J	1	0.53	J	1		U	1		U	1		U	1		U	1	ND		0.5
Trichloroethene (TCE)	5		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6
Vinyl Acetate	9600		NA			U	5		NA			NA			NA			NA			NA			NA			NA		NA		
Vinyl Chloride	2		U	1		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	1	ND		0.3
Xylenes (total)	10000		U	1		U	5		U	5	2		1		U	1		U	1		U	1		U	2		U	1	ND		1.1
cis-1,2-Dichloroethene	70	0.6				NA			NA			U	0.5		U	1		U	1		U	1		U	0.5		U	0.5	ND		0.8
cis-1,3-Dichloropropene	0.84		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6
n-Butanol	NA		U	50		NA			U	200		U	50		U	50		U	50		U	50		U	50		U	50	NA		
tert-Butyl methyl ether	120000		U	5		NA			NA			NA			NA			NA			NA			NA			U	5	NA		
trans-1,2-Dichloroethene	100		U	0.5		NA			NA			U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8
trans-1,3-Dichloropropene	0.84		U	1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA			NA			NA		NA		
Total VOCs		0.6			0			3.8			3.1			0.73			0			0			0.55			0			0		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-17A November 1992			MW-17A June 1997			MW-17A December 1998			MW-17A May 1999			MW-17AD May 1999 Duplicate			MW-17A August 1999			MW-17A December 1999			MW-17A April 2001			MW-17A May 2002			MW-17A May 2003		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	5		U	5	0.5	J	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	2200	7		5		U	5	1	J	1	1.2		1	1.1		1	2.5		1	0.76	J	1		U	1		U	1		U	1
1,1-Dichloroethene	7		U	5		U	5	0.7	J	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane	5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethene	180	5.8		5		U	5		NA			NA			NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	5		U	5		U	1		U	1		U	1	0.26	J	1		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA			NA			NA			NA			U	1		NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA			NA			NA			NA			U	1		NA			NA	
2-Butanone (MEK)	440000		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
2-Hexanone	NA		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
Acetone	220000		U	10		U	20		U	10		UJ	10		UJ	10	4.7	J	10		U	10		U	10		U	10		U	10
Benzene	5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromodichloromethane	2.1		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromoform	0.0083		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromomethane	20		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	2		U	1		U	1
Carbon disulfide	560		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chlorobenzene	390		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chloroethane	28000		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	2		U	1		U	1
Chloroform	80		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chloromethane	6.7		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	2		U	1		U	1
Dibromochloromethane	3.2		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Ethylbenzene	700		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Hexane	2.9		U	5	1.7	J	10		NA			U	1		U	1		U	1		U	1		U	1		U	1		U	1
Isobutyl alcohol	2200000		NA			U	200		U	1		U	50		U	50		U	50		U	50		U	5		U	50		U	50
Methylene chloride	5		U	5	1.3	J	5		UB	2		UJB	1		UJB	1		U	1		U	1		U	1		U	1		U	1
Styrene	100		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene	5		U	5		U	5	2		1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Toluene	1000		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Trichloroethene (TCE)	5		U	5		U	5	2		1		U	1		U	1		U	1		U	1		U	1	0.19	J			U	1
Vinyl Acetate	9600		U	5		NA			NA			NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	2		U	1		U	1
Xylenes (total)	10000		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	2		U	1		U	1
cis-1,2-Dichloroethene	70		NA			NA			U	0.5		U	1		U	1	0.14	J	1		U	1		U	0.5		U	0.5		U	0.5
cis-1,3-Dichloropropene	0.84		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
n-Butanol	NA		U			U	200		U	1		U	50		U	50		U	50		U	50		U	50		U	50		U	50
tert-Butyl methyl ether	120000		NA			NA			NA			NA			NA			NA			NA			NA			U	5		U	5
trans-1,2-Dichloroethene	100		NA			NA			U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		12.8			3			6.2			1.2			1.1			7.6			0.76			0			0.19			0		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-17A Result	MW-17A Qualifier	MW-17A Detection Limit	MW-17A Result	MW-17A Qualifier	MW-17A Detection Limit	MW-17B Result	MW-17B Qualifier	MW-17B Quantitation Limit	MW-17B Result	MW-17B Qualifier	MW-17B Quantitation Limit	MW-17B Result	MW-17B Qualifier	MW-17B Quantitation Limit	MW-17B Result	MW-17B Qualifier	MW-17B Quantitation Limit	MW-17B Result	MW-17B Qualifier	MW-17B Quantitation Limit	MW-17B Result	MW-17B Qualifier	MW-17B Quantitation Limit	MW-17B Result	MW-17B Qualifier	MW-17B Detection Limit	MW-17B Result	MW-17B Qualifier	MW-17B Detection Limit
		May 2004			May 2007			November 1992			June 1997			January 1999			May 1999			August 1999			December 1999			April 2001			May 2002		
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1	ND		0.4		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	1	ND		0.5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	5		U	1	ND		0.7		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	2200		U	1	ND		0.5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethene	7		U	1	ND		0.7		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane	5		U	1	ND		0.5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethene	180		NA		NA				U	5		U	5		NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1	ND		0.6		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24		NA		NA				NA			NA			NA			NA			NA			NA			U	1		NA	
1,3,5-Trimethylebenzene	25		NA		NA				NA			NA			NA			NA			NA			NA			U	1		NA	
2-Butanone (MEK)	440000		U	5	ND		3.0		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5
2-Hexanone	NA		U	5	ND		1.9		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5	ND		7.3		U	10		U	20		U	5		U	5		U	5		U	5		U	5		U	5
Acetone	220000	0.73	J		3.4	U	2.8		U	10		U	20		UJB	10		UJ	10		U	10		U	10		U	10		U	10
Benzene	5		U	1	ND		0.2		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Bromodichloromethane	2.1		U	1	ND		0.3		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Bromoform	0.0083		U	1	ND		0.7		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Bromomethane	20		U	1	ND		0.5		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	1
Carbon disulfide	560		U	1	ND		0.6		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	5		U	1	ND		0.5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Chlorobenzene	390		U	1	ND		0.5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Chloroethane	28000		U	1	ND		0.5		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	1
Chloroform	80		U	1	ND		0.7		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Chloromethane	6.7		U	1	ND		0.6		U	10		U	10		U	2	0.2	J	2		U	2		U	2		U	2		U	1
Dibromochloromethane	3.2		U	1	ND		0.7		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Ethylbenzene	700		U	1	ND		0.5		U	5		U	5	0.3	J	1		U	1		U	1		U	1		U	1		U	1
Hexane	2.9		U	1	ND		0.6		U	5	1.7	J	10		NA			U	1		U	1		U	1		U	1		U	1
Isobutyl alcohol	2200000		U	50	NA				NA			U	200		U	50		U	50		U	50		U	50		U	5		U	50
Methylene chloride	5		U	1	ND		0.7		U	5		U	5		U	2		U	1		UJB	1		U	1		U	1		U	1
Styrene	100		U	1	ND		0.5		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene	5		U	1	ND		0.7		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Toluene	1000		U	1	ND		0.5		U	5		U	5	0.2	J	1		U	1		U	1		UJ	1		U	1		U	1
Trichloroethene (TCE)	5		U	1	ND		0.6		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
Vinyl Acetate	9600		NA		NA				U	5		NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2		U	1	ND		0.3		U	10		U	10		U	2		U	2		U	2		U	2		U	2		U	1
Xylenes (total)	10000		U	1	ND		1.1		U	5		U	5	1		1		U	1		U	1		U	1		U	2		U	1
cis-1,2-Dichloroethene	70		U	0.5	ND		0.8		NA			NA			U	0.5		U	1		U	1		U	1		U	0.5		U	0.5
cis-1,3-Dichloropropene	0.84		U	1	ND		0.6		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
n-Butanol	NA		U	50	NA				NA			U	200		U	50		U	50		U	50		U	50		U	50		U	50
tert-Butyl methyl ether	120000		U	5	NA				U			NA			NA			NA			NA			NA			NA			U	5
trans-1,2-Dichloroethene	100		U	0.5	ND		0.8		NA			NA			U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	1	ND		0.6		U	5		U	5		U	1		U	1		U	1		U	1		U	1		U	1
trans-1,4-Dichloro-2-butene	NA		NA		NA				NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		0.73			3.4			0			1.7			1.5			0.2			0			0			0			0		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-17B May 2003			MW-17BD May 2003 Duplicate			MW-17B May 2004			MW-17BD May 2004 Duplicate			MW-17B May 2007			MW-17B-DUP May 2007 Duplicate			MW-18 November 1992			MW-18 June 1997			MW-18D June 1997 - Duplicate			MW-18 December 1998		
		Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1		U	1		U	1		U	1	ND		0.4	ND		0.4		U	5		U	5		U	5		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	5		U	5		U	5		U	1
1,1,2-Trichloroethane	5		U	1		U	1		U	1		U	1	ND		0.7	ND		0.7		U	5		U	5		U	5		U	1
1,1-Dichloroethane	2200		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	5		U	5		U	5		U	1
1,1-Dichloroethene	7		U	1		U	1		U	1		U	1	ND		0.7	ND		0.7		U	5		U	5		U	5		U	1
1,2-Dichloroethane	5		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	5		U	5		U	5		U	1
1,2-Dichloroethene	180		NA			NA			NA			NA		NA			NA				U	5		U	5		U	5		NA	
1,2-Dichloropropane	5		U	1		U	1		U	1		U	1	ND		0.6	ND		0.6		U	5		U	5		U	5		U	1
1,2,4-Trimethylbenzene	24		NA			NA			NA			NA		NA			NA				NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			NA		NA			NA				NA			NA			NA			NA	
2-Butanone (MEK)	440000		U	5		U	5		U	5		U	5	ND		3.0	ND		3.0		U	10		U	20		U	20		U	5
2-Hexanone	NA		U	5		U	5		U	5		U	5	ND		1.9	ND		1.9		U	10		U	20		U	20		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5		U	5		U	5	ND		7.3	ND		7.3		U	10		U	20		U	20		U	5
Acetone	220000		U	10		U	10	0.75	J			U	10	ND		2.8	ND		2.8		U	10	3	JB	20	3.3	JB	20		U	10
Benzene	5		U	1		U	1		U	1		U	1	ND		0.2	ND		0.2		U	5		U	5		U	5		U	1
Bromodichloromethane	2.1		U	1		U	1		U	1		U	1	ND		0.3	ND		0.3		U	5		U	5		U	5		U	1
Bromoform	0.0083		U	1		U	1		U	1		U	1	ND		0.7	ND		0.7		U	5		U	5		U	5		U	1
Bromomethane	20		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	10		U	10		U	10		U	2
Carbon disulfide	560		U	1		U	1		U	1		U	1	ND		0.6	ND		0.6		U	5		U	5		U	5		U	1
Carbon tetrachloride	5		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	5		U	5		U	5		U	1
Chlorobenzene	390		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	5		U	5		U	5		U	1
Chloroethane	28000		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	10		U	10		U	10		U	2
Chloroform	80		U	1		U	1		U	1		U	1	ND		0.7	ND		0.7		U	5		U	5		U	5		U	1
Chloromethane	6.7		U	1		U	1		U	1		U	1	ND		0.6	ND		0.6		U	10		U	10		U	10		U	2
Dibromochloromethane	3.2		U	1		U	1		U	1		U	1	ND		0.7	ND		0.7		U	5		U	5		U	5		U	1
Ethylbenzene	700		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	5		U	5		U	5		U	1
Hexane	2.9		U	1		U	1		U	1		U	1	ND		0.6	ND		0.6		U	5		U	10		U	10		U	
Isobutyl alcohol	2200000		U	50		U	50		U	50		U	50	NA			NA				NA			U	200		U	200		U	50
Methylene chloride	5	0.39	J			U	1		U	1		U	1	ND		0.7	ND		0.7		U	5		U	5		U	5		UJB	2
Styrene	100		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	5		U	5		U	5		U	1
Tetrachloroethene	5		U	1		U	1		U	1		U	1	ND		0.7	ND		0.7		U	5		U	5		U	5		U	1
Toluene	1000		U	1		U	1		U	1		U	1	ND		0.5	ND		0.5		U	5		U	5		U	5	3		1
Trichloroethene (TCE)	5		U	1		U	1		U	1		U	1	ND		0.6	ND		0.6		U	5		U	5		U	5		U	1
Vinyl Acetate	9600		NA			NA			NA			NA		NA			NA				U	5		NA			NA			NA	
Vinyl Chloride	2		U	1		U	1		U	1		U	1	ND		0.3	ND		0.3		U	10		U	10		U	10		U	2
Xylenes (total)	10000		U	1		U	1		U	1		U	1	ND		1.1	ND		1.1		U	5		U	5		U	5	2		1
cis-1,2-Dichloroethene	70		U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8	ND		0.8		NA			NA			NA			U	0.5
cis-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1	ND		0.6	ND		0.6		U	5		U	5		U	5		U	1
n-Butanol	NA		U	50		U	50		U	50		U	50	NA			NA				NA			U	200		U	200		U	100
tert-Butyl methyl ether	120000		U	5		U	5		U	5		U	5	NA			NA				NA			NA			NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8	ND		0.8		NA			NA			NA			U	0.5
trans-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1	ND		0.6	ND		0.6		U	5		U	5		U	5		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA		NA			NA				NA			NA			NA			NA	
Total VOCs		0.39			0			0.75			0			0			0				0			3			3.3			5	

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-18 May 1999 Result	Qualifier	Quantitation Limit	MW-18 August 1999 Result	Qualifier	Quantitation Limit	MW-18 December 1999 Result	Qualifier	Quantitation Limit	MW-18 April 2001 Result	Qualifier	Detection Limit
VOLATILES (UG/L)													
1,1,1-Trichloroethane	200		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	5		U	1		U	1		U	1		U	1
1,1-Dichloroethane	2200		U	1		U	1		U	1		U	1
1,1-Dichloroethene	7		U	1		U	1		U	1		U	1
1,2-Dichloroethane	5		U	1		U	1		U	1		U	1
1,2-Dichloroethene	180		NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA			NA			U	1
1,3,5-Trimethylebenzene	25		NA			NA			NA			U	1
2-Butanone (MEK)	440000		U	5		U	5		U	5		U	5
2-Hexanone	NA		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5		U	5		U	5
Acetone	220000		U	10		U	10		UJ	10		U	10
Benzene	5		U	1		U	1		U	1		U	1
Bromodichloromethane	2.1		U	1		U	1		U	1		U	1
Bromoform	0.0083		U	1		U	1		U	1		U	1
Bromomethane	20		U	2		U	2		U	2		U	2
Carbon disulfide	560		U	1		U	1		U	1		U	1
Carbon tetrachloride	5		U	1		U	1		U	1		U	1
Chlorobenzene	390		UJ	1		U	1		U	1		U	1
Chloroethane	28000		U	2		U	2		U	2		U	2
Chloroform	80		U	1		U	1		U	1		U	1
Chloromethane	6.7		U	2		U	2		U	2		U	2
Dibromochloromethane	3.2		U	1		U	1		U	1		U	1
Ethylbenzene	700		U	1		U	1		U	1		U	1
Hexane	2.9		U	1		U	1		U	1		U	1
Isobutyl alcohol	2200000		U	50		U	50		U	50		U	5
Methylene chloride	5		UJB	1		UJB	1		U	1		U	1
Styrene	100		U	1		U	1		U	1		U	1
Tetrachloroethene	5		U	1		U	1		U	1		U	1
Toluene	1000		U	1		U	1		UJ	1		U	1
Trichloroethene (TCE)	5		U	1		U	1		U	1		U	1
Vinyl Acetate	9600		NA			NA			NA			NA	
Vinyl Chloride	2		U	2		U	2		U	2		U	2
Xylenes (total)	10000		U	1		U	1		U	1		U	2
cis-1,2-Dichloroethene	70		U	1		U	1		U	1		U	0.5
cis-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1
n-Butanol	NA		U	50		U	50		U	50		U	50
tert-Butyl methyl ether	120000		NA			NA			NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	0.5		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA	
Total VOCs		0			0			0			0		

	MW-19 December 1998 Result	Qualifier	Quantitation Limit	MW-19 May 1999 Result	Qualifier	Quantitation Limit	MW-19 August 1999 Result	Qualifier	Quantitation Limit	MW-19 December 1999 Result	Qualifier	Quantitation Limit	MW-19 April 2001 Result	Qualifier	Detection Limit	MW-19 May 2002 Result	Qualifier	Detection Limit
VOLATILES (UG/L)																		
1,1,1-Trichloroethane		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	0.3	J	1	0.24	J	1	0.35	J	1	0.22	J	1	0.32	J	1	0.39	J	
1,1-Dichloroethene		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethene		NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane		U	1		U	1		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene		NA			NA			NA			NA			U	1		NA	
1,3,5-Trimethylebenzene		NA			NA			NA			NA			U	1		NA	
2-Butanone (MEK)		U	5		U	5	7.7		5		U	5		U	5		U	5
2-Hexanone		U	5		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)		U	5		U	5		U	5		U	5		U	5		U	5
Acetone		U	10		U	10		UJ	10		U	10		U	10		U	10
Benzene		U	1		U	1		U	1		U	1		U	1		U	1
Bromodichloromethane		U	1		U	1		U	1		U	1		U	1		U	1
Bromoform		U	1		U	1		U	1		U	1		U	1		U	1
Bromomethane		U	2		U	2		U	2		U	2		U	2		U	1
Carbon disulfide		U	1		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	0.3	J	1	0.55	J	1	0.39	J	1	0.25	J	1		U	1	0.56	J	
Chlorobenzene		U	1		UJ	1		U	1		U	1		U	1		U	1
Chloroethane		U	2		U	2		U	2		U	2		U	2		U	1
Chloroform		U	1		UJ	1	0.18	J	1		UJ	1		U	1		U	1
Chloromethane		U	2		UJ	2		U	2		U	2		U	2		U	1
Dibromochloromethane		U	1		U	1		U	1		U	1		U	1		U	1
Ethylbenzene		U	1		U	1		U	1		U	1		U	1		U	1
Hexane		NA			U	1		U	1		U	1		U	1		U	1
Isobutyl alcohol		U	1		U	50		U	50		U	50		U	5		U	50
Methylene chloride		UJB	2		UJB	1		UJB	1		U	1		U	1		U	1
Styrene		U	1		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene		U	1		U	1		U	1		U	1		U	1		U	1
Toluene		U	1	0.14	J	1		UJ	1		UJ	1		U	1		U	1
Trichloroethene (TCE)		U	1		U	1	0.16	J	1	0.12	J	1		U	1	0.15	J	
Vinyl Acetate		NA			NA			NA			NA			NA			NA	
Vinyl Chloride		U	2		U	2		U	2		U	2		U	2		U	1
Xylenes (total)		U	1		U	1		U	1		U	1		U	1		U	1
cis-1,2-Dichloroethene	0.2	J	0.5	0.16	J	1	0.17	J	1	0.14	J	1		U	0.5		U	0.5
cis-1,3-Dichloropropene		U	1		U	1		U	1		U	1		U	1		U	1
n-Butanol		U	1		U	50		U	50		U	50		U	50		U	50
tert-Butyl methyl ether		NA			NA			NA			NA			NA			U	5
trans-1,2-Dichloroethene		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5
trans-1,3-Dichloropropene		U	1		U	1		U	1		U	1		U	1		U	1
trans-1,4-Dichloro-2-butene		NA			NA			NA			NA			NA			NA	
Total VOCs	0.8			1.09			8.95			0.73			0.32			1.1		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exeeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-19 May 2003 Result	MW-19 May 2003 Qualifier	MW-19 May 2003 Detection Limit	MW-19 May 2004 Result	MW-19 May 2004 Qualifier	MW-19 May 2004 Detection Limit	MW-19 May 2007 Result	MW-19 May 2007 Qualifier	MW-19 May 2007 Detection Limit	MW-20 June 1997 Result	MW-20 June 1997 Qualifier	MW-20 June 1997 Quantitation Limit	MW-20 October 1997 Result	MW-20 October 1997 Qualifier	MW-20 October 1997 Quantitation Limit	MW-20 December 1998 Result	MW-20 December 1998 Qualifier	MW-20 December 1998 Quantitation Limit	MW-20 January 1999 Result	MW-20 January 1999 Qualifier	MW-20 January 1999 Quantitation Limit	MW-20 December 1998 Result	MW-20 December 1998 Qualifier	MW-20 December 1998 Quantitation Limit	MW-20 May 1999 Result	MW-20 May 1999 Qualifier	MW-20 May 1999 Quantitation Limit	MW-20 August 1999 Result	MW-20 August 1999 Qualifier	MW-20 August 1999 Quantitation Limit
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1		U	1	ND		0.4		U	170		U	250		UJ	1		U	0		U	5		U	12		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	1	ND		0.5		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
1,1,2-Trichloroethane	5		U	1		U	1	ND		0.7		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
1,1-Dichloroethane	2200	0.47	J		0.38	J		0.6	J	0.5		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
1,1-Dichloroethene	7		U	1		U	1	ND		0.7		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
1,2-Dichloroethane	5		U	1		U	1	ND		0.5		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
1,2-Dichloroethene	180		NA			NA		NA				U	170		U	250		NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	1	ND		0.6		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
1,2,4-Trimethylbenzene	24		NA			NA		NA				NA			NA			NA			NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA		NA				NA			NA			NA			NA			NA			NA			NA	
2-Butanone (MEK)	440000		U	5		U	5	ND		3.0		U	670		U	1000		UJ	5		U	5	17	BDJ	25		U	62		U	5
2-Hexanone	NA		U	5		U	5	ND		1.9		U	670		U	1000		UJ	5		U	5		U	25		U	62		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5	ND		7.3		U	670		U	1000		UJ	5		U	5		U	25		U	62		U	5
Acetone	220000		U	10		U	10	ND		2.8	59	JB	670		U	1000		UJB	10		UJB	10	57	BD	50		UJB	120		U	10
Benzene	5		U	1		U	1	0.49	J	0.2		U	170		U	250	3	J	1	2		1	2	DJ	5	3	J	12	2.6		1
Bromodichloromethane	2.1		U	1		U	1	ND		0.3		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
Bromoform	0.0083		U	1		U	1	ND		0.7		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
Bromomethane	20		U	1		U	1	ND		0.5		U	330		U	500		UJ	2		U	2		U	10		U	25		U	2
Carbon disulfide	560		U	1		U	1	ND		0.6		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
Carbon tetrachloride	5	0.42	J		0.18	J		ND		0.5		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
Chlorobenzene	390		U	1		U	1	ND		0.5		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
Chloroethane	28000		U	1		U	1	ND		0.5		U	330		U	500		UJ	2		U	2		U	10		U	25		U	2
Chloroform	80		U	1		U	1	ND		0.7		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
Chloromethane	6.7		U	1		U	1	ND		0.6		U	330		U	500		UJ	2		U	2		U	10		U	25		U	2
Dibromochloromethane	3.2		U	1		U	1	ND		0.7		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
Ethylbenzene	700		U	1		U	1	ND		0.5	**6200**		170	**3700**		250	55	JD	1	19		1	55	D	5	300		12	16		1
Hexane	2.9		U	1		U	1	ND		0.6		U	330		U	500		U			NA			NA			U	12		U	1
Isobutyl alcohol	2200000		U	50		U	50	NA				U	6700		U	10000		UJ	1		U	50		U	5		U	620		U	50
Methylene chloride	5	0.43	J			U	1	ND		0.7	**34**	J	170		U	250		UJB	2		U	2	**17**	BD	10		UJB	12		UJB	1
Styrene	100		U	1		U	1	ND		0.5		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
Tetrachloroethene	5		U	1		U	1	ND		0.7		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
Toluene	1000		U	1	0.19	J		ND		0.5	**2300**		170	**1200**		250	1	J	1	4		1	1	DJ	5	30		12		UJ	1
Trichloroethene (TCE)	5		U	1		U	1	ND		0.6		U	170		U	250	0.2	J	1		U	1		U	5		U	12		U	1
Vinyl Acetate	9600		NA			NA		NA				NA			NA			NA			NA			NA			NA			NA	
Vinyl Chloride	2		U	1		U	1	ND		0.3		U	330		U	500		UJ	2		U	2		U	10		U	25		U	2
Xylenes (total)	10000		U	1		U	1	ND		1.1	**13000**		170	7600		250	72	JD	1	39		1	72	D	5	530		12	41		1
cis-1,2-Dichloroethene	70		U	0.5		U	0.5	ND		0.8		NA			NA			UJ	0.5		U	0.5		U	2		U	12	0.2	J	1
cis-1,3-Dichloropropene	0.84		U	1		U	1	ND		0.6		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
n-Butanol	NA		U	50		U	50	NA				U	6700		U	10000		UJ	1		U	50		U	5		U	620		U	50
tert-Butyl methyl ether	120000		U	5		U	5	NA				NA			U	1000		UJ			NA			NA			NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	0.5	ND		0.8		NA			NA			UJ	0.5		U	0.5		U	2		U	6.2		U	0.5
trans-1,3-Dichloropropene	0.84		U	1		U	1	ND		0.6		U	170		U	250		UJ	1		U	1		U	5		U	12		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA		NA				NA			NA			NA			NA			NA			NA			NA	
Total VOCs		1.32			0.75			1.09			21593			12500			131.2			64			221			863			59.8		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-20 December 1999			MW-20D December 1999 - Duplicate			MW-20 April 2001			MW-20 May 2002			MW-20 May 2003			MW-20 May 2004			MW-20 May 2007			MW-21 June 1997			MW-21 December 1998		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
VOLATILES (UG/L)																												
1,1,1-Trichloroethane	200		U	1		U	1		U	5		U	1	1.4	J			U	1	ND	U	0.4		U	5		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	1		U	5		U	1		U	2.5		U	1	ND	U	0.5		U	5		U	1
1,1,2-Trichloroethane	5		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.7		U	5		U	1
1,1-Dichloroethane	2200		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.5		U	5		U	1
1,1-Dichloroethene	7		U	1		U	1		U	5		U	1	1.2	J			U	1	ND		0.7		U	5	0.3	J	1
1,2-Dichloroethane	5		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.5		U	5		U	1
1,2-Dichloroethene	180		NA			NA			NA			NA			NA			NA		NA				U	5		NA	
1,2-Dichloropropane	5		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.6		U	5		U	1
1,2,4-Trimethylbenzene	24		NA			NA			U	5		NA			NA			NA		NA				NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA			U	5		NA			NA			NA		NA				NA			NA	
2-Butanone (MEK)	440000		U	5		U	5		U	25		U	5		U	12		U	5	ND		3.0		U	20		U	5
2-Hexanone	NA		U	5		U	5		U	25		U	5		U	12		U	5	ND		1.9		U	20		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5		U	25		U	5		U	12		U	5	ND		7.3		U	20		U	5
Acetone	220000		U	10		U	10		U	50		U	1		U	25		U	10	ND		2.8	1.2	JB	20		UJB	10
Benzene	5	1		1	1.1		1		U	5	0.25	J			U	2.5		U	1	ND		0.2		U	5		U	1
Bromodichloromethane	2.1		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.3		U	5		U	1
Bromoform	0.0083		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.7		U	5		U	1
Bromomethane	20		U	2		U	2		U	10		U	1		U	2.5		U	1	ND		0.5		U	10		U	2
Carbon disulfide	560		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.6		U	5		U	1
Carbon tetrachloride	5		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.5		U	5		U	1
Chlorobenzene	390		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.5		U	5		U	1
Chloroethane	28000		U	2		U	2		U	10		U	1		U	2.5		U	1	ND		0.5		U	10		U	2
Chloroform	80		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.7		U	5	0.3	J	1
Chloromethane	6.7		U	2		U	2		U	10		U	1		U	2.5		U	1	ND		0.6		U	10		U	2
Dibromochloromethane	3.2		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.7		U	5		U	1
Ethylbenzene	700	7.5		1	7.3		1	300	D	10	0.2	J			U	2.5	1.3			ND		0.5		U	5		U	1
Hexane	2.9		U	1		U	1	0.58	J	5		U	1		U	2.5		U	1	ND		0.6		U	10		NA	
Isobutyl alcohol	2200000		U	50		U	50		U	5		U	50		U	120		U	50	NA				U	200		U	1
Methylene chloride	5		U	1		U	1		U	5		U	1	9.4				U	1	ND		0.7		U	5		UJB	2
Styrene	100		U	1		U	1		U	5		U	1		U	2.5	0.81	J		ND		0.5		U	5		U	1
Tetrachloroethene	5		U	1		U	1		U	5	0.46	J		2	J			U	1	ND		0.7		U	5		U	1
Toluene	1000	7		1	7		1	190		5		U	1		U	2.5	0.67	J		ND		0.5		U	5	0.7	J	1
Trichloroethene (TCE)	5		U	1		U	1		U	5	0.68	J		5.7				U	1	ND		0.6	2	J	5	0.8	J	1
Vinyl Acetate	9600		NA			NA			NA			NA			NA			NA		NA				NA			NA	
Vinyl Chloride	2		U	2		U	2		U	10		U	1		U	2.5		U	1	ND		0.3		U	10		U	2
Xylenes (total)	10000	20		1	19		1	640		10	1.3				U	2.5	4			ND		1.1		U	5		U	1
cis-1,2-Dichloroethene	70	0.11	J	1		U	1		U	2.5		U	0.5		U	1.2		U	0.5	ND		0.8		NA			U	0.5
cis-1,3-Dichloropropene	0.84		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.6		U	5		U	1
n-Butanol	NA		U	50		U	50		U	250		U	50		U	120		U	50	NA				U	200		U	1
tert-Butyl methyl ether	120000		NA			NA			NA			U	5		U	12		U	5	NA				NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	0.5		U	2.5		U	0.5		U	1.2		U	0.5	ND		0.8		NA			U	0.5
trans-1,3-Dichloropropene	0.84		U	1		U	1		U	5		U	1		U	2.5		U	1	ND		0.6		U	5		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA		NA				NA			NA	
Total VOCs		35.61			34.4			1130.58			2.89			19.7			6.78			0			3.2			2.1		

Notes:

B - Compound detected in method blank.

D - Concentration detected in diluted analyses.

E - Concentration above instrument calibration range.

J - Concentration is estimated or detected below reporting limit.

NA - Not Analyzed

U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.

(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-21			MW-21			MW-21			MW-21			MW-22			MW-22			MW-22			MW-22D			MW-22			MW-22			MW-23A			MW-23A		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
		May 1999			August 1999			December 1999			April 2001			January 1999			May 1999			August 1999			August 1999 - Duplicate			December 1999			April 2001			January 1999			May 1999		
VOLATILES (UG/L)																																					
1,1,1-Trichloroethane	200		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	2200		U	1		U	1		U	1		U	1		U	1		U	1		U	1	0.1	J	1		U	1		U	1		U	1		U	1
1,1-Dichloroethene	7		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane	5		UJ	1		U	1		U	1		U	1		U	1	0.29	J	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethene	180		NA			NA			NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA			NA			U	1		NA			NA			NA			NA			NA			U	1		NA			NA	
1,3,5-Trimethylebenzene	25		NA			NA			NA			U	1		NA			NA			NA			NA			NA			U	1		NA			NA	
2-Butanone (MEK)	440000		U	5		U	5		UJ	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
2-Hexanone	NA		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
Acetone	220000		UJB	10		UJ	10		U	10		U	10		UJB	10		UJB	10		U	10		UJ	10		U	10		U	10		UJB	10		UJ	10
Benzene	5	0.27	J	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromodichloromethane	2.1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromoform	0.0083		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromomethane	20		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Carbon disulfide	560		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chlorobenzene	390		UJ	1		U	1		U	1		U	1		U	1	0.28	J	1		U	1		U	1		U	1		U	1		U	1		U	1
Chloroethane	28000		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Chloroform	80		U	1		U	1		U	1		U	1		UJ	1		UJ	1		U	1		U	1		U	1		U	1		U	1		U	1
Chloromethane	6.7		U	2		U	2		U	2		U	2		U	2	0.32	J	2		U	2		U	2		U	2		U	2		U	2		UJ	2
Dibromochloromethane	3.2		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Ethylbenzene	700		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1	0.6	J	1		U	1
Hexane	2.9		U	1		U	1		U	1		U	1		NA			U	1		U	1		U	1		U	1		U	1		NA			U	1
Isobutyl alcohol	2200000		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	5		U	50		U	50
Methylene chloride	5		U	1		UJB	1		U	1		U	1		UJB	2		UJB	1		UJB	1		UJB	1		U	1		U	1		U	2		U	1
Styrene	100		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene	5		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Toluene	1000	0.59	J	1		U	1		UJ	1		U	1	6		1		UJ	1		UJ	1		UJ	1		UJ	1		U	1	0.5	J	1		U	1
Trichloroethene (TCE)	5	0.37	J	1	0.2	J	1	0.15	J	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Vinyl acetate	9600		NA			NA			NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Vinyl chloride	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Xylenes (total)	10000		U	1		U	1		U	1		U	2		U	1		U	1		U	1		U	1		U	1		U	2	1		1		U	1
cis-1,2-Dichloroethene	70		U	1		U	1		U	1		U	0.5	0.6		0.5	0.94	J	1	1.7		1	1.7		1	0.82	J	1	1.3		0.5		U	0.5		U	1
1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
2-Butanol	NA		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
tert-Butyl methyl ether	120000		NA			NA			NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
trans-1,2-Dichloroethene	160		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA			NA			NA			NA			NA			NA			NA	
Total VOCs		1.23			0.2			0.15			0			6.6			1.83			1.7			1.8			0.82			1.3			2.1			0		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

C:\Documents and Settings\dlbrinkley\Application Data\Microsoft\Excel\
VIEvaluationReportTables (version 1).xls, MW21-P5

Prepared by: KJC
Checked by: JHP
10/2/2007

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-23A			MW-23A			MW-23A			MW-23A			MW-23A			MW-23A			MW-23A			MW-23B			MW-23B			MW-23B			MW-23B			MW-23B		
		Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Detection Limit
		August 1999			December 1999			April 2001			May 2002			May 2003			May 2004			May 2007			January 1999			May 1999			August 1999			December 1999			April 2001		
VOLATILES (UG/L)																																					
1,1,1-Trichloroethane	200		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.4		U	1		U	1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	3		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	2200		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethene	7		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethene	180		NA			NA			NA			NA			NA			NA		NA				NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		U	1
1,2,4-Trimethylbenzene	24		NA			NA			U	1		NA			NA			NA		NA				NA			NA			NA			NA			U	1
1,3,5-Trimethylebenzene	25		NA			NA			U	1		NA			NA			NA		NA				NA			NA			NA			NA			U	1
2-Butanone (MEK)	440000		U	5		U	5		U	5		U	5		U	5		U	5	ND		3.0		U	5		U	5		U	5		U	5		U	5
2-Hexanone	NA		U	5		U	5		U	5		U	5		U	5		U	5	ND		1.9		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone (MIBK)	14000		U	5		U	5		U	5		U	5		U	5		U	5	ND		7.3		U	5		U	5		U	5		U	5		U	5
Acetone	220000		UJ	10		U	10	13		10		U	10	3	J			U	10	7.4	J	2.8		UJB	10	23		10		U	10		U	10		U	10
Benzene	5	0.11	J	1	0.15	J	1		U	1		U	1		U	1		U	1	ND		0.2		U	1		U	1		U	1		U	1		U	1
Bromodichloromethane	2.1		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.3		U	1		U	1		U	1		U	1		U	1
Bromoform	0.0083		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		U	1
Bromomethane	20		U	2		U	2		U	2		U	1		U	1		U	1	ND		0.5		U	2		U	2		U	2		U	2		U	2
Carbon disulfide	560		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		U	1
Chlorobenzene	390		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	1		UJ	1		U	1		U	1		U	1
Chloroethane	28000		U	2		U	2		U	2		U	1		U	1		U	1	ND		0.5		U	2		U	2		U	2		U	2		U	2
Chloroform	80		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		U	1
Chloromethane	6.7		U	2		U	2		U	2	0.16	J			U	1		U	1	ND		0.6	0.3	J	2		UJ	2		U	2		U	2		U	2
Dibromochloromethane	3.2		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		U	1
Ethylbenzene	700		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		U	1
Hexane	2.9		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		NA			U	1		U	1		U	1		U	1
Isobutyl alcohol	2200000		U	50		U	50		U	5		U	50		U	50		U	50	NA				U	50		U	50		U	50		U	50		U	5
Methylene chloride	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	2		UJB	1		U	1		U	1		U	1
Styrene	100		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		U	1
Toluene	1000		UJ	1		UJ	1		U	1		U	1		U	1		U	1	ND		0.5	0.4	J	1		UJB	1		U	1		U	1		U	1
Trichloroethene (TCE)	5		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		U	1
Vinyl acetate	9600		NA			NA			NA			NA			NA			NA		NA				NA			NA			NA			NA			NA	
Vinyl chloride	2		U	2		U	2		U	2		U	1		U	1		U	1	ND		0.3		U	2		U	2		U	2		U	2		U	2
Xylenes (total)	10000		U	1		U	1		U	2		U	1		U	1		U	1	ND		1.1	0.7	J	1		U	1		U	1		U	1		U	2
cis-1,2-Dichloroethene	70		U	1		U	1		U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8		U	0.5		U	1		U	1		U	1		U	0.5
cis-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		U	1
n-Butanol	NA		U	50		U	50		U	50		U	50		U	50		U	50	NA				U	50		U	50		U	50		U	50		U	50
tert-Butyl methyl ether	120000		NA			NA			NA			U	5		U	5		U	5	NA				NA			NA			NA			NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8		U	0.5		U	0.5		U	0.5		U	0.5		U	0.5
trans-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		U	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA			NA			NA		NA				NA			NA			NA			NA			NA	
Total VOCs		0.11			0.15			13			0.16			3			0			7.4			1.4			23			0			0			0		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed.
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

- Exceeds Vapor Intrusion Screening Value

Table 3-2
Comparison of VOC Groundwater Results by Monitoring Well to Vapor Intrusion Screening Values
Former Sheller-Globe Facility
3200 Main Street, Keokuk, Iowa

	Vapor Intrusion Screening Value	MW-23BD			MW-23B			MW-23B			MW-23B			MW-23B			P-1			P-2			P-3			P-4			P-5		
		Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Detection Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit	Result	Qualifier	Quantitation Limit
		April 2001 Duplicate			May 2002			May 2003			May 2004			May 2007			January 1999			January 1999			January 1999			January 1999			January 1999		
VOLATILES (UG/L)																															
1,1,1-Trichloroethane	200		U	1		U	1		U	1		U	1	ND		0.4		U	1		U	1		U	1		U	1		UJ	1
1,1,2,2-Tetrachloroethane	3		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		UJ	1
1,1,2-Trichloroethane	5		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		UJ	1
1,1-Dichloroethane	2200		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1	0.4	J	1	0.8	J	1
1,1-Dichloroethene	7		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		UJ	1
1,2-Dichloroethane	5		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		UJ	1
1,2-Dichloroethene	180		NA			NA			NA			NA		NA				NA			NA			NA			NA			NA	
1,2-Dichloropropane	5		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		UJ	1
1,2,4-Trimethylbenzene	24		U	1		NA			NA			NA		NA				NA			NA			NA			NA			NA	
1,3,5-Trimethylebenzene	25		U	1		NA			NA			NA		NA				NA			NA			NA			NA			NA	
2-Butanone (MEK)	440000		U	5	2.1	J			U	5		U	5	ND		3.0		U	5		U	5		U	5		U	5		UJ	5
2-Hexanone	NA		U	5		U	5		U	5		U	5	ND		1.9		U	5		U	5		U	5		U	5		UJ	5
4-Methyl-2-pentanone (MIBK)	14000		U	5	0.91	J			U	5		U	5	ND		7.3		U	5		U	5		U	5		U	5	7	J	5
Acetone	220000		U	10		U	10	1.8	J			U	10	ND		2.8		U	10		UB	10		UB	10		U	10		UDJ	10
Benzene	5		U	1		U	1		U	1		U	1	0.4	J	0.2	**6**		1		U	1		U	1		U	1	**10**	J	1
Bromodichloromethane	2.1		U	1		U	1		U	1		U	1	ND		0.3		U	1		U	1		U	1		U	1		UJ	1
Bromoform	0.0083		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		UJ	1
Bromomethane	20		U	2		U	1		U	1		U	1	ND		0.5		U	2		U	2		U	2		U	2		UJ	2
Carbon disulfide	560		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		UJ	1
Carbon tetrachloride	5		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1	0.5	J	1		UJ	1
Chlorobenzene	390		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		UJ	1
Chloroethane	28000		U	2		U	1		U	1		U	1	ND		0.5		U	2		U	2		U	2		U	2		UJ	2
Chloroform	80		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		U	1
Chloromethane	6.7		U	2		U	1		U	1		U	1	ND		0.6		U	2		U	2		U	2		U	2		UJ	2
Dibromochloromethane	3.2		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		UJ	1
Ethylbenzene	700		U	1		U	1		U	1		U	1	ND		0.5	420	D	1		U	1	0.4	J	1	8		1		UJ	1
Hexane	2.9		U	1		U	1		U	1		U	1	ND		0.6		U			U			U			U			UJ	
Isobutyl alcohol	2200000		U	5		U	50		U	50		U	50	NA				U	50		U	50		U	50		U	50		UJ	50
Methylene chloride	5		U	1		U	1	0.42	J			U	1	ND		0.7		U	2		U	2		U	2		UBD	2		UBD	2
Styrene	100		U	1		U	1		U	1		U	1	ND		0.5		U	1		U	1		U	1		U	1		UJ	1
Tetrachloroethene	5		U	1		U	1		U	1		U	1	ND		0.7		U	1		U	1		U	1		U	1		UJ	1
Toluene	1000	0.51	J	1	0.27	J			U	1		U	1	ND		0.5	43	JD	1	0.3	J	1		U	1	0.8	J	1	**4500**	D	1
Trichloroethene (TCE)	5		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		UJ	1
Vinyl acetate	9600		NA			NA			NA			NA		NA				NA			NA			NA			NA			NA	
Vinyl chloride	2		U	2		U	1		U	1		U	1	ND		0.3		U	2		U	2		U	2		U	2		UJ	2
Xylenes (total)	10000		U	2		U	1		U	1		U	1	ND		1.1	290	D	1		U	1		U	1	17		1		UJ	1
cis-1,2-Dichloroethene	70		U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8		U	0.5		U	0.5		U	0.5		U	0.5	1	J	0.5
cis-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		UJ	1
n-Butanol	NA		U	50		U	50		U	50		U	50	NA				U	50		U	50		U	50		U	50		UJ	50
tert-Butyl methyl ether	120000		NA			U	5		U	5		U	5	NA				NA			NA			NA			NA			NA	
trans-1,2-Dichloroethene	100		U	0.5		U	0.5		U	0.5		U	0.5	ND		0.8		U	0.5		U	0.5		U	0.5		U	0.5		UJ	0.5
trans-1,3-Dichloropropene	0.84		U	1		U	1		U	1		U	1	ND		0.6		U	1		U	1		U	1		U	1		UJ	1
trans-1,4-Dichloro-2-butene	NA		NA			NA			NA			NA		NA				NA			NA			NA			NA			NA	
Total VOCs		0.51			3.28			2.22			0			0.4			759			0.3			0.4			26.7			4518.8		

Notes:
B - Compound detected in method blank.
D - Concentration detected in diluted analyses.
E - Concentration above instrument calibration range.
J - Concentration is estimated or detected below reporting limit.
NA - Not Analyzed
U - Detected concentration qualified as not detected; detected concentration less than 10 times concentration detected in blank.
(1) - Analytical laboratory conducted a library search to determine if hexane and n-butanol were present as a tentatively identified compound during the May and November 1991 sampling events.

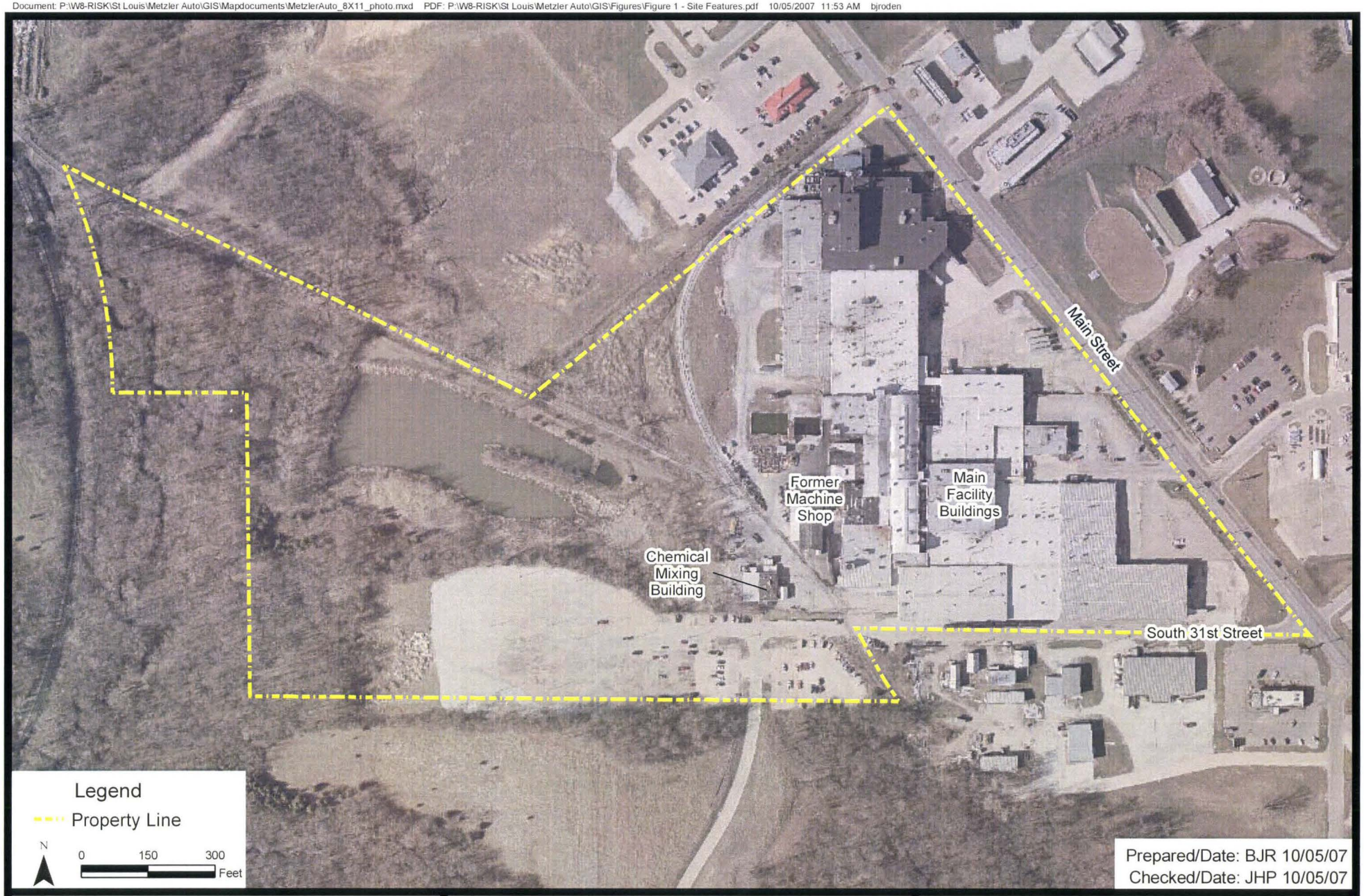
- Exceeds Vapor Intrusion Screening Value

C:\Documents and Settings\dlbrinkley\Application Data\Microsoft\Excel\
VIEvaluationReportTables (version 1).xls, MW21-P5

Prepared by: KJC
Checked by: JHP
10/2/2007

Figures

Document: P:\W8-RISK\St Louis\Metzler Auto\GIS\Mapdocuments\MetzlerAuto_8X11_photo.mxd PDF: P:\W8-RISK\St Louis\Metzler Auto\GIS\Figures\Figure 1 - Site Features.pdf 10/05/2007 11:53 AM bjroden



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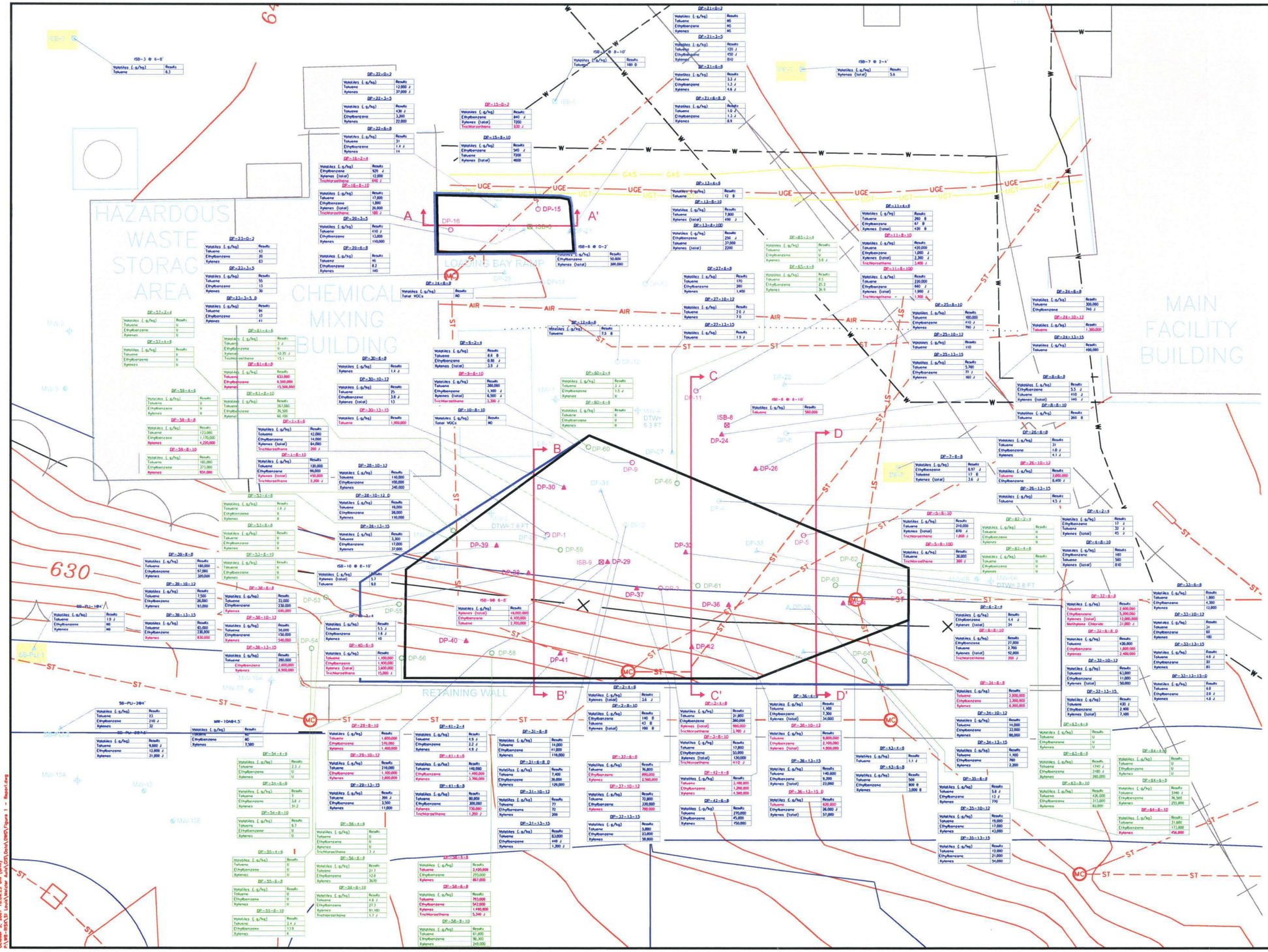
Site Features

Project 3250-04-5089

Figure 1



LEGEND:

- DP-54 — MAY 2007 BORING SHOWN IN GREEN
- DP-28 — JANUARY 2003 SOIL BORING LOCATION
- DP-8 — APRIL 2002 SOIL BORING LOCATION
- ISB-8 — INTERIM SOIL SAMPLE LOCATION (APRIL 2001)
- P-6 — EXISTING FILL PIEZOMETER
- MW-3 — EXISTING FILL MONITORING WELL
- MW-9 — EXISTING TILL MONITORING WELL
- DTW — WATER ELEVATIONS MEASURED 4/18/07 (DEPTH TO WATER)
- RAILROAD TRACKS
- EDGE OF PARKING LOT/ROAD/PAVED AREA
- 630 — GROUND SURFACE TOPOGRAPHIC CONTOUR LINE-CONTOUR INTERVAL IS 2 FEET
- FENCE LINE
- TREE LINE
- EXISTING BUILDING
- APPROXIMATE LIMITS OF PROPOSED SOIL EXCAVATION.
- PRELIMINARY EXCAVATION LIMITS FROM CMI WORK PLAN
- PROPOSED EXCAVATION LIMITS

APPROXIMATE LIMITS OF VOCs EXCEEDING SOIL CLEANUP STANDARDS ABOVE THE WATER TABLE.

ESTIMATED BOUNDARIES DEFINED BY SOIL CLEANUP STANDARDS LISTED BELOW.
TOLUENE 520,000 µg/kg
ETHYL BENZENE 400,000 µg/kg
XYLENE (TOTAL) 420,000 µg/kg
TRICHLOROETHENE (TCE) 110 µg/kg
METHYLENE CHLORIDE 21,000 µg/kg

U - BELOW DETECTION LIMITS
B - COMPOUND DETECTED IN METHOD BLANK
J - INDICATES ESTIMATED CONCENTRATION
ND - INDICATES VOCs NOT DETECTED
NS - NOT SAMPLED

ANALYSES EXCEEDING INDUSTRIAL CLEANUP STANDARDS HIGHLIGHTED IN RED

- PERIMETER SOIL LOCATION
- UNDERGROUND GAS LINE
- UNDERGROUND AIR LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND WATER LINE
- UNDERGROUND ELECTRIC LINE
- UNKNOWN POTENTIALLY ELECTRIC LINE TO SVE SATELLITE BUILDING

N

10 0 10
SCALE IN FEET

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Suite 301
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CLIENT:	UNITED TECHNOLOGIES CORPORATION
LOCATION:	3200 MAIN STREET, KEOKUK, IOWA
TITLE:	**Figure 2** **SOIL IMPACTS**

DRAWN BY	CHECKED BY	APPROVED BY
ARM	BJR	JHP
PROJECT NO.	DATE	DRAWING NO.
3250-04-5089	9-10-2007	Figure 2 - Report.dwg

October 5, 2007 10:06:23 am (arm)
P:\PB-BUFFLO\Keokuk Auto\CD\Data\DWG\Figure 1 - Report.dwg

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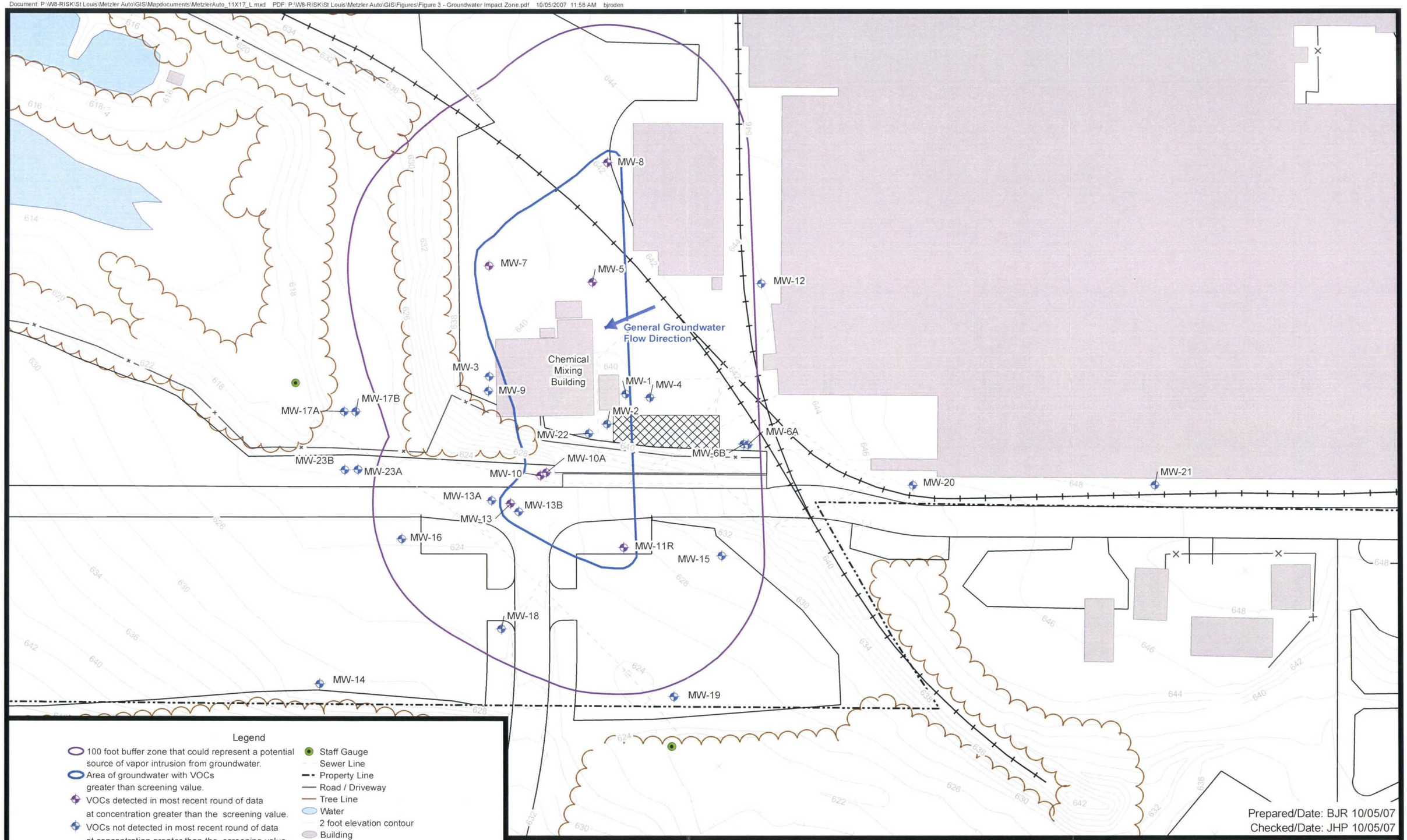

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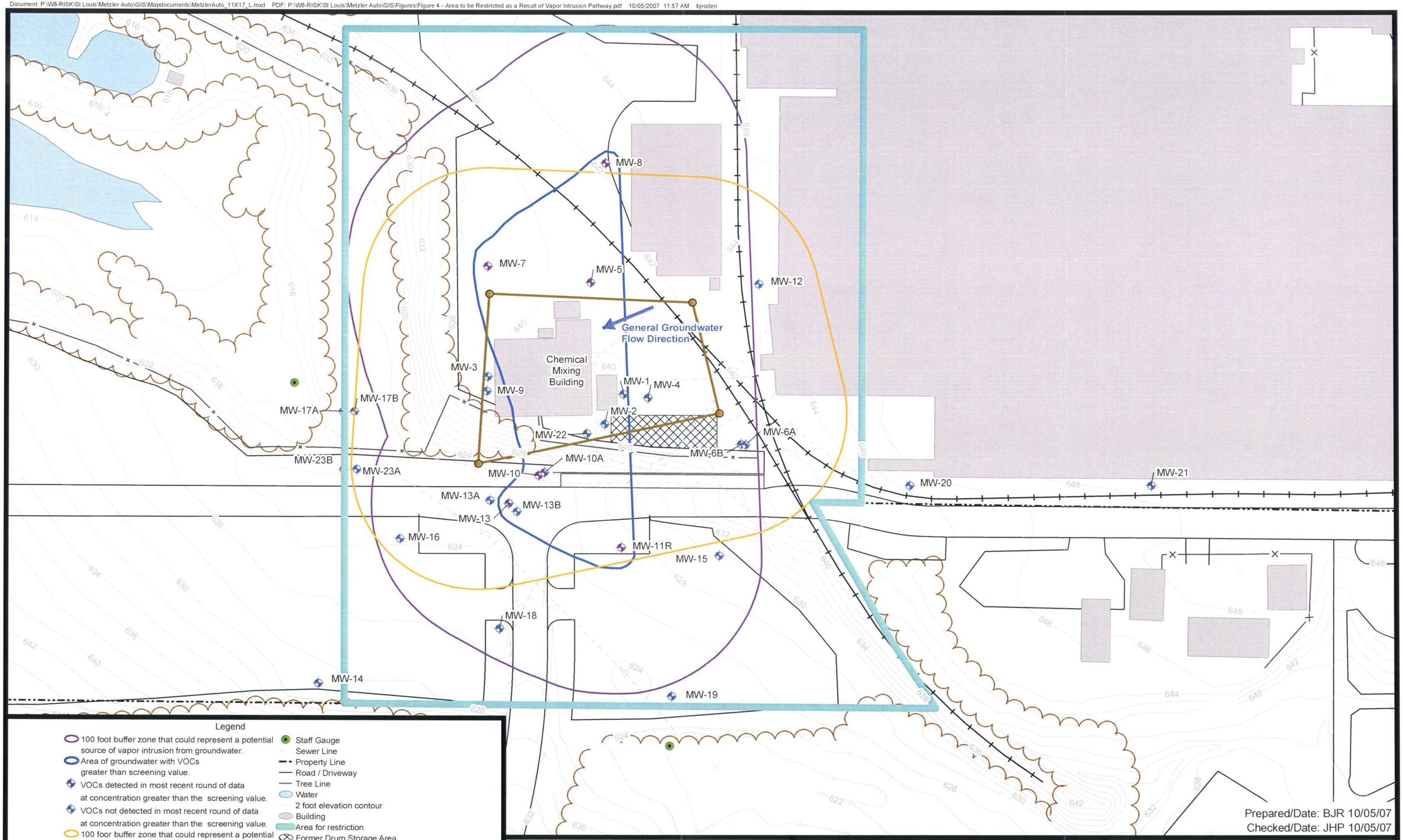
Groundwater Impact Zone

Project 3250-04-5089

Figure 3

Document: P:\W8-RISK\St Louis\Metzler Auto\GIS\Mapdocuments\MetzlerAuto_11X17_L.mxd PDF: P:\W8-RISK\St Louis\Metzler Auto\GIS\Figures\Figure 4 - Area to be Restricted as a Result of Vapor Intrusion Pathway.pdf 10/05/2007 11:57 AM bjroden



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Area to be Restricted as a Result of Vapor Intrusion Pathway

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Figure 4