

**PHASE II ENVIRONMENTAL SITE ASSESSMENT  
PROPERTIES LOCATED ON 4<sup>th</sup> AVENUE BETWEEN 12<sup>th</sup> & 13<sup>th</sup> STREETS  
MOLINE, ILLINOIS**

**Prepared For:**

GemVision  
Mr. Jeff High  
706 East River Drive  
Davenport, IA 52803

**Prepared By:**

MISSMAN, STANLEY & ASSOCIATES, P.C.  
1717 State Street, Suite 201  
Bettendorf, Iowa



---

**Missman No. C06E011  
April 10, 2006**



April 10, 2006

Mr. Jeff High  
Gem Vision  
706 East River Drive  
Davenport, IA 52803

RE: Phase II Environmental Site Assessment  
Properties Located on 4<sup>th</sup> Avenue Between 12<sup>th</sup> & 13<sup>th</sup> Streets  
Moline, Illinois  
Missman Project No. C06E011

Dear Mr. High:

Missman, Stanley & Associates, P.C. (Missman) has completed a Phase II Environmental Site Assessment of the above-referenced properties (collectively the "subject property"). The work conducted in assessing the subject property and the results of the assessment are discussed in the attached report.

The assessment was completed with the intent of determining the characteristics of soil and groundwater quality on the property under consideration. This report discusses the intrusive investigation and analytical results of the collected soil and groundwater samples at the subject property. If you have any questions regarding the information discussed in our report, please do not hesitate to contact our office.

Sincerely,

MISSMAN, STANLEY & ASSOCIATES, P.C.

A handwritten signature in blue ink that reads "Jennifer L. Walker".

---

Jennifer L. Walker  
Environmental Scientist

## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	SITE LOCATION .....	2
<b>2.0</b>	<b>SCOPE OF ASSESSMENT.....</b>	<b>2</b>
<b>3.0</b>	<b>FIELD METHODOLOGY DOCUMENTATION .....</b>	<b>2</b>
3.1	DRILLING.....	2
3.2	DECONTAMINATION .....	3
3.3	SOIL SAMPLING .....	3
3.4	FIELD SCREENING .....	3
3.5	GROUNDWATER SAMPLE COLLECTION.....	4
<b>4.0</b>	<b>ANALYTICAL RESULTS.....</b>	<b>4</b>
4.1	SOIL SAMPLE ANALYSIS .....	4
4.2	GROUNDWATER SAMPLE ANALYSIS.....	5
<b>5.0</b>	<b>CONCLUSIONS .....</b>	<b>5</b>
<b>6.0</b>	<b>GENERAL COMMENTS.....</b>	<b>5</b>

## LIST OF APPENDICES

### APPENDIX A – Figures

Figure 1: Site Location Map

Figure 2: Soil Boring Location

### APPENDIX B – Tables

Table 1: Soil Sampling

Table 3: Groundwater Sampling

### APPENDIX C – Boring Logs

### APPENDIX D – Laboratory Report

**PHASE II ENVIRONMENTAL SITE ASSESSMENT  
PROPERTIES LOCATED ON 4<sup>th</sup> AVENUE BETWEEN 12<sup>th</sup> & 13<sup>th</sup> STREETS  
MOLINE, ILLINOIS  
April 10, 2006**

**1.0 INTRODUCTION**

Missman, Stanley & Associates, P.C. (Missman) has completed a Phase II Environmental Site Assessment (ESA) of the properties located to the north and south of 4<sup>th</sup> Avenue between 12<sup>th</sup> and 13<sup>th</sup> Streets in Moline, Illinois (hereafter collectively the “subject property”). The subject property is comprised of four parcels totaling approximately 1.6 acres.

This Phase II Environmental Site Assessment was performed in response to recognized environmental conditions (RECs) identified as a result of two Phase I ESAs performed by Missman, both dated March 13, 2006. The following RECs were identified in the Phase I ESA reports:

- Two heating oil aboveground storage tanks (ASTs) located in the basement of the westernmost building on the south side of 4<sup>th</sup> Avenue (1202 4<sup>th</sup> Ave.) were formerly filled from the exterior. The potential for spills or overfills to have occurred represents a REC because the near surface soils in this area may have been impacted.
- A gasoline station and bulk oil warehouse was formerly located on the east adjoining property (northeast corner of the intersection of 4<sup>th</sup> Avenue & 13<sup>th</sup> Street; 1305 4<sup>th</sup> Avenue). Sanborn Fire Insurance Maps from 1950 & 1957 indicated six underground storage tanks (USTs) located along 4<sup>th</sup> Avenue. It is unknown if these USTs were removed and, if so, what the integrity of the USTs were upon removal. The potential for a gasoline leak to have occurred represents a REC because contamination could have migrated onto the subject property.
- Several railroad tracks were historically located along the entire northern property boundary, and one of these tracks remains present. The potential exists for leaks or spills of hazardous substances and/or petroleum products to have occurred from rail cars, and for subsurface contamination originating from creosote-treated railroad ties or herbicides used along the tracks. This represents a REC, based upon the potential that contamination could have migrated onto the subject property.
- A 6,000 gallon gasoline underground storage tank (UST) was removed from the west adjoining property (northwest corner of the intersection of 4<sup>th</sup> Avenue & 12<sup>th</sup> Street; 315 12<sup>th</sup> Street) in 1988. However, the integrity of the UST upon removal is unknown. The potential for a gasoline leak to have occurred represents a REC because contamination could have migrated onto the subject property.

This report discusses the activities performed in conjunction with the assessment and the analytical results of soil and groundwater samples collected during the assessment work. Missman placed the soil borings in locations where the highest concentrations of contaminants potentially would be present.

## 1.1 Site Location

The subject property is located within the northeast quarter of Section 32, Township 18 North, Range 1 West in Moline, Rock Island County, Illinois. Specifically, the subject property is bounded by a bike path/railroad easement to the north, 13<sup>th</sup> Street to the east, a public alley to the south, and 12<sup>th</sup> Street to the west. 4<sup>th</sup> Avenue bisects the subject property from east to west.

The subject property location is depicted on the Site Location Map, Figure 1 (Appendix A). A diagram that depicts site features and boring locations is included as Figure 2 (Appendix A). Legal descriptions for all four parcels of the subject property were included within the Phase I ESA reports.

## 2.0 SCOPE OF ASSESSMENT

The intent of the intrusive assessment was to determine 1) if the historic filling of two aboveground storage tanks (ASTs) through the basement wall at the southwest corner of the subject property has impacted the environmental quality of the near surface soil in this area, and 2) if the petroleum products previously stored on the east and west adjoining properties, or if chemicals and/or petroleum products transported along the north adjoining property, have migrated onto the subject property. In assessing the environmental quality of the property, Missman performed the following scope of work:

- Advanced five (5) soil borings (SB-1 through SB-5).
- Soil samples were continuously collected from each of the boring locations, the geology was documented, and the samples were field screened at one-foot intervals with a photoionization detector (PID) for the presence of volatile organic vapors.
- Based primarily upon the highest PID result, one soil sample was packaged for laboratory analysis from SB-2, SB-3, and SB-5. Because no elevated PID readings were identified at SB-1 or SB-4, no soil samples were collected from these two locations. The selected samples were analyzed for chemical parameters that were appropriate for the specific sample location.
- Two of the soil borings (SB-1 and SB-4) were converted into temporary groundwater monitoring wells. Groundwater samples were collected from these boreholes and analyzed for the appropriate chemical parameters for each location.
- All five boreholes were backfilled with soil cuttings and bentonite hole plug. For borings completed through concrete (SB-1 & SB-5), a concrete patch was installed. For all other borings, the borehole was topped with sand.

## 3.0 FIELD METHODOLOGY DOCUMENTATION

### 3.1 Drilling

Fieldwork associated with soil borings SB-1 through SB-4 of this intrusive assessment was conducted on March 24, 2006, and fieldwork associated with soil boring SB-5 was conducted on March 29, 2006. Drilling for SB-1 through SB-4 was accomplished with a truck-mounted AMS

9600E drill rig that utilized a hydraulic head and dual tube tooling. The outside diameter of the metal outer barrels is 2.75-inch, and the interior disposable polyvinyl chloride tube is 2-inches in diameter. Missman contracted with Forest Road Consulting of Davenport, Iowa, to perform this drilling. Drilling of SB-5 was accomplished after permission was granted by the City of Moline to drill in the city right of way. This soil boring was advanced by Missman personnel using a 2 ¾-inch inside diameter stainless steel hand auger. Prior to hand auguring, the concrete was cored by American Testing of Davenport, Iowa. Reference Figure 2 (Appendix A) for a Site Diagram, which depicts the boring locations.

The boreholes were advanced to depths ranging from 3.5 to 16.5 feet below ground surface (bgs). A stratigraphic log of each boring was completed based on field observations during drilling and sampling. Completed stratigraphic logs for each soil boring are included in Appendix C. Soils observed in the borings primarily consisted of silt underlain by silty clay. Wood and brick debris was encountered at SB-4, and black cinders were encountered at SB-2. Groundwater was encountered at SB-1 at 13.5 feet bgs, and at SB-4 at approximately 10.5 feet bgs.

### 3.2 Decontamination

Prior to mobilization to the site, the working end of the drill rig and the outer barrel downhole drilling equipment was decontaminated by power washing the equipment and rinsing with methyl alcohol. After decontamination, outer barrels were wrapped in aluminum foil, which was removed immediately prior to use. Down hole drilling equipment was not reused in an effort to avoid cross contamination between boring locations.

For SB-5, prior to mobilization to the site the stainless steel hand auger was washed in a mixture of Alconox® detergent and potable water, and then rinsed with potable water.

In addition, during all sample handling, Missman utilized clean, disposable nitrile gloves. Samples were placed into new, laboratory-provided containers.

### 3.3 Soil Sampling

Soil samples were collected continuously with a two-inch diameter disposable core sampling device at approximately one-foot intervals. Each collected sample was labeled and split into two volumes. One portion of each sample was placed into a Ziplock® bag and allowed to stand at ambient temperature for approximately fifteen minutes. After the fifteen-minute holding period, the samples were field screened with a PID (see Section 3.4). The second sample volume was placed in appropriate, labeled sample container(s) for laboratory analysis. The samples were relinquished to Prairie Analytical, Inc. (Prairie) under standard chain of custody documentation.

### 3.4 Field Screening

Field screening was accomplished with a Minirae 2000 PID equipped with a 10.2 eV lamp. This instrument records a peak concentration, measured in parts per million (ppm), of volatile organic vapors. As such, field screening provides a qualitative measure of the degree of volatile organic compound impact in the collected soil samples. Prior to performing the field screening, the PID was

calibrated in accordance with the manufacturer's recommendations to 100 parts per million (ppm) isobutylene.

The highest field screening result for each of the borings is as follows:

Boring ID	Result (ppm)	Depth Interval of Highest Reading (feet below ground surface)
SB-1	1.3	13.5 – 14.5
SB-2	0.9	1.5 – 3.0
SB-3	1.1	3.0 - 4.0
SB-4	1.3	3.0 – 4.0
SB-5	0.6	2.0 – 3.0

### 3.5 Groundwater Sample Collection

A groundwater sample was collected from two (2) of the five (5) borings (SB-1 & SB-4) using disposable tubing connected to a peristaltic pump. A temporary well screen was installed at SB-1 to facilitate sample collection and to prevent the borehole from collapsing. Because groundwater was encountered at a shallower depth at SB-4, the groundwater sample was collected directly from the borehole (without the use of a well screen). The collected groundwater samples were immediately transferred to laboratory-provided containers and stored on ice pending analysis. Following on-site activities, the well screen was removed at SB-1, boreholes were plugged using bentonite and finished to grade with the appropriate material, and samples were relinquished to Prairie under standard chain of custody documentation.

## 4.0 ANALYTICAL RESULTS

The concentrations of constituents detected in the collected soil and groundwater samples were compared to Tier 1 remediation objectives for commercial/industrial properties established under the Illinois Environmental Protection Agency's (IEPA's) Tiered Approach to Corrective Action Objectives (TACO) Program. The Tier 1 remediation objectives were established by the IEPA such that normal exposure to constituents below these concentrations would not cause adverse human health or environmental effects.

### 4.1 Soil Sample Analysis

Soil samples were collected from SB-2, SB-3 and SB-5. The samples collected from SB-2 & SB-3 were analyzed for polynuclear aromatic hydrocarbons (PNAs) and herbicides, while the sample collected from SB-5 was only analyzed for PNAs. Analysis was conducted by Prairie, Springfield, Illinois. A copy of the full Prairie report is included in Appendix D. A summary of the soil analytical results is included in Table 1 (Appendix B). For comparative purposes, Tier 1 remediation objectives established under the TACO program, as well as Tier 2 remediation objectives for PNAs, are also presented in Table 1.

Detectable concentrations of PNAs were detected in SB-2. All detected concentrations were below the Tier 1 remediation objectives, with the exception of benzo(a)pyrene (0.824 mg/kg) which exceeded the Tier 1 ingestion remediation objective of 0.8 mg/kg. However, the detected concentration of benzo(a)pyrene at SB-2 was below the Tier 2 remediation objective of 2.1 mg/kg. The Tier 2 remediation objectives are recognized by the Illinois EPA for sites located within statistical metropolitan areas (as defined in Part 742, Appendix A, Table G), which includes the City of Moline. Therefore, Missman does not believe the level of benzo(a)pyrene detected at SB-2 warrants further investigation and/or remediation.

No detectable levels of PNAs were identified in the soil samples collected from either SB-3 or SB-5.

No detectable levels of herbicides were identified in the soil samples collected from either SB-2 or SB-3.

#### **4.2 Groundwater Sample Analysis**

Groundwater samples were collected from SB-1 and SB-4. The sample collected from SB-4 was analyzed for benzene, ethylbenzene, toluene & xylenes (BTEX) and PNAs, while the sample collected from SB-5 was only analyzed for BTEX. Analysis was conducted by Prairie, Springfield, Illinois. A copy of the full Prairie report is included in Appendix D. A summary of the analytical results of collected groundwater samples is included on Table 2 (Appendix B). For comparative purposes, Tier 1 remediation objectives established under the TACO program are also presented in Table 2.

No detectable levels of BTEX compounds were identified in either of the groundwater samples.

No detectable levels of PNAs were identified in the groundwater sample collected from SB-4.

#### **5.0 CONCLUSIONS**

Missman has completed a Phase II Environmental Site Assessment of the subject property located on the north and south side of 4<sup>th</sup> Avenue between 12<sup>th</sup> and 13<sup>th</sup> Streets in Moline, Illinois. Please refer to Figure 2 (Appendix A) for a graphical depiction of the subject property.

The soil and groundwater sampling completed for this assessment did not identify any constituents of concern above the Tier 1 remediation objectives that are established by the Illinois EPA, with the exception of benzo(a)pyrene at SB-2. However, the concentration of benzo(a)pyrene is below the Tier 2 remediation objective, which is applicable for the subject property. Therefore, it is concluded that the RECs identified in the Phase I ESA reports have not significantly impacted the environmental quality of the subject property. In Missman's professional opinion, no further environmental investigation or remediation of the subject property is warranted at this time.

#### **6.0 GENERAL COMMENTS**

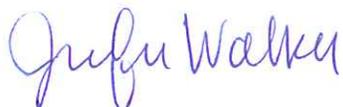
This report has been prepared for the exclusive use of the client. The discussion and conclusions of this report are based on field observations and laboratory data obtained from a limited area of the subject property. Further, the discussion and conclusions of this report do not reflect any variation in

**Phase II Environmental Site Assessment  
Properties Located on 4<sup>th</sup> Ave. Between 12<sup>th</sup> & 13<sup>th</sup> Streets, Moline, IL  
April 10, 2006**

subsurface conditions or chemistry on the property. Missman should be contacted if future site work reveals conditions that appear to deviate from those identified in this report.

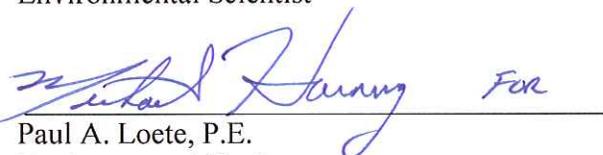
Our goal at Missman, Stanley & Associates is to perform our work within the limits prescribed by our clients, with the usual thoroughness and competence of the engineering profession. No other warranty or representation, either expressed or implied, is included or intended in this report.

Respectfully submitted,  
MISSMAN, STANLEY & ASSOCIATES, P.C.



---

Jennifer L. Walker  
Environmental Scientist



---

Paul A. Loete, P.E.  
Environmental Engineer

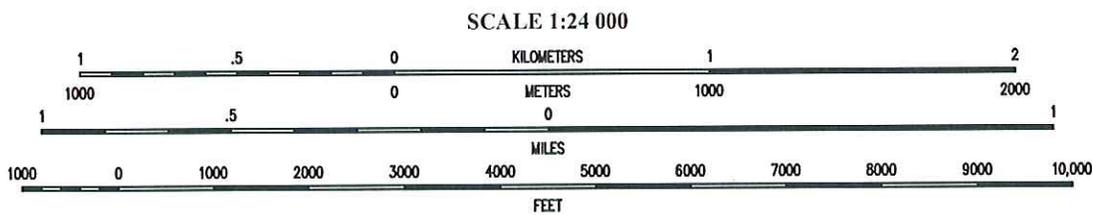
G:\2006\ENVIRON\C06E011 GemVision Phase II\C06E011R01.doc

## APPENDIX A

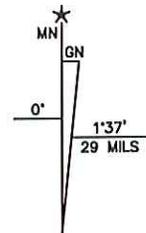
Figures



Site Location



CONTOUR INTERVAL 10 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929



UTM GRID AND 1998 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

DAVENPORT WEST, IOWA  
41090-E6-TF-024

1991

DMA 7867 II SW-SERIES V876



QUADRANGLE LOCATION

### Site Location Map

GemVision Phase II

Properties on 4th Ave  
Moline, Illinois

adw

Job No. CO6E011

location map.dwg

04/06/06

### Figure 1

Prepared by



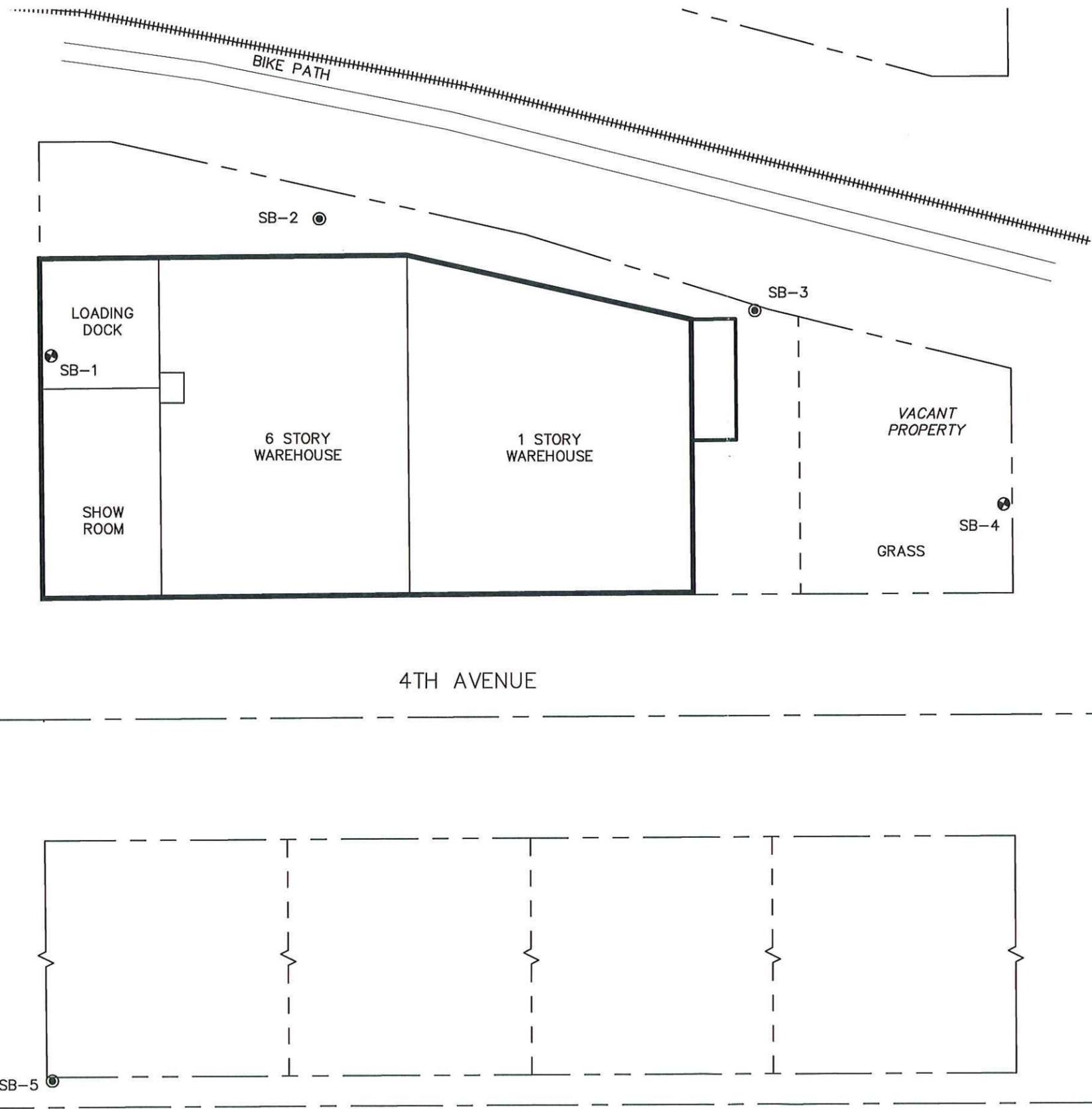
Civil Engineering Surveying  
Environmental Consulting GIS Consulting  
(563) 344-0260 FAX (563) 344-0263

12TH STREET

13TH STREET

4TH AVENUE

ALLEY



NORTH



SCALE: 1" = 40'

LEGEND

- CENTERLINE
- - - ROW
- - - LOT LINE
- + + + RAILROAD TRACK
- ⊕ TEMPORARY MONITORING WELL
- ⊙ SOIL BORING

REVISIONS	
No.	DESCRIPTION

**Missman**  
 STANLEY & ASSOCIATES, P.C.  
 Civil Engineering, Environmental Services, GIS, Landscape Architecture, Surveying  
 1717 State Street, Suite 201  
 Bettendorf, Iowa 52722  
 Phone (563) 344-0260 Fax (563) 344-0263

GemVision Phase II ESA  
 Moline, IL  
 Soil Boring Locations

Missman Project No.  
 C06E011  
 File Name:  
 Soil Boring Location.dwg  
 © COPYRIGHT 2006  
 ALL RIGHTS RESERVED  
 Drawn By: adw  
 Checked By: JLW  
 Date: 04/03/06

## APPENDIX B

Tables

**Table 1  
Soil Analytical Results  
GemVision, Moline, IL  
Missman No. C06E011**

Chemical Name	Exposure Route-Specific Values*				Soil Component of GW Ingestion Route Values*		Tier 2†	SB-2	SB-3	SB-5
	Industrial/Commercial		Construction Worker		Class I	Class II	Metro Areas ingestion			
	ingestion	inhalation	ingestion	inhalation						
<b>PNAs</b>										
Acenaphthene	120000	N/A	120000	N/A	570	2900	N/A	< 0.402	< 0.414	< 0.405
Acenaphthylene	61000	N/A	61000	N/A	24	120	N/A	< 0.402	< 0.414	< 0.405
Anthracene	610000	N/A	610000	N/A	12000	59000	N/A	< 0.402	< 0.414	< 0.405
Benzo(a)anthracene	8	N/A	170	N/A	2	8	1.8	0.904	< 0.414	< 0.405
Benzo(b)fluoranthene	8	N/A	170	N/A	5	25	2.0	1.19	< 0.414	< 0.405
Benzo(k)fluoranthene	78	N/A	1700	N/A	49	250	1.7	0.496	< 0.414	< 0.405
Benzo(g,h,i)perylene	61000	N/A	61000	N/A	32000	160000	N/A	< 0.402	< 0.414	< 0.405
Benzo(a)pyrene	0.8	N/A	17	N/A	8	82	2.1	<b>0.824</b>	< 0.0870	< 0.0852
Chrysene	780	N/A	17000	N/A	160	800	2.7	1.18	< 0.414	< 0.405
Dibenz(a,h)anthracene	0.8	N/A	17	N/A	2	7.6	0.42	0.108	< 0.0870	< 0.0852
Fluoranthene	82000	N/A	82000	N/A	4300	21000	N/A	1.96	< 0.414	< 0.405
Fluorene	82000	N/A	82000	N/A	560	2800	N/A	< 0.402	< 0.414	< 0.405
Indeno(1,2,3-cd)pyrene	8	N/A	170	N/A	14	69	1.6	0.480	< 0.414	< 0.405
Naphthalene	41000	270	4100	1.8	12	18	N/A	< 0.402	< 0.414	< 0.405
Phenanthrene	61000	N/A	61000	N/A	220	1100	N/A	1.27	< 0.414	< 0.405
Pyrene	61000	N/A	61000	N/A	4200	21000	N/A	1.82	< 0.414	< 0.405
<b>Herbicides</b>										
2,4-D	20000	N/A	2000	N/A	1.5	7.7	N/A	< 0.184	< 0.038	not analyzed
Dalapon	61000	N/A	6100	N/A	0.85	8.5	N/A	< 0.184	< 0.038	not analyzed
Dicamba	61000	N/A	6100	N/A	2.8	2.8	N/A	< 0.184	< 0.038	not analyzed
Picloram	140000	N/A	14000	N/A	2	20	N/A	< 0.184	< 0.038	not analyzed
2,4,5-T	20000	N/A	2000	N/A	6.6	33	N/A	< 0.307	< 0.063	not analyzed
2,4,5-TP	16000	N/A	1600	N/A	11	55	N/A	< 0.184	< 0.038	not analyzed

\* Illinois EPA Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties; 35 IAC 742, Appendix B, Table B & IEPA Non-TACO Guidance

**Bold/Shaded** results indicate concentrations exceeding most stringent Tier 1 values

† Tier 2 remediation objectives set forth in Part 742, Appendix A, Table G of TACO (Electric Power Research Institute Study)

All results are reported as mg/kg-dry unless otherwise noted.

N/A = no remediation objective has been developed for this compound

< = compound not detected above the laboratory reporting limit

**Table 2**  
**Groundwater Analytical Results**  
**GemVision, Moline, IL**  
**Missman No. C06E011**

Chemical Name	Groundwater Remediation Objectives*		SB-1	SB-4
	Class I	Class II		
<b>PNAs</b>				
Acenaphthene	0.42	2.1	not analyzed	< 0.010
Acenaphthylene	0.21	1.05	not analyzed	< 0.010
Anthracene	2.1	10.5	not analyzed	< 0.010
Benzo(a)anthracene	0.00013	0.00065	not analyzed	< 0.00012
Benzo(b)fluoranthene	0.00018	0.0009	not analyzed	< 0.00018
Benzo(k)fluoranthene	0.00017	0.00085	not analyzed	< 0.00016
Benzo(g,h,i)perylene	0.21	1.05	not analyzed	< 0.010
Benzo(a)pyrene	0.0002	0.002	not analyzed	< 0.00020
Chrysene	0.0015	0.0075	not analyzed	< 0.0014
Dibenz(a,h)anthracene	0.0003	0.0015	not analyzed	< 0.00030
Fluoranthene	0.28	1.4	not analyzed	< 0.010
Fluorene	0.28	1.4	not analyzed	< 0.010
Indeno(1,2,3-cd)pyrene	0.00043	0.00215	not analyzed	< 0.00043
Naphthalene	0.14	0.22	not analyzed	< 0.010
Phenanthrene	0.21	1.05	not analyzed	< 0.010
Pyrene	0.21	1.05	not analyzed	< 0.010
<b>VOCs</b>				
Benzene	0.005	0.025	< 0.0050	< 0.0050
Ethylbenzene	0.7	1	< 0.0050	< 0.0050
Toluene	1	2.5	< 0.0050	< 0.0050
Xylenes, Total	10	10	< 0.0150	< 0.0150

\* Illinois EPA Tier 1 Groundwater Remediation Objectives; 35 IAC 742, Appendix B, Table E

All results are reported as mg/L unless otherwise noted.

**Bold/Shaded** results indicate concentrations exceeding most stringent (Class I) values

< = compound not detected above the laboratory reporting limit

**APPENDIX C**

Boring Logs



Missman, Stanley and Associates  
 1717 State Street, Suite 201  
 Bettendorf, Iowa 52722  
 563-344-0260

# BORING NUMBER SB-1

CLIENT GemVision PROJECT NAME GemVision Phase II  
 PROJECT NUMBER C06E011 PROJECT LOCATION Moline, Illinois  
 DATE STARTED 3/24/06 COMPLETED 3/24/06 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE 2" I.D.  
 DRILLING CONTRACTOR Forest Road Consulting GROUND WATER LEVELS:  
 DRILLING METHOD Dual Tube Direct Push ∇ AT TIME OF DRILLING 13.5 ft  
 LOGGED BY JLW CHECKED BY JLW AT END OF DRILLING ---  
 NOTES No soil sample submitted for SB-1 ∇ AFTER DRILLING 8.0 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Concrete	
					0.5 Dark brown silty clay, medium-loose	
	SS 1		0.1			
					2.0 Dark brown silty clay, medium-stiff	
2.5	SS 2		0.1			
					3.5 Dark brown clay, stiff, with brown mottles 4.5-5.5	
	SS 3		0.2			
					5.5 Brown stiff clay, medium at 7.5	
5.0	SS 4		0.9			
					7.5 Brown clay medium	
	SS 5		1.2			
					8.5 Brown sandy clay, soft	
	SS 6		0.8			
7.5	SS 7		0.5			
					9.5 Brown clay, medium	
	SS 8		0.5			
					10.5 Reddish-brown clay, stiff	
	SS 9		0.6			
					12.5 Brown clay, medium-stiff gravel & wet at 13.5	
	SS 10		0.6			
					13.5-14 Gravel, wet	
	SS 11		0.6			
					14-14.5 Medium-stiff clay, wet	
	SS 12		0.9			
					14.5 Medium-stiff clay, moist	
	SS 13		1.3			
					15.5 Grey clay, medium, moist	
	SS 14		0.2			
15.0						
	SS 15		1.1			
					16.5	

ENVIRONMENTAL BH GEM VISION.GPJ GINT US.GDT 4/6/06

Bottom of hole at 16.5 feet.



Missman, Stanley and Associates  
 1717 State Street, Suite 201  
 Bettendorf, Iowa 52722  
 563-344-0260

**BORING NUMBER SB-2**

CLIENT GemVision PROJECT NAME GemVision Phase II  
 PROJECT NUMBER C06E011 PROJECT LOCATION Moline, Illinois  
 DATE STARTED 3/24/06 COMPLETED 3/24/06 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE 2" I.D.  
 DRILLING CONTRACTOR Forest Road Consulting GROUND WATER LEVELS:  
 DRILLING METHOD Dual Tube Direct Push AT TIME OF DRILLING ---  
 LOGGED BY JLW CHECKED BY JLW AT END OF DRILLING ---  
 NOTES \* Lab sample submitted from here AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						
0 to 2.0					Low recovery-gravel (compacted by rig)	
2.0 to 3.0	SS 1		0.7		Black silt with some cinders/coal	
3.0 to 4.0	SS 2		*1.3		Black silt with some cinders/coal clayey silt at 4'	
4.0						

ENVIRONMENTAL BH GEM VISION.GPJ GINT US.GDT 4/6/06

Bottom of hole at 4.0 feet.



Missman, Stanley and Associates  
 1717 State Street, Suite 201  
 Bettendorf, Iowa 52722  
 563-344-0260

# BORING NUMBER SB-3

PAGE 1 OF 1

CLIENT GemVision PROJECT NAME GemVision Phase II  
 PROJECT NUMBER C06E011 PROJECT LOCATION Moline, Illinois  
 DATE STARTED 3/24/06 COMPLETED 3/24/06 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE 2" I.D.  
 DRILLING CONTRACTOR Forest Road Consulting GROUND WATER LEVELS:  
 DRILLING METHOD Dual Tube Direct Push AT TIME OF DRILLING ---  
 LOGGED BY JLW CHECKED BY JLW AT END OF DRILLING ---  
 NOTES \* Lab sample submitted from here AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						
0.5	SS 1		0.5		Brown silt, loose, with some gravel	
1.0						
1.5	SS 2		1.0		Black silt, loose	
2.0						
2.6	SS 3		0.6		Black silty clay, with cinders/coal	
3.0						
3.9	SS 4		*1.1			
4.0						

ENVIRONMENTAL BH GEM VISION.GPJ GINT US GDT 4/16/06

Bottom of hole at 4.0 feet.



Missman, Stanley and Associates  
 1717 State Street, Suite 201  
 Bettendorf, Iowa 52722  
 563-344-0260

CLIENT GemVision PROJECT NAME GemVision Phase II  
 PROJECT NUMBER C06E011 PROJECT LOCATION Moline, Illinois  
 DATE STARTED 3/24/06 COMPLETED 3/24/06 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE 2" I.D.  
 DRILLING CONTRACTOR Forest Road Consulting GROUND WATER LEVELS:  
 DRILLING METHOD Dual Tube Direct Push ∇ AT TIME OF DRILLING 10.5 ft  
 LOGGED BY JLW CHECKED BY JLW AT END OF DRILLING ---  
 NOTES No soil sample submitted for SB-4 ∇ AFTER DRILLING 8.4 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0						
	SS 1		0.8		0.5 Brown silty clay, stiff No recovery	
					1.5	
2.5	SS 2		0.9		Brown silty clay, stiff Large gravel at 3.0	
					3.0	
	SS 3		0.8		3-3.5 Brown silty clay with large gravel	
					3.5	
					3.5-4 Light brown rock with fine sand	
					4.0	
					No recovery	
5.0					6.0	
					Rock	
					6.5 Red brick	
					7.0 Red brick with wood	
7.5					7.5	
					No recovery	
					∇	
10.0					10.0	
	SS 4		0.6		10-10.5 Dark brown sandy clay, stiff 10.5-11 Brown sand, wet	
					∇	
					11.0	
	SS 5		0.7		Brown coarse sand, wet	
					12.0	

Bottom of hole at 12.0 feet.

ENVIRONMENTAL.BH\_GEM\_VISION.GPJ GINT US.GDT 4/6/06



Missman, Stanley and Associates  
 1717 State Street, Suite 201  
 Bettendorf, Iowa 52722  
 563-344-0260

# BORING NUMBER SB-5

CLIENT <u>GemVision</u>	PROJECT NAME <u>GemVision Phase II</u>
PROJECT NUMBER <u>C06E011</u>	PROJECT LOCATION <u>Moline, Illinois</u>
DATE STARTED <u>3/29/06</u> COMPLETED <u>3/29/06</u>	GROUND ELEVATION _____ HOLE SIZE <u>2.75" I.D.</u>
DRILLING CONTRACTOR <u>Missman</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Hand Auger</u>	AT TIME OF DRILLING <u>---</u>
LOGGED BY <u>JLW</u> CHECKED BY <u>JLW</u>	AT END OF DRILLING <u>---</u>
NOTES <u>* Lab sample submitted from here</u>	AFTER DRILLING <u>---</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0					Concrete	
0.6					Black/brown sand with gravel	
1.0	GB 1		0.0			
1.5	GB 2		0.3		Brown silty clay	
2.1	GB 3		*0.6			
3.1	GB 4		0.4			
3.5					Auger Refusal at 3.5 Bottom of hole at 3.5 feet.	

ENVIRONMENTAL BH GEM VISION.GPJ GINT US.GDT 4/6/06

**APPENDIX D**

Laboratory Reports

Prairie



Analytical  
Systems, INCORPORATED

March 31, 2006

Ms. Jennifer Walker  
Missman, Stanley & Associates  
1717 State Street, Suite 201  
Bettendorf, IA 52722

1210 Capital Airport Drive  
Springfield, Illinois 62707  
Phone: 217-753-1148  
Fax: 217-753-1152  
www.prairieanalytical.com

RE: GemVision

PAS Order No.:0603204

Dear Ms. Jennifer Walker:

Prairie Analytical Systems, Inc. received 4 samples on 3/25/2006 11:20:00 AM for the analyses presented in the following report.

All applicable quality control procedures met method specific acceptance criteria.

This report shall not be reproduced, except in full, without the prior written consent of Prairie Analytical Systems, Inc.

If you have any questions, please feel free to call me at (217) 753-1148.

Sincerely,

Kristen A. Potter  
Project Manager

# Chain of Custody Record

Central IL- 1210 Capital Airport Drive - Springfield, IL 62707-8490 - Phone (217) 753-1148 - Facsimile (217) 753-1152  
 Chicago Office - PO Box 2116 - Crystal Lake, IL 60039-2116 - Phone (847) 651-2604 - Facsimile (847) 458-9680

www.prairieanalytical.com



Client	Missman, Stanley + Assoc.				Analysis and/or method Requested						Reporting											
Address	1717 State St., Suite 201																					
City, State Zip Code	Bettendorf, IA 52722																					
Phone / Facsimile No.	(563) 344-0260		1 (563) 344-0263																			
Client Project	GemVision																					
Location	4th Ave + 12-13th St., Moline																					
Sampler(s) / Phone	Jennifer Walker		1 (563) 344-0260																			
Turnaround Time	Standard <input checked="" type="checkbox"/> Rush [ ] Date Required: 3/31 - 4/3																					
P.O. # or Invoice To	C06E011																					
Contact Person	Jennifer Walker																					
Sample Description	Sampling		Matrix Code <sup>1</sup>	Total # of Containers	Sample		Analysis and/or method Requested						Laboratory Comments									
	Date	Time			Comp	Grab																
SB-1	3/24/06	1:00	GW			X																
SB-2	↓	12:30	S												X	X						
SB-3		12:10	S												X	X						
SB-4		11:22	GW			X									X							
<sup>1</sup> M = Matrix Code		A - Aqueous		DW - Drinking Water		GW - Groundwater		NA - Non-aqueous Liquid		S - Solids		O - Other (Specify)										
Relinquished By			Date	Time	Received By			Date	Time	Method of Shipment												
Jennifer Walker			3/24/06	3:00 pm				3-25-06	11:20 am	UPS												
Special Instructions:						Q/C Level		On Wet Ice		Temperature (°C)												
						1__ 2__ 3__ 4__		<input checked="" type="radio"/> / N		4.3°C												
								<input checked="" type="radio"/> / N														

**Prairie Analytical Systems, Inc.**

Date: 31-Mar-06

**CLIENT:** Missman, Stanley & Associates  
**Lab Order:** 0603204  
**Project:** GemVision  
**Lab ID:** 0603204-001

**Client Sample ID** SB-1  
**Collection Date:** 3/24/2006 1:00:00 PM

**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILES ANALYSIS</b>		<b>SW8260B</b>		<b>(SW5030B)</b>		Analyst: JKA
Benzene	U	0.0050		mg/L	1	3/28/2006 3:27:00 PM
Ethylbenzene	U	0.0050		mg/L	1	3/28/2006 3:27:00 PM
Toluene	U	0.0050		mg/L	1	3/28/2006 3:27:00 PM
Xylenes, Total	U	0.0150		mg/L	1	3/28/2006 3:27:00 PM

**Prairie Analytical Systems, Inc.**

Date: 31-Mar-06

CLIENT: Missman, Stanley & Associates  
 Lab Order: 0603204  
 Project: GemVision  
 Lab ID: 0603204-002

Client Sample ID SB-2  
 Collection Date: 3/24/2006 12:30:00 PM

Matrix: SOLID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>HERBICIDES ANALYSIS</b>		<b>SW8321A</b>		<b>(SW8321A)</b>		Analyst: JKA
2,4-D	U	0.184		mg/Kg-dry	5	3/29/2006 7:16:00 PM
Dalapon	U	0.184		mg/Kg-dry	5	3/29/2006 7:16:00 PM
Dicamba	U	0.184		mg/Kg-dry	5	3/29/2006 7:16:00 PM
Picloram	U	0.184		mg/Kg-dry	5	3/29/2006 7:16:00 PM
2,4,5-T	U	0.307		mg/Kg-dry	5	3/29/2006 7:16:00 PM
2,4,5-TP	U	0.184		mg/Kg-dry	5	3/29/2006 7:16:00 PM
<b>SEMIVOLATILES ANALYSIS</b>		<b>SW8270C</b>		<b>(SW3550B)</b>		Analyst: BDP
Acenaphthene	U	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Acenaphthylene	U	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Anthracene	U	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Benzo(a)anthracene	0.904	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Benzo(b)fluoranthene	1.19	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Benzo(k)fluoranthene	0.496	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Benzo(g,h,i)perylene	U	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Benzo(a)pyrene	0.824	0.0845		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Chrysene	1.18	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Dibenz(a,h)anthracene	0.108	0.0845		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Fluoranthene	1.96	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Fluorene	U	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Indeno(1,2,3-cd)pyrene	0.480	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Naphthalene	U	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Phenanthrene	1.27	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
Pyrene	1.82	0.402		mg/Kg-dry	1	3/30/2006 12:01:00 AM
<b>PERCENT MOISTURE ANALYSIS</b>		<b>D2216</b>				Analyst: RMN
Percent Moisture	19.0	0.01		wt%	1	3/27/2006

**Prairie Analytical Systems, Inc.**

Date: 31-Mar-06

CLIENT: Missman, Stanley & Associates  
 Lab Order: 0603204  
 Project: GemVision  
 Lab ID: 0603204-003

Client Sample ID SB-3  
 Collection Date: 3/24/2006 12:10:00 PM

Matrix: SOLID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>HERBICIDES ANALYSIS</b>		<b>SW8321A</b>		<b>(SW8321A)</b>		Analyst: JKA
2,4-D	U	0.038		mg/Kg-dry	1	3/30/2006 4:31:00 PM
Dalapon	U	0.038		mg/Kg-dry	1	3/30/2006 4:31:00 PM
Dicamba	U	0.038		mg/Kg-dry	1	3/30/2006 4:31:00 PM
Picloram	U	0.038		mg/Kg-dry	1	3/30/2006 4:31:00 PM
2,4,5-T	U	0.063		mg/Kg-dry	1	3/30/2006 4:31:00 PM
2,4,5-TP	U	0.038		mg/Kg-dry	1	3/30/2006 4:31:00 PM
<b>SEMIVOLATILES ANALYSIS</b>		<b>SW8270C</b>		<b>(SW3550B)</b>		Analyst: BDP
Acenaphthene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Acenaphthylene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Anthracene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Benzo(a)anthracene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Benzo(b)fluoranthene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Benzo(k)fluoranthene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Benzo(g,h,i)perylene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Benzo(a)pyrene	U	0.0870		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Chrysene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Dibenz(a,h)anthracene	U	0.0870		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Fluoranthene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Fluorene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Indeno(1,2,3-cd)pyrene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Naphthalene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Phenanthrene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
Pyrene	U	0.414		mg/Kg-dry	1	3/29/2006 9:59:00 PM
<b>PERCENT MOISTURE ANALYSIS</b>		<b>D2216</b>				Analyst: RMN
Percent Moisture	21.0	0.01		wt%	1	3/27/2006

**Prairie Analytical Systems, Inc.**

Date: 31-Mar-06

CLIENT: Missman, Stanley & Associates  
 Lab Order: 0603204  
 Project: GemVision  
 Lab ID: 0603204-004

Client Sample ID SB-4  
 Collection Date: 3/24/2006 11:22:00 AM

Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES ANALYSIS</b>		<b>SW8270C</b>		<b>(SW3510C)</b>		Analyst: BDP
Acenaphthene	U	0.010		mg/L	1	3/28/2006 10:48:00 PM
Acenaphthylene	U	0.010		mg/L	1	3/28/2006 10:48:00 PM
Anthracene	U	0.010		mg/L	1	3/28/2006 10:48:00 PM
Benzo(a)anthracene	U	0.00012		mg/L	1	3/28/2006 10:48:00 PM
Benzo(b)fluoranthene	U	0.00018		mg/L	1	3/28/2006 10:48:00 PM
Benzo(k)fluoranthene	U	0.00016		mg/L	1	3/28/2006 10:48:00 PM
Benzo(g,h,i)perylene	U	0.010		mg/L	1	3/28/2006 10:48:00 PM
Benzo(a)pyrene	U	0.00020		mg/L	1	3/28/2006 10:48:00 PM
Chrysene	U	0.0014		mg/L	1	3/28/2006 10:48:00 PM
Dibenz(a,h)anthracene	U	0.00030		mg/L	1	3/28/2006 10:48:00 PM
Fluoranthene	U	0.010		mg/L	1	3/28/2006 10:48:00 PM
Fluorene	U	0.010		mg/L	1	3/28/2006 10:48:00 PM
Indeno(1,2,3-cd)pyrene	U	0.00043		mg/L	1	3/28/2006 10:48:00 PM
Naphthalene	U	0.010		mg/L	1	3/28/2006 10:48:00 PM
Phenanthrene	U	0.010		mg/L	1	3/28/2006 10:48:00 PM
Pyrene	U	0.010		mg/L	1	3/28/2006 10:48:00 PM
<b>VOLATILES ANALYSIS</b>		<b>SW8260B</b>		<b>(SW5030B)</b>		Analyst: JKA
Benzene	U	0.0050		mg/L	1	3/28/2006 3:58:00 PM
Ethylbenzene	U	0.0050		mg/L	1	3/28/2006 3:58:00 PM
Toluene	U	0.0050		mg/L	1	3/28/2006 3:58:00 PM
Xylenes, Total	U	0.0150		mg/L	1	3/28/2006 3:58:00 PM

## Prairie Analytical Systems, Inc.

---

### Qualifiers :

- B - Analyte detected in the associated method blank.
- E - Value above quantitation range.
- H - Analysis performed past holding time.
- HT - Sample received past holding time.
- J - Analyte detected between RL and MDL.
- R - RPD outside acceptance limits.
- S - Spike recovery outside acceptance limits.
- U - Analyte not detected (i.e. less than RL or MDL).

CLIENT: Missman, Stanley & Associates  
 Work Order: 0603204  
 Project: GemVision

**ANALYTICAL QC SUMMARY REPORT**

TestCode 8260B/VOA(m)\_W

Sample ID: MB-6702	SampType: MBLK	TestCode: 8260B/VOA(	Units: mg/L	Prep Date: 3/28/2006	Run ID: GCMS6_060328B						
Client ID: ZZZZZ	Batch ID: 6702	TestNo: SW8260B	(SW5030B)	Analysis Date: 3/28/2006	SeqNo: 212351						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual

Benzene	U	0.00500									
Ethylbenzene	U	0.00500									
Toluene	U	0.00500									
Xylenes, Total	U	0.0150									

Sample ID: LCS-6702	SampType: LCS	TestCode: 8260B/VOA(	Units: mg/L	Prep Date: 3/28/2006	Run ID: GCMS6_060328B						
Client ID: ZZZZZ	Batch ID: 6702	TestNo: SW8260B	(SW5030B)	Analysis Date: 3/28/2006	SeqNo: 212352						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual

Benzene	0.05142	0.00500	0.05	0	103	78	122	0	0		
Ethylbenzene	0.05084	0.00500	0.05	0	102	70	130	0	0		
Toluene	0.05223	0.00500	0.05	0	104	81	143	0	0		
Xylenes, Total	0.1612	0.0150	0.15	0	107	70	130	0	0		

Sample ID: LCSD-6702	SampType: LCSD	TestCode: 8260B/VOA(	Units: mg/L	Prep Date: 3/28/2006	Run ID: GCMS6_060328B						
Client ID: ZZZZZ	Batch ID: 6702	TestNo: SW8260B	(SW5030B)	Analysis Date: 3/28/2006	SeqNo: 212353						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual

Benzene	0.04993	0.00500	0.05	0	99.9	78	122	0.05142	2.94	20	
Ethylbenzene	0.04911	0.00500	0.05	0	98.2	70	130	0.05084	3.46	20	
Toluene	0.05067	0.00500	0.05	0	101	81	143	0.05223	3.03	20	
Xylenes, Total	0.1568	0.0150	0.15	0	105	70	130	0.1612	2.76	20	

Qualifiers: ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blau



**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603204  
**Project:** GemVision

## ANALYTICAL QC SUMMARY REPORT

**TestCode 8270C/BNA(m)\_S**

Sample ID: LCS-6709	SampType: LCS	TestCode: 8270C/BNA(	Units: mg/Kg	Prep Date: 3/28/2006	Run ID: GCMS1_060329A						
Client ID: ZZZZZ	Batch ID: 6709	TestNo: SW8270C	(SW3550B)	Analysis Date: 3/29/2006	SeqNo: 212967						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Fluoranthene	0.5607	0.333	0.6667	0	84.1	65	147	0	0		
Fluorene	0.433	0.333	0.6667	0	64.9	47	154	0	0		
Indeno(1,2,3-cd)pyrene	0.5163	0.333	0.6667	0	77.4	59	132	0	0		
Naphthalene	0.395	0.333	0.6667	0	59.2	53	133	0	0		
Phenanthrene	0.4923	0.333	0.6667	0	73.8	62	134	0	0		
Pyrene	0.5617	0.333	0.6667	0	84.2	35	142	0	0		

Sample ID: 0603204-003AMS	SampType: MS	TestCode: 8270C/BNA(	Units: mg/Kg-dry	Prep Date: 3/28/2006	Run ID: GCMS1_060329A						
Client ID: SB-3	Batch ID: 6709	TestNo: SW8270C	(SW3550B)	Analysis Date: 3/29/2006	SeqNo: 212980						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Acenaphthene	0.5917	0.412	0.8252	0	71.7	31	137	0	0		
Acenaphthylene	0.6271	0.412	0.8252	0	76	50	130	0	0		
Anthracene	0.6544	0.412	0.8252	0	79.3	50	130	0	0		
Benzo(a)anthracene	0.7092	0.412	0.8252	0	85.9	50	130	0	0		
Benzo(b)fluoranthene	0.7072	0.412	0.8252	0	85.7	50	130	0	0		
Benzo(k)fluoranthene	0.7183	0.412	0.8252	0	87	50	130	0	0		
Benzo(g,h,i)perylene	0.5095	0.412	0.8252	0	61.7	50	130	0	0		
Benzo(a)pyrene	0.5863	0.0866	0.8252	0	71	50	130	0	0		
Chrysene	0.7781	0.412	0.8252	0	94.3	50	130	0	0		
Dibenz(a,h)anthracene	0.5747	0.0866	0.8252	0	69.6	50	130	0	0		
Fluoranthene	0.7447	0.412	0.8252	0	90.2	50	130	0	0		
Fluorene	0.623	0.412	0.8252	0	75.5	50	130	0	0		
Indeno(1,2,3-cd)pyrene	0.4848	0.412	0.8252	0	58.7	50	130	0	0		
Naphthalene	0.5232	0.412	0.8252	0	63.4	50	130	0	0		
Phenanthrene	0.7031	0.412	0.8252	0	85.2	50	130	0	0		
Pyrene	0.7307	0.412	0.8252	0	88.5	35	142	0	0		

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blau

**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603204  
**Project:** GemVision

## ANALYTICAL QC SUMMARY REPORT

**TestCode 8270C/BNA(m)\_S**

Sample ID: 0603204-003AMSD	SampType: MSD	TestCode: 8270C/BNA(	Units: mg/Kg-dry	Prep Date: 3/28/2006	Run ID: GCMS1_060329A						
Client ID: SB-3	Batch ID: 6709	TestNo: SW8270C	(SW3550B)	Analysis Date: 3/29/2006	SeqNo: 212981						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Acenaphthene	0.5927	0.414	0.8295	0	71.4	31	137	0.5917	0.174	19	
Acenaphthylene	0.6342	0.414	0.8295	0	76.4	50	130	0.6271	1.11	20	
Anthracene	0.6225	0.414	0.8295	0	75	50	130	0.6544	4.98	20	
Benzo(a)anthracene	0.6483	0.414	0.8295	0	78.1	50	130	0.7092	8.98	20	
Benzo(b)fluoranthene	0.6595	0.414	0.8295	0	79.5	50	130	0.7072	6.98	20	
Benzo(k)fluoranthene	0.6653	0.414	0.8295	0	80.2	50	130	0.7183	7.67	20	
Benzo(g,h,i)perylene	0.4537	0.414	0.8295	0	54.7	50	130	0.5095	11.6	20	
Benzo(a)pyrene	0.5607	0.0871	0.8295	0	67.6	50	130	0.5863	4.45	20	
Chrysene	0.7242	0.414	0.8295	0	87.3	50	130	0.7781	7.19	20	
Dibenz(a,h)anthracene	0.5251	0.0871	0.8295	0	63.3	50	130	0.5747	9.03	20	
Fluoranthene	0.681	0.414	0.8295	0	82.1	50	130	0.7447	8.94	20	
Fluorene	0.6076	0.414	0.8295	0	73.2	50	130	0.623	2.50	20	
Indeno(1,2,3-cd)pyrene	0.4454	0.414	0.8295	0	53.7	50	130	0.4848	8.46	20	
Naphthalene	0.5388	0.414	0.8295	0	64.9	50	130	0.5232	2.94	20	
Phenanthrene	0.6491	0.414	0.8295	0	78.2	50	130	0.7031	7.98	20	
Pyrene	0.6773	0.414	0.8295	0	81.6	35	142	0.7307	7.59	36	

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603204  
**Project:** GemVision

## ANALYTICAL QC SUMMARY REPORT

**TestCode 8270C/BNA(m)\_W**

Sample ID: <b>MB-6707</b>	SampType: <b>MBLK</b>	TestCode: <b>8270C/BNA(</b>	Units: <b>mg/L</b>	Prep Date: <b>3/28/2006</b>	Run ID: <b>GCMS1_060328C</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>6707</b>	TestNo: <b>SW8270C</b>	( <b>SW3510C</b> )	Analysis Date: <b>3/28/2006</b>	SeqNo: <b>212360</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Acenaphthene	U	0.010									
Acenaphthylene	U	0.010									
Anthracene	U	0.010									
Benzo(a)anthracene	U	0.00011									
Benzo(b)fluoranthene	U	0.00013									
Benzo(k)fluoranthene	U	0.00013									
Benzo(g,h,i)perylene	U	0.010									
Benzo(a)pyrene	U	0.00015									
Chrysene	U	0.0012									
Dibenz(a,h)anthracene	U	0.00020									
Fluoranthene	U	0.010									
Fluorene	U	0.010									
Indeno(1,2,3-cd)pyrene	U	0.00030									
Naphthalene	U	0.010									
Phenanthrene	U	0.010									
Pyrene	U	0.010									

Sample ID: <b>LCS-6707</b>	SampType: <b>LCS</b>	TestCode: <b>8270C/BNA(</b>	Units: <b>mg/L</b>	Prep Date: <b>3/28/2006</b>	Run ID: <b>GCMS1_060328C</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>6707</b>	TestNo: <b>SW8270C</b>	( <b>SW3510C</b> )	Analysis Date: <b>3/28/2006</b>	SeqNo: <b>212361</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Acenaphthene	0.01395	0.010	0.02	0	69.8	40	120	0	0		
Acenaphthylene	0.0146	0.010	0.02	0	73	42.1	140	0	0		
Anthracene	0.01529	0.010	0.02	0	76.5	60.2	127	0	0		
Benzo(a)anthracene	0.01715	0.00011	0.02	0	85.8	50.9	133	0	0		
Benzo(b)fluoranthene	0.01662	0.00013	0.02	0	83.1	9.83	146	0	0		
Benzo(k)fluoranthene	0.0185	0.00013	0.02	0	92.5	14.3	167	0	0		
Benzo(g,h,i)perylene	0.01736	0.010	0.02	0	86.8	20.5	158	0	0		
Benzo(a)pyrene	0.01429	0.00015	0.02	0	71.5	1.69	162	0	0		
Chrysene	0.01791	0.0012	0.02	0	89.6	26.6	163	0	0		
Dibenz(a,h)anthracene	0.01683	0.00020	0.02	0	84.2	36.6	158	0	0		

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blau

**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603204  
**Project:** GemVision

## ANALYTICAL QC SUMMARY REPORT

**TestCode 8270C/BNA(m)\_W**

Sample ID: LCS-6707	SampType: LCS	TestCode: 8270C/BNA(	Units: mg/L	Prep Date: 3/28/2006	Run ID: GCMS1_060328C						
Client ID: ZZZZZ	Batch ID: 6707	TestNo: SW8270C	(SW3510C)	Analysis Date: 3/28/2006	SeqNo: 212361						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Fluoranthene	0.0167	0.010	0.02	0	83.5	66.8	131	0	0		
Fluorene	0.01338	0.010	0.02	0	66.9	51.7	140	0	0		
Indeno(1,2,3-cd)pyrene	0.01362	0.00030	0.02	0	68.1	11	156	0	0		
Naphthalene	0.01207	0.010	0.02	0	60.4	42.1	131	0	0		
Phenanthrene	0.01436	0.010	0.02	0	71.8	60.6	131	0	0		
Pyrene	0.01662	0.010	0.02	0	83.1	50	125	0	0		

Sample ID: LCSD-6707	SampType: LCSD	TestCode: 8270C/BNA(	Units: mg/L	Prep Date: 3/28/2006	Run ID: GCMS1_060328C						
Client ID: ZZZZZ	Batch ID: 6707	TestNo: SW8270C	(SW3510C)	Analysis Date: 3/28/2006	SeqNo: 212362						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Acenaphthene	0.01209	0.010	0.02	0	60.4	40	120	0.01395	14.3	30	
Acenaphthylene	0.01291	0.010	0.02	0	64.6	42.1	140	0.0146	12.3	20	
Anthracene	0.01518	0.010	0.02	0	75.9	60.2	127	0.01529	0.722	20	
Benzo(a)anthracene	0.01699	0.00011	0.02	0	85	50.9	133	0.01715	0.937	20	
Benzo(b)fluoranthene	0.01655	0.00013	0.02	0	82.8	9.83	146	0.01662	0.422	20	
Benzo(k)fluoranthene	0.01847	0.00013	0.02	0	92.4	14.3	167	0.0185	0.162	20	
Benzo(g,h,i)perylene	0.01702	0.010	0.02	0	85.1	20.5	158	0.01736	1.98	20	
Benzo(a)pyrene	0.01376	0.00015	0.02	0	68.8	1.69	162	0.01429	3.78	20	
Chrysene	0.01786	0.0012	0.02	0	89.3	26.6	163	0.01791	0.280	20	
Dibenz(a,h)anthracene	0.01665	0.00020	0.02	0	83.3	36.6	158	0.01683	1.08	20	
Fluoranthene	0.01642	0.010	0.02	0	82.1	66.8	131	0.0167	1.69	20	
Fluorene	0.01231	0.010	0.02	0	61.6	51.7	140	0.01338	8.33	20	
Indeno(1,2,3-cd)pyrene	0.01414	0.00030	0.02	0	70.7	11	156	0.01362	3.75	20	
Naphthalene	0.01078	0.010	0.02	0	53.9	42.1	131	0.01207	11.3	20	
Phenanthrene	0.01441	0.010	0.02	0	72	60.6	131	0.01436	0.348	20	
Pyrene	0.01658	0.010	0.02	0	82.9	50	125	0.01662	0.241	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603204  
**Project:** GemVision

## ANALYTICAL QC SUMMARY REPORT

**TestCode 8321A/CPA\_S**

Sample ID: MB-6710	SampType: MBLK	TestCode: 8321A/CPA_	Units: µg/Kg	Prep Date: 3/28/2006	Run ID: HPLCMS1_060329A						
Client ID: ZZZZZ	Batch ID: 6710	TestNo: SW8321A	(SW8321A)	Analysis Date: 3/29/2006	SeqNo: 212913						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
2,4-D	U	30.0									
Dalapon	U	30.0									
Dicamba	U	30.0									
Picloram	U	30.0									
2,4,5-T	U	50.0									
2,4,5-TP	U	30.0									
Surr: DCAA	146.9	0	200	0	73.4	40	130	0	0		

Sample ID: LCS-6710	SampType: LCS	TestCode: 8321A/CPA_	Units: µg/Kg	Prep Date: 3/28/2006	Run ID: HPLCMS1_060329A						
Client ID: ZZZZZ	Batch ID: 6710	TestNo: SW8321A	(SW8321A)	Analysis Date: 3/29/2006	SeqNo: 212914						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
2,4-D	273	30.0	200	0	136	65	130	0	0		S
2,4,5-TP	170.1	30.0	200	0	85	65	130	0	0		
Surr: DCAA	185	0	200	0	92.5	40	130	0	0		

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603204  
**Project:** GemVision

## ANALYTICAL QC SUMMARY REPORT

**TestCode PMOIST**

Sample ID: MB-R12317	SampType: MBLK	TestCode: PMOIST	Units: wt%	Prep Date:	Run ID: BALANCE2_060327A
Client ID: ZZZZZ	Batch ID: R12317	TestNo: D2216		Analysis Date: 3/27/2006	SeqNo: 211806
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Percent Moisture	U	0.0100			

Sample ID: 0603204-003B DUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	Run ID: BALANCE2_060327A
Client ID: SB-3	Batch ID: R12317	TestNo: D2216		Analysis Date: 3/27/2006	SeqNo: 211823
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Percent Moisture	20.8	0.0100	0	0	0 0 0 21 0.957 20

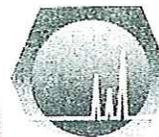
**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

An Analytical  
Testing Laboratory

Prairie



Analytical  
Systems, INCORPORATED

April 05, 2006

Ms. Jennifer Walker  
Missman, Stanley & Associates  
1717 State Street, Suite 201  
Bettendorf, IA 52722

1210 Capital Airport Drive  
Springfield, Illinois 62707  
Phone: 217-753-1148  
Fax: 217-753-1152  
[www.prairieanalytical.com](http://www.prairieanalytical.com)

RE: GemVision

PAS Order No.:0603238

Dear Ms. Jennifer Walker:

Prairie Analytical Systems, Inc. received 1 sample on 3/30/2006 11:05:00 AM for the analyses presented in the following report.

All applicable quality control procedures met method specific acceptance criteria.

This report shall not be reproduced, except in full, without the prior written consent of Prairie Analytical Systems, Inc.

If you have any questions, please feel free to call me at (217) 753-1148.

Sincerely,

Kristen A. Potter  
Project Manager

**Prairie Analytical Systems, Inc.**

Date: 05-Apr-06

**CLIENT:** Missman, Stanley & Associates  
**Lab Order:** 0603238  
**Project:** GemVision  
**Lab ID:** 0603238-001

**Client Sample ID** SB-5  
**Collection Date** 3/29/2006 10:32:00 AM

**Matrix:** SOLID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES ANALYSIS</b>		<b>SW8270C</b>		<b>(SW3550B)</b>		Analyst: JKA
Acenaphthene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Acenaphthylene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Anthracene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Benzo(a)anthracene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Benzo(b)fluoranthene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Benzo(k)fluoranthene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Benzo(g,h,i)perylene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Benzo(a)pyrene	U	0.0852		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Chrysene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Dibenz(a,h)anthracene	U	0.0852		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Fluoranthene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Fluorene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Indeno(1,2,3-cd)pyrene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Naphthalene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Phenanthrene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
Pyrene	U	0.405		mg/Kg-dry	1	4/4/2006 11:36:00 PM
<b>PERCENT MOISTURE ANALYSIS</b>		<b>D2216</b>				Analyst: RMN
Percent Moisture	20.2	0.01		wt%	1	3/31/2006

## Prairie Analytical Systems, Inc.

---

### Qualifiers :

B - Analyte detected in the associated method blank.

E - Value above quantitation range.

H - Analysis performed past holding time.

HT - Sample received past holding time.

J - Analyte detected between RL and MDL.

R - RPD outside acceptance limits.

S - Spike recovery outside acceptance limits.

U - Analyte not detected (i.e. less than RL or MDL).

# Chain of Custody Record

Central IL- 1210 Capital Airport Drive - Springfield, IL 62707-8490 - Phone (217) 753-1148 - Facsimile (217) 753-1152  
 Chicago Office - PO Box 2116 - Crystal Lake, IL 60039-2116 - Phone (847) 651-2604 - Facsimile (847) 458-9680

www.prairieanalytical.com



Client	MISSMAN STANLEY & ASSOCIATES					Analysis and/or method Requested					Reporting		
Address	1717 18th ST SUITE 201					Analysis and/or method Requested	PMA5						TACO
City, State Zip Code	BETTENDORF, IA 52722												___ Resid
Phone / Facsimile No.	563-344-0260		1563-344-0263										<input checked="" type="checkbox"/> Ind/Comm
Client Project	GEM VERION												CALM
Location	4th AVE + 12-13th ST. MOULING, IL												___ A ___ B
Sampler(s) / Phone	MIKE HARNUNG		1563-344-0260										___ C
Turnaround Time	Standard [ ] Rush <input checked="" type="checkbox"/> Date Required: 72 hr												RISC
P.O. # or Invoice To	C06E011												___ Resid
Contact Person	JENNIFER WALKER					___ Indust							
Sample Description	Sampling		Matrix Code <sup>1</sup>	Total # of Containers	Sample							Laboratory Comments	
	Date	Time			Comp	Grab							
SB-5	3/29/06	10:32	S	1		X							
<sup>1</sup> M = Matrix Code      A - Aqueous      DW - Drinking Water      GW - Groundwater      NA - Non-aqueous Liquid      S - Solids      O - Other (Specify)													
Relinquished By		Date	Time	Received By		Date	Time	Method of Shipment					
<i>[Signature]</i>		3/29/06	11:30	<i>[Signature]</i>		3/30/06	11:05A	UPS					
Special Instructions:						Q/C Level	On Wet Ice	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Temperature (°C)				
						1__ 2__ 3__ 4__	Proper Preservation	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	30°				

**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603238  
**Project:** GemVision

**ANALYTICAL QC SUMMARY REPORT**

**TestCode 8270C/BNA(m)\_S**

Sample ID: <b>MB-6735</b>	SampType: <b>MBLK</b>	TestCode: <b>8270C/BNA(</b>	Units: <b>mg/Kg</b>	Prep Date: <b>3/31/2006</b>	Run ID: <b>GCMS3_060402B</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>6735</b>	TestNo: <b>SW8270C</b>	<b>(SW3550B)</b>	Analysis Date: <b>4/2/2006</b>	SeqNo: <b>215398</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Acenaphthene	U	0.333									
Acenaphthylene	U	0.333									
Anthracene	U	0.333									
Benzo(a)anthracene	U	0.333									
Benzo(a)pyrene	U	0.0900									
Benzo(b)fluoranthene	U	0.333									
Benzo(g,h,i)perylene	U	0.333									
Benzo(k)fluoranthene	U	0.333									
Chrysene	U	0.333									
Dibenz(a,h)anthracene	U	0.0900									
Fluoranthene	U	0.333									
Fluorene	U	0.333									
Indeno(1,2,3-cd)pyrene	U	0.333									
Naphthalene	U	0.333									
Phenanthrene	U	0.333									
Pyrene	U	0.333									

Sample ID: <b>LCS-6735</b>	SampType: <b>LCS</b>	TestCode: <b>8270C/BNA(</b>	Units: <b>mg/Kg</b>	Prep Date: <b>3/31/2006</b>	Run ID: <b>GCMS3_060402B</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>6735</b>	TestNo: <b>SW8270C</b>	<b>(SW3550B)</b>	Analysis Date: <b>4/2/2006</b>	SeqNo: <b>215399</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Acenaphthene	0.4637	0.333	0.6667	0	69.5	31	137	0	0		
Acenaphthylene	0.5097	0.333	0.6667	0	76.4	51	134	0	0		
Anthracene	0.499	0.333	0.6667	0	74.8	56	131	0	0		
Benzo(a)anthracene	0.573	0.333	0.6667	0	85.9	61	144	0	0		
Benzo(a)pyrene	0.59	0.0900	0.6667	0	88.5	41	133	0	0		
Benzo(b)fluoranthene	0.544	0.333	0.6667	0	81.6	57	134	0	0		
Benzo(g,h,i)perylene	0.5363	0.333	0.6667	0	80.4	56	147	0	0		
Benzo(k)fluoranthene	0.5987	0.333	0.6667	0	89.8	59	168	0	0		
Chrysene	0.5657	0.333	0.6667	0	84.8	63	150	0	0		

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603238  
**Project:** GemVision

## ANALYTICAL QC SUMMARY REPORT

**TestCode 8270C/BNA(m)\_S**

Sample ID: <b>LCS-6735</b>	SampType: <b>LCS</b>	TestCode: <b>8270C/BNA(</b>	Units: <b>mg/Kg</b>	Prep Date: <b>3/31/2006</b>	Run ID: <b>GCMS3_060402B</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>6735</b>	TestNo: <b>SW8270C</b>	( <b>SW3550B</b> )	Analysis Date: <b>4/2/2006</b>	SeqNo: <b>215399</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Dibenz(a,h)anthracene	0.553	0.0900	0.6667	0	82.9	65	151	0	0		
Fluoranthene	0.559	0.333	0.6667	0	83.8	65	147	0	0		
Fluorene	0.4723	0.333	0.6667	0	70.8	47	154	0	0		
Indeno(1,2,3-cd)pyrene	0.577	0.333	0.6667	0	86.5	59	132	0	0		
Naphthalene	0.4207	0.333	0.6667	0	63.1	53	133	0	0		
Phenanthrene	0.4877	0.333	0.6667	0	73.1	62	134	0	0		
Pyrene	0.5467	0.333	0.6667	0	82	35	142	0	0		

Sample ID: <b>0603242-003AMS</b>	SampType: <b>MS</b>	TestCode: <b>8270C/BNA(</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>3/31/2006</b>	Run ID: <b>GCMS5_060405D</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>6735</b>	TestNo: <b>SW8270C</b>	( <b>SW3550B</b> )	Analysis Date: <b>4/5/2006</b>	SeqNo: <b>215396</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Acenaphthene	0.5858	0.405	0.81	0	72.3	31	137	0	0		
Acenaphthylene	0.7272	0.405	0.81	0	89.8	50	130	0	0		
Anthracene	0.6952	0.405	0.81	0	85.8	50	130	0	0		
Benzo(a)anthracene	0.6757	0.405	0.81	0	83.4	50	130	0	0		
Benzo(b)fluoranthene	0.6703	0.405	0.81	0	82.8	50	130	0	0		
Benzo(k)fluoranthene	0.8705	0.405	0.81	0	107	50	130	0	0		
Benzo(g,h,i)perylene	0.8006	0.405	0.81	0	98.8	50	130	0	0		
Benzo(a)pyrene	0.7292	0.109	0.81	0	90	50	130	0	0		
Chrysene	0.6085	0.405	0.81	0	75.1	50	130	0	0		
Dibenz(a,h)anthracene	0.7518	0.109	0.81	0	92.8	50	130	0	0		
Fluoranthene	0.759	0.405	0.81	0	93.7	50	130	0	0		
Fluorene	0.6439	0.405	0.81	0	79.5	50	130	0	0		
Indeno(1,2,3-cd)pyrene	0.9639	0.405	0.81	0	119	50	130	0	0		
Naphthalene	0.6635	0.405	0.81	0	81.9	50	130	0	0		
Phenanthrene	0.5834	0.405	0.81	0	72	50	130	0	0		
Pyrene	0.7242	0.405	0.81	0	89.4	35	142	0	0		

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603238  
**Project:** GemVision

## ANALYTICAL QC SUMMARY REPORT

**TestCode 8270C/BNA(m)\_S**

Sample ID: 0603242-003AMSD	SampType: MSD	TestCode: 8270C/BNA(	Units: mg/Kg-dry	Prep Date: 3/31/2006	Run ID: GCMS5_060405D						
Client ID: ZZZZZ	Batch ID: 6735	TestNo: SW8270C	(SW3550B)	Analysis Date: 4/5/2006	SeqNo: 215397						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimi	Qual
Acenaphthene	0.5588	0.402	0.8038	0	69.5	31	137	0.5858	4.72	19	
Acenaphthylene	0.6183	0.402	0.8038	0	76.9	50	130	0.7272	16.2	20	
Anthracene	0.7611	0.402	0.8038	0	94.7	50	130	0.6952	9.04	20	
Benzo(a)anthracene	0.6258	0.402	0.8038	0	77.9	50	130	0.6757	7.67	20	
Benzo(a)pyrene	0.677	0.109	0.8038	0	84.2	50	130	0.7292	7.42	20	
Benzo(b)fluoranthene	0.6705	0.402	0.8038	0	83.4	50	130	0.6703	0.0326	20	
Benzo(g,h,i)perylene	0.757	0.402	0.8038	0	94.2	50	130	0.8006	5.60	20	
Benzo(k)fluoranthene	0.8012	0.402	0.8038	0	99.7	50	130	0.8705	8.29	20	
Chrysene	0.5977	0.402	0.8038	0	74.4	50	130	0.6085	1.79	20	
Dibenz(a,h)anthracene	0.8027	0.109	0.8038	0	99.9	50	130	0.7518	6.56	20	
Fluoranthene	0.8136	0.402	0.8038	0	101	50	130	0.759	6.93	20	
Fluorene	0.5428	0.402	0.8038	0	67.5	50	130	0.6439	17.0	20	
Indeno(1,2,3-cd)pyrene	0.9683	0.402	0.8038	0	120	50	130	0.9639	0.452	20	
Naphthalene	0.5469	0.402	0.8038	0	68	50	130	0.6635	19.3	20	
Phenanthrene	0.6036	0.402	0.8038	0	75.1	50	130	0.5834	3.41	20	
Pyrene	0.7525	0.402	0.8038	0	93.6	35	142	0.7242	3.82	36	

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** Missman, Stanley & Associates  
**Work Order:** 0603238  
**Project:** GemVision

## ANALYTICAL QC SUMMARY REPORT

**TestCode PMOIST**

Sample ID: <b>MB-R12398</b>	SampType: <b>MBLK</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date:	Run ID: <b>BALANCE2_060331A</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R12398</b>	TestNo: <b>D2216</b>		Analysis Date: <b>3/31/2006</b>	SeqNo: <b>213319</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Percent Moisture	U	0.0100
------------------	---	--------

Sample ID: <b>0603242-003A DUP</b>	SampType: <b>DUP</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date:	Run ID: <b>BALANCE2_060331A</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R12398</b>	TestNo: <b>D2216</b>		Analysis Date: <b>3/31/2006</b>	SeqNo: <b>213349</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Percent Moisture	16.2	0.0100	0	0	0	0	0	18.1	11.1	20
------------------	------	--------	---	---	---	---	---	------	------	----

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank