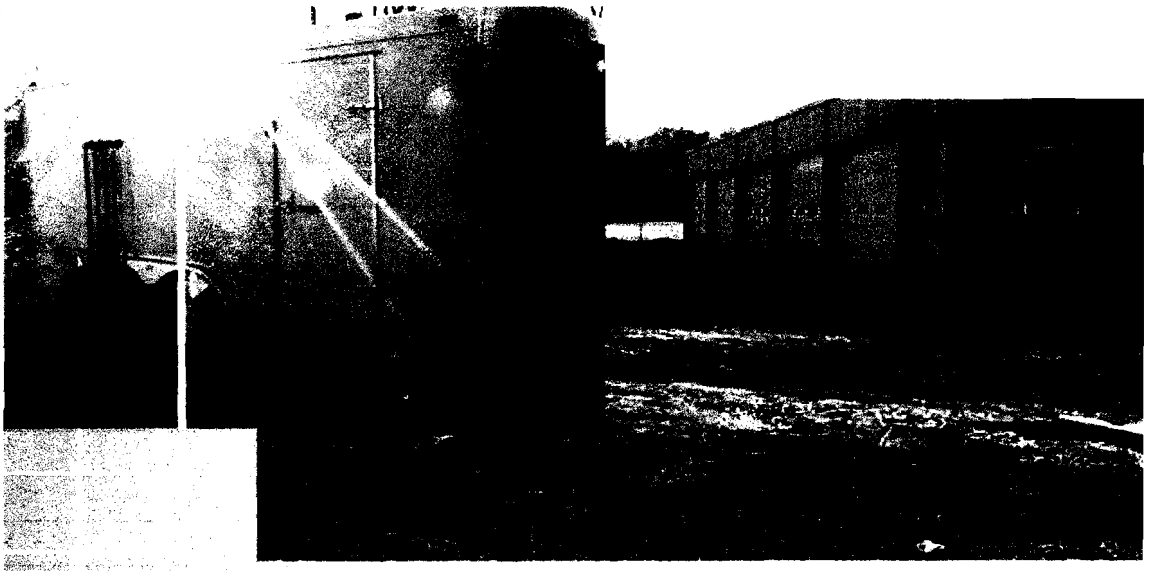
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

Albany, New York

Harrison Subresidency
Town of Harrison
Westchester County, New York

D008873
PIN 8807.31.301

Air Sparging and Soil Vapor Extraction System



Operation and Maintenance Report for May 2001

June 2001

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Environmental Science & Engineering Consultants
One Blue Hill Plaza • Pearl River, New York 10965

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

SUMMARY OF PERFORMANCE MONITORING SECOND QUARTER (MAY 2001)

1.1 OBJECTIVE

The second quarter sampling was conducted on May 24 and 25, 2001. The objectives of this sampling event were:

- to assess the remediation efforts thus far;
- to assess the radius of influence (ROI) afforded by the existing air sparge wells and to assess the performance of the three (out of four) operational air sparge wells;
- to assess the need for additional air sparge wells;
- to qualitatively assess the level of biodegradation present;
- to assess the effects of rebounding.

1.2 SAMPLING PLAN

Monitoring wells 1 through 9, sparge wells SP-1 through 4 and PC-1 were sampled and analyzed for benzene, toluene, ethyl-benzene, xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene and 2 methylnapthene in addition to standard water chemistry parameters (to assess the extent of biodegradation).

As part of previous investigations at this site, the septic tank was opened, inspected, and sampled. The septic tank wastewater contained 510 ug/L of trichloroethylene (TCE) and 2,700 ug/L of tetrachloroethylene (PCE). The NYSDOT requested that LMS arrange for the removal and disposal of the tank contents; the septic tank was pumped out on 30 January 2001 and contents disposed. In addition to the performance sampling of the remediation system, two additional groundwater samples were collected in the vicinity of the leachfield to determine if PCE and/or TCE impact the area. Table 1-1 shows the sampling matrix.

TABLE 1-1

Harrison Subresidency Spill Site
Harrison, New York
Compliance Sampling and Leachfield Groundwater Sampling

Parameter	Matrix	Container	Analytical Method	Preservative	Holding Time	Number of samples	Remarks
BTEX MTBE Naphthalene 2-Methylnaphthalene	Aqueous	3, 40 ml glass vials with teflon caps and septa	USEPA 8260B	cool 4 C	7 days	15	
TCL VOCs MTBE PCE TCE	Aqueous	3, 40 ml glass vials with teflon caps and septa	USEPA 8260B	cool 4 C	7 days	2	leachfield sampling methods
Iron (total)	Aqueous	500 mL polyethylene	USEPA 6010B	HNO_3, cool 4 C	28 days	15	
Iron* (disolved)	Aqueous	500 mL polyethylene	USEPA 6010B	cool 4 C	ASAP	15	*To be filtered and preserved by Mitkem
Nitrate-nitrite Nitrogen	Aqueous	250 mL polyethylene	USEPA 353.2	$H2SO_4$ to pH<2, cool to 4 C	28 days	15	
Sulfate	Aqueous	500 mL polyethylene	USEPA 9056	cool 4 C	28 days	15	
TOC	Aqueous	2, 40 mL glass vials with teflon caps and septa	USEPA 415.1	HCl to pH<2, cool to 4 C	28 days	15	
CO_2	Aqueous	*250 mL Amber (narrow top) with teflon caps and septa	USEPA 4500-CO2D	cool 4 C	24 hours	15	*Fill jar all the way to the top.
Trip Blank	Aqueous	2, 40 ml glass vials with teflon caps and septa	USEPA 8260B	cool 4 C	7 days	2	*Prepared by Mitkem

1.3 SAMPLING METHODS

The air sparge system was shutdown approximately 4 weeks in advance of this second quarter sampling event, the soil vapor extraction system was shutdown approximately one week in advance.

Static water levels were first measured in each of the wells; the results are summarized in Table 1-2. Groundwater samples were collected by purging each well a minimum of three well volumes or purging the well dry and allowing the well to recover prior to sample collection. Purging was performed by hand-bailing the well with dedicated disposal bailers. Groundwater samples were collected using 0.5-in. or 1.5-in. diameter dedicated disposable bailers. Temperature, pH, conductivity, salinity, ORP, dissolved oxygen (DO) and turbidity were recorded during well purging and before sampling. These standard parameters were recorded in the well sampling logs, which are located in the Attachment A. Dissolved oxygen was measured in the field and was recorded during sample collection. The meter was decontaminated and re-calibrated between samples.

The two leachfield groundwater samples were collected via a truck-mounted probe utilizing a direct push hydraulic hammer system. The direct-push probe was advanced to refusal depth for both samples. Groundwater samples were collected by installing a temporary piezometer of 2-inch screened PVC into the borehole. The piezometers were then purged and sampled using a dedicated polyethylene bailer. Sampling was performed after the groundwater in the piezometers recovered to the appropriate level. Following sampling, the piezometers were removed and the boreholes backfilled with bentonite.

The samples were transferred directly into the sample container and labeled with the site name, job number, sample location/identification, date, time, sampler, and parameters for analysis. The samples were then placed into coolers, cooled to less than 4°C, and submitted under chain-of-custody protocol to a New York State Department of Health (NYSDOH) certified laboratory (Mitkem Corporation, Rhode Island). The results were received from the laboratory on June 8, 2001 via fax.

TABLE 1-2
STATIC WATER LEVEL & DEPTH TO BOTTOM MEASUREMENTS
Harrison Subresidency
5/24/2001

Well ID	DTW (May 2001)	DTW (Jan 2001)	DTW (May 2000)	DTW (March 1999)	DTW (MAY 1997)	DTW (Nov 1995)	DTB
PC-1	6.55	4.58	5.22	3.95	NA	NA	6.87
SP-1	4.46	7.25	12.86	2.70	3.04	NA	19.18
SP-1B	4.83	NA	4.58	2.64	NA	NA	26.77
SP-2	6.87	NA	9.00	5.82	5.94	NA	18.48
SP-3	6.78	NA	6.89	6.00	NA	NA	19.95
SP-4	4.40	NA	17.42	3.54	NA	NA	20.90
MW-1	3.37	2.87	2.78	1.23	1.70	2.92	8.58
MW-2	4.89	4.57	3.86	2.44	NA	4.53	10.79
MW-3	4.88	4.70	4.18	2.91	3.08	4.94	10.75
MW-4	4.95	4.73	4.31	3.30	NA	4.82	11.62
MW-5	5.10	4.89	4.87	3.68	NA	5.26	11.00
MW-6	5.20	5.26	4.95	4.20	NA	5.43	14.77
MW-7	4.56	3.90	3.60	2.32	2.67	4.47	14.67
MW-8	6.87	7.36	6.86	5.98	6.40	7.21	14.57
MW-9	7.23	7.25	6.61	6.27	NA	NA	13.74

DTB = depth to bottom (feet)
DTW = depth to water (feet)
Shaded values indicate that well recharge was likely adversely influenced and DTW is not representative.
NA = not available

1.4 SUMMARY OF ANALYTICAL RESULTS

The analytical data are summarized in Attachment A. In the past, there have been some anomalies in the MTBE data, which resulted in concentrations that were biased high due to GC shifts. For example, a comparison of the 2000 MTBE sampling results to the 1999 results suggested a marked increase in MTBE concentrations. Since such a large increase in MTBE concentrations seemed unlikely, the laboratory was contacted to verify sample results. The laboratory noted that groundwater samples collected for VOC analyses were previously analyzed using gas chromatography (GC) methodology. However, as a result of elevated analyte concentrations and, what the laboratory has described as complex chromatograms, two samples, MW-3 and MW-8 were also analyzed by GC mass spectrometry methods. Subsequent review of the GC/MS results indicated that MTBE was detected in MW-8 at 2.86 ug/l and not detected in MW-3; the initial GC results indicated that MW-8 contained 68 ug/l and MW-3 had 50 µg/l of MTBE. The difference in the reported GC results and the GC/MS results was attributed by the contract laboratory to a minor retention time shift on the GC chromatograms. The chromatograms for the remaining wells also exhibited a complexity similar to those of MW-3 and MW-8; however, GC/MS confirmations were not performed on these samples at that time.

The reported values for MTBE listed in Attachment A for the May 2000 and the January 2001 data likely have a positive bias similar to that of MW-3 and MW-8. Therefore, it was likely that MTBE, if present at all, was present in trace amounts only in the past sampling events; data collected in the second quarter confirms this. MTBE concentrations detected this quarter were virtually non-detectable, MW-7, SP-2 and SP-3 revealed MTBE at concentrations less than 20 ug/L.

Overall, second quarter results reveal that MTBE met the target effluent goal of 50 ug/L at all sampled locations.

MW-1 BTEX concentration was non-detectable. MW-1 is located upstream of the known plume area, first quarter sampling revealed MTBE at a concentration of 54 ug/L. As described above, this result is questionable; second quarter results show MTBE to be non-detectable in MW-1.

MW-2 BTEX concentration was non-detectable. MW-2 had a baseline BTEX concentration of 16.6 ug/L and a first quarter concentration of 4 ug/L.

MW-3 is located in the center of the plume; historically the BTEX concentration was 960 ug/L and first quarter results showed BTEX at 2.0 ug/L. Some rebounding did take place in this well since the second quarter sampling revealed a BTEX concentration of 174 ug/L, most of which is xylene. Xylene is the most difficult compound of the BTEX group to remediate, so these results are not unexpected. In any case, 82% removal of BTEX was achieved in MW-3.

MW-4 BTEX concentration is 2 ug/L, the baseline concentration was 39.4 ug/L.

MW-5 is located in the center of the plume; historically the BTEX concentration was 916 ug/L and first quarter results showed BTEX at 45.0 ug/L. Some rebounding did take place in this well since the second quarter sampling revealed a BTEX concentration of 232 ug/L, most of which is xylene. Xylene is the most difficult compound of the BTEX group to remediate so these results are not unexpected. In any case, 75% removal of BTEX has achieved in MW-5.

MW-6 BTEX concentration was historically 224.9 ug/L. Second quarter sampling results reveal that the concentration was reduced to 6 ug/L, well below the target criteria of 50 ug/L.

MW-7 BTEX concentration was non-detectable, reduced from 17.9 ug/L.

MW-8 BTEX concentration was previously 396 ug/L, second quarter sampling reveals that the concentration is 36 ug/L, just under the 50 ug/L target limit. MW-8 also experienced rebounding, the first quarter sampling results showed non-detectable BTEX concentration.

MW-9 continues to show non-detectable BTEX levels.

PC-1 was not tested this quarter, the well was dry and representative sampling could not be performed.

SP-1 BTEX concentration was historically 31 ug/L, second quarter sampling results show non-detectable levels.

SP-2 is historically characterized by a BTEX concentration totaling 217 ug/L; second quarter results show non-detectable BTEX levels.

SP-3 previously measured a BTEX concentration of 586 ug/L; second quarter results reveal a concentration of 15 ug/L.

SP-4 BTEX concentration previously exceeded the 50 ug/L target with a concentration of 74.4 ug/L, second quarter results reveal non-detectable levels.

Table 1-3 summarizes the BTEX and MTBE data to date. Figure 1-1 shows the data graphically. As discussed, Attachment B presents a summary of all the analytical data for each monitoring point.

Naphthalene and 2-methylnapthalene were known to be present at this site, therefore, the sampling program was expanded to include these parameters. The results revealed that the concentrations of each were non-detectable (<10 ug/L) in all sampling locations. The target effluent goals for these constituents are 25 ug/L and 50 ug/L, respectively.

The groundwater samples collected from borings in the leach field area reveal that TCE and PCE were not present. The only constituent identified was MTBE at a concentration of 18 ug/L in LF TP-2. Attachment C includes the boring logs for these samples.

Attachment D presents the raw analytical data.

1.4.1 Biodegradation Considerations

Bioremediation indicators were also analyzed during the second quarter sampling event. This includes carbon dioxide (aqueous), nitrates/nitrites, TOC, dissolved iron, total iron, sulfate and dissolved oxygen. In general three indicators are used to measure the level of insitu biodegradation, these are:

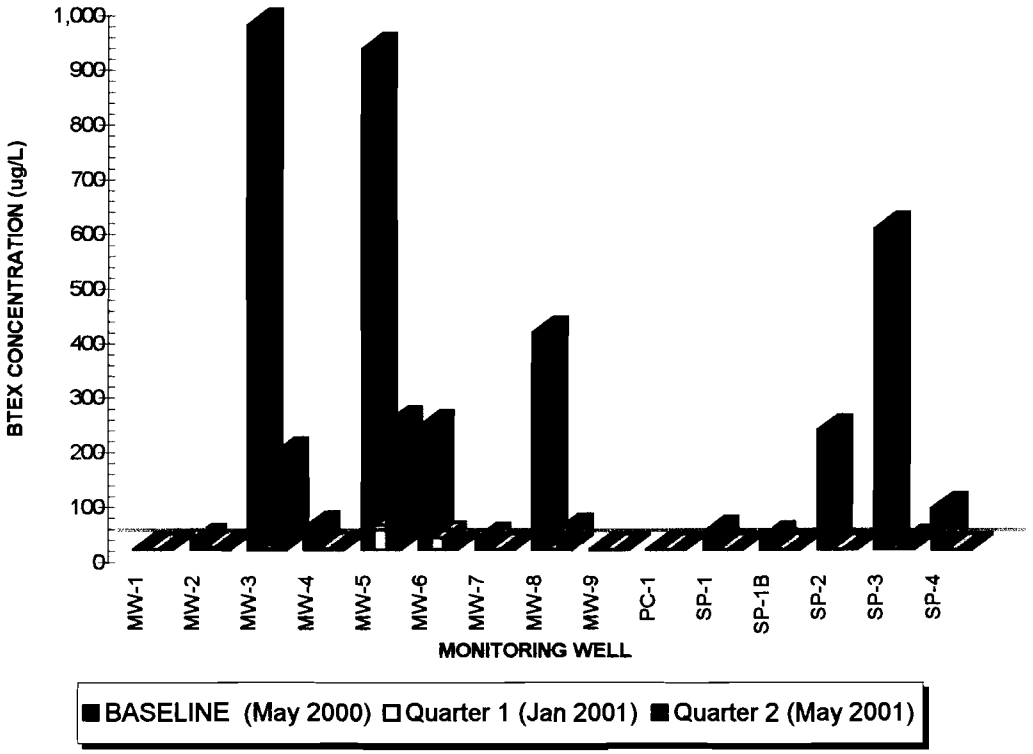
TABLE 1-3
MONITORING WELL DATA SUMMARY
QUARTER 2 (MAY 2001)
Harrison Subresidency

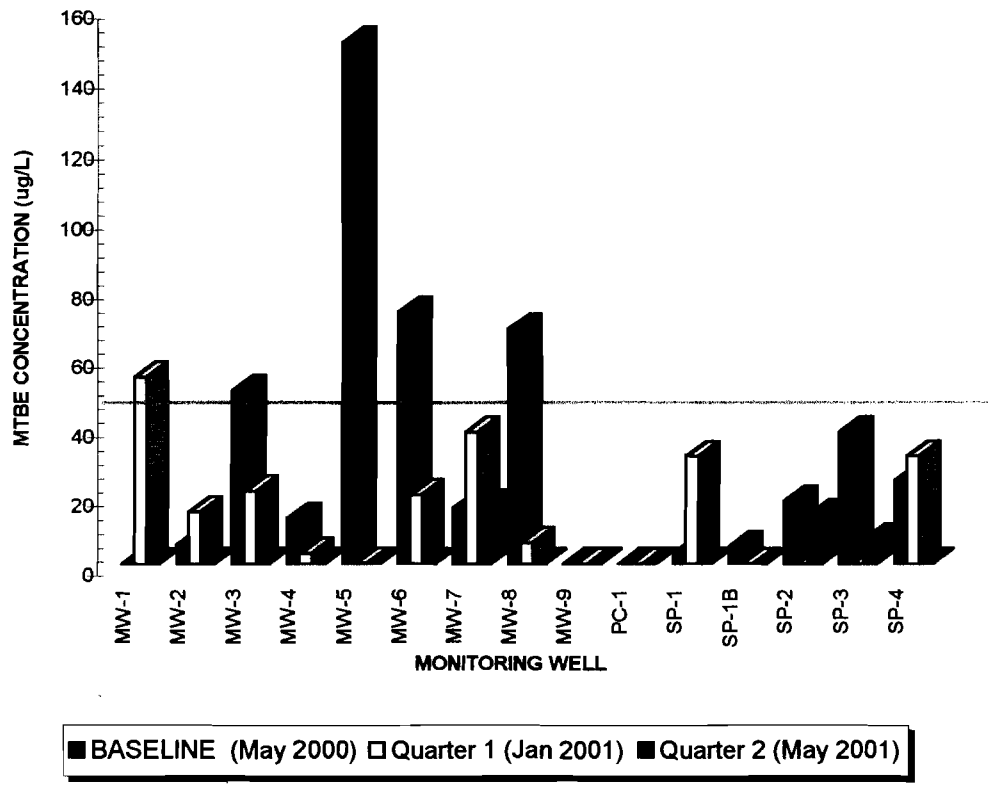
MONITORING WELLS *BTEX ug/L*	BASELINE (May 2000)	Quarter 1 (Jan 2001)	Quarter 2 (May 2001)	% REMOVAL
MW-1	0	0	0	-
MW-2	17	4	0	100%
MW-3	**960**	2	**174**	82%
MW-4	39	2	2	95%
MW-5	**916**	45	**232**	75%
MW-6	**225**	21	6	97%
MW-7	18	0	0	100%
MW-8	**396**	0	36	91%
MW-9	0	ND	0	-
PC-1	0	ND	NA	-
SP-1	31	0	0	100%
SP-1B	20	NA	0	100%
SP-2	**217**	NA	0	100%
SP-3	**586**	NA	15	97%
SP-4	**75**	NA	0	100%
AVERAGE (w/ND's)	**233**	**8**	**33**	**95%**

MONITORING WELLS *MTBE (ug/L)*	BASELINE (May 2000)	Quarter 1 (Jan 2001)	Quarter 2 (May 2001)	% REMOVAL
MW-1	0	**54**	0	-
MW-2	6	15	0	100%
MW-3	50	21	0	100%
MW-4	13	3	0	100%
MW-5	**150**	0	0	100%
MW-6	**73**	20	0	100%
MW-7	16	38	17	-6%
MW-8	**68**	6	0	100%
MW-9	0	0	0	-
PC-1	0	0	NA	-
SP-1	3	31	0	100%
SP-1B	5	NA	0	100%
SP-2	18	NA	14	22%
SP-3	38	NA	7	82%
SP-4	24	31	0	100%
AVERAGE (w/ND's)	**31**	**18**	**3**	**83%**

Notes:
1. Bolded values exceed clean up goal of 50 ug/L.

FIGURE 1-1
GROUNDWATER MONITORING - SECOND QUARTER RESULTS (MAY 2001)
Harrison Subresidency





Target effluent goal (50 ug/L for BTEX and MTBE)

Lawler, Matusky & Skelly Engineers LLP

- Increase in bacteria population;
- Changes in electron acceptor concentrations, usually depletion of the electron acceptor coupled with a decrease in contaminant concentrations.
- Increases in by-products of biodegradation (carbon dioxide and methane concentrations);

Total Organic Compound concentration (TOC) and the surrounding soil formation play important roles in biodegradation. In general, there is a correlation between a decrease in contaminant concentration with an increase in bacteria population, however, it should be noted that because of natural variations on bacteria populations, it is usually difficult to establish a significant trend, especially over short periods of time. We did not conduct any population studies at this site.

Electron acceptor concentrations may increase or decrease with contamination reduction. In aerobic remediation, oxygen acts as the terminal electron acceptor; it takes about 3 pounds of available oxygen to convert 1 pound of hydrocarbon to carbon dioxide and water. In anaerobic bioremediation, alternate or substitute electron acceptors are used in place of oxygen. These include, in order of preference, nitrate, manganese, iron oxides, sulfate and carbon dioxide.

In general, the use of particular electron acceptor is a function if its abundance and the surrounding environment's oxidation – reduction potential (ORP). Table 1-4 shows the ORP readings for each well. The ORP values measured in the field range from –0.05 volts to 0.01 volts. An ORP in the range of about -0.2 to 0.7 represents anaerobic conditions in which alternate electron acceptors like nitrates, carbon dioxide etc. are used in degradation. The ORP readings are in the published range for carbon dioxide reduction, which is typically about –0.1 to –0.3. This is also a common ORP range for iron reducing bacteria, which may also explain the general decrease in dissolved iron concentrations. An ORP greater than 0.7 volts suggests aerobic conditions. An increase in biodegradation by products such as carbon dioxide and methane is usually a good indicator of increased biological activity; however, carbon dioxide may act as electron donor under certain ORP conditions (<-0.25 volts).

At this site, it is likely that aerobic conditions exist at the filter packs and surrounding formation when the system is running and anaerobic conditions beyond the influence of

TABLE 1-4

OXIDATION-REDOX POTENTIAL (ORP)
QUARTER 2 PERFORMANCE SAMPLING

HARRISON SUBRESIDENCY

Location	ORP (Volts)	General Electron Acceptor Trend
MW-1	0.10	N ↑ S no change CO_2 ↓ TOC ↑
MW-2	-0.10	-
MW-3	-0.11	N ND S ↑ CO_2 ↓ TOC ↑
MW-4	0.03	-
MW-5	-0.13	-
MW-6	-0.13	-
MW-7	-0.07	-
MW-8	-0.02	N ↓ S ↑ CO_2 ↓ TOC ↑
MW-9	0.03	-
SP-1	-0.09	-
SP-1B	-0.03	-
SP-2	-0.03	-
SP-3	-0.05	-
SP-4	-0.05	-
DW-1	-	-

NOTES:

- = Not available
ND = Not detected
N = Nitrates
S = Sulfates
CO_2 = Carbon Dioxide
TOC = Total Organic Carbon

the air sparge and when the system is not running. A change in the subsurface conditions (i.e. from aerobic conditions to anaerobic conditions) would significantly impact the biomass populations.

Dissolved oxygen (DO) concentrations were also measured in the field, but may not representative of the aquifer DO concentrations due to the method used in the analysis. During monitoring a cup was filled with the purge water and the sample was likely aerated as a result of the collection technique. As suggested above, the ORP indicates that the system was operating under anaerobic conditions when the samples were collected; this is logical since no oxygen was being introduced.

In general, the biodegradation data collected herein does not fully substantiate increased biodegradation nor does the data establish firm degradation trends. This is, in part, due to the lack of baseline data and the overall lack of general biodegradation data; only one or two data sets exist. Monitoring wells MW-1, MW-3 and MW-8 have baseline and second quarter biodegradation data and the following general trends were observed:

- TOC concentrations increased in all of the noted monitoring wells;
- Carbon dioxide concentrations decreased in all of the noted monitoring wells;
- Sulfate concentrations were generally higher;
- Nitrate concentrations were generally unchanged;
- Total and dissolved iron concentrations were generally lower in MW-1 and MW-8.

A marked increase in Total Organic Carbon (TOC) concentrations was observed. In general, the TOC concentrations in MW-1, MW-3 and MW-8 doubled between the baseline data and these second quarter data. This increase in TOC may be due to respired biomass, which would be the result of the system going from aerobic conditions (biomass reproduction) to suddenly anaerobic conditions when the system is shutdown (respiration). Respiration of the biomass may also explain the slight increase in sulfate concentrations observed in MW-3 and MW-8.

As the remediation progresses, the amount of available substrate decreases which may result in a decrease in biodegradation. However, the amount of contamination at the outset of this project (say, 1 mg/L in the center of the plume) was not a significant amount of the substrate to begin with, so a significant decline in biodegradation is not

expected when the system is restarted. The respired biomass (ie. TOC) may serve as a food source when the system is re-started, at least for a short while.

1.5 DISCUSSION

The first quarter samples were collected 2 – 4 days after the system was shutdown. It is very important to allow sufficient time to elapse between air sparge system shutdowns and confirmation sampling using conventional groundwater monitoring wells. To properly assess rebounding effects, a waiting period of 4 to 48 weeks may be required before confirmatory sampling can be conducted. For this reason, the second quarter samples were collected 4 weeks after system shutdown.

The second quarter results show that only two samples exceeded the target effluent goals. However, the data shows some rebounding did occur in MW-3 and MW-5. BTEX concentrations of 174 ug/L and 232 ug/L were recorded, respectively. First quarter BTEX results for MW-3 and MW-5 were 2 ug/L and 45 ug/L, respectively.

The second quarter results were then compared to the first quarter results (January 2001) and the baseline data collected in May 2000. The baseline sampling data revealed that seven (7) wells exceeded the BTEX effluent goal of 50 ug/L and three (3) wells exceeded the MTBE effluent goal of 50 ug/L. The first quarter results from January 2001 generally showed significant reductions in BTEX and MTBE, with all but one sample meeting the target effluent criteria. Second quarter sampling reveals that virtually all sampled monitoring wells show an 80% - 100% reduction in BTEX concentrations.

Second quarter sampling also revealed that MTBE concentrations were generally non-detect or less than the target concentration of 50 ug/L. MTBE was analyzed using a mass spectrometry method during the second quarter sampling event. This suggests that the previous MTBE data analyzed using gas chromatograph methods may be questionable.

Naphthalene and 2-methylnapthalene and were also analyzed for during the second quarter sampling event, neither compound was detected above the detection limit of 10 ug/L.

Figures 1-2 (BTEX plume) shows the contamination plume developed from the baseline data; the second quarter results are overlaid onto the plume maps. An isopeth map for MTBE was not prepared since MTBE met the effluent target at all monitoring points.

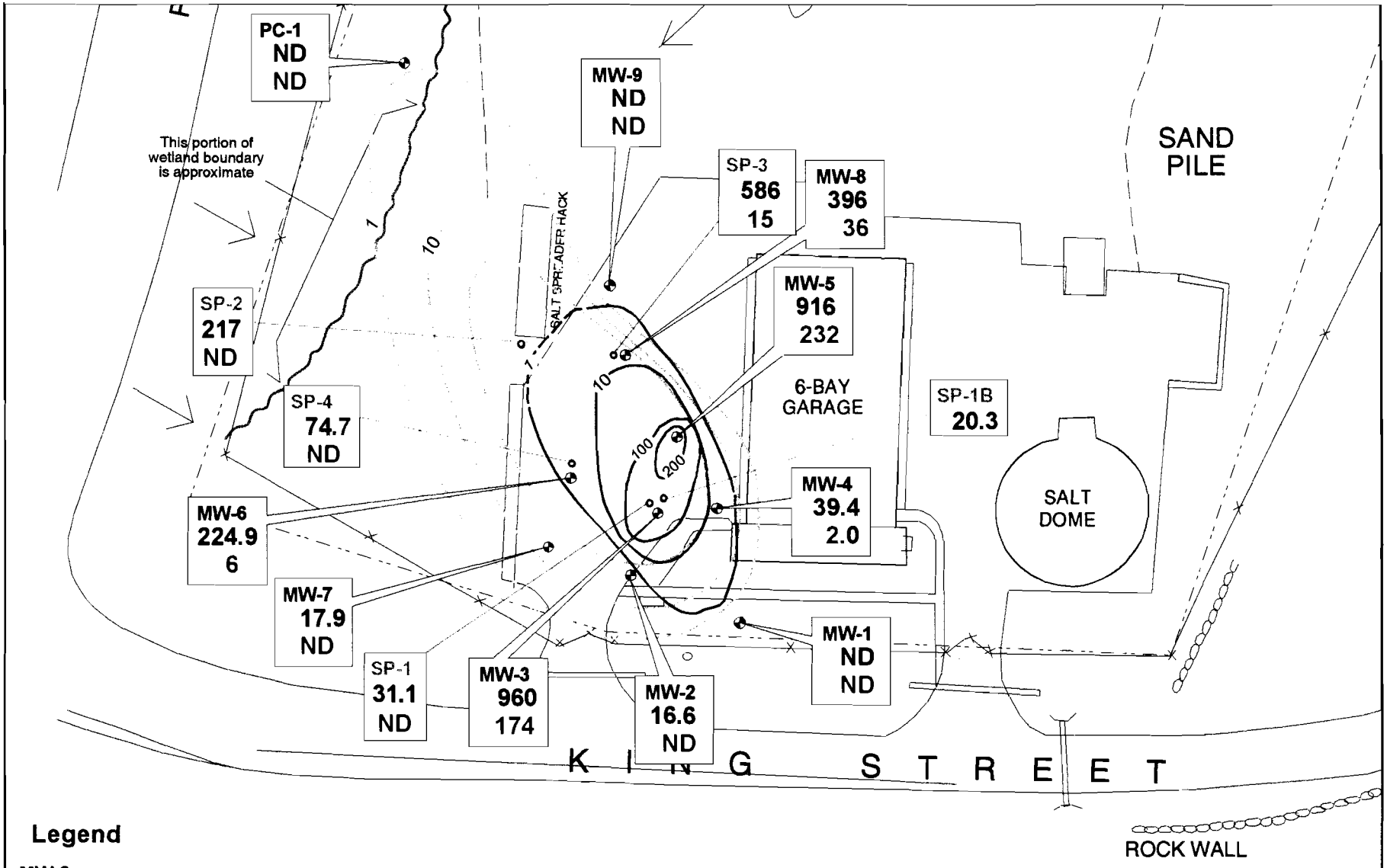
In general, the biodegradation data collected herein does not substantiate increased biodegradation nor does the data establish firm degradation trends. This is, in part, due to the lack of baseline data and the overall lack of general biodegradation data; only one or two data sets exist. Water chemistry data collected during the sampling reveals that the ORP readings are typically less than 0.0 volts suggesting anaerobic conditions. This may explain the significant decrease in carbon dioxide and dissolved iron as compared to the baseline data. Due to its abundance and based on the ORP readings, carbon dioxide may be serving as a predominant electron acceptor at this site. However, the system is probably operating aerobically when the air sparge is on and then goes anaerobic when the sparge system is turned off. This phenomenon may explain the marked increase in TOC concentrations, with biomass thriving during the aerobic conditions and then respiring during anaerobic conditons.

1.6 FINDINGS AND CONCLUSIONS

- The results thus far are very promising and demonstrate effective remediation throughout the plume area with no evidence of any off site migration, but some rebounding did take place in the center of plume (MW-3 and MW-5).

- There was some change in static water tabie elevation between the baseline sampling event and the second quarter sampling. In general, the static water table was approximately 6 inches to 12 inches lower in May 2001 when compared to May 2000. The depth to water measurements associated with SP-1 and SP-4 in May 2000 appear to be artificially low probably due to poor recharge in these wells. These data should be disregarded. Water table elevation during system operation has not been assessed. Table 1-4 shows the static water elevation data.

- No contamination was found in the leach field area; MTBE was detected in one sample at a concentration of 18 ug/L. No further action seems warranted in this area.



Legend

MW-2 ◆ Monitoring well

SP- • Sparge well

14 BTEX concentration - May 2000 (µg/L)

6 BTEX concentration - May 2001 (µg/L)

Contour lines dashed where inferred

0 150ft

SCALE IN FEET

450\102map-v2.dsf

Figure 1-2

Total BTEX Concentrations at Water Table AS/SVE Remediation

Harrison Subresidency PSA
NYSDOT PIN A989.06.701

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Environmental Science & Engineering Consultants

- Naphthalene and 2-methylnapthene were not detected in any of the sampling locations at concentrations greater than the detection limit of 10 ug/L.

1.7 RECOMMENDATIONS

- Continued operation of the system is warranted until September/October 2001. Thereafter, the system should be shutdown until at least December 2001 (8 weeks minimum) and third quarter sampling performed. If these results are as promising as the second quarter results, the system should remain off and the last round of sampling conducted in early spring 2002. Thereafter, the NYSDOT should petition New York State for site closure.

- The air sparge system is programmed to pulse the airflow into each of the three sparge points. The current programming pulses the wells daily with 16 hours of air flow and 8 hours off. The system should continue to operate with these settings. SP-3 may be programmed to run continuously if we continue to have trouble sustaining air flow in this well prior to a shutdown.

- At this point, there is no need to install additional sparging wells; this will be further assessed after the system is re-started.

- Overall indications seem to suggest that some level of biodegradation is taking place; data collection during system operation may be useful in assessing aerobic conditions.

CHAPTER 2

OPERATION AND MAINTENANCE REPORT

2.1 MONTHLY INSPECTION

The monthly inspection checklist is shown in Table 2-1. The system was shut down for the month of May due to performance sampling.

2.2 SYSTEM OPERATION

Table 2-2 summarizes the cumulative system run time since project inception; Figure 2-1 presents the operating calendar.

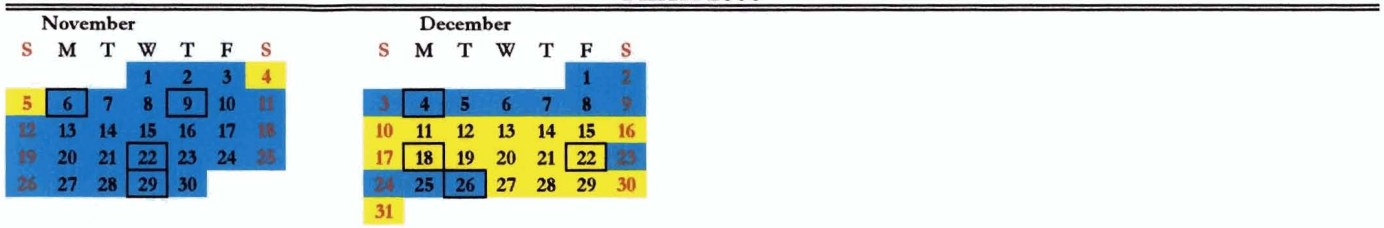
2.3 OPERATION REPORT

The monthly operation report is presented in Table 2-3. Figure 2-2 shows the SVE exhaust concentration.

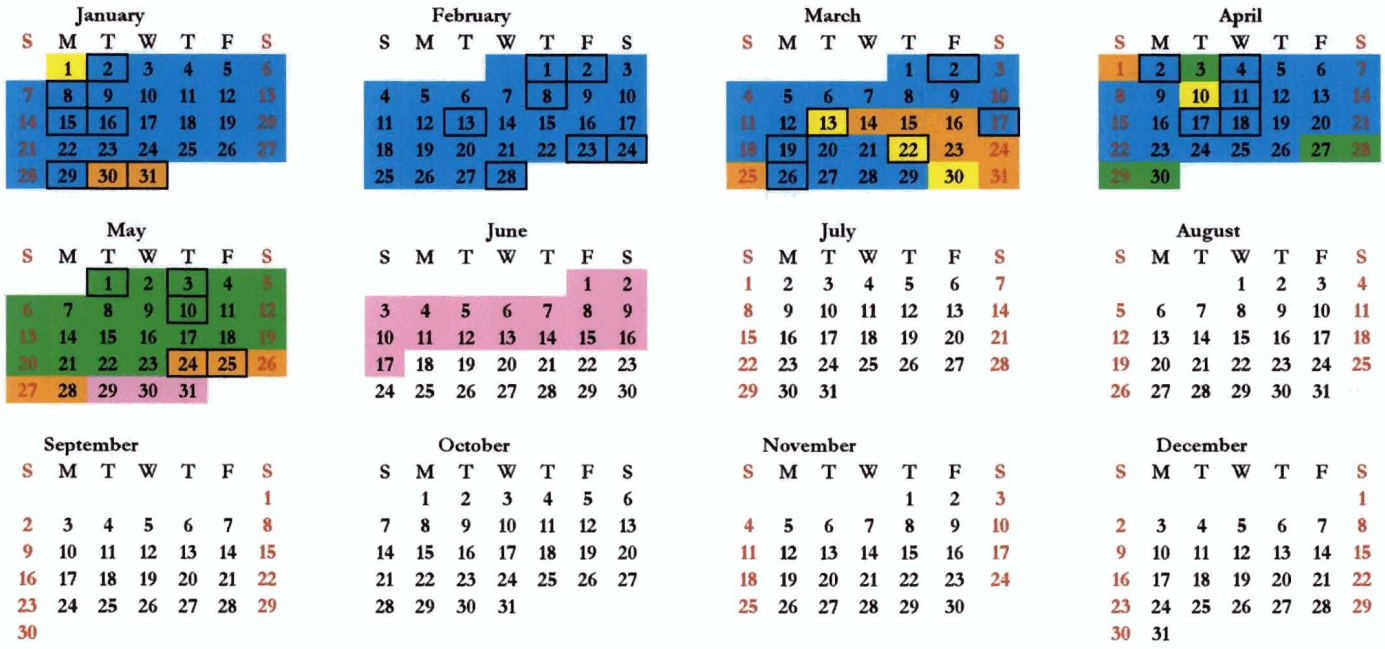
FIGURE 2-1
OPERATING CALENDAR

Harrison Subresidency

YEAR 2000



YEAR 2001



Legend

- Planned downtime; quarterly sampling or maintenance
- Unplanned downtime
- Up time
- Planned or Unplanned AS system down time; SVE running
- Unplanned downtime, warranty issues
- Site Visits

Lawler, Matusky & Skelly Engineers LLP

TABLE 2-1
MONTHLY INSPECTION CHECK LIST

Lawler, Matusky & Skelly Engineers LLP
Environmental Science & Engineering Consultants

Name: George Gattullo / Mike Pantliano
Velocity Meter Model No.: Dwyer 471 Thermo-Anemometer
PID Model No.: H-Nu P101/001
Pressure Gauge Model No.: Magnahelic 0 to 0.250 WC

	Weather: 80F Fair Date: 5/1/01 GG	Weather: Date:	Weather: Date:	Weather: Date:	
SVE hours /time	3272.7 @ 1000				
AS hours/time	3172.7 (see note)				
Air Sparging Flow Rate (CFM)	VS				
SP-1					
SP-3					
SP-4					
SP-2		Not Operating			
Air Sparging Pressure (PSI)					
SP-1					
SP-3					
SP-4					
SP-2					
Air Sparging Blower Outlet					
SVE Velocity (ft/min)					
VE-1	100 500				
VE-2	100 2,500				
VE-3	100 3,800				
VE-4	100 7,800				
SVE Vacuum (in W.C.)					
VE-1	17				
VE-2	14				
VE-3	11.5				
VE-4	12.5				
SVE Blower Inlet	40				
Vacuum at SVE Knockout Pot (in W.C.)	24				
Pressure Monitoring Points (in W.C.)					
PM-1	Not Read				
PM-2	Not Read				
PM-3	Not Read				
PM-4	Not Read				
PM-5	Not Read				
Air Sparging Temperature (°C)	Not Operating				
SVE Exhaust Temperature (°C)	48				
SVE Exhaust PID Reading	0				
Knockout Pot Water Level (in.)	0				
Date of Last AS Filter Change	2/13/2001				
Date of Last SVE Filter Change	3/26/2001				
Highest Vicinity Ambient PID Reading	No odors				
Location					

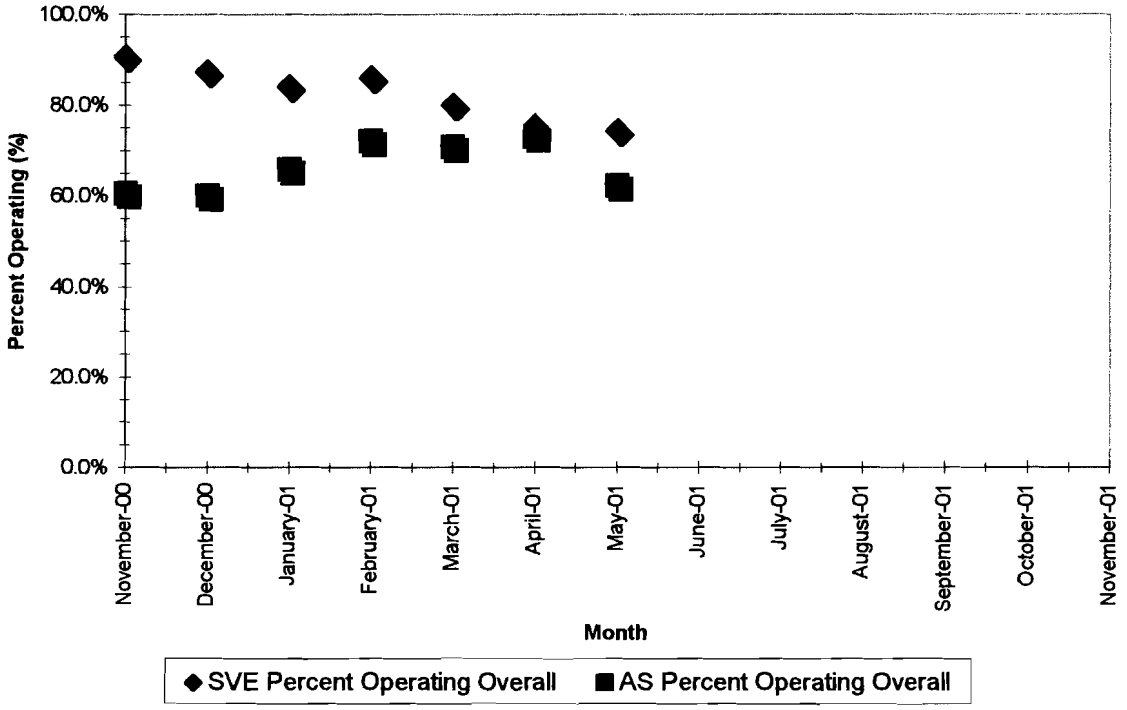
VS - Valve Setting, % (e.g., 0, 25, 50, 75, 100)

Comments: 5/1: AS not working--could not restart.

TABLE 2-2

CUMULATIVE SYSTEM RUNTIME
Harrison Subresidency

Month	SVE Cumulative Hours Running (approx.)	AS Cumulative Hours Running (approx.)	Cumulative Hours Available	OVERALL		MONTH	
				SVE Percent Operating Overall	AS Percent Operating Overall	SVE Percent Operating - Month	AS Percent Operating - Month
November-00	654	436	720	90.8%	60.6%	90.8%	60.6%
December-00	1,280	879	1,464	87.4%	60.0%	84.1%	59.5%
January-01	1,858	1,454	2,208	84.1%	65.8%	77.6%	77.2%
February-01	2,122 (a)	2,076	2,880	86.1% (b)	72.1%	92.6% (b)	92.6%
March-01	2,613	2,567	3,624	80.0%	70.8%	66.0%	66.0%
April-01	3,273	3,173	4,344	75.3%	73.0%	91.6%	84.1%
May-01	3,781	3,173	5,088	74.3%	62.4%	68.3%	0.0%
June-01			5,808				
July-01			6,552				
August-01			7,296				
September-01			8,016				
October-01			8,760				
November-01			9,480				



Notes:
(a) Due to a malfunction in the SVE elapsed timer in February, this value is not representative of the actual hours of operation.
(b) This value is calculated using an estimated value for SVE elapsed time..

TABLE 2-3
MONTHLY OPERATION AND MAINTENANCE REPORT

NYSDOT – HARRISON SUBRESIDENCY D008873
TOWN OF HARRISON – WESTCHESTER, NY PIN 8007.31.301

MONTH: May 2001

5/1/01- AS down on arrival. Could not restart. Phone dialer not working properly. Changed alarm reset time to 24 hours. Took photos of settled asphalt (see email to Feurente for description). SVE operating normally.

5/3/01- GG and RJD met Tony F from Handex at site. Handex to discuss pavement repairs w/subcontractor and contact LMS to schedule repairs. Unable to start AS blower. Performed some trouble shooting, but could not reach a final conclusion on the cause of the failure. It appeared to be either a failed VFD, seized motor or seized blower.

5/10/01- RJD and EL met Healy Electric on site to fully trouble shoot the blower. The motor load was disconnected from the VFD and the VFD tested; the VFD was working properly. The motor was then disengaged form the blower and the motor started; both the motor and VFD were working properly. The blower was inspected and the shaft could not be turned. The blower had seized. This may have been due to a loose or vibrating motor which eventually caused a misalignment.

5/11/01 – Handex was onsite and crated and removed the blower under warranty. The blower was shipped to the supplier (BISCO) for repair or replacement.

5/24/01- RJD found SVE not working (high water). Auto dialer not working. The SVE was shutdown for groundwater sampling. BC and JF on site for groundwater sampling.

5/25/01- BC and JF complete gw sampling and take two geoprobes in leachfield. Left SVE off due to rain forecast for weekend.

MAINTENANCE THIS MONTH:
Attended to AS blower as described herein.

SPARE PARTS USED:

SPARE PARTS ORDERED:

TYPICAL OPERATING PARAMETERS:

	Pressure (psi)	Flow (scfm)
SP 1		
SP 2		
SP 3		
SP 4		

Vapor Extraction (Total Flow = 218 CFM)

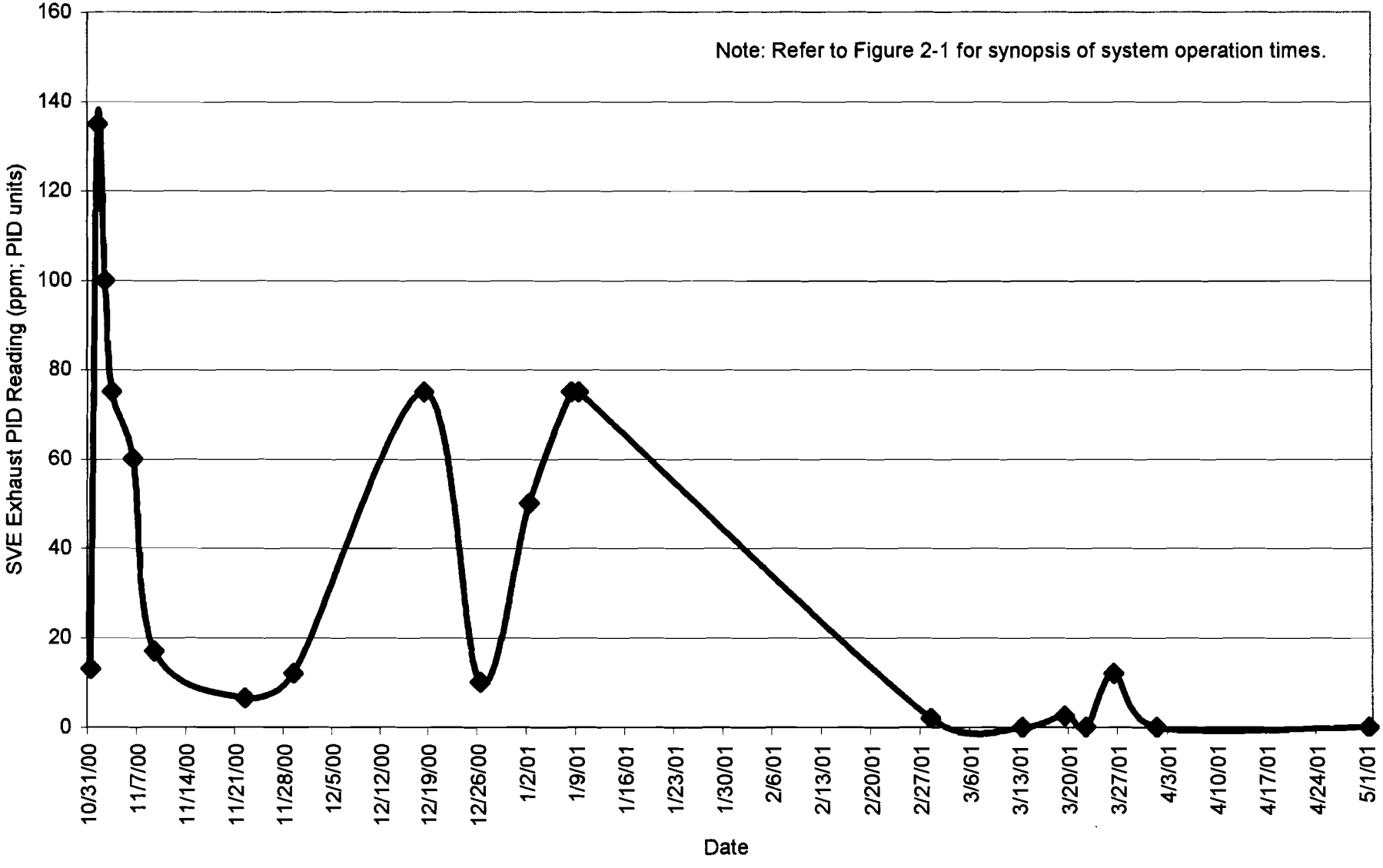
	Vacuum ($in.-H_2O$)	
VE 1	13	
VE 2	13	
VE 3	10	
VE 4	11	

OUTSTANDING ISSUES AND ACTIONS:

Re-install the AS blower and repair the pavement under the existing Handex warrantee.

- Was quarterly well sampling conducted? Yes x No
  If yes, date: May 24, 25 2001

FIGURE 2-2
SVE EXHAUST PID READINGS FOR THE YEARS 2000-2001
Harrison Subresidency



Lawler, Matusky & Skelly Engineers LLP

ATTACHMENT A

MONITORING WELL DATA SUMMARY

MONITORING WELL DATA SUMMARY
MAY 2000 (BASELINE DATA)
Harrison Subresidency

WELL ID: MW 3	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	**50**	21	ND			**50**
Benzene	64	ND	2			'
Toluene	21	ND	2			'
Ethylbenzene	350	ND	ND			'
m,p-Xylene	460	-	-			'
O-Xylene	65	-	-			'
Xylenes (total)	525	2	170			'
TOTAL BTEX	**960.0**	**2.0**	**174**			**50**
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			ND			**50**
Napthalene	**160**		4 J			**25**
Metals (ug/L)						
Chloride	24,000	♦	♦			**250,000**
Sodium	**43,000**	♦	♦			**20,000**
Iron (total)	**18,000**	♦	8880			**300**
Iron (dissolved)	ND	♦	2410			**300**
Lead	8	♦	♦			**25**
Other (ug/L)						
Nitrogen, Nitrate	ND	♦	ND			**10,000**
Sulfate	ND	♦	18,000			**250,000**
TOC	10,000	♦	27,000			**N/A**
Petroleum Hydrocarbon	9,200	♦	♦			**N/A**
Carbon Dioxide	105,000	♦	48,000			**N/A**
Dissolved Oxygen	2.1	2.93	1.89			**N/A**

WELL ID: MW 4	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	13	3	ND			**50**
Benzene	4.4	ND	ND			'
Toluene	ND	ND	ND			'
Ethylbenzene	22	2	2			'
m,p-Xylene	♦	♦	-			'
O-Xylene	♦	♦	-			'
Xylenes (total)	13	ND	1			'
TOTAL BTEX	**39.4**	**2.0**	**2**			**50**
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			ND			**50**
Napthalene			ND			**25**
Metals (ug/L)						
Chloride	8,000	♦	♦			**250,000**
Sodium	**22,000**	♦	♦			**20,000**
Iron (total)	♦	♦	1360			**300**
Iron (dissolved)	♦	♦	1010			**300**
Lead	♦	♦	♦			**25**
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	ND			**10,000**
Sulfate	♦	♦	15,000			**250,000**
TOC	♦	♦	14,000			**N/A**
Petroleum Hydrocarbon	♦	♦	♦			**N/A**
Carbon Dioxide	♦	♦	55,000			**N/A**
Dissolved Oxygen	3.5	2.35	4.29			**N/A**

MONITORING WELL DATA SUMMARY
MAY 2000 (BASELINE DATA)
Harrison Subresidency

WELL ID: MW 5	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	**150**	ND	ND			**50**
Benzene	14	ND	1			"
Toluene	32	2	2			"
Ethylbenzene	410	ND	ND			"
m,p-Xylene	♦	♦	-			"
O-Xylene	♦	♦	-			"
Xylenes (total)	460	43	230			"
TOTAL BTEX	**916.0**	**45.0**	**233**			**50**
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			10			**50**
Napthalene			ND			**25**
Metals (ug/L)						
Chloride	60,000	♦	♦			**250,000**
Sodium	**32,000**	♦	♦			**20,000**
Iron (total)	♦	♦	9630			**300**
Iron (dissolved)	♦	♦	2930			**300**
Lead	♦	♦	♦			**25**
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	ND			**10,000**
Sulfate	♦	♦	17,000			**250,000**
TOC	♦	♦	23,000			**N/A**
Petroleum Hydrocarbon	♦	♦	♦			**N/A**
Carbon Dioxide	♦	♦	68,000			**N/A**
Dissolved Oxygen	3.4	3.09	6.12			**N/A**

WELL ID: MW 6	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	**73**	20	ND			**50**
Benzene	**7.9**	ND	ND			"
Toluene	7	ND	ND			"
Ethylbenzene	98	ND	ND			"
m,p-Xylene	♦	♦	-			"
O-Xylene	♦	♦	-			"
Xylenes (total)	112	21	6			"
TOTAL BTEX	**224.9**	**21**	**6**			**50**
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			ND			**50**
Napthalene			ND			**25**
Metals (ug/L)						
Chloride	40,000	♦	♦			**250,000**
Sodium	**33,000**	♦	♦			**20,000**
Iron (total)	♦	♦	1720			**300**
Iron (dissolved)	♦	♦	475			**300**
Lead	♦	♦	♦			**25**
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	ND			**10,000**
Sulfate	♦	♦	17,000			**250,000**
TOC	♦	♦	17,000			**N/A**
Petroleum Hydrocarbon	♦	♦	♦			**N/A**
Carbon Dioxide	♦	♦	60,000			**N/A**
Dissolved Oxygen	3.1	6.05	4.1			**N/A**

MONITORING WELL DATA SUMMARY
MAY 2000 (BASELINE DATA)
Harrison Subresidency

WELL ID: MW 7	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	16	38	17			50
Benzene	3.4	ND	ND			1
Toluene	4	ND	ND			1
Ethylbenzene	5.7	ND	ND			1
m,p-Xylene	♦	♦	-			1
O-Xylene	♦	♦	-			1
Xylenes (total)	4.8	ND	ND			1
TOTAL BTEX	17.9	ND	0			50
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			ND			50
Napthalene			ND			25
Metals (ug/L)						
Chloride	40,000	♦	♦			250,000
Sodium	35,000	♦	♦			20,000
Iron (total)	♦	♦	2700			300
Iron (dissolved)	♦	♦	1880			300
Lead	♦	♦	♦			25
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	ND			10,000
Sulfate	♦	♦	15,000			250,000
TOC	♦	♦	16,000			N/A
Petroleum Hydrocarbon	♦	♦	♦			N/A
Carbon Dioxide	♦	♦	78,000			N/A
Dissolved Oxygen	3.2	3.12	4.43			N/A

WELL ID: MW 8	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	68	6	ND			50
Benzene	110	ND	ND			1
Toluene	26	ND	2			1
Ethylbenzene	60	ND	ND			1
m,p-Xylene	160	ND	-			1
O-Xylene	40	ND	-			1
Xylenes (total)	200	ND	34			1
TOTAL BTEX	396.0	ND	36			50
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			ND			50
Napthalene	34		ND			25
Metals (ug/L)						
Chloride	5,000	♦	♦			250,000
Sodium	63,000	♦	♦			20,000
Iron (total)	8,600	♦	545			300
Iron (dissolved)	230	♦	ND			300
Lead	ND	♦	♦			25
Other (ug/L)						
Nitrogen, Nitrate	33	♦	ND			10,000
Sulfate	ND	♦	31,000			250,000
TOC	12,000	♦	21,000			N/A
Petroleum Hydrocarbon	7,600	♦	♦			N/A
Carbon Dioxide	264,000	♦	37,000			N/A
Dissolved Oxygen	1.5	6.3	4.6			N/A

MONITORING WELL DATA SUMMARY
MAY 2000 (BASELINE DATA)
Harrison Subresidency

WELL ID: MW 9	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	ND	ND	ND			50
Benzene	ND	ND	ND			"
Toluene	ND	ND	ND			"
Ethylbenzene	ND	ND	ND			"
m,p-Xylene	♦	♦	-			"
O-Xylene	♦	♦	-			"
Xylenes (total)	ND	ND	ND			"
TOTAL BTEX	ND	ND	0			50
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			2 J			50
Napthalene			ND			25
Metals (ug/L)						
Chloride	**260,000**	♦	♦			250,000
Sodium	**160,000**	♦	♦			20,000
Iron (total)	♦	♦	4570			300
Iron (dissolved)	♦	♦	ND			300
Lead	♦	♦	♦			25
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	ND			10,000
Sulfate	♦	♦	21,000			250,000
TOC	♦	♦	18,000			N/A
Petroleum Hydrocarbon	♦	♦	♦			N/A
Carbon Dioxide	♦	♦	ND			N/A
Dissolved Oxygen	3.3	7.5	5.49			N/A

WELL ID: PC 1	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	ND	ND	NA			50
Benzene	ND	ND	NA			"
Toluene	ND	ND	NA			"
Ethylbenzene	ND	ND	NA			"
m,p-Xylene	ND	ND	NA			"
O-Xylene	ND	ND	NA			"
Xylenes (total)	ND	ND	NA			"
TOTAL BTEX	ND	ND	NA			50
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			NA			50
Napthalene			NA			25
Metals (ug/L)						
Chloride	34,000	♦	NA			250,000
Sodium	**120,000**	♦	NA			20,000
Iron (total)	**17,000**	♦	NA			300
Iron (dissolved)	ND	♦	NA			300
Lead	7	♦	NA			25
Other (ug/L)						
Nitrogen, Nitrate	ND	♦	NA			10,000
Sulfate	23,000	♦	NA			250,000
TOC	13,000	♦	NA			N/A
Petroleum Hydrocarbon	♦	♦	NA			N/A
Carbon Dioxide	67,000	♦	NA			N/A
Dissolved Oxygen	2.4	4.11	NA			N/A

MONITORING WELL DATA SUMMARY
MAY 2000 (BASELINE DATA)
Harrison Subresidency

WELL ID: SP 1	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	3.2	31	ND			50
Benzene	1.4	ND	ND			"
Toluene	3.7	ND	ND			"
Ethylbenzene	4.0	ND	ND			"
m,p-Xylene	8.1	-	-			"
O-Xylene	2.9	-	-			"
Xylenes (total)	11.0	ND	ND			"
TOTAL BTEX	**31.1**	**ND**	**ND**			50
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			♦			50
Napthalene			1			25
Metals (ug/L)						
Chloride	16,000	♦	♦			250,000
Sodium	**45,000**	♦	♦			20,000
Iron (total)	♦	♦				300
Iron (dissolved)	♦	♦				300
Lead	♦	♦	♦			25
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	♦			10,000
Sulfate	♦	♦	♦			250,000
TOC	♦	♦	♦			N/A
Petroleum Hydrocarbon	♦	♦	♦			N/A
Carbon Dioxide	♦	♦	♦			N/A
Dissolved Oxygen	4.6	9.66	4.6			N/A

WELL ID: SP 1B	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	4.9	♦	ND			50
Benzene	2.1	♦	ND			"
Toluene	ND	♦	ND			"
Ethylbenzene	ND	♦	ND			"
m,p-Xylene	3.5	♦	-			"
O-Xylene	5.6	♦	-			"
Xylenes (total)	9.1	♦	ND			"
TOTAL BTEX	20.3	♦	**ND**			50
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			♦			50
Napthalene			1			25
Metals (ug/L)						
Chloride	34,000	♦	♦			250,000
Sodium	**27,000**	♦	♦			20,000
Iron (total)	♦	♦				300
Iron (dissolved)	♦	♦				300
Lead	♦	♦	♦			25
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	♦			10,000
Sulfate	♦	♦	♦			250,000
TOC	♦	♦	♦			N/A
Petroleum Hydrocarbon	♦	♦	♦			N/A
Carbon Dioxide	♦	♦	♦			N/A
Dissolved Oxygen	4.7		4.91			N/A

MONITORING WELL DATA SUMMARY
MAY 2000 (BASELINE DATA)
Harrison Subresidency

WELL ID: SP 2	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	18	♦	14			50
Benzene	19	♦	ND			1
Toluene	25	♦	ND			1
Ethylbenzene	110	♦	ND			1
m,p-Xylene	52	♦	-			1
O-Xylene	11	♦	-			1
Xylenes (total)	63	♦	ND			1
TOTAL BTEX	**217.0**	♦	**0.0**			50
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			♦			50
Napthalene			1			25
Metals (ug/L)						
Chloride	36,000	♦	♦			250,000
Sodium	**75,000**	♦	♦			20,000
Iron (total)	♦	♦				300
Iron (dissolved)	♦	♦				300
Lead	♦	♦	♦			25
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	♦			10,000
Sulfate	♦	♦	♦			250,000
TOC	♦	♦	♦			N/A
Petroleum Hydrocarbon	♦	♦	♦			N/A
Carbon Dioxide	♦	♦	♦			N/A
Dissolved Oxygen	2.5	♦	3.1			N/A

WELL ID: SP 3	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	38	♦	7			50
Benzene	110	♦	ND			1
Toluene	39	♦	ND			1
Ethylbenzene	200	♦	ND			1
m,p-Xylene	180	♦	-			1
O-Xylene	57	♦	-			1
Xylenes (total)	237	♦	15			1
TOTAL BTEX	**586.0**	♦	**15.0**			50
Semi-volatile org.(ug/l)						
2-Methylnaphthalene			♦			50
Napthalene			1			25
Metals (ug/L)						
Chloride	6,000	♦	♦			250,000
Sodium	**38,000**	♦	♦			20,000
Iron (total)	♦	♦	♦			300
Iron (dissolved)	♦	♦	♦			300
Lead	♦	♦	♦			25
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	♦			10,000
Sulfate	♦	♦	♦			250,000
TOC	♦	♦	♦			N/A
Petroleum Hydrocarbon	♦	♦	♦			N/A
Carbon Dioxide	♦	♦	♦			N/A
Dissolved Oxygen	3.4	♦	4.21			N/A

MONITORING WELL DATA SUMMARY
MAY 2000 (BASELINE DATA)
Harrison Subresidency

WELL ID: SP 4	BASELINE (May 2000)	2001 QUARTER 1 (JAN 2001)	2001 QUARTER 2	2001 QUARTER 3	2001 QUARTER 4	TARGET EFFLUENT CRITERIA
Volatile Organics (ug/L)						
MTBE	24	♦	ND			50
Benzene	24	♦	ND			'
Toluene	3.8	♦	ND			'
Ethylbenzene	35	♦	ND			'
m,p-Xylene	9.5	♦	-			'
O-Xylene	2.4	♦	-			'
Xylenes (total)	11.9	♦	ND			'
TOTAL BTEX	74.7	♦	0.0			50
Semi-volatile org.(ug/l)						
2-Methylnaphthalene		♦	♦			50
Napthalene		♦	1			25
Metals (ug/L)						
Chloride	16,000	♦	♦			250,000
Sodium	**24,000**	♦	♦			20,000
Iron (total)	♦	♦	♦			300
Iron (dissolved)	♦	♦	♦			300
Lead	♦	♦	♦			25
Other (ug/L)						
Nitrogen, Nitrate	♦	♦	♦			10,000
Sulfate	♦	♦	♦			250,000
TOC	♦	♦	♦			N/A
Petroleum Hydrocarbon	♦	♦	♦			N/A
Carbon Dioxide	♦	♦	♦			N/A
Dissolved Oxygen	4.2	♦	6.89			N/A

♦ - Not analyzed.
NA - Not available and/or not analyzed.
N/A - not applicable.
ND - Not detected at analytical reporting limit.
Note - Numbers in bold exceed Target Effluent Criterion.
- indicates included in Total, I.e. Total xylenes.
J - estimated concentration; compound present below quantitation limit.

ATTACHMENT B

WELL SAMPLING LOG

LMS Well Sampling Log

Well ID No.: MW-1

Well Casing Type: 4" PVC
Well Depth:** 8.58
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 3.37
Water Column Ht.: 5.21
Well Casing Volume (gallons): 10.16
SWL During Sampling: 3.65
Sample Time: 12:40
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
11:35	1	0.5	6.74	17.80	0.1	6.56	12.3	0	0.117	49	3.37	
11:45	6	0.5	5.67	19.10	0.5	8.01	11.7	0	0.124	90	6.70	
11:57	12	0.5	5.58	18.90	17.8	6.42	11.6	0	0.123	111	8.41	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS **Well Sampling Log** | **Well ID No.:** MW-2

Well Casing Type: 4" PVC
Well Depth:** 10.29
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 4.94
Water Column Ht.: 5.35
Well Casing Volume (gallons): 3.47
SWL During Sampling: 4.94
Sample Time: 13:45
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
12:00	.5	0.5	6.60	39.1	88.9	5.65	12.1	0	0.254	-104	4.94	
12:10	5.5	0.5	6.96	37.4	873	2.64	12.4	0	0.243	-100	dry	
12:20	6	0.5	4.09	37.4	544	3.44	12.0	0	0.243	-99	6.41	restart pumping
12:25	8	0.5	7.09	37.5	245	4.23	11.9	0	0.244	-86	dry	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: MW-3

Well Casing Type: 4" PVC
Well Depth:** 10.75
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 4.92
Water Column Ht.: 5.83
Well Casing Volume (gallons): 3.79
SWL During Sampling: 5.05
Sample Time: 17:00
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
16:00	0.5	0.5	6.87	47.1	302	2.47	14.0	0	0.307	-119	4.95	
16:10	5	0.5	7.16	46.3	30.5	1.93	14.2	0	0.303	-123	5.57	
16:20	10	0.5	7.33	46.2	19.5	2.98	14.0	0	0.301	-119	5.99	
16:35	17	0.5	7.32	44.7	6.3	1.89	14.3	0	0.291	-131	6.12	
17:00											5.05	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: MW-4

Well Casing Type: 4" PVC
Well Depth:** 11.62
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 4.87
Water Column Ht.: 6.75
Well Casing Volume (gallons): 4.38
SWL During Sampling: 5.25
Sample Time: 16:30
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
15:25	1	0.5	6.90	31	9.2	3.82	14.2	0	0.201	83	5.49	
15:35	6	0.5	6.70	27.9	0	3.56	14.3	0	0.181	22	6.80	
15:45	11	0.5	6.65	27.7	0	2.46	14.2	0	0.18	4	7.31	
15:55	16	0.5	6.82	27.7	0	4.29	14.3	0	0.179	-1	7.47	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: MW-5

Well Casing Type: 4" PVC
Well Depth:** 11
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 5.28
Water Column Ht.: 5.72
Well Casing Volume (gallons): 3.71
SWL During Sampling: 5.42
Sample Time: 18:00
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
16:50	1	0.5	7.20	51.3	3.2	4.35	14.8	0	0.33	-135	5.28	
17:00	6	0.5	7.22	45.8	0.9	5.02	14.6	0	0.298	-133	7.39	
17:10	11	0.5	7.18	44.5	1.4	4.89	14.2	0	0.29	-138	7.75	
17:20	16	0.5	7.11	44	0	6.12	14.0	0	0.288	-137	7.95	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: MW-6

Well Casing Type: 4" PVC
Well Depth:** 14.77
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 5.20
Water Column Ht.: 9.57
Well Casing Volume (gallons): 6.22
SWL During Sampling: 6.07
Sample Time: 11:15
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
9:35	.5	1	6.62	45.7	17.5	5.18	14.2	0	0.309	-13		
9:45	10	0.5	6.82	47	4.1	2.06	13.3	0	0.305	-157	9.95	strong petroleum hydrocarbon odor
9:55	15	0.5	6.87	39.6	124	4.56	11.9	0	0.257	-130		
10:05	20	0.5	6.84	39.7	5.2	9.47	12.1	0	0.26	-131	13.92	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: MW-7

Well Casing Type: 4" PVC
Well Depth:** 14.67
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 4.56
Water Column Ht.: 10.11
Well Casing Volume (gallons): 6.57
SWL During Sampling: 5.04
Sample Time: 12:00
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
10:50	1	1	6.71	37.1	257	3.65	12.0	0	0.241	-69	4.56	
11:00	10	1	6.83	36.6	14.1	4.33	13.7	0	0.236	-67	8.63	
11:10	20	1	6.56	35.5	0.5	2.38	12.0	0	0.231	-75	10.10	
11:20	30	1	6.59	35.3	2.2	4.43	11.9	0	0.235	-81	10.58	
11:55											5.09	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: MW-8

Well Casing Type: 4" PVC
Well Depth:** 14.57
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 6.87
Water Column Ht.: 7.7
Well Casing Volume (gallons): 5.01
SWL During Sampling: 7.53
Sample Time: 15:05
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 6.4

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
13:53	1	0.5	7.46	150	115	3.63	13.8	0.1	0.96	-60	7.12	
14:03	6	0.5	7.34	87	21.5	1.59	14.1	0	0.558	-14	10.25	
14:13	11	0.5	7.14	53.2	9.4	2.03	13.8	0	0.339	-17	11.37	
14:23	16	0.5	7.16	48.7	17.7	4.6	13.6	0	0.318	-23	17.65	
15:05											7.53	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: MW-9

Well Casing Type: 2" PVC
Well Depth:** 13.74
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 7.30
Water Column Ht.: 6.44
Well Casing Volume (gallons): 1.03
SWL During Sampling: 7.36
Sample Time: 16:00
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
14:30	0.25	0.25	8.83	46.1	108	7.63	17.4	0	0.303	-45		
14:45	0.25	4	8.72	48.6	4	6.39	17.6	0	0.316	16	8.27	
15:00	0.25	7.75	8.45	50.1	3.5	6.08	17.6	0	0.321	30	8.51	
15:15	0.25	12.5	8.04	51	1.6	5.42	17.7	0	0.327	36	8.61	
15:30	0.25	15.25	7.62	50.2	2.2	5.49	17.2	0	0.321	38	8.81	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: PC-1

Well Casing Type: 2" PVC Pezometer
Well Depth:** 6.87
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermittent showers

Start SWL: 6.55
Water Column Ht.: 0.32
Well Casing Volume (gallons): N/A
SWL During Sampling: N/A
Sample Time: N/A
Sample Method: N/A
Sample Analyses: Not sampleable due to insufficient yield

Project: Harrison SVE 446-173
Date: 05/24/2001
Crew: JP and WAC
Purge Method: DC volt submersible Whale pump
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
17:30	0.05										Dry	
17:35											6.82	Not sampleable

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: SP-1

Well Casing Type: 1.5" PVC
Well Depth:** 19.18
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermitent showers

Start SWL: 4.35
Water Column Ht.: 14.83
Well Casing Volume (gallons): 1.36
SWL During Sampling: 4.45
Sample Time: 11:25
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/25/2001
Crew: JP and WAC
Purge Method: DC volt submersible Whale pump
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 371

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
10:05	1	0.5	6.03	41.6	>999	3.59	11.8	0	0.27	117		
10:15	6	0.5	6.49	40.6	37.9	0.81	11.8	0	0.264	85	5.07	
10:25	21	1.5	6.62	40.2	34.3	3.09	11.5	0	0.263	94		
10:35	36	1.5	6.55	40.3	13.5	4.6	11.3	0	0.262	93	5.07	
11:25											4.45	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: SP-1B

Well Casing Type: 1.5" PVC
Well Depth:** 26.77
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermitent showers

Start SWL: 4.78
Water Column Ht.: 21.99
Well Casing Volume (gallons): 2.02
SWL During Sampling: 6.25
Sample Time: 12:40
Sample Method: Bailer

Project: Harrison SVE 446-173
Date: 05/25/2001
Crew: JP and WAC
Purge Method: DC volt submersible Whale pump
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
10:45	1	1	6.19	35.3	22	2.08	13.1	0	0.229	-34		
10:55	10											Dry
11:15											8.10	Restart Pump
11:20	12.5	0.5	7.17	41.4	9.2	7.56	12.6	0	0.276	-45	16.67	
11:30	17.5	0.5	7.05	41.3	1.7	4.91	13.1	0	0.268	-40	22.65	
11:35	20											Dry

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: SP-2

Well Casing Type: 1.5" PVC
Well Depth:** 18.48 ft
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermitent showers

Start SWL: 6.40
Water Column Ht.: 12.08
Well Casing Volume (gallons): 1.11
SWL During Sampling: 7.52
Sample Time: 14:05
Sample Method: Bailer
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/25/2001
Crew: JP and WAC
Purge Method: DC volt submersible Whale pump
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 197

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
12:00	1	0.5	6.80	39.8	>999	2.41	11.8	0	0.258	35	15.65	
12:05	2.5											Stop pumping
12:20											9.63	Restart pump
12:25		0.5	7.24	44.1	>999	3.72	11.8	0	0.287	-41	14.20	
12:27	5											Dry
12:55		0.5	7.19	43.1	549	2.8	11.8	0	0.282	-25	9.90	Restart pump
13:00	7.5	0.5	7.09	42.9	442	3.1	11.7	0	0.279	-1	14.29	
13:02	8.5											Dry
13:40											8.16	

Comments:

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: SP-3

Well Casing Type: 1.5" PVC
Well Depth:** 19.95
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermitent showers

Start SWL: 6.58
Water Column Ht.: 13.37
Well Casing Volume (gallons): 1.23
SWL During Sampling: 7.81
Sample Time: 15:25
Sample Method: Check Valve
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/25/2001
Crew: JP and WAC
Purge Method: Check valve manual surging w/dedicated tubing
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 339

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
13:15	0.5		7.20	29.9	>999	4.97	13.1	0	0.195	-30		
13:21	2.5										Dry	
13:35											7.55	Restart purge
13:40	4.5		7.31	33.6	753	3.91	13.0	0	0.219	-54		
13:45											Dry	
14:27	6.5		7.44	34.6	208	4.21	12.5	0	0.225	-65	7.10	Restart purge
14:35	7										Dry	
15:25											7.81	

Comments: Due to bend in casing pump would not go down well.
Well was hand surged with check valve and 1/2"tubing.

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: SP-4

Well Casing Type: 1.5" PVC
Well Depth:** 20.9 ft
Screened Interval: N/A
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Fair
Weather Conditions: mostly cloudy, mid 50's intermitent showers

Start SWL: 4.34
Water Column Ht.: 16.56
Well Casing Volume (gallons): 1.52
SWL During Sampling: 5.12
Sample Time: 17:00
Sample Method: Check Valve
Sample Analyses: EPA Methods 8260B, 6010B (fitered and unfiltered Iron), 353.2, 9056, 415.1, and 4500-CO2D

Project: Harrison SVE 446-173
Date: 05/25/2001
Crew: JP and WAC
Purge Method: Check valve manual surging w/dedicated tubing
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 246

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
10:10	1		6.89	40.7	525	6.6	13.4	0	0.264	-127	15.45	
10:20	2											
10:30	3										Dry	
13:00			6.93	42.6	45.2	6.13	12.9	0	0.276	-46	14.00	Restart surge
13:05	3.75										Dry	
13:35											14.80	
14:15											10.00	Restart surge
14:20	4.0		7.08	41.7	>999	6.89	12.9	0	0.271	-54		
14:30											Dry	

Comments: Due to bend in casing pump would not go down well.
Well was hand surged with check valve and 1/2"tubing.

Notes: Volume is measured in Gallons
* - Measurement taken from top of well casing

LMS Well Sampling Log

Well ID No.: LF-TP-1

Well Casing Type: 1.5" PVC temporary pezometer
Well Depth:** 5.4 ft
Screened Interval: 5.4 to 0.4 ft
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Good
Weather Conditions: mostly cloudy, mid 50's intermitent showers

Start SWL: 2.40
Water Column Ht.: 3.00
Well Casing Volume (gallons): 0.28
SWL During Sampling: 2.45
Sample Time: 15:55
Sample Method: Bailer
Sample Analyses: EPA Method 8260B

Project: Harrison SVE 446-173
Date: 05/25/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0.0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
15:30	0.25		7.32	2.07	>999	1.67	12.0	0.1	1.34	-98		
15:35	1.5		7.20	2.29	>999	4.02	12.2	0.1	1.47	-29		
15:45	3.0		7.31	2.38	>999	4.23	12.4	0.1	1.52	-1		

Comments:
Temporary pezometer was removed and the borhole was backfilled with bentonite prior to leaving the site.

Notes: Volume is measured in Gallons
** - Measurement taken from ground surface

LMS Well Sampling Log

Well ID No.: LF-TP-2

Well Casing Type: 1.5" PVC temporary pezometer
Well Depth:** 8.9 ft
Screened Interval: 8.9 to 3.9 ft
Well Elevation:** N/A
Ground Elevation: N/A
Well Condition: Good
Weather Conditions: mostly cloudy, mid 50's intermitent showers

Start SWL: 3.18
Water Column Ht.: 5.72
Well Casing Volume (gallons): 0.53
SWL During Sampling: 3.74
Sample Time: 17:40
Sample Method: Bailer
Sample Analyses: EPA Method 8260B

Project: Harrison SVE 446-173
Date: 05/25/2001
Crew: JP and WAC
Purge Method: Bailer
Meters Used: Horiba U-22, PE Photovac 2020 PID
PID Head Space (ppm): 0.0

Time	Est. Gal. Purged	Purge Rate (gpm)	pH	Cond. (S/m)	Turbidity (NTU)	D.O. (mg/L)	Temp. (C°)	Salinity (%)	TDS (g/L)	ORP (mV)	Depth to Water*	Comments
16:20	0.25		6.92	187	>999	5.96	11.1	0.1	1.19	-10		
16:22	0.75										Dry	
16:40											4.65	
16:45	1		6.88	177	>999	4.71	11.0	0.1	1.14	-7		
16:50											Dry	
17:40	1.75		6.67	142	>999	5.05	11.1	0.1	0.91	24	3.74	

Comments:
Temporary pezometer was removed and the borhole was backfilled with bentonite prior to leaving the site.

Notes: Volume is measured in Gallons
** - Measurement taken from ground surface

ATTACHMENT C

TEST BORING LOG

LMS Test Boring Log

Boring No.:	LF-TP-1		
Sheet	1	**of**	1
Project Name:	Harrison SVE	**Project No.:**	853-001
Client:		**Date:** Start	05/25/2001
Driller:	Jay Pfaff	Finish	05/25/2001
Drilling Method:	LMS AMS Drill Rig (4-foot Macrocores)	**Total Depth:**	5.40 feet
Boring Location:	18 ft south and 37 ft west of MW-6	**Depth to Water:**	2.40
Coordinates:		**Surf. Elevation**	
Logged By:	William A. Car	**Hole Diameter:**	2-inch

Monitoring Instrument(s): PE Photovac 2020 PID

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading (ppm)	Sample Retained	Moisture	Classification Of Material	Remarks and Sample ID.
0-4					28	0	N	m	0-4 dark brown, silty loam, trace F-sand and gavel	
								m	4-19 medium brown, sandy silt, some F-M gravel	
								w	19-28 same as above but saturated	
4-7.5					48	0	N	m	0-48 medium brown, micasious silt, trace F-sand, little F-gravel.	Refusal at 7.5 ft
									Attempted to install pezometer to refusal depth 5 times. Full recovery of 4-8 foot interval each time. Saturated, sandy, gravel infiltrating borehole from 0-4 interval. Temporary pezometer was installed to a depth of 5.4 ft below the ground surface. The pezometer was removed after it was sampled and the borehole was sealed with bentonite.	

Classification Of Material

d - dry; sm- slightly moist; m - moist; w - wet

F - fine; M- medium; C - coarse

and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%

LMS Test Boring Log

Project Name:	Harrison SVE	**Boring No.:**	LF-TP-2
Client:		**Sheet** 1 **of** 1	
Driller:	Jay Pfaff	**Project No.:**	853-001
Drilling Method:	LMS AMS Drill Rig (4-foot Macrocores)	**Date:** Start	05/25/2001
Boring Location:	7 ft south and 39 ft west of MW-6	Finish	05/25/2001
Coordinates:		**Total Depth:**	8.9 feet
Logged By:	William A. Car	**Depth to Water:**	3.18 feet
Monitoring Instrument(s):	PE Photovac 2020 PID	**Surf. Elevation**	
		Hole Diameter:	2-inch

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading (ppm)	Soil Sample Retained	Moisture	Classification Of Material	Remarks and **Sample ID.**
0-4					35	0	N	m	0-3 dark brown, silty clay loam,	
								w	3-23 medium brown, sandy silt, some mica trace F-M gravel	
								w	23-26 gray brown, silty clay	
								m	26-35 light brown, micaceous silt, some F-sand, trace clay	
4-8					48	0	N	m	0-13 same as above 13-48 more micaceous, mostly silt, trace sand, moist but not wet	
									Installed temporary pezometer to refusal depth of 8.9 feet 5.4 ft below the ground surface. The pezometer was removed after it was sampled and the borehole was sealed with bentonite.	

Classification Of Material

d - dry; sm- slightly moist; m - moist; w - wet

F - fine; M- medium; C - coarse

and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%

ATTACHMENT D

MITKEM ANALYTICAL DATA

MITKEM CORPORATION

"Environmental Testing For The New Millennium"

June 18, 2001

LMS Engineering
One Blue Hill Plaza, PO Box 150
Pearl River, NY 10965
Attn: Ms. Maria Heincz

RE: Client Project: NYSDOT Harrison SVE, #446-173
Mitkem Lab Project # 81102

Dear Ms. Heincz:

Enclosed please find the data report of the required analysis for the samples associated with the above referenced project.

If you have any questions regarding this report, please call me.

We appreciate your business

Sincerely,

Edward A. Lawler
Laboratory Operations Manager

Environmental Chemistry Section

JUN 19 2001

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499 • email: mitkem@mitkem.com

Mitkem Corporation

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name: NYSDOT Harrison SVE SDG: 81102

Customer Sample Code	Laboratory Sample Code	Analytical Requirements				
		VOA GC/MS Method #	BNA GC/MS Method #	Pest PCBs Method #	Metals	Other
MW-1	81102001	8260	8270		6010	see login sheet
MW-2	81102002	8260	8270		6010	see login sheet
MW-3	81102003	8260	8270		6010	see login sheet
MW-4	81102004	8260	8270		6010	see login sheet
MW-5	81102005	8260	8270		6010	see login sheet
MW-6	81102006	8260	8270		6010	see login sheet
MW-7	81102007	8260	8270		6010	see login sheet
MW-8	81102008	8260	8270		6010	see login sheet
MW-9	81102009	8260	8270		6010	see login sheet
TB-01	81102010	8260				
MW-1	81102012				6010	
MW-2	81102013				6010	
MW-3	81102014				6010	
MW-4	81102015				6010	
MW-5	81102016				6010	
MW-6	81102017				6010	
MW-7	81102018				6010	
MW-8	81102019				6010	

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name: NYSDOT Harrison SWE SDG: 81102

Customer Sample Code	Laboratory Sample Code	Analytical Requirements				
		VOA GC/MS Method #	BNA GC/MS Method #	Pest PCBs Method #	Metals	Other
MW-9	81102020				6010	

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Volatile (VOA) Analyses

Project Name: NYSDOT Harrison SVE SDG: 81102

Laboratory Sample ID	Matrix	Date Collected	Date Received at Lab	Date Extracted	Date Analyzed
81102001	AQ	05/24/01	05/25/01	—	5/30/01
81102002					
81102003					
81102004					
81102005					
81102006					
81102007					
81102008					
81102009					
81102010					

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Semivolatile (BNA) Analyses

Project Name: NYSDOT Harrison SVE SDG: 81102

Laboratory Sample ID	Matrix	Date Collected	Date Received at Lab	Date Extracted	Date Analyzed
81102001	Aq	05/24/01	05/25/01	5/24/01	6/2/01
81102002	↓	↓	↓	↓	↓
81102003	↓	↓	↓	↓	↓
81102004	↓	↓	↓	↓	↓
81102005	↓	↓	↓	↓	↓
81102006	↓	↓	↓	↓	↓
81102007	↓	↓	↓	↓	↓
81102008	↓	↓	↓	↓	↓
81102009	↓	↓	↓	↓	6/3/01

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Volatile (VOA) Analyses

Project Name: NYSDOT Harrison SVE SDG: 81102

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Med. Level	Dil./Conc. Factor
81102001	AQ	8260	—	L	1
81102002	↓	↓	↓	↓	↓
81102003					
81102004					
81102005					
81102006					
81102007					
81102008					
81103009					
81102010	↓	↓	↓	↓	↓

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Semivolatile (BNA) Analyses

Project Name: NYSDOT Harrison SVE SDG: 81102

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
81102001	Aq	8270	3520	—	1
81102002	↓	↓	↓	↓	↓
81102003					
81102004					
81102005					
81102006					
81102007					
81102008					
81102009	↓	↓	↓	↓	↓

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Inorganic Analyses

Project Name: NYSDOT Harrison SVE SDG: 81102

Laboratory Sample ID	Matrix	Metals Requested	Date Received at Lab	Date Analyzed
81102001	Aq	6010	05/25/01	5/25/01
81102002				
81102003				
81102004				
81102005				
81102006				
81102007				
81102008				
81102009				
81102012				
81102013				
81102014				
81102015				
81102016				
81102017				
81102018				
81102019				

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Inorganic Analyses

Project Name: NYSDOT Harrison SYE SDG: 81102

Laboratory Sample ID	Matrix	Metals Requested	Date Received at Lab	Date Analyzed
81102020	Aq	6010	05/25/01	5/25/01

NYASP 10/95

Analytical Data Package for LMS Engineers

Client Project: NYSDOT Harrison SVE, #446-173

SDG# 81102

Mitkem Project ID: 81102

June 18, 2001

SDG Narrative

Mitkem Corporation submits the enclosed data package in response to LMS Engineers' NYSDOT Annisville Circle project. Under this deliverable, analysis results are presented for seven aqueous samples that were received on May 15, 2001 and assigned Laboratory Number 80973. Analyses were performed per specifications in the project's contract and the chain of custody forms.

The following samples are submitted in this data package:

Client ID	Lab ID	Analysis
MW-1	81102001	V, S, M, W
MW-2	81102002	V, S, M, W
MW-3	81102003	V, S, M, W
MW-4	81102004	V, S, M, W
MW-5	81102005	V, S, M, W
MW-6	81102006	V, S, M, W
MW-7	81102007	V, S, M, W
MW-8	81102008	V, S, M, W
MW-9	81102009	V, S, M, W
TB-1	81102010	V

V = Volatile Organics – NYSDEC ASP Method 8260B
S = Semivolatile Organics – NYSDEC ASP Method 8270C, Base/Neutral compounds
M = Metals (TAL list) – NYSDEC ASP Methods 6010B for Total and Dissolved Iron
W = Wet Chemistry – Nitrate, Free CO2, Total Organic Carbon, Sulfate

The analyses were performed according to NYSDEC ASP protocols (October 1995 update) and reported per NYSDEC ASP requirement for Category A deliverable.

The following observation and/or deviations are observed for the following analyses:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required.

2. Volatile Organic Analysis:

Samples were analyzed for an abbreviated list of parameters. Samples are reported to a nominal 1ppb level for all compounds. These reporting limits are below the lowest initial calibration standard, but above laboratory method detection limits.

Surrogate recovery: recoveries were within the QC limits

Lab control sample: spike recoveries were within the QC limits.

Sample analysis: no unusual observation was made for the analyses.

3. Semivolatile Organic Analysis:

Samples were analyzed for an abbreviated list of parameters.

Surrogate recovery: recoveries were within the QC limits.

Lab control sample: spike recoveries were within the QC limits.

Sample analysis: no unusual observation was made for the analyses.

4. Metals Analysis:

Samples were analyzed for total and dissolved iron only. Samples for dissolved iron were filtered and preserved upon receipt at the laboratory. Samples for dissolved iron are identified by the addition of the letter "D" to the laboratory ID, and by a note in the "Comments" line at the bottom of the data sheet.

Lab control sample: spike recoveries were within the QC limits

Sample analysis: no unusual observation was made for the analyses.

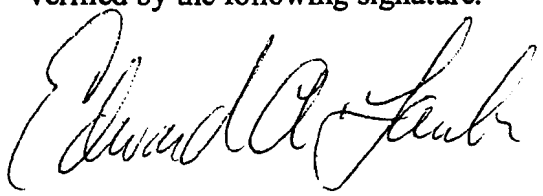
5. Wet Chemistry Analyses:

Samples were analyzed for Free CO2 and Sulfate by Standard Methods SM4500-CO2-D and SM4500-SO4-E respectively, and for Nitrate and Total Organic Carbon by EPA Methods 353.2 and 415.1 respectively.

The reporting limits for nitrate are elevated due to sample matrix interference. This analysis involves the generation of a color, which is proportional to the concentration of nitrate in the sample. Without dilution, the color of the sample obscured the color change in the analysis.

No other unusual occurrence was noted during wet chemistry analyses.

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.



Edward A. Lawler
Laboratory Operations Manager
6/18/01

Sample Transmittal Documentation

MITKEM CORPORATION

Lab Workorder **81102** R4

Logged In By: EP

Reviewed By: PAS

Client: **Lawler, Matusky & Skelly Eng.**
Lab Workorder ID: **NYSDOT Harrison SVE 446-173**
Client Proj ID: **446-173**
Client PO #: **NA**
Project / Profile Name: **NYSDOT Harrison SVE**
Date Due: **06/08/01**
Customer Service: **KEB**
Del Req'd: **ASP A (2 copies)**
Completed?:
Profile Notes: **8260 BTEX/MTBE+Napthalene at 1 ug/L, 8270 Napthalene & 2 methylnapthelene only**
Project Notes: **Run Total & Diss. Fe R1: Change Due Date & Pricing R2: Change Workorder ID R3: Remove sample 011, add 8270. R4: Added Dissolved Fe**

Date Opened: **05/25/01 14:14**
Date Closed: **05/25/01 14:58**
Project Status: **WP**

Lab ID	Client ID	Matrix	Type	Analysis Code	Collected	Received	Due	Notes
81102001	MW-1	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/24/01 12:40	05/25/01	06/08/01	
81102002	MW-2	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/24/01 13:45	05/25/01	06/08/01	
81102003	MW-3	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/24/01 17:00	05/25/01	06/08/01	
81102004	MW-4	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2	05/24/01 16:30	05/25/01	06/08/01	

CT

MITKEM CORPORATION

Lab ID	Client ID	Matrix	Type	Analysis Code	Collected	Received	Due	Notes
81102004	MW-4	W	SAMPLE	6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W				
81102005	MW-5	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/24/01 18:00	05/25/01	06/08/01	
81102006	MW-6	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/24/01 11:15	05/25/01	06/08/01	
81102007	MW-7	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/24/01 12:00	05/25/01	06/08/01	
81102008	MW-8	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/24/01 15:05	05/25/01	06/08/01	
81102009	MW-9	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe	05/24/01 16:00	05/25/01	06/08/01	

MITKEM CORPORATION

05/31/01 04:13 PM Revision #4 Lab Workorder #: **81102**

Lab ID	Client ID	Matrix	Type	Analysis Code	Collected	Received	Due	Notes
81102009	MW-9	W	SAMPLE	6010W PREP 415.1W TOC S4500EWSO4 8270W				
81102010	TB-01	W	B-TB	8260W	05/24/01 12:00	05/25/01	06/08/01	
81102012	MW-1	W	SAMPLE	6010W Fe 6010W PREP	05/24/01 12:40	05/25/01	06/08/01	DISSOLVED IRON
81102013	MW-2	W	SAMPLE	6010W Fe 6010W PREP	05/24/01 13:45	05/25/01	06/08/01	DISSOLVED IRON
81102014	MW-3	W	SAMPLE	6010W Fe 6010W PREP	05/24/01 17:00	05/25/01	06/08/01	DISSOLVED IRON
81102015	MW-4	W	SAMPLE	6010W Fe 6010W PREP	05/24/01 16:30	05/25/01	06/08/01	DISSOLVED IRON
81102016	MW-5	W	SAMPLE	6010W Fe 6010W PREP	05/24/01 18:00	05/25/01	06/08/01	DISSOLVED IRON
81102017	MW-6	W	SAMPLE	6010W Fe 6010W PREP	05/24/01 11:15	05/25/01	06/08/01	DISSOLVED IRON
81102018	MW-7	W	SAMPLE	6010W Fe 6010W PREP	05/24/01 12:00	05/25/01	06/08/01	DISSOLVED IRON
81102019	MW-8	W	SAMPLE	6010W Fe 6010W PREP	05/24/01 15:05	05/25/01	06/08/01	DISSOLVED IRON
81102020	MW-9	W	SAMPLE	6010W Fe 6010W PREP	05/24/01 16:00	05/25/01	06/08/01	DISSOLVED IRON

INVOICE AND REPORT GO TO:

Maria Heincz
Lawler, Matusky & Skelly Eng.
One Blue Hill Plz, PO Box 150
Pearl River, NY, 10965
E-Mail: mheincz@lmseng.com
W: 845-735-8300
F : 845-735-7466

MITKEM CORPORATION
175 Metro Center Boulevard
Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499
email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

REPORT TO			INVOICE TO			
COMPANY	LMS Engineers	PHONE 845-735-8300	COMPANY	SAME	PHONE	LAB PROJECT #: 8402
NAME	One Blue Hill Plaza	FAX	NAME		FAX	
ADDRESS	PO Box 1509 Pearl River, NY 10965-8509		ADDRESS			TURNAROUND TIME: ~~Standard~~ 10-day TAT
CITY/ST/ZIP			CITY/ST/ZIP			

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
Harrison SUE	446-173	

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	8260B (BTEX, MTBE, naphthalene, 2-methylnaphthalene)	TOC	CO2 EPA method 4151	Sulfate EPA 4500-CO2D	Nitrate-nitrite EPA 9056	Iron (Total) 353.2	Iron (Filtered) 6010B	Temperature 6010B	COMMENTS
MW-1	5-24 / 12:40		X	X			01	10	3	2	1	1	1	1	1		
MW-2	5-24 / 13:45		X	X			02	10	3	2	1	1	1	1	1		
MW-3	5-24 / 17:00		X	X			03	10	3	2	1	1	1	1	1		
MW-4	5-24 / 16:30		X	X			04	10	3	2	1	1	1	1	1		
MW-5	5-24 / 18:00		X	X			05	10	3	2	1	1	1	1	1		
MW-6	5-24 / 17:45		X	X			06	10	3	2	1	1	1	1	1		
MW-7	5-24 / 12:00		X	X			07	10	3	2	1	1	1	1	1		
MW-8	5-24 / 15:05		X	X			08	10	3	2	1	1	1	1	1		
MW-9	5-24 / 16:00		X	X			09	10	3	2	1	1	1	1	1		
TB-01	5-24 /			X		X	10	2	X								
Temperature Blanks	5-24 /			X				2								1	
TB-02	5-24 /			X		X	11	2	X								

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
1	[signature]	5-24-11 18:20	[signature]	5-25-11 0900
2		/		/
3		/		/

ADDITIONAL REMARKS:
* 1 40 ml temperature Blank in each cooler
* dissolved metals (Iron) are not Filtered

COOLER TEMP: 2

WHITE: LABORATORY COPY YELLOW: REPORT COPY PINK: CLIENT'S COPY

MITKEM CORPORATION
Sample Condition Form

Received By: [illegible] Reviewed By: [illegible] Date: 5-25-01 MITKEM Project #: 81102 Page ___ of ___

Client Project: HARRISON SOIL Client: CMS

Condition:		Lab Sample ID	Preservation (pH) HNO_3	Preservation (pH) H_2SO_4	Preservation (pH) HCl	Preservation (pH) NaOH	VOA Matrix	Comments/Remarks Corrective Action
		81102 01	<2	<2	<2		VA	
1) Custody Seal(s)	Present / Absent	02	<2	<2	<2			
	Coolers / Bottles Intact / Broken	03	<2	<2	<2			
		04	<2	<2	<2			
		05	<2	<2	<2			
2) Custody Seal Number(s)		06	<2	<2	<2			
		07	<2	<2	<2			
		08	<2	<2	<2			
		09	<2	<2	<2			
		10						
3) Chain-of-Custody	Present / Absent	11						
					VA			
4) Cooler Temperature	4°C							
Coolant Condition	ICE							
Airbill(s)	FED-EX							
Airbill Number(s)	NOT SAVEABLE							
5) Sample Bottles	Intact / Broken / Leaking							
Date Received	5-25-01							
Time Received	0910							

Matrix Key:
S = Unpreserved Soil
A = Unpreserved Aqueous
B = Both MeOH & $NaHSO_4$
N = $NaHSO_4$
M = MeOH
E = Encore
H = HCl
A = AIR

Sample Notification Form yes / no

9

MITKEM CORPORATION

* Volatiles *

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102001

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1058

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102002

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1059

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102003

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1060

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	2	
108-88-3	Toluene	2	
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	170	
91-20-3	Naphthalene	12	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102004

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1061

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	2	
1330-20-7	Xylene (Total)	1	
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102005

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1062

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	
108-88-3	Toluene	2	
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	230	
91-20-3	Naphthalene	38	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102006

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1063

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	6	
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102007

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1064

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	17	
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-8

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102008

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1065

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	2	
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	34	
91-20-3	Naphthalene	5	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102009

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1066

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102010

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1067

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK2U

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: V2B0530A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1052

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/30/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

	EPA SAMPLE NO.	SMC1 #	SMC2 (DCE) #	SMC3 (TOL) #	OTHER (BFB) #	TOT OUT
01	VBLK2U	108	111	107	98	0
02	VBLK2ULCS	110	111	107	99	0
03	MW-1	109	114	106	98	0
04	MW-2	106	111	105	103	0
05	MW-3	108	113	108	99	0
06	MW-4	103	110	104	98	0
07	MW-5	108	113	111	100	0
08	MW-6	106	114	109	99	0
09	MW-7	106	112	107	100	0
10	MW-8	109	115	108	99	0
11	MW-9	107	114	109	97	0
12	TB-01	106	110	107	97	0
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1	= Dibromofluoromethane	(79-122)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(76-121)
SMC3 (TOL)	= Toluene-d8	(82-118)
OTHER(BFB)	= Bromofluorobenzene	(85-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix Spike - Sample No.: VBLK2U

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Methyl tert-butyl ether	50	0.0	49	98	62-136
Benzene	50	0.0	52	104	78-121
Toluene	50	0.0	53	106	77-122
Ethylbenzene	50	0.0	53	106	76-120
Xylene (Total)	150	0.0	160	107	76-121
Naphthalene	50	0.0	46	92	52-137

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 6 outside limits

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK2U

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Lab File ID: V2E1052 Lab Sample ID: V2B0530A

Date Analyzed: 05/30/01 Time Analyzed: 1413

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: V2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK2ULCS	V2L0530A	V2E1053	1451
02	MW-1	81102001	V2E1058	1713
03	MW-2	81102002	V2E1059	1742
04	MW-3	81102003	V2E1060	1810
05	MW-4	81102004	V2E1061	1839
06	MW-5	81102005	V2E1062	1908
07	MW-6	81102006	V2E1063	1936
08	MW-7	81102007	V2E1064	2005
09	MW-8	81102008	V2E1065	2033
10	MW-9	81102009	V2E1066	2102
11	TB-01	81102010	V2E1067	2130
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

MITKEM CORPORATION

* Semivolatile Organics *

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW-2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102002

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C1705

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/29/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102003

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C1706

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/29/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	4	J
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102004

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C1707

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/29/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102005

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C1708

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/29/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102006

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C1709

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/29/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102007

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C1710

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/29/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-8

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102008

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C1711

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/29/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: 81102009

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C1712

Level: (low/med) LOW Date Received: 05/25/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/29/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	2	J
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1C

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix: (soil/water) WATER Lab Sample ID: S0529-BW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1C1700

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/29/01

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/02/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

	EPA SAMPLE NO.	S1 (NBZ) #	S2 #	S3 #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	SBLK1C	71								0
02	SBLK1CLCS	78								0
03	MW-1	64								0
04	MW-2	66								0
05	MW-3	66								0
06	MW-4	67								0
07	MW-5	71								0
08	MW-6	54								0
09	MW-7	66								0
10	MW-8	60								0
11	MW-9	72								0
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

S1 (NBZ) = Nitrobenzene-d5 QC LIMITS (38-119)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix Spike - Sample No.: SBLK1C

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Naphthalene	50	0.0	38	76	50-105
2-Methylnaphthalene	50	0.0	40	80	50-107

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 2 outside limits

COMMENTS: _____

MITKEM CORPORATION

* Metals *

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-1

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: 81102__

Matrix (soil/water): WATER_ Lab Sample ID: D81102001_____

Level (low/med): MED____ Date Received: 05/25/01____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	25.0	U		P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
DISSOLVED_METALS_FOR_MW-1_____

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-2

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: 81102___

Matrix (soil/water): WATER_ Lab Sample ID: T81102002_____

Level (low/med): MED____ Date Received: 05/25/01____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	6330			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

_____

_____

_____

_____

NYSDEC - ASP
I
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-2

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: D81102002

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	646			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

DISSOLVED_METALS_FOR_MW-2

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-3

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: T81102003

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	8880			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-3

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: D81102003

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	2410			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

DISSOLVED_METALS_FOR_MW-3

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-4

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: T81102004

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	1360			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-4

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: 81102__

Matrix (soil/water): WATER_ Lab Sample ID: D81102004____

Level (low/med): MED____ Date Received: 05/25/01____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	1010			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

DISSOLVED_METALS_FOR_MW-4_____

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-5

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: T81102005

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	9630			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-5

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: D81102005

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	2930			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

DISSOLVED_METALS_FOR_MW-5

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-6

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: T81102006

Level (low/med): LOW Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	1720			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
I
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-6

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: D81102006

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	475			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
DISSOLVED_METALS_FOR_MW-6

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-7

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: T81102007

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	2700			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
I
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-7

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: D81102007

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	1880			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
DISSOLVED_METALS_FOR_MW-7

NYSDEC - ASP
I
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-8

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: T81102008

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	545			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-8

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: D81102008

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	25.0	U		P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
DISSOLVED_METALS_FOR_MW-8

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-9

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: T81102009

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	4570			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MW-9

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81102

Matrix (soil/water): WATER Lab Sample ID: D81102009

Level (low/med): MED Date Received: 05/25/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	25.0	U		P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
DISSOLVED_METALS_FOR_MW-9

NYSDEC - ASP
3
BLANKS

Lab Name: MITKEM_CORPORATION_____ Contract: ___

Lab Code: MITKEM Case No.: ____ SAS No.: _____ SDG No.: 81102___

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron	25.0	U	25.0	U	25.0	U	25.0	U	25.000	U	P
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

NYSDEC - ASP
3
BLANKS

Lab Name: MITKEM_CORPORATION_____ Contract: ___

Lab Code: MITKEM Case No.: ____ SAS No.: _____ SDG No.: 81102___

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron			25.0	U	25.0	U			25.000	U	P
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

NYSDEC - ASP
7
LABORATORY CONTROL SAMPLE

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: 81102__

Solid LCS Source: _____

Aqueous LCS Source: HIGH_PURITY_

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron	4550.0	4739.8	104.2					
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								
Cyanide								

NYSDEC - ASP
7
LABORATORY CONTROL SAMPLE

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: 81102___

Solid LCS Source: _____

Aqueous LCS Source: HIGH_PURITY_

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron	4550.0	4711.4	103.5						
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

MITKEM CORPORATION

* Wet Chemistry *

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID: MW-1
Lab ID: 81102001

Matrix: Aqueous

Analyte	Results	Reporting Limit		Units	Analysis Method	Analysis Date
Free CO2	59	10		mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	11	4	*	mg/L	EPA 353.2	5/29/01
Sulfates	13	7		mg/L	SM 4500-SO4 E	5/31/01
TOC	9	5		mg/L	EPA 415.1	6/1/01

* Elevated due to sample matrix effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID: MW-2
Lab ID: 81102002

Matrix: Aqueous

Analyte	Results	Reporting Limit		Units	Analysis Method	Analysis Date
Free CO2	49	10		mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	ND	4	*	mg/L	EPA 353.2	5/29/01
Sulfates	14	7		mg/L	SM 4500-SO4 E	5/31/01
TOC	17	5		mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to sample matrix effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID: MW-3
Lab ID: 81102003

Matrix: Aqueous

Analyte	Results	Reporting Limit		Units	Analysis Method	Analysis Date
Free CO2	48	10		mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	ND	4	*	mg/L	EPA 353.2	5/29/01
Sulfates	18	7		mg/L	SM 4500-SO4 E	5/31/01
TOC	27	5		mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to sample matrix effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID: MW-4
Lab ID: 81102004

Matrix: Aqueous

Analyte	Results	Reporting Limit		Units	Analysis Method	Analysis Date
Free CO2	55	10		mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	ND	4	*	mg/L	EPA 353.2	5/29/01
Sulfates	15	7		mg/L	SM 4500-SO4 E	5/31/01
TOC	14	5		mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to sample matrix effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID: MW-5
Lab ID: 81102005

Matrix: Aqueous

Analyte	Results	Reporting Limit		Units	Analysis Method	Analysis Date
Free CO2	68	10		mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	ND	4	*	mg/L	EPA 353.2	5/29/01
Sulfates	17	7		mg/L	SM 4500-SO4 E	5/31/01
TOC	23	5		mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to sample matrix effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID: MW-6
Lab ID: 81102006

Matrix: Aqueous

Analyte	Results	Reporting Limit		Units	Analysis Method	Analysis Date
Free CO2	60	10		mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	ND	8	*	mg/L	EPA 353.2	5/29/01
Sulfates	17	7		mg/L	SM 4500-SO4 E	5/31/01
TOC	17	5		mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to sample matrix effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID: MW-7
Lab ID: 81102007

Matrix: Aqueous

Analyte	Results	Reporting Limit		Units	Analysis Method	Analysis Date
Free CO2	78	10		mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	ND	8	*	mg/L	EPA 353.2	5/29/01
Sulfates	15	7		mg/L	SM 4500-SO4 E	5/31/01
TOC	16	5		mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to sample matrix effects.

81102007

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID: MW-8
Lab ID: 81102008

Matrix: Aqueous

Analyte	Results	Reporting Limit		Units	Analysis Method	Analysis Date
Free CO2	37	10		mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	ND	8	*	mg/L	EPA 353.2	5/29/01
Sulfates	31	7		mg/L	SM 4500-SO4 E	5/31/01
TOC	21	5		mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to sample matrix effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID: MW-9
Lab ID: 81102009

Matrix: Aqueous

Analyte	Results	Reporting Limit		Units	Analysis Method	Analysis Date
Free CO2	ND	10		mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	ND	4	*	mg/L	EPA 353.2	5/29/01
Sulfates	21	7		mg/L	SM 4500-SO4 E	5/31/01
TOC	18	5		mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to sample matrix effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID:
Lab ID: Prep Blank

Matrix: Aqueous

Analyte	Results	Reporting Limit	Units	Analysis Method	Analysis Date
Free CO2	ND	10	mg/L	SM 4500-CO2D	5/25/01
Nitrate-N	ND	0.08	mg/L	EPA 353.2	5/29/01
Sulfates	ND	7	mg/L	SM 4500-SO4 E	5/31/01
TOC	ND	5	mg/L	EPA 415.1	6/1/01

ND = Not Detected

81102-PB

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineers
Client ID:
Lab ID: Lab Control Sample

Matrix: Aqueous

Analyte	% Recovery	Analysis Method	Analysis Date
Free CO2	100	SM 4500-CO2D	5/25/01
Nitrate-N	102	EPA 353.2	5/29/01
Sulfates	87	SM 4500-SO4 E	5/31/01
TOC	106	EPA 415.1	6/1/01

81102-LCS

Last Page of Data Report

Last Page of Data Report

MITKEM CORPORATION

"Environmental Testing For The New Millennium"

June 26, 2001

LMS Engineering
One Blue Hill Plaza, PO Box 150
Pearl River, NY 10965
Attn: Ms. Maria Heincz

RE: Client Project: Harrison SVE, 446-173
Mitkem Lab Project # 81125

Dear Ms. Heincz:

Enclosed please find the data report of the required analysis for the samples associated with the above referenced project.

If you have any questions regarding this report, please call me.

We appreciate your business

Sincerely,

Edward A. Lawler
Laboratory Operations Manager

Environmental Chemistry Section

JUN 27 2001

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499 • email: mitkem@mitkem.com

Mitkem Corporation

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name: NYSDOT Harrison SVE SDG: 81125

Customer Sample Code	Laboratory Sample Code	Analytical Requirements				
		VOA GC/MS Method #	BNA GC/MS Method #	Pest PCBs Method #	Metals	Other
LF-TP-2	81125001	8260				
~~Field~~ LF-TP-1	81125002	8260				
SP-1	81125003	8260	8270		6010	see login sheet
SP-1B	81125004	8260	8270		6010	see login sheet
SP-2	81125005	8260	8270		6010	see login sheet
SP-3	81125006	8260	8270		6010	see login sheet
SP-4	81125007	8260	8270		6010	see login sheet
TB-3	81125008	8260				
SP-1	81125009				6010	
SP-1B	81125010				6010	
SP-2	81125011				6010	
SP-3	81125012				6010	
~~SP~~ SP-4 ~~Field~~	81125013				6010	

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Volatile (VOA) Analyses

Project Name: NYSDOT Harrison SVE SDG: 81125

Laboratory Sample ID	Matrix	Date Collected	Date Received at Lab	Date Extracted	Date Analyzed
81125001	Aq	05/25/01	05/26/01	—	6/1/01
81125002					
81125003					
81125004					
81125005					
81125006					
81125007					
81125008					

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Semivolatile (BNA) Analyses

Project Name: NYSDOT Harrison SVE SDG: 81125

Laboratory Sample ID	Matrix	Date Collected	Date Received at Lab	Date Extracted	Date Analyzed
81125003	Aq	05/25/01	05/26/01	6/1/01	6/20/01
81125004	↓	↓	↓	↓	↓
81125005					
81125006					
81125007					

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Volatile (VOA) Analyses

Project Name: NYSDOT Harrison SVE SDG: 81125

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Med. Level	Dil./Conc. Factor
81125001	Aq	8260	—	L	1
81125002	↓	↓	↓	↓	↓
81125003					
81125004					
81125005					
81125006					
81125007					
81125008					

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Semivolatile (BNA) Analyses

Project Name: NYSDOT HarrisonSite SDG: 81125

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
81125003	Aq	8270	3510	—	1
81125004	↓	↓	↓	↓	↓
81125005	↓	↓	↓	↓	↓
81125006	↓	↓	↓	↓	↓
81125007	↓	↓	↓	↓	↓

NYASP 10/95

Mitkem Corporation

New York State Department of Environmental Conservation

Sample Preparation and Analyses Summary
Inorganic Analyses

Project Name: NYSDOT Harrison SVE SDG: 81125

Laboratory Sample ID	Matrix	Metals Requested	Date Received at Lab	Date Analyzed
81125003	Ag	6010	05/26/01	6/9/01
81125004	↓	↓	↓	↓
81125005				
81125006				
81125007				
81125009				
81125010				
81125011				
81125012				
81125013	↓	↓	↓	↓

NYASP 10/95

Analytical Data Package for LMS Engineers

Client Project: Harrison SVE, 446-173

SDG# 81125

Mitkem Project ID: 81125

June 26, 2001

SDG Narrative

Mitkem Corporation submits the enclosed data package in response to LMS Engineers' Harrison SVE project number 446-173. Under this deliverable, analysis results are presented for eight aqueous samples that were received on May 25, 2001 and assigned Laboratory Number 81125. Analyses were performed per specifications in the project's contract and the chain of custody forms.

The following samples are submitted in this data package:

Client ID	Lab ID	Analysis
LF-TP-2	81125001	V
LF-TP-1	81125002	V
SP-1	81125003	V, M, S, W
SP-1B	81125004	V, M, S, W
SP-2	81125005	V, M, S, W
SP-3	81125006	V, M, S, W
SP-4	81125007	V, M, S, W
TB-3	81125008	V

V = Volatile Organics – NYSDEC ASP Method 8260B (selected compounds/certain samples)
S = Semivolatile Organics – NYSDEC ASP Method 8270C (selected compounds only)
M = Metals (TAL List) – NYSDEC ASP Methods 6010B (total and dissolved iron only)
W = Wet Chemistry Parameters, including nitrate/nitrite, free CO2, total organic carbon, sulfate

The analyses were performed according to NYSDEC ASP protocols (October 1995 update) and reported per NYSDEC ASP requirement for Category A deliverable.

The following observation and/or deviations are observed for the following analyses:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required.

2. Volatile Organic Analysis:

Several samples were analyzed using a full list of compounds, while selected samples were analyzed using a shorter list of compounds. Sample results are reported to a nominal 1ppb level for all compounds with the exception of acetone, which is reported to

2ppb. These reporting limits are below the lowest initial calibration standard, but above laboratory method detection limits.

Surrogate recovery: recoveries were within the QC limits

Lab control sample: spike recoveries were within the QC limits

Sample analysis: no unusual observation was made for the analyses.

3. Semivolatile Organic Analysis:

Samples were analyzed for two compounds only, naphthalene and 2-methyl naphthalene.

Surrogate recovery: recoveries were within the QC limits. Please note only the closest surrogate standard is reported for the short list of two target compounds.

Lab control sample: spike recoveries were within the QC limits.

Sample analysis: no unusual observation was made for the analyses.

4. Metals Analysis:

A separate aliquot of each sample was filtered and acid-preserved upon receipt at the laboratory. These are reported as dissolved metals, with the unfiltered aliquot reported as total metals.

Lab control sample: spike recoveries were within the QC limits

Sample analysis: no unusual observation was made for the analyses.

5. Wet Chemistry Analyses:

Samples were analyzed for nitrate/nitrite (EPA 353.2), free CO2 (SM4500-CO2C), total organic carbon (EPA 415.1) and sulfate (SM4500-SO4E).

The reporting limits for nitrate/nitrite are elevated due to sample matrix interference caused by the color of the samples. This analysis involves the generation of a color which is proportional to the concentration of the analyte in the sample. Without dilution, the color of the sample obscured the color change in the analysis.

No other unusual occurrence was noted during sample analysis.

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Edward A. Lawler
Laboratory Operations Manager
6/26/01

Sample Transmittal Documentation

MITKEM CORPORATION

06/01/01 05:21 PM | Page 1 of2 | Revision #2 | Lab Workorder #: **81125**

Lab Workorder **81125** R2

Logged In By: _____

Reviewed By: _____

Client: **Lawler, Matusky & Skelly Eng.**
Lab Workorder ID: **HARRISON SVE 446-173**
Client Proj ID: **446-173**
Client PO #: **NA**
Project / Profile Name: **NYSDOT Harrison SVE**
Date Due: **06/11/01**
Customer Service: **KEB**
Del Req'd: **ASP A (2 copies)**
Completed?:
Profile Notes: **8260 BTEX/MTBE+Napthalene at 1 ug/L, 8270 Napthalene & 2 methylnapthelene only**
Project Notes: **R1: Add 8270 to samples 003-007. R2: Add note to 08**

Date Opened: **05/29/01 14:29**
Date Closed: **05/29/01 14:37**

Project Status: **WP**

Lab ID	Client ID	Matrix	Type	Analysis Code	Collected	Received	Due	Notes
81125001	LF-TP-2	W	SAMPLE	8260W	05/25/01 17:40	05/26/01	06/11/01	Report TCL VOCs at 1 ug/L
81125002	LF-TP-1	W	SAMPLE	8260W	05/25/01 15:55	05/26/01	06/11/01	Report TCL VOCs at 1 ug/L
81125003	SP-1	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/25/01 11:25	05/26/01	06/11/01	
81125004	SP-1B	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/25/01 12:40	05/26/01	06/11/01	
81125005	SP-2	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/25/01 14:05	05/26/01	06/11/01	

MITKEM CORPORATION

06/01/01 05:21 PM Revision #2 Lab Workorder #: **81125**

Lab ID	Client ID	Matrix	Type	Analysis Code	Collected	Received	Due	Notes
81125006	SP-3	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/25/01 15:25	05/26/01	06/11/01	
81125007	SP-4	W	SAMPLE	8260W 353.2W NO2 S4500WFCO2 6010W Fe 6010W PREP 415.1W TOC S4500EWSO4 8270W	05/25/01 17:00	05/26/01	06/11/01	
81125008	TB-3	W	SAMPLE	8260W	05/25/01 12:00	05/26/01	06/11/01	Report TCL VOCs at 1 ug/L
81125009	SP-1	W	SAMPLE	6010W Fe 6010W PREP	05/25/01 11:25	05/26/01	06/11/01	DISSOLVED IRON
81125010	SP-1B	W	SAMPLE	6010W Fe 6010W PREP	05/25/01 12:40	05/26/01	06/11/01	DISSOLVED IRON
81125011	SP-2	W	SAMPLE	6010W Fe 6010W PREP	05/25/01 14:05	05/26/01	06/11/01	DISSOLVED IRON
81125012	SP-3	W	SAMPLE	6010W Fe 6010W PREP	05/25/01 15:25	05/26/01	06/11/01	DISSOLVED IRON
81125013	SP-4	W	SAMPLE	6010W Fe 6010W PREP	05/25/01 17:00	05/26/01	06/11/01	DISSOLVED IRON

INVOICE AND REPORT GO TO:

Maria Heincz
Lawler, Matusky & Skelly Eng.
One Blue Hill Plz, PO Box 150
Pearl River, NY, 10965
E-Mail: mheincz@lmseng.com
W : 845-735-8300
F : 845-735-7466

MITKEM CORPORATION
175 Metro Center Boulevard
Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499
email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

REPORT TO			INVOICE TO		
COMPANY LMS Engineers	PHONE 845-735-0300		COMPANY SAME	PHONE	LAB PROJECT #: 81125
NAME One Blue Hill Plaza	FAX		NAME	FAX	
ADDRESS PO Box 1509			ADDRESS		TURNAROUND TIME: 10 Day
CITY/ST/ZIP Pearl River, NY 10965-8509			CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
Harrison SUE	446-173	

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	8260B (BTEX, MTBE, Naphthalene)	8260B (2-methylnaphthalene, TCL VOCs, MTBE)	PCE + TCE	CO2 EPA 4500-CO2D	TOC EPA 415.1	Sulfate EPA 9056	Nitrate-nitrite nitrogen 353.2	Iron (Total) 6010B	Iron (dissolved) 6010B	Temperature	COMMENTS
PC-1	5-25 /		X	X															LAC 525-01
LF-TP-2	5-25 / 17:40		X	X			01	3		X									
LF-TP-1	5-25 / 15:55		X	X			02	3		X									
SP-1	5-25 / 11:25		X	X			03	10	3		1	2	1	1	1	1			
SP-1B	5-25 / 12:40		X	X			04	10	3		1	2	1	1	1	1			
SP-2	5-25 / 14:05		X	X			05	10	3		1	2	1	1	1	1			
SP-3	5-25 / 15:25		X	X			06	10	3		1	2	1	1	1	1			
SP-4	5-25 / 17:00		X	X			07	10	3		1	2	1	1	1	1			
Temperature Blank	5-25 /			X		X		1									X		
TB-3	5-25 /			X		X	08	2		X									
	/																		
	/																		

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
1	[signature]	5-25-01 / 18:00	[signature]	5-26-01 10:00
2		/		/
3		/		/

ADDITIONAL REMARKS:
* 140ml Temperature Blank in Cooler
* Dissolved metals (Iron) are not Filtered

COOLER TEMP: 8C

WHITE - LAB REPORT COPY YELLOW - REPORT COPY PINK - CLIENTS COPY

MITKEM CORPORATION
Sample Condition Form

Received By: NV | Reviewed By: WC | Date: 5-26-01 | Page 1 of 1

Client Project: HARRISON SVE 446-173 | Client: CMS | MITKEM Project #: 81125

Condition:

1) Custody Seal(s) — Present / Absent
Coolers / Bottles
Intact / Broken

2) Custody Seal Number(s)

3) Chain-of-Custody — Present / Absent

4) Cooler Temperature — 5°C
Coolant Condition

5) Airbill(s) — FED-EX
Airbill Number(s) — 816066346548

6) Sample Bottles — Intact / Broken / Leaking

7) Date Received — 5-26-01

Time Received — 10:00

Lab Sample ID	Preservation (pH) HNO_3	H_2SO_4	HCl	NaOH	VOA Matrix	Comments/Remark Corrective Action
811501					WA	
02					WA	
03	<2	<2	<2		WA	
04	<2	<2	<2		WA	
05	<2	<2	<2		WA	
06	<2	<2	<2		WA	
07	<2	<2	<2		WA	
08					WA	

A Matrix Key:
S = Unpreserved Soil
W = Unpreserved Aqueous
B = Both MeOH & $NaHSO_4$
N = $NaHSO_4$
M = MeOH
E = Encore
H = HCl
A = AIR

Volatile Sample Notification Form — yes / no

MITKEM CORPORATION

* Volatiles *

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LF-TP-2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125001

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1125

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
67-64-1	Acetone	2	U
74-88-4	Iodomethane	1	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
1634-04-4	Methyl tert-butyl ether	18	
75-34-3	1,1-Dichloroethane	1	U
108-05-4	Vinyl acetate	1	U
78-93-3	2-Butanone	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
590-20-7	2,2-Dichloropropane	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LF-TP-2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125001

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1125

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	1	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-86-1	Bromobenzene	1	U
96-18-4	1,2,3-Trichloropropane	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
106-43-4	4-Chlorotoluene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	4-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LF-TP-1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125002

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1126

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
67-64-1	Acetone	2	U
74-88-4	Iodomethane	1	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
1634-04-4	Methyl tert-butyl ether	1	U
75-34-3	1,1-Dichloroethane	1	U
108-05-4	Vinyl acetate	1	U
78-93-3	2-Butanone	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
590-20-7	2,2-Dichloropropane	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LF-TP-1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125002

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1126

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	1	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-86-1	Bromobenzene	1	U
96-18-4	1,2,3-Trichloropropane	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
106-43-4	4-Chlorotoluene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	4-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125003

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1127

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-1B

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125004

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1128

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125005

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1129

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	14	
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125006

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1130

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	7	
71-43-2	Benzene	1	U
108-88-3	Toluene	1	
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	15	
91-20-3	Naphthalene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-4

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125007

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1131

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
91-20-3	Naphthalene	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125008

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1124

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
67-64-1	Acetone	2	U
74-88-4	Iodomethane	1	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
1634-04-4	Methyl tert-butyl ether	1	U
75-34-3	1,1-Dichloroethane	1	U
108-05-4	Vinyl acetate	1	U
78-93-3	2-Butanone	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
590-20-7	2,2-Dichloropropane	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125008

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1124

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	1	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-86-1	Bromobenzene	1	U
96-18-4	1,2,3-Trichloropropane	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
106-43-4	4-Chlorotoluene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	4-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK2C

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: V2B0601A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1122

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
67-64-1	Acetone	2	U
74-88-4	Iodomethane	1	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
1634-04-4	Methyl tert-butyl ether	1	U
75-34-3	1,1-Dichloroethane	1	U
108-05-4	Vinyl acetate	1	U
78-93-3	2-Butanone	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
590-20-7	2,2-Dichloropropane	1	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK2C

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: V2B0601A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2E1122

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/01/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	1	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (Total)	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-86-1	Bromobenzene	1	U
96-18-4	1,2,3-Trichloropropane	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
106-43-4	4-Chlorotoluene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	4-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

	EPA SAMPLE NO.	SMC1 #	SMC2 (DCE) #	SMC3 (TOL) #	OTHER (BFB) #	TOT OUT
01	VBLK2C	116	108	112	118	0
02	VBLK2CLCS	104	93	98	113	0
03	TB-3	101	96	95	102	0
04	LF-TP-2	102	93	98	101	0
05	LF-TP-1	102	97	98	100	0
06	SP-1	104	97	94	100	0
07	SP-1B	101	94	96	99	0
08	SP-2	103	97	98	100	0
09	SP-3	103	92	97	100	0
10	SP-4	104	94	98	101	0
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1	= Dibromofluoromethane	(79-122)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(76-121)
SMC3 (TOL)	= Toluene-d8	(82-118)
OTHER(BFB)	= Bromofluorobenzene	(85-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix Spike - Sample No.: VBLK2C

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dichlorodifluoromethane	50	0.0	54	108	17-180
Chloromethane	50	0.0	50	100	54-135
Vinyl Chloride	50	0.0	49	98	63-131
Bromomethane	50	0.0	52	104	58-132
Chloroethane	50	0.0	48	96	69-127
Trichlorofluoromethane	50	0.0	54	108	58-140
1,1-Dichloroethene	50	0.0	41	82	75-122
Acetone	50	0.0	50	100	33-150
Iodomethane	50	0.0	43	86	67-132
Carbon Disulfide	50	0.0	42	84	57-137
Methylene Chloride	50	0.0	46	92	65-128
trans-1,2-Dichloroethen	50	0.0	41	82	73-125
Methyl tert-butyl ether	50	0.0	46	92	62-136
1,1-Dichloroethane	50	0.0	42	84	75-123
Vinyl acetate	50	0.0	41	82	62-129
2-Butanone	50	0.0	41	82	54-136
cis-1,2-Dichloroethene	50	0.0	44	88	77-122
2,2-Dichloropropane	50	0.0	47	94	63-132
Bromochloromethane	50	0.0	48	96	78-123
Chloroform	50	0.0	50	100	75-122
1,1,1-Trichloroethane	50	0.0	48	96	74-126
1,1-Dichloropropene	50	0.0	42	84	77-124
Carbon Tetrachloride	50	0.0	49	98	74-127
1,2-Dichloroethane	50	0.0	54	108	76-123
Benzene	50	0.0	43	86	78-121
Trichloroethene	50	0.0	44	88	77-123
1,2-Dichloropropane	50	0.0	44	88	77-122
Dibromomethane	50	0.0	50	100	75-123

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix Spike - Sample No.: VBLK2C

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Bromodichloromethane	50	0.0	50	100	78-121
cis-1,3-Dichloropropene	50	0.0	46	92	77-121
4-Methyl-2-pentanone	50	0.0	42	84	63-133
Toluene	50	0.0	44	88	77-122
trans-1,3-Dichloroprope	50	0.0	49	98	76-123
1,1,2-Trichloroethane	50	0.0	48	96	76-124
1,3-Dichloropropane	50	0.0	48	96	76-122
Tetrachloroethene	50	0.0	44	88	77-121
2-Hexanone	50	0.0	42	84	53-142
Dibromochloromethane	50	0.0	49	98	77-121
1,2-Dibromoethane	50	0.0	47	94	75-122
Chlorobenzene	50	0.0	45	90	77-120
1,1,1,2-Tetrachloroetha	50	0.0	49	98	78-119
Ethylbenzene	50	0.0	45	90	76-120
Xylene (Total)	150	0.0	140	93	76-121
Styrene	50	0.0	48	96	77-121
Bromoform	50	0.0	50	100	73-126
Isopropylbenzene	50	0.0	48	96	73-123
1,1,2,2-Tetrachloroetha	50	0.0	45	90	66-128
Bromobenzene	50	0.0	43	86	75-120
1,2,3-Trichloropropane	50	0.0	46	92	68-124
n-Propylbenzene	50	0.0	43	86	71-123
2-Chlorotoluene	50	0.0	42	84	73-121
1,3,5-Trimethylbenzene	50	0.0	44	88	72-123
4-Chlorotoluene	50	0.0	44	88	74-120
tert-Butylbenzene	50	0.0	41	82	71-123
1,2,4-Trimethylbenzene	50	0.0	45	90	72-122
sec-Butylbenzene	50	0.0	44	88	70-125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK2C

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Lab File ID: V2E1122 Lab Sample ID: V2B0601A

Date Analyzed: 06/01/01 Time Analyzed: 1120

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: V2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK2CLCS	V2L0601A	V2E1123	1230
02	TB-3	81125008	V2E1124	1313
03	LF-TP-2	81125001	V2E1125	1342
04	LF-TP-1	81125002	V2E1126	1410
05	SP-1	81125003	V2E1127	1439
06	SP-1B	81125004	V2E1128	1507
07	SP-2	81125005	V2E1129	1536
08	SP-3	81125006	V2E1130	1604
09	SP-4	81125007	V2E1131	1633
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

MITKEM CORPORATION

* Semivolatile Organics *

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SP-1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125003

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C2102

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/01/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/20/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SP-1B

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125004

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C2103

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/01/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/20/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SP-2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125005

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C2104

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/01/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/20/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SP-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125006

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C2100

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/01/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/20/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-4

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: 81125007

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: S1C2101

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/01/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/20/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: S0601-BW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1C2171

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/01/01

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/22/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S1DLCS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix: (soil/water) WATER Lab Sample ID: S0601-LW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1C2174

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/01/01

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/22/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	38	
91-57-6	2-Methylnaphthalene	38	

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

	EPA SAMPLE NO.	S1 (NBZ) #	S2 #	S3 #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	SP-3	46								0
02	SP-4	62								0
03	SP-1	56								0
04	SP-1B	49								0
05	SP-2	51								0
06	SBLK1D	56								0
07	S1DLCS	78								0
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (38-119)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix Spike - Sample No.: S1DLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Naphthalene	50		38	76	50-105
2-Methylnaphthalene	50		38	76	50-107

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 2 outside limits

COMMENTS: _____

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK1D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Lab File ID: S1C2171 Lab Sample ID: S0601-BW1

Instrument ID: S1 Date Extracted: 06/01/01

Matrix: (soil/water) WATER Date Analyzed: 06/22/01

Level: (low/med) LOW Time Analyzed: 2015

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SP-3	81125006	S1C2100	06/20/01
02	SP-4	81125007	S1C2101	06/20/01
03	SP-1	81125003	S1C2102	06/20/01
04	SP-1B	81125004	S1C2103	06/20/01
05	SP-2	81125005	S1C2104	06/20/01
06	S1DLCS	S0601-LW1	S1C2174	06/22/01
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

MITKEM CORPORATION

* Metals *

NYSDEC - ASP

1

INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-1

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix (soil/water): WATER Lab Sample ID: D81125003

Level (low/med): MED Date Received: 05/26/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	52.1	B		P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

DISSOLVED_METALS_FOR_SP-1

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-1B

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix (soil/water): WATER Lab Sample ID: D81125004

Level (low/med): MED Date Received: 05/26/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	32.8	B		P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
DISSOLVED_METALS_FOR_SP-1B

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-2

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix (soil/water): WATER Lab Sample ID: D81125005

Level (low/med): MED Date Received: 05/26/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	25.0	U		P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
DISSOLVED_METALS_FOR_SP-2

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-3

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix (soil/water): WATER Lab Sample ID: D81125006

Level (low/med): MED Date Received: 05/26/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	25.0	U		P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
DISSOLVED_METALS_FOR_SP-3

NYSDEC - ASP

I

INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-4

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix (soil/water): WATER Lab Sample ID: D81125007

Level (low/med): MED Date Received: 05/26/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	602			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

DISSOLVED_METALS_FOR_SP-4

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-1

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix (soil/water): WATER Lab Sample ID: T81125003

Level (low/med): MED Date Received: 05/26/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	3940			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP

I

INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-1B

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix (soil/water): WATER Lab Sample ID: T81125004

Level (low/med): MED Date Received: 05/26/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	1080			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-2

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix (soil/water): WATER Lab Sample ID: T81125005

Level (low/med): MED Date Received: 05/26/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	9750			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-3

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81125

Matrix (soil/water): WATER Lab Sample ID: T81125006

Level (low/med): MED Date Received: 05/26/01

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	2970			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NYSDEC - ASP
1
INORGANIC ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

SP-4

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: 81125__

Matrix (soil/water): WATER_ Lab Sample ID: T81125007_____

Level (low/med): MED___ Date Received: 05/26/01___

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron	3790			P
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

NYSDEC - ASP
3
BLANKS

Lab Name: MITKEM_CORPORATION Contract: ___

Lab Code: MITKEM Case No.: ____ SAS No.: _____ SDG No.: 81125___

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

6/13/01

0609PBW1

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron	25.0	U	25.0	U	25.0	U	25.0	U	66.606	B	P
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

NYSDEC - ASP
3
BLANKS

Lab Name: MITKEM_CORPORATION Contract: ___

Lab Code: MITKEM Case No.: ____ SAS No.: _____ SDG No.: 81125___

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

6/13/01

0529FB1

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron			25.0	U					39.706	B	P
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

NYSDEC - ASP
7
LABORATORY CONTROL SAMPLE

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: 81125__

Solid LCS Source: _____

Aqueous LCS Source: HIGH_PURITY_

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron	4550.0	4770.0	104.8						
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

NYSDEC - ASP
7
LABORATORY CONTROL SAMPLE

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: 81125__

Solid LCS Source: _____

Aqueous LCS Source: HIGH_PURITY_

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron	4550.0	4676.1	102.8						
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

MITKEM CORPORATION

* Wet Chemistry *

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineering
Client ID: SP-1
Lab ID: 81125003

Matrix: Aqueous

Analyte	Results	Reporting Limit	Units	Analysis Method	Analysis Date
Free CO2	18	10	mg/L	SM4500- CO2C	5/26/01
Nitrate	ND	5*	mg/L	EPA 353.2	5/29/01
Sulfates	48	7	mg/L	SM 4500-SO4 E	5/31/01
TOC	25	2.4	mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to matrix sample effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineering
Client ID: SP-1B
Lab ID: 81125004

Matrix: Aqueous

Analyte	Results	Reporting Limit	Units	Analysis Method	Analysis Date
Free CO2	39	10	mg/L	SM4500- CO2C	5/26/01
Nitrate	ND	5*	mg/L	EPA 353.2	5/29/01
Sulfates	27	7	mg/L	SM 4500-SO4 E	5/31/01
TOC	14	2.4	mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to matrix sample effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineering
Client ID: SP-2
Lab ID: 81125005

Matrix: Aqueous

Analyte	Results	Reporting Limit	Units	Analysis Method	Analysis Date
Free CO2	36	10	mg/L	SM4500- CO2C	5/26/01
Nitrate	ND	5*	mg/L	EPA 353.2	5/29/01
Sulfates	26	7	mg/L	SM 4500-SO4 E	5/31/01
TOC	17	2.4	mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to matrix sample effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineering
Client ID: SP-3
Lab ID: 81125006

Matrix: Aqueous

Analyte	Results	Reporting Limit	Units	Analysis Method	Analysis Date
Free CO2	11	10	mg/L	SM4500- CO2C	5/26/01
Nitrate	ND	5*	mg/L	EPA 353.2	5/29/01
Sulfates	56	7	mg/L	SM 4500-SO4 E	5/31/01
TOC	11	2.4	mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to matrix sample effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineering
Client ID: SP-4
Lab ID: 81125007

Matrix: Aqueous

Analyte	Results	Reporting Limit	Units	Analysis Method	Analysis Date
Free CO2	39	10	mg/L	SM4500- CO2C	5/26/01
Nitrate	ND	5*	mg/L	EPA 353.2	5/29/01
Sulfates	34	7	mg/L	SM 4500-SO4 E	5/31/01
TOC	14	2.4	mg/L	EPA 415.1	6/1/01

ND = Not Detected

* Elevated due to matrix sample effects.

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineering
Client ID:
Lab ID: Prep Blank

Matrix: Aqueous

Analyte	Results	Reporting Limit	Units	Analysis Method	Analysis Date
Free CO2	ND	10	mg/L	SM4500- CO2C	5/26/01
Nitrate	ND	0.1	mg/L	EPA 353.2	5/29/01
Sulfates	ND	7	mg/L	SM 4500-SO4 E	5/31/01
TOC	ND	2.4	mg/L	EPA 415.1	6/1/01

ND = Not Detected

MITKEM CORPORATION

Analysis Report: Wet Chemistry Parameters

Client: LMS Engineering
Client ID:
Lab ID: Lab Control Sample

Matrix: Aqueous

Analyte	% Recovery	Analysis Method	Analysis Date
Free CO2	99	SM4500- CO2C	5/26/01
Nitrate	102	EPA 353.2	5/29/01
Sulfates	87	SM 4500-SO4 E	5/31/01
TOC	106	EPA 415.1	6/1/01

81125-LCS

Last Page of Data Report