Lawler, Matusky & Skelly Engineers

Environmental Science & Engineering Consultants

JOHN P. LAWLER, P.E.
FELIX E. MATUSKY, P.E.
MICHAEL J. SKELLY, P.E.
KARIM A. ABOOD, P.E.
PATRICK J. LAWLER, P.E.
FRANCIS M. McGOWAN, P.E.
THOMAS L. ENGLERT, P.E.
PETER M. McGRODDY, P.E.
THOMAS E. PEASE, P.E.

ONE BLUE HILL PLAZA
P.O. BOX 1509
PEARL RIVER, NEW YORK 10965
(914) 735-8300
FACSIMILE (914) 735-7466

14 January 1992
File No. 442-140

Mr. Daniel Steenberge, P.E.
NYS Dept. of Environmental Conservation
Route 86
Ray Brook, NY 12977

Re: **Brault Lagoon - Harris Corporation**

Dear Mr. Steenberge:

Enclosed for your reference is a copy of Report on Lagoon Remediation At Brault Lagoon Site (January 1992), which describes the October 1991 excavation. Call me if there are any questions.

Yours very truly,

Stuart E. Bassell, P.E.
Project Manager

SEB:cmr
enc.
cc: Albert Bronson, NYS Dept. of Law
Kevin Young, Esq., Whiteman, Osterman & Hanna
D. Patrick Tydor, Harris Corporation
Robert Morgan, Kim Pex Leasing

WHITEMAN, OSTERMAN AND HANNA
Albany, New York

REPORT ON LAGOON REMEDIATION AT BRAULT LAGOON SITE

January 1992

LMSE-92/0021&442/140

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

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PURPOSE

The purpose of this report by Lawler, Matusky & Skelly Engineers (LMS) is to summarize the activities that have been completed with regard to the 1991 removal of soil from Lagoons No. 1 and 2 at the Brault Lagoon site. The remediation was conducted pursuant to the Consent Judgement (86-CV-649) between the State of New York and Harris Corporation.

PREVIOUS EXCAVATIONS

Two previous excavations were completed in Lagoon No. 1 during December 1983-January 1984 and December 1984-January 1985. These excavations are described in LMS (1985). The excavation initiated in 1983 involved removal of water (2000 gal) and sludge from Lagoon No. 1. Both the water and sludge were disposed off-site. The sludge was stabilized with wood chips prior to trucking. The stabilized volume was 240 yd^3; there was no measurement of the volume prior to stabilization. Adverse weather in January 1984 forced the suspension of the work.

LMS is aware of only one sample of the sludge having been analyzed for volatile organic compounds (VOCs). The sample, collected on 7 June 1983, contained 170,000 mg/kg of 1,1,1-trichloroethane and 8100 mg/kg of toluene on a dry-weight basis. LMS estimates that approximately 2400 lb of 1,1,1-trichloroethane was present in the sludge and water hauled off-site.

The second excavation of Lagoon No. 1 resulted in the removal of water and a mixture of sludge and soil. Approximately 3800 gal of water was trucked off-site. All of the remaining sludge and discolored soil extending to about 0.5 ft below the sludge were removed. The excavated material was stabilized with wood chips and then hauled off-site. The total stabilized volume was 140 yd^3. No estimate of the excavated volume was made. The sludge/soil had been sampled for 1,1,1-trichloroethane in July 1984:

DEPTH (ft)	CONCENTRATION (mg/kg)
0-1	63,000
1-1.5	2600
1.5-2	1200

Water samples collected in June and July 1984 contained 33 and 11 mg/l, respectively of 1,1,1-trichloroethane. Based on the above chemistry, LMS estimates that approximately 600 lb of

1,1,1-trichloroethane was present in the sludge, solid, and water removed during the second excavation. For the two excavations 3000 lb of chemical were removed.

Because of the rapid attenuation of the chemical with depth measured in 1984, it was believed that only little chemical remained in the soil after the second excavation.

BACKGROUND TO THE 1991 EXCAVATION

Observations made during a 1988 geophysical investigation of the lagoon area indicated that the sediments beneath the lowered Lagoon No. 1 bottom were still saturated with chemicals to a depth of at least 5 ft, the limit of the test pit that could be advanced into the lagoon. The investigation further indicated that these sediments were plugged. This plugging would interfere with a later expansion to the lagoon area remedial groundwater pumping system. The results of this investigation were reported in LMS (1990a) which also proposed that the remaining sediments beneath Lagoon No. 1 be completely excavated to bedrock. The depth to bedrock beneath the lowered lagoon bottom was estimated to be 8 ft. The report proposed that the excavated material be spread on the ground to a depth of 0.5 ft in the vicinity of PW-11. The chemicals in the soil would be allowed to volatilize. Any leaching of chemical from the soil by precipitation would be captured in the groundwater by PW-11.

In a 21 August 1990 letter from New York State Department of Law to Whiteman, Osterman and Hanna, the state approved the proposed excavation subject to the condition that the discharge to the air from the lagoon sediments be within permissible air quality limits. In September 1990, LMS submitted a report that demonstrated that air quality criteria would not be violated by the project (LMS 1990b). In a 5 November 1990 letter from the New York State Department of Environmental Conservation (NYSDEC) to Whiteman, Osterman and Hanna, the state approved the September 1990 report and the proposed activities, subject to submission of plans and specifications for the construction. LMS draft plans and specification were submitted via transmittal from Harris Corporation to NYSDEC on 4 June 1991. The plans provided for the excavation of both Lagoons No. 1 and 2. Comments from NYSDEC were incorporated into the finalized document, which was resubmitted by LMS on 26 August 1991 (LMS 1991a).

COMPLETION OF THE WORK

The contract for the excavation was awarded by Harris Corporation to Adirondack Environmental Associates Incorporated (AEAI). The contract encompassed preparation of a Health and Safety Plan (HASP); mobilization; site preparation; berming of the soil containment area around PW-11; removal of perched (1-ft-deep) water on the surface of Lagoon No. 1 and its conveyance to the groundwater remediation system; setup of equipment to dewater groundwater, if present, below the lagoon; excavation and spreading of soils; decontamination of equipment; placement of a fence around the completed excavation; and demobilization. The excavation and spreading were directed by LMS.

Air monitoring was conducted with a Photovac Microtip photoionization detector (PID) and a Foxboro Model 128 Organic Vapor Analyzer flame ionization detector (FID) supplied by AEAI. A second FID was supplied by LMS for backup. For the most part, the PID was used to monitor air in the work zone in compliance with AEAI's HASP, and the FID was employed to conduct headspace measurements on jarred samples of the excavated material. The presence of methane was checked occasionally by a fitting a charcoal filter on the FID. No or little methane was present, which allowed for a reduction in the frequency of employing this procedure. LMS-supplied 1,1,1-trichloroethane colorometric indicator tubes manufactured by National Draeger were also used for the headspace measurements.

Mobilization commenced on 14 October 1991. Work on 15 October involved site preparation. Further site preparation and test pitting on the north and south sides of Lagoon No. 2 occurred during LMS' inspection, which started on 16 October. Inspection notes are presented in Appendix A. Soil in the south test pit was free of VOCs and was used for the construction of the containment berm. VOCs were present in the northern test pit (Samples 6 and 6a; see Appendix A).

Site preparation, including removal of the perched water, was completed on 17 October. An 18-ft-long test trench was completed 10 ft south of Lagoon No. 1. The trench was completed to classify the soils that would have to be removed to lower the ground surface so that the excavator could be positioned for digging in the center of the lagoon. As indicated in

Appendix A, the soil apparently contained low concentrations of VOCs (6-10 ppm FID headspace measurements; Samples 1 to 4 for 17 October). A test pit on the north side of Lagoon No. 1 produced soil with similar concentrations of VOCs (Sample 5, 13 ppm). Because of the apparent presence of chemicals in the soil, the material was stockpiled in the containment area around PW-11 rather than the clean soil stockpile area southwest of Lagoon No. 1. During the preparation of the work plans, it had been anticipated that this soil would be free of VOCs. Additional test pits were completed in Lagoon No. 2. A low battery precluded further use of the FID, and the PID was employed for the remainder of the day. The results (>1000 ppm PID for one sample and 70-90 ppm for the second) indicated that the Lagoon No. 2 soil should be removed. A duplicate colorometric tube measurement of 50 ppm on the second sample was in good agreement with the results of the PID. The remainder of the work on 17 October involved excavation of soils from Lagoon No. 1.

Work on 18 October involved excavation of soils from Lagoon No. 1 and further lowering of the ground surface on the north and south sides of the lagoon. Although the excavation had lowered the lagoon bottom by more than 8 ft, bedrock was not reached, contrary to the 1988 geophysical study projection. Additionally, the soil removed to step down the ground surface on either side of the lagoon contained VOC concentrations much higher than anticipated during the design phase. As noted in Appendix A, the headspace measurements for the south side step down were >1000 ppm FID and 200-300 ppm colorometric indicator tube. The north side stepdown resulted in measurements up to 80 ppm FID. These findings (deeper bedrock and VOCs in the soil outside the footprint of the lagoon) necessitated several changes in the excavation plan. First, more soil with VOCs would have to be placed in the PW-11 containment area than had been planned. As a result, the soil was spread to a depth of 2 ft, rather than 0.5 ft as planned. Second, to provide additional containment volume, the berms were extended to a stone wall west of the lagoon. Third, in order to minimize the volume of material that would have to be placed in the containment area, the walls of the excavation were kept as vertical as possible, rather than broadly stepped back on the 1:2 slope presented in the construction specifications. These changes were verbally agreed to by Michael Cox, NYSDEC's on-site representative.

On 21 October bedrock was reached below Lagoon No. 1. Groundwater was present just above the bedrock; therefore, the excavation dewatering system specified in its plans did not have to be employed. The sides of the excavation were cut back and some of the material between the two lagoons was excavated. This additional removal resulted in the complete filling of the containment area, plus the creation of an isolated 6-ft mound, approximately 100 yd^3 in volume. At that point, the excavation had to be stopped and AEAI started demobilizing.

On 22 October LMS directed the completion of eight test pits in the lagoon area; field notes are presented in Appendix A. The test locations are shown in Drawing 1. The objective of that investigation was to study the lateral extent of VOCs remaining in the soil surrounding the lagoons. The findings are discussed below. Also on 22 October AEAI completed much of their demobilization. LMS inspection ended on 22 October. Subsequent to that date AEAI completed demobilization, including installation of the fence around the excavation.

Subsequent to AEAI's demobilization, Harris Corporation arranged to have the vertical walled portion of the excavation backfilled with 265 tons of 1.25 in. crushed stone. A vertical length of 8-in. diameter corrugated metal pipe was positioned in the pit prior to placement of the stone to allow access to the groundwater directly below the lagoon.

VOLUME CALCULATIONS

The depths of the excavation were measured along several cross sections by Robert Morgan, the operator of the groundwater remediation system. These measurements were compiled by LMS to prepare a contour map of the lagoon area (Drawing 1). The contours delineate the steep-walled excavation in Lagoon No. 1 and the step back areas on the north and south sides. The soil containment zone was not measured and the new contours in that area are not shown in Drawing 1.

The contours indicate that, at most, 550 yd^3 of soil were excavated beyond what had been removed during the two previous excavations. Once placed in the PW-11 containment area, the volume expanded by an estimated 20%. Thus, the total volume placed in the containment area is estimated from the contour map to be approximately 700 yd^3.

The excavated material was placed over an estimated 1500-yd^2 area to a maximum depth of 2 ft, resulting in a total volume of 1000 yd^3. The deeper stockpile has an estimated volume of 100 yd^3, resulting in a total of 1100 yd^3. This volume is about 60% greater than the alternative estimate derived from the contour map. The cause of the discrepancy is not known with certainty, but recent examination of the containment zone indicates that there are areas where the soil is spread to the 6-in. depth originally specified. Therefore, the actual volume of excavated material may be closer to the 700 yd^3 estimate.

It should be recognized that the center of the excavations for Lagoons No. 1 and 2 in Drawing 1 are slightly offset by about 14 ft from the previously mapped locations. This discrepancy is a result of minor inaccuracies on the original 100-ft scale basemap being magnified by the 20-ft scale used for Drawing 1.

LABORATORY ANALYSES

Three soil samples collected on 17 October from the stockpiles of material derived from the initial step down adjacent to Lagoon No. 1 were analyzed by gas chromatography (GC) for VOCs by CAMO Laboratories of Poughkeepsie, New York. CAMO's report is presented in Appendix B. No chemicals were present in these samples except for 1,1,1-trichloroethane, which was present in two of the three samples:

Pile 1a	6.3 µg/kg (dry weight)
Pile 1b	3.1 µg/kg (dry weight)
Pile 2a	<1.1 µg/kg (dry weight)

As noted previously, headspace measurements collected during excavation of this material were 6-10 ppm FID.

Fifteen soil samples collected during 18-21 October were similarly tested. The results are also presented in Appendix B and summarized in Table 1, under the column *Lab Results*. The results are tabulated separately for the excavation and test pits. Except for the sample collected from Lagoon No. 2, all of the results for the excavation samples show very low VOC concentrations, in the range 0.032-0.15 mg/kg (wet weight). The results do not correlate with the headspace measurements conducted by LMS on the soil immediately following collection.

After receipt of the preliminary analytical results, LMS directed CAMO to return the soil samples to the LMS laboratory in Nyack, New York for further study. Because of this transfer, CAMO did not complete their analyses of moisture content to present the VOC concentrations on a dry-weight basis. (Moisture content was probably in the 9-15% range measured for the 17 October samples.)

FID headspace measurements were conducted on all of the returned samples at the LMS laboratory. In Table 1, the results of these later measurements are compared with those made when the samples were collected. A significant loss in organic gas concentrations is noted in the table. For many of the original high-level measurements, the percent loss cannot

TABLE 1

DATA SUMMARY FOR SELECTED SAMPLES

SAMPLE ID No.	LOCATION	DEPTH (ft)	HEADSPACE OVA (ppm) AFTER COLLECTION	HEADSPACE OVA (ppm) AFTER ANALYSIS	% LOSS	LAB RESULTS[a] (mg/kg TCA)	EXTRAPOLATED[a] (mg/kg TCA)
18305	L2	-	180	25	86	430	3100
18304	L1	10	>1000	2.4	>99.8	0.03	>10
18306	L1	12-14	>1000[b]	1.2	99.9	0.15[c]	>100
18317	L1	20-24	>1000[b]	2.4	>99.8	0.032[d]	>10
18307	L1 North side	4-6	3	1.0	67	0.055	0.17
18308	L1 West side	8	>1000[b]	21	>97.9	0.083[e]	>10
18287	Berm bet. L1 & L2	0-6	40	4.0	90	0.033	0.33
18309	TP-N2	6-12	5.5	0.4	93	0.004	0.06
18310	TP-N3	12	3.0	1.8	56	0.078	0.13
18311	TP-S1	12-16	1.1	0.6	45	0.0006	0.0001
19397	TP-W1	13	6.8	0.9	87		
17213	TP-N4	6-12	>1000[b]	49	>95.1	2.4	>100
17248	TP-N5	12-13	1.6	1.2	25	0.003	0.004
18314	TP-S2	6-9	3.4	0.6	82	0.10	0.60
10812	TP-S2	9-14	0.4	0.6	0	0.027	0.027
10813	TP-S3	6-12	1.0	0.4	60	0.003	0.008

[a]Wet weight.
[b]Draeger tube measurement >600 ppm TCA.
[c]Also 0.007 mg/kg PCE and 0.031 mg/kg chlorobenzene.
[d]Also 0.065 mg/kg chlorobenzene.
[e]Also 0.046 mg/kg DBCM and 0.089 mg/kg PCE.

Note: L1 - Lagoon No. 1
L2 - Lagoon No. 2

be computed because the postcollection headspace concentrations were higher than the upper measuring range of equipment (>1000 ppm FID).

Although the initial Lagoon No. 2 headspace measurement was only moderately high (180 ppm), the sample contained the highest VOC concentration (430 mg/kg) and did not exhibit as high a loss in headspace organic gas as did many of the other high-gas soil samples. Because Lagoon No. 2 was never excavated, it is possible that the organic content of its soils during the excavation was higher than the Lagoon No. 1 or stepdown soils. The organic material would be expected to make the soils less susceptible to VOC off-gassing and loss from the sample container after sample collection.

The excavated soils consisted of generally coarse sand and cobbles. Standard sample collection and holding practices can result in appreciable VOC loss prior to laboratory analysis, especially for coarse material. LMS has observed this problem at another U.S. Environmental Protection Agency (EPA) Superfund site and the problem has been reported in the literature (Lewis et al. 1991). Based on the changes in the headspace gas levels, LMS concludes that the reported laboratory results do not reflect the VOC concentrations present in the samples as collected.

The laboratory results were roughly extrapolated in Table 1 by the following formula:

$$\textit{Extrapolated results} = \frac{\textit{Reported results}}{\left(1 - \frac{\textit{\% FID loss}}{100}\right)}$$

For the samples with initial headspace measurements greater than 1000 ppm, the extrapolated results are meaningless, as the actual loss cannot be calculated.

There is a 0.6 correlation coefficient between the percent loss and the after-collection headspace measurement. This correlation indicates that samples with low initial headspace organic vapor concentrations are apparently less susceptible to off-gassing prior to analysis.

Therefore, except for TP-N4, the extrapolated concentrations may be reflective of the actual environmental condition of the test pit soils.

CAMO reported tetrachloroethylene (PCE) in two samples, chlorobenzene in two, and dibromochloromethane (DBCM) in one. CAMO verified the presence of the peaks for these chemicals on the chromatogram; however, GC/mass spectrophotometry (MS) analysis would have been required for confirmation. These compounds are routinely tested for in the lagoon area groundwater and have never been present. Therefore, it is possible that these chemicals were not actually present in the soil samples. The cause of this anomaly is unknown.

MASS OF CHEMICAL REMOVED

The foregoing discussion indicates a possible range of the volume of material excavated and a significant uncertainty as to the chemical composition of that material. Therefore, no confident estimate of the mass of chemical removed can be made.

As indicated in Appendix A, soil below Lagoon No. 1 resulted in, for the most part, headspace gas measurements of >1000 ppm FID and >600 ppm indicator tube. (The sample collected from the soil immediately above bedrock resulted in lower measurements - 380 ppm OVA and <50 ppm indicator tube. However, this sample consisted largely of groundwater.) It is roughly assumed that the average concentration of 1,1,1-trichloroethane in the soil below Lagoon No. 1 was 1000 mg/kg dry weight. The volume of this material calculated from Drawing 1, less the volume excavated during 1983-1985, is approximately 150 yd^3, not including the step back volume, which contained a far lower chemical concentration. Assuming an in-place density of 120 lb/ft^3 and a moisture content of 10%, the mass of chemical removed from below Lagoon No. 1 is 440 lb.

Approximately 150 yd^3 were excavated in and around Lagoon No. 2, about 60 yd^3 of which originated below the lagoon footprint. Assuming the extrapolated Lagoon No. 2 sample result in Table 1 (3100 mg/kg wet weight) is representative of the 60 yd^3 of material, the mass of chemical removed is 600 lb. The total mass for both lagoons is roughly estimated to be 1040 lb, which is the equivalent of 170 gal of chemical product.

REMAINING CHEMICAL

Samples were collected near the end of the excavation and during the test pit study to describe the remaining chemical in the soil. A sample of soil collected on 21 October from the 6-ft cutback of the Lagoon No. 1 west wall (8 ft deep) resulted in headspace measurements of >1000 ppm FID and >500 ppm indicator tube. Therefore, chemical remains in the soil west of the lagoon below the cutback. The lateral extent to the west is not known with certainty because the nearest test pit (TP-W1) is some 25 ft away. The cut-back had a horizontal distance of 6 ft.

Measurements for the soil between the two lagoons (identified in the inspection notes as the dike) were 40-50 ppm OVA. The extrapolated concentration (Table 1) for this material is less than 0.33 mg/kg, a relatively low number. However, the sampled material may have originated at an elevation above the original water lines of the lagoons. Therefore, it is possible that chemical is present in the soil closer to bedrock.

The 8-ft-deep soil collected from Lagoon No. 2 has an extrapolated concentration of 3100 mg/kg. Therefore, it is concluded that the remaining 80 yd^3 beneath Lagoon No. 2 contains chemical.

With the exception of those north of Lagoon No. 2, all of the test pits contained very low chemical concentrations, below environmental significance. Based on these findings, headspace measurements of 10 ppm FID should be considered reflective of soils that are clean enough to be stockpiled anywhere in the lagoon area.

Unusual results were obtained for test pit TP-N4, located 10 ft north of Lagoon No. 2. The soil from 0-6 ft was relatively free of chemicals (12 ppm FID), yet the soil from 6-12 ft resulted in headspace measurements of >1000 ppm FID and >500 ppm indicator tube. The cause of this pattern is unknown. At the next test pit further north, the deep soil samples (TP-N5: 6-12 ft and 12-13 ft) were free of chemicals.

AIR QUALITY

The projection of air quality impacts of the proposed excavation (LMS 1990b) estimated a chemical removal of 350 lb, about 34% of the estimate of actual removal given above. Even under the most severe atmospheric conditions LMS (1990b) noted that actual emissions would have to be 10 times greater than projected to produce unacceptable air quality impacts at the nearest downwind receptor (residences along Route 22).

Ambient air quality was monitored throughout the excavation. Outside the excavation exclusion zone, FID measurements were typically below 2 ppm (11 mg/m^3). The ambient guidance concentration (ACG) for 1,1,1-trichloroethane 38 mg/m^3. Therefore, air quality criteria were not exceeded in the lagoon area away from the exclusion zone.

SOIL AERATION

As of this writing, specifications for the aeration of the soil in the containment area have been prepared (LMS 1991b) and approved by NYSDEC (NYSDEC-LMS telecommunication, 8 November 1991). Because of unanticipated problems with contracting and weather, the first turning of the soil has not yet been completed. Based on the loss of organic gas that occurred from the refrigerated soil samples, as discussed above, there should have already been significant volatilization from the target soils.

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APPENDIX A

INSPECTION NOTES FOR OCTOBER EXCAVATION

DATE: 31 October 1991 FILE No. 442-138

TO: File

FROM: Joe Condello

SUBJECT: Field Notes - Brault Lagoon Excavation

October 16,1991
•0800 Arrive on site
•Silt fence was installed in clean soil area.
•0805 Robby and Tommy from Morrisville Excavators arrive.
•815 Bob Alfers from Adirondak Enviromental (AE) arrives.
•There is on site 1-excavator, 1-bulldozer, 2-loaders. Bob had them start constructing the berm around the recapture zone. According to Bob there is not enough top soil in the recapture zone to make the berm. They will scrap some top soil from the adjacent field to use as berm material.
•0915 Mike Cox from the NYSDEC arrives. Mike indicates that we will have to show that the soil from our proposed stepdowns is clean. We agree to do 2 trenches 8' by 4' deep parallel to Lagoon 2 on the south side.
• OVA shows no readings in the headspace (jar) from these trenches. This soil is also used to construct the berm. Excavator completes the stepdown on the south side of Lagoon 2. Also stepped down the north side of Lagoon 2. Got a high reading on a sample from the sidewall, approximately 4' down in the north west corner of Lagoon 2.
•1200-1230 Lunch
• Guy Fenwick (AE) and Mark McCullagh (H2M) arrive on site. Mark conducts his Health and Safety orientation. "Fit tests" Bob, Tommy and Robby with half-face respirators. Allows Tommy to "fit test" despite the fact that he has a full beard. I questioned Guy and Bob about having 4 pieces of equipment and only 2 operators on site. They both told me that we will only be charged for the machines as they are used.My understanding of this is that we are not going to be charged for equipment that is sitting idle. Agreed with Mike to do test trenches at Lagoon 1 before stepping down on the north and south sides. OVA has a low battery so we stopped doing intrusive work. Finished up the day by working on the berm.
•1530 Crews leave site.
October 17,1991
•0800 Arrive on site with groundwater crew.
•0815 Operators and Bob arrive on site. Also on site are 2 technicians from AE, Guy Fenwick, Mark McCullagh. AE has their Vac truck on site to dewater Lagoon 1.
•0830 Stu Bassell and Pat Tydor (Harris) arrive. Start doing test trenches on the stepdown area south of Lagoon 1. Got some questionable readings with the OVA. Stu got Mike to agree to us stockpiling this material inside the recapture zone until we get some lab results on it. We do the same thing with the soil from the north side step down of Lagoon 1. These

2 stockpiles are kept separate.
•1000 Stepdown completed. Excavator is down because we are waiting for AE to dewater Lagoon 1. Bob went out to pick up their OVA so things are at a standstill.
•1045 Stu has excavator start doing the test pits in Lagoon 2. Our OVA keeps on flaming out due to a low battery. Used AE's PID to scan the bucket. Pegs their meter out at 1000+. Excavator starts pulling contaminated soil out of Lagoon 2. Loader is spreading this soil in the recapture zone.
•1200 Start dewatering Lagoon 1.
•1210-1300 Lunch
•1300 Start excavating in Lagoon 1. Now using AE's OVA. This contaminated soil is being spread in the recapture zone. Collected soil samples from the 2 stepdown stockpiles for CAMO to run. All the soil that we have pulled that is contaminated is being spread to a depth of 1-2'.
•1530 Crews leave for the day.
October 18,1991
•0800 Arrive on site.
•0820 Operators arrive
•AE arrive. Bob and 2 technicians.
•0900 Start digging in Lagoon 1. Bob has the 2 techs working on the sediment trap for the dewatering. Recapture zone is basically filled to depth 1-2'. Agree with Mike Cox to stockpile Lagoon 1 soil inside the recapture zone. Dug down to bedrock on the south side. Moved over to the north side and started removing soil. Determined that what Bob had called bedrock was not bedrock. Went back to the south side and stepped down another 4-6'. This soil was contaminated also. Dug down to a depth of 24'. Stepped down the north side and completed digging down to 24'. Still have not found bedrock. Bringing up a lot of cobbles and stone, but it is still mixed with a lot of soil. Tommy (Morrisville) estimates that we have pulled out 600 - 700 cubic yards. The majority of this is now stockpiled.
•1430 Crews leave for the day.
October 21,1991
•0800 Arrive on site. Noticed some water in Lagoon 2, but none in Lagoon 1. We did have rain over the weekend. Based on conversations with Stu on Friday and Sunday, we are prepared to start digging down to find bedrock in Lagoon 1. Also we will do test pits around the entire excavation to try and determine the extent and limits of the contamination.
•0815 Operators and Bob Alfers arrive. Bob gets a radio call from the office saying that Stu had called with a change order. Before I called Stu ,Bob gave me a summary of hours and equipment charged through Friday. I noticed that we are being charged for the bulldozer, despite the fact that we haven't used since Thursday morning. When I questioned Bob on this he said that we had to pay for the equipment that was on site, but we had budgeted for 3 operators. This conflicts with what he and Guy told me on Wednesday. I think Bob found out on Monday (today) that Morrisville is charging them for the machines even if they are not being used. Call Stu. We agree that the dozer has to go now. Stu tells me that Harris wants us to continue digging. The suggestion is to extend the berm to the west to gain some more room for contaminated soil. For some reason Bob had the dozer stored inside the berm and it is now considered contaminated. 2 AE techs start deconing the dozer using a small pressure washer. I told Bob that this was acceptable for the dozer but that for the heavy contaminated

equipment he would have to have a steam cleaner on site. Excavator steps down the north side. Hits bedrock and water at 28'. The soil from this and the stepdown fills the extended berm area to a depth of 2-3'. Measured the dike between Lagoons 1&2 (50'long x 15'wide).We are planning to cut this down 10' to stabilize the east wall of the Lagoon 1. Estimate that this will mean an additional 300 cubic yards of soil to be spread. Stu agrees to extend the berm along the tree line to the north all the way to the stone wall. We then decided to berm the entire excavation area in. Used the dozer to construct the berm. Stepped down the west wall about 8' to stabilize this wall. Stepped down the dike between the lagoons about 10' to stabilize this wall. Spread the soil from this in the new extended berm area. AE's techs were deconning the vac truck while we did this. They pumped approx. 100 gallons of decon water back into Lagoon 1. Bob says that they will get there bright and early and decon first the loader and then the dozer. We will use the excavator to dig test pits tomorrow.

•1530 Crews leave for the day.

October 22,1991

•0800 Arrive on site.

•0830 Operators and Bob Alfers arrive on site. So much for getting an early start. 2 AE techs arrive at 0900 with the steam cleaner. They start cleaning the loader. I start doing our test pits. After the loader is cleaned I had it close up the last part of the berm with clean soil. Loader leaves the site at 1130. Continue doing test pits all around both lagoons. We also did a test pit in Lagoon 3 to a depth of 8'. This soil was clean. For the most part our test pits were done in clean soil. At 1300 2 more AE techs arrive to start installing the snow fence around the excavation. Mike Cox left in the mid afternoon with 2 other DEC guys. AE's steam cleaner crapped out around 1500 hrs. Bulldozer is clean enough to go now. Finish the test pits around 1530. AE will be back tomorrow to decon the excavator, and to complete the snow fence.

•1530 Crews leave the site.

ROUTE

LAWLER, MATUSKY & SKELLY ENGINEERS — INTEROFFICE MEMO

TO File | DATE 11/1/91 | JOB NO 442-138

FROM J. Condello | RE Brault Lagoon Excavation OVA data

10/16/91 Lagoon 2 Step down trenches

Sample # 1 Trench 1 1100

Bkgd 2.0

Reading 3.1

Methane Filter

Bkgd 2.8

Reading 1.2

Sample # 2 Trench 2 1123

Bkgd 0.4

Reading 0.5

Sample # 3 Edge of Lagoon 2 ~4' down

Bkgd 0.6

Reading 0.6

Sample # 4 Edge of Lagoon 2 ~4' down 1200

Bkgd 0.6

Reading 0.7

Sample # 5 North side Lagoon 2 ~2' deep 1345

Bkgd 0.8

Reading 1.0 - 1.1

Sample # 6 ~2' deep

Bkgd 0.8

Reading 2.2 Peak 5.4

Methane Filter

Bkgd 1.0

Reading 1.0

Repeated Sample # 6 (6c)

Bkgd 0.8

Reading 11.0 Peak 20

ROUTE

LAWLER, MATUSKY & SKELLY ENGINEERS — INTEROFFICE MEMO

TO File | DATE 11/1/91 | JOB NO 442-138

FROM J. Condello | RE Brault Lagoon Excavation OVA data

10/17/91

Sample # 1 Trench 3 (South side Lagoon 1 Step down) 0-8' L

0-8' deep Bkgd 1.6

Reading 11

Sample # 2 8-16' L 0-8' deep

Bkgd 1.8

Reading 7.2

Excavator bucket Bkgd 2.0 Reading 2.6-2.8

Sample # 3 16-18' L 0-8' deep

Bkgd 1.4

Reading 8-10

Excavator bucket sidewall south

Bkgd 1.4

Reading 3.0

Sample # 4

Bkgd 2.0

Reading 2.8 Peak 7.0

Sample # 5 (North side Lagoon 1 step down)

Bkgd 31

Reading 44

Sample # 6 Lagoon 2 Test Pit 0-8'

PID 70-90 ppm

Dragon Tube 50 ppm

Excavator bucket Lagoon 2 Test Pit

Bkgd 71

Reading 92

PID 1000+

OVA flames out due to low battery

corrected order of samples

ROUTE

LAWLER, MATUSKY & SKELLY ENGINEERS — INTEROFFICE MEMO

TO File | DATE 11/1/91 | JOB NO 442-138

FROM J. Condello | RE Brault Lagoon Excavation OVA Data

10/17/91

Gas Sample Lagoon 2 8' deep new OVA

Bkgd 1.4

Reading 200

methane 20

Bottle # 18305

Gas sample Lagoon 2 10' deep south side

Bkgd 1.4

Reading 1000+

Methane 0

Bottle # 18304

10/18/91

Side by side of headspace in the sediment drums

OVA 100-200

PID 100-200

Sample #1 Lagoon 1 12-14'

Bkgd 1.0

Reading 1000+

Draeger Tube 600+

Gas Sample Bottle # 18306

Sample #2 Lagoon 1 South side step down

Bkgd 1.0

Reading 1000+

Draeger Tube 200-300

LAWLER, MATUSKY & SKELLY ENGINEERS — INTEROFFICE MEMO

ROUTE

TO File | DATE 11/1/91 | JOB NO 442-138

FROM J. Cordello | RE Brault Lagoon Excavation OVA Data

10/18/91 Lagoon 1 North side step down

Bkgd 1.5

Reading 20-80+ in excavator bucket

Sample #3 North side step down

Bkgd 1.0

Reading 4.0

Lab sample BATTLE # 18307

Sample #4 Lagoon 1 20-24'

Bkgd 1.0

Reading 1000+

Dreager Tubes 600+

Lab sample BATTLE # 18317

10/21/91 Sample #1 Spread soil from Lagoon 1 0900

Bkgd 1.0

Reading 80

Had loader turn over the soil

Sample #2 Spread soil from Lagoon 1 1100

Bkgd 10

Reading 200

Sample #3 Lagoon 1 28'

Bkgd 1.5

Reading 380

Dreager 450

Lab Sample BATTLE # 18320

OUT	IN
ROUTE	

LAWLER, MATUSKY & SKELLY ENGINEERS — INTEROFFICE MEMO

TO File	DATE 11/1/91	JOB NO 442 - 138
FROM J. Condello	RE Brault Lagoon Excavation OVA Data	

10/21/91

Sample #4 Top 6' of dike between lagoons
Blgd 2.0
Reading 40 peak 200
Lab sample Bottle # 18287

Sample #5 6-8' of dike between lagoons
Blgd 1.0
Reading 50

Sample #6 2-3' West berm
Blgd 1.0
Reading 3.0

Sample #7 Lagoon 2 spread soil (Near ~~Here~~ MW-4
blgd 1.0
Reading 52

Sample #8 Cut back west wall Lagoon 1 8'
Blgd 1.0
Reading 2000+
Dreager Tube 600+
Lab Sample Bottle # 18308

O	OT	W
ROUTE		

LAWLER, MATUSKY & SKELLY ENGINEERS — INTEROFFICE MEMO

TO File	DATE 11/1/91	JOB NO 442-138
FROM J. Condello	RE Brouk Lagoon Excavation OVA Data	

10/22/91 Sample #1 Lagoon 1 spread soil (near MW-4) 08

Bkgd 1.2

Reading 100

Test Pit 1 (W-1) 30' West from center of Lagoon 1

Sample #2 0-6'

Bkgd 1.0

Reading 10.0

Test Pit 2 (N-2) 35' North from center of Lagoon 1

Sample #3 0-6'

Bkgd 1.2

Reading 2.4

Sample #4 6-12' 0940

Bkgd 1.6

Reading 8.1

Lab Sample 0-12' Bottle # 18309

Test Pit 3 (N-3) 45' North from center of Lagoon 1

Sample #5 0-6' 0955

Bkgd 1.8

Reading 2.2

Sample #6 6-12' 1005

Bkgd 1.2

Reading 4.2

Lab Sample 12' Bottle # 18310

LAWLER, MATUSKY & SKELLY ENGINEERS — INTEROFFICE MEMO

ROUTE

TO File | DATE 11/1/91 | JOB NO 442-138

FROM J. Condello | RE Brevlt Lagoon Excavation OVA Data

10/22/91 Sample #7 14'
Bkgd 2.2
Reading 3.2 peak 6.0

Test PA 4 (W-2) 30' West from center of ~~Lagoon~~ 2 Lagoon
Sample #8 0-6'
Bkgd 2.2
Reading 2.2
Sample #9 6-12' 1050
Bkgd 1.8
Reading 1.8
Lab Sample 0-12' Bottle # 19398
Sample #10 12-18'
Bkgd 1.6
Reading 2.0-2.6

Test PA 5 (S-1) 14' North of old test pit #4
Sample #11 0-6' 1140
Bkgd 1.4
Reading 2.4 peak 6.0
Sample #12 6-12' 1150
Bkgd 1.6
Reading 2.2 peak 3.4
Sample #13 12' 1157
Bkgd 1.6
Reading 2.5 peak 4.4
Sample #14 12-16' 1205
Bkgd 1.7
Reading 2.8 peak 5.4
Lab Sample 0-12' Bottle # 18311

ROUTE

LAWLER, MATUSKY & SKELLY ENGINEERS — INTEROFFICE MEMO

TO File | DATE 11/1/91 | JOB NO 442-188

FROM J. Condello | RE Brault Lagoon Excavation OVA Data

10/22/91 Test PA 1 (W-1)

Sample # 15 6-10'

Bkgd 1.2

Reading 8.0 peak 26

Sample # 16 13' 1310

Bkgd 1.2

Reading 8.0 Peak 58

Lab Sample 13' BAtlc # 19397

Test PA 6 (N-4) 10' North of mPt Lagoon 2

Sample # 17 0-6' 2315

Bkgd 2.0

Reading 14 peak 28

Sample # 18 6-12' 1320

Bkgd 2.0

Reading 1000+ Draeger Tube 600+

Lab Sample 6-12' BAtlc # 17213

Test PA 7 (N-5) 30' North of mPt Lagoon 2

Sample # 19 0-6'

Bkgd 1.8

Reading 120 (believed contaminated by spread soil)

Sample # 20 6-12'

Bkgd 2.0

Reading 5.0 peak 7.0

Sample # 21 12-13' 1350

Bkgd 2.0

Reading 3.6 peak 6.6

Lab Sample 12-13' BAtlc # 17248

ROUTE

LAWLER, MATUSKY & SKELLY ENGINEERS — INTEROFFICE MEMO

TO File | DATE 11/1/91 | JOB NO 442-138

FROM J. Condello | RE Brault Lagoon Excavation OVA Data

10/22/91 Test PA 8 (Lagoon 3)

Sample # 22 0-4'

Bkgd 2.2

Reading 3.2

Log sample 0-4' Bottle # 18312

Sample #23 4-8'

Bkgd 2.2

Reading 4.8 peak 7.2

Log sample 4-8' Bottle # 18313

Test PA 9 (S-2) 15' East Lagoon 1 10' South Lagoon

Sample # 24 0-6' 1425

Bkgd 1.4

Reading 2.4 peak 2.8

Sample #25 6-9' 1432

Bkgd 1.4

Reading 4.8 peak 9.8

Log sample 6-9' Bottle # 18314

Sample #26 9-14' (TEST PIT S-2)

Bkgd 1.4

Reading 1.8 peak 9.8

Log Sample 9-14' Bottle # 10812

Test PA 10 (S-3) 8' from SE corner Lagoon 2

Sample #27 0-6'

Bkgd 1.4

Reading 20 (believed contaminated by spread soil)

ROUTE	

LAWLER, MATUSKY & SKELLY ENGINEERS

INTEROFFICE MEMO

TO File	DATE 11/1/91	JOB NO 442-138
FROM J. Condello	RE Breath Lagoon Excavation OVA Data	

10/22/91 Sample # 28 6-12' 1525

Rkgd 1.4

Reading 2.4

Lab sample 6-12' Batle # 10813

Sample # 29 12-13' 1530

Rkgd 1.4

Reading 2.6

Lab sample 12-13' Batle # 17214

rew: JAC | LAWLER, MATUSKY & SKELLY ENGINEERS | Site: Herris
[redacted]e: [redacted] 22 [redacted] | [redacted] FI[redacted]ME[redacted]CAL[redacted]ATI[redacted]ND/[redacted]CHE[redacted] | [redacted]per[redacted]
Job No: 442-138 | DATA SHEET | Calib. By: JAC

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)	EXPECTED VALUE	OBSERVED VALUE	ADJ TO [a]	% DIFF. [b]	COMMENTS
10/16	1050		0 95ppm	0 58	span 28 75	span 10	0
ms OVA							
10/17	0500		0 95ppm	0 95ppm	span 9.9		
10/18	0830		0	0			
AE OVA			95ppm	95ppm	span 3.0		
10/21	0830		0	0			
			95ppm	94ppm	span 3.0		
10/22	0840		0	0			
			95ppm	94ppm	span 3.0		

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

16 Oct. 1991 4/2 - 138

1- Excavator, Bulldozer 2- Loaders.
+ 2 Operators arrive on site
~ 0800 hrs. Morristown Ex.
- Bob Akers Admiral Environmental
arrive ~ 0815.
- Mike Cox DEC arrived ~
0920.

Wed 0830 - 1030
2 loaders worked on establishing
berm around the containment area

1030 - 1115
dug 2 8' by 4' deep trenches
parallel the lagoon 2

OVA detected nothing in
headspaces.

1115 - 1200
Excavator prepped small flat
excavation

1200 - 1230 Lunch

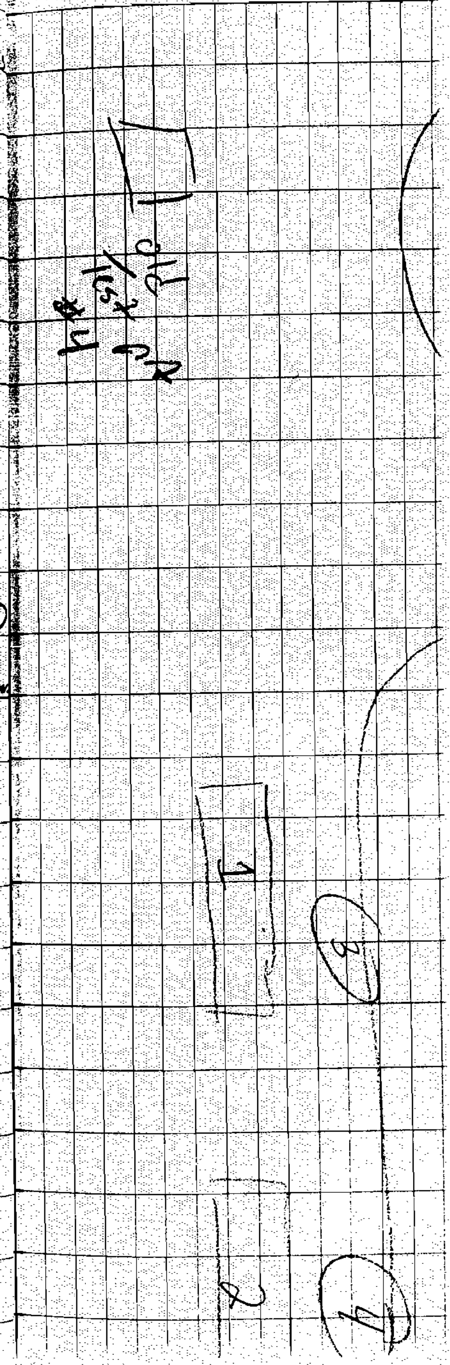
1245 2 Adirondack Enviro employees arrive on site to do
H + S instruction
G. ~~Edw~~ Fenwick
M. ~~McCardugh~~ McCullagh (H+M)

1330 Started up again

1500 Quit for the day

Did 2 test trenches by lagoon 2
Scraped topsoil from field from berm
Worked on Berm.

Cut back lagoon 2
Question Guy + Bob about extra equipment. Told that we were only paying as we used the equipment.
If needed we could get a 3rd operator up.

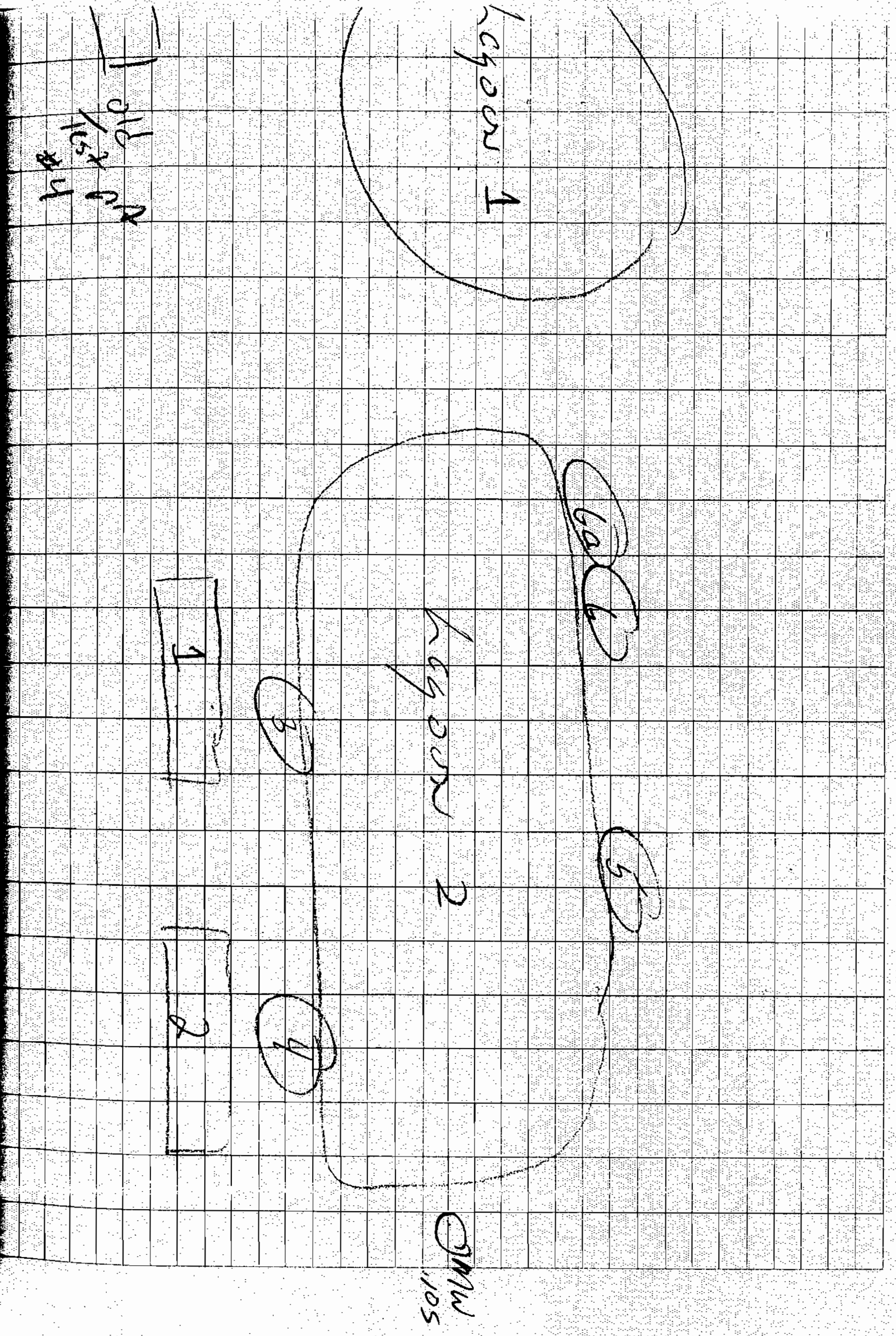


nstruction
Fenwick
Mcculleugh (H&M)
up again

the day

trenches by lagoon 2
from field flow berm
Berm.

to
Bob about
Told that
paying as
equipment.
we could get
up.



17 October 1991

- 0800 Arrived on site w/ ground water crew.

- 0815 Excavating operations & Ground Water crew.

1000 Excavator stopped
Lagoon dewatering begins
Operator DT not changeable.

1045 Ex. started step down in North side Lagoon 2

1115 Started test pits in Lagoon 2
OVA cups out
PID logged
Soil contaminated

Excavated Lagoon 2

1200 Started dewatering Lagoon # 1.

1210 - 1300 Lunch Break

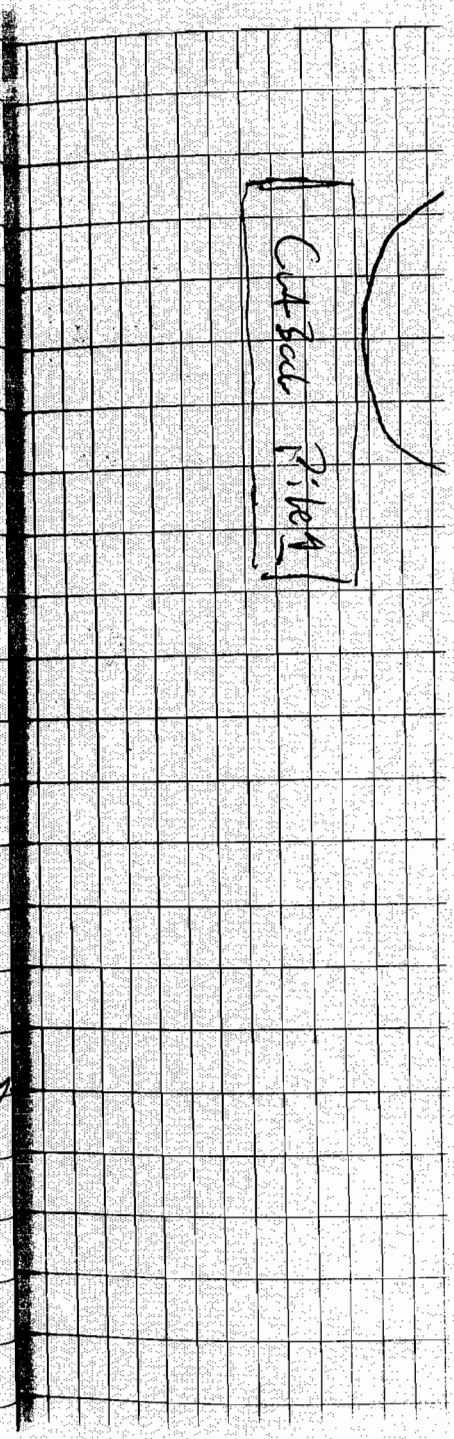
Recovered ~ 1000 gals

1300 Started excavating Lagoon 1.

Sampled waste piles from Days cut back.

Took 2 samples for analysis.

1530. Crew left for the day



Bendix Brick

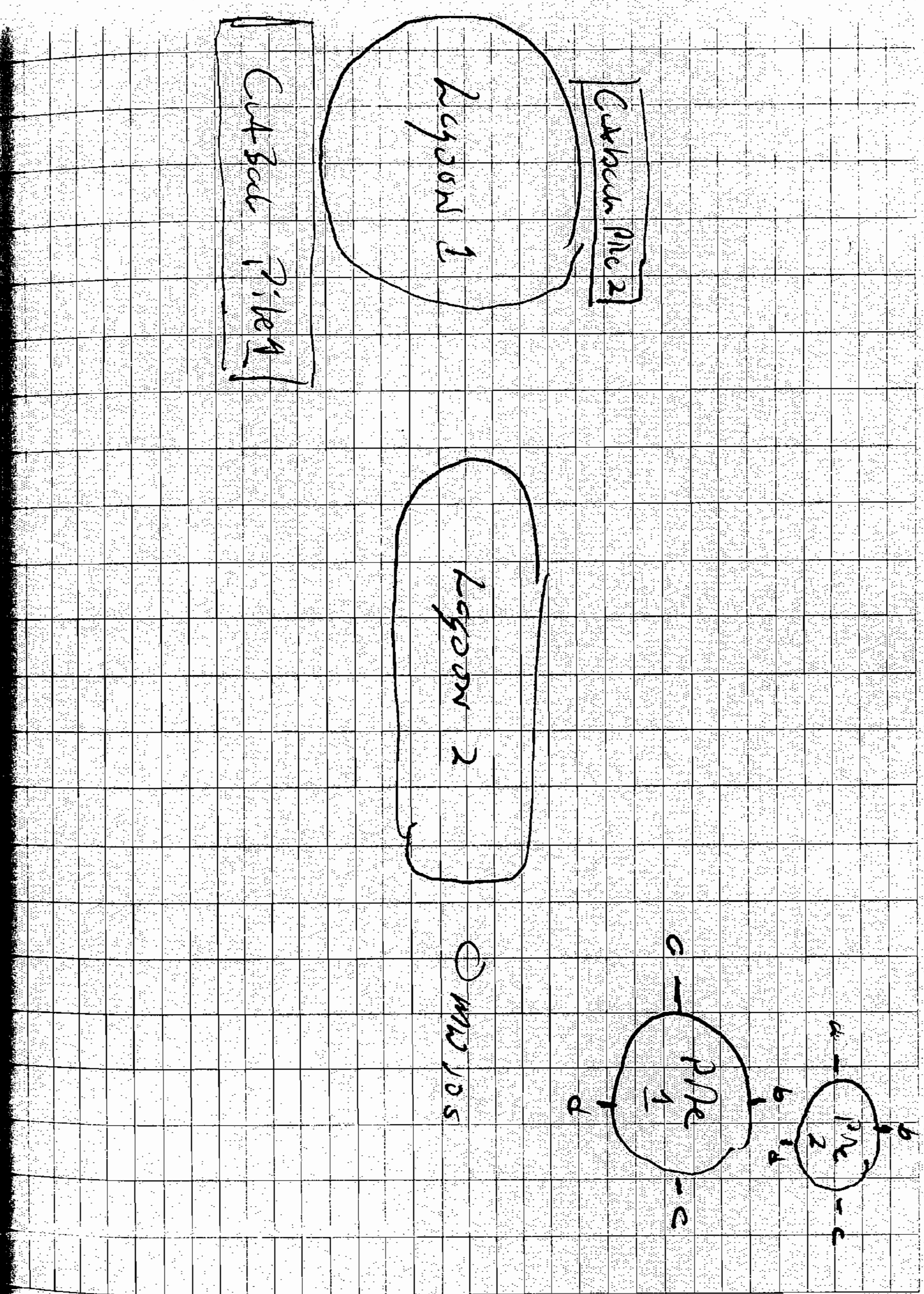
~ 1000 gals

1 excavating lagoon

Waste piles from cut back.

2 samples from ?s.

left for the day.



Hours as of 18/17

Mon 10/14 Site Prep
Tues 10/15 " "
Wed 10/16 4.0 Site Prep
4.0 Excavating (Lagoon 2)
Thurs 10/17 7.0 Excavating (Lagoon 1+2)
1.0 Site Prep (Dewatering)

Friday 10/18 7.0 Excavating (Lagoon 1)

Friday (

0810 Arrived
0820 Operators
0825 AE
techs.
0845 Started

0900 make (

Dug down
South s
Much ove
remaining s
Containment
up so we
the soil
Went back
Lagoon 1
that we
bedrock
Stopped bec
(this soil
w/ OVA

Pump
excavating (Lagoon 2)
excavating (Lagoon 1+2)
Pump (Dewatering)

Excavating (Lagoon 1)

Friday Oct 18th

0810 Arrive on site
0820 Operators arrive
0825 AE arrive BB A. of 2 techs.

0845 started digging Lagoon 2

0900 Mike Cox (DEC) arrives)

Dug down to bedrock on south side Lagoon 1
Moved over and started removing soil from North side.
Containment area is filling up so we are just mounding the soil up.
Went back to south side Lagoon 1 and determined that we had not reached bedrock yet (~ 19' down)
Stepped back another 4-6'
(this soil is hot 100 - 800 ppm w/ OVA 200-300 ppm w/ Draeger tubes

dug down another 5-6'
Total depth 24'

Stepped down north side
dug down Lagoon 2 to depth 24'

Called it a day at 1430

Estimated soil removed : 700 yd³

Advised Stan
Morley need to:
① Find bedrock Lagoon 2

② Test pit Lagoon 2
(conc. + depth)

③ Test pit around Lagoon
(determine extent of cont.)

④ Test pit Lagoon 3
8-12'
⑤ Try and turn over
spread soil

Take headspace from
to turning over. Then
take after turning over.

(6) Sta worried about sites
collapsing. Security

(7) Decon + Demob. Tree

Monday

- 0800 - Arriv[illegible]
noticed d[illegible]
Air temp
Some [illegible]
None [illegible]

- Sta called
change [illegible]

Harris now
digging. Ex[illegible]
west
Work towa[illegible]
between bag[illegible]

- Hit bedr[illegible]
also hit

- Loader h[illegible]
tree.

....

turning over.

... about sites

... Security

Demob. ...

Monday Oct 21, 1991

- 0800 - Arrive on site, no odors noticed during site walk around. Air temp around 35° F. Some rainwater in Lagoon 2. None in Lagoon 1.

- Ste called Ad Env. w/ change order.

Harris now wants us to cont. digging. Extend berm to the west. Work towards SE berm between lagoons 1+2

- Hit bedrock ~ 28' down also hit groundwater

- Loader has low air in 1 tire.

- Need to decon dozer + get it out of line.

1050 - Loader has low air in one tire. Ad Ev. suppose to run out and get a compressor.
Were able to run loader w/ low tire

Spread soil from lower 4-5' of lagoon 2 and step down. Have already filled up our new berm area.

Dike between
50 x 15 x

estimate 50
spread in

Therefore we
stockpile

5th agrees
contain. be
the tree
Step down
the 2 La
this metho
Step down
of Lagoo
the slope

Used doz
the berm
meter...

out and get a
r.
into new loader
tor

soil from lower
+ lagoon 2
of down. Have already
n our new berm

Dike between Lagoons 1+2
50 X 15 X 10' = 300 yds

estimate 50 yds^3 left to
spread in extended berm

Therefore would have to
stockpile 300 yds^3 additional

Sth agrees to extend
contain. berm up along
the tree line
Step down the berm between
the 2 Lagoons and cast
this material over there.
Step down west side
of Lagoon 1 to stabilize
the slope.

Used dozer to create
the berm and spread
material

Ad En. pumped 100 gals
of decon water

Alum Vac truck back
into Lagoon 1

Tuesday Oct

- 0800 Arrive

Today do
Lagoon 1
the extent
Check w/
Take sam,
least 2

- 0830 Bob A
by 1286

- 0850 Ad. En.
Steam

- 0900 Start
Start

- 1100 Loader
to flow

Tuesday Oct 22, 1991

- 0800 Arrive on Site

Today do test pits around Lagoon 1 + 2 to determine the extent of contamination.
Check w/ OVA + PID
Take samples (for CAMP) of least 2 per test pit.

- 0830 Bob Allers arrives follow by Bobby + Tommy

- 0850 Ad. Env. Vac arrives w/ steam cleaner. 2 Techs.

- 0900 Start Test Pits
Start decon Loader

~1100 Loader moves clear soil to finish closing the seam.

~1130 Loader leaves the site.

~ 1200 - 1230 Lunch

1230 2 more Ad. Ex Techs arrive start erecting posts for fence.

1300 2 PEC guys arrive

1530 BSS Afters + 3 techs leave

1535 Ex. Trenching done Robby + Tech leave

1600 I leave the site.

OVA Calibration

Date: 10/16/91

Time, 1050

Zero Air : 4 ctr 0

95 ppm : 58 span 2.8

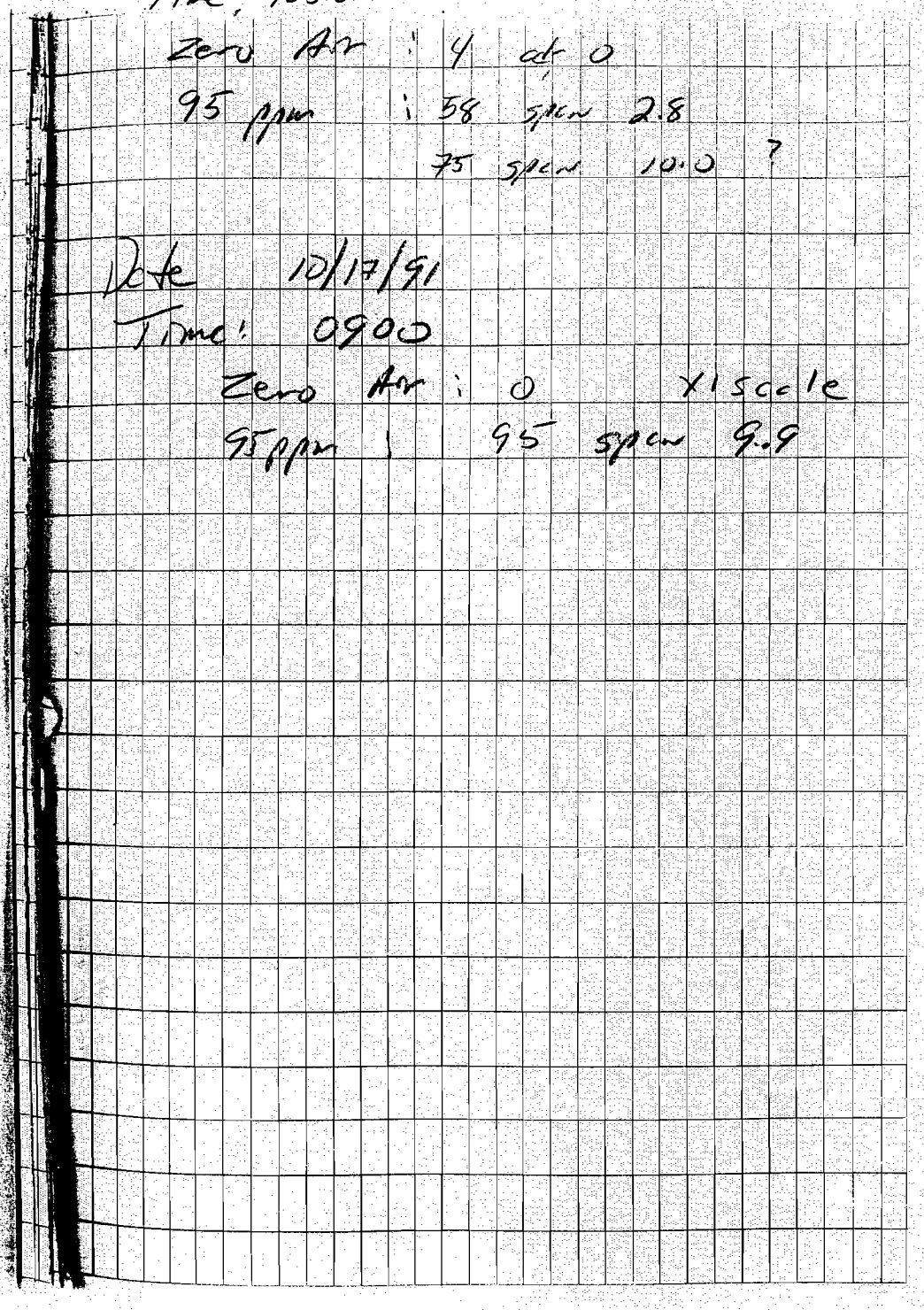
75 span 10.0 ?

Date 10/17/91

Time: 0900

Zero Air : 0 X1 scale

95 ppm : 95 span 9.9



Ambient	Background
1100	0.8
1330	0.8

Trench

#1 Backgr

Backgr

Methane

Backgr

#2 Backgr

#3 Edge of

Backg

#4 Edge of

Backg

Trench Soil 10/16

#1 Background 0.3 x10 scale

0.8

0.4 x10 1100

Background 2.0 x1

3.1 x1

Methane Filter

Background 2.8 x1 1.2

0.4 x10 0.3

x1 0.8

x10 0.1

#2 Background 0.4 x1 1125

0.5 x1

#3 Edge of Lagoon #2 2-3' away

Background 0.6 x1

0.6

#4 Edge of Lagoon #2 ~4' away

1200

Background 0.6 x1

0.7 x1

N 4th side Lagoon 2

#5 ~2' deep 1345

background 0.8 x1

1.0 - 1.1 x1

#6 ~2' deep

background 0.8 x1

2.2 x1

peak 5.4

Methane Filter

background 1.0 x1

1.0 x1

Repeat Sample #6 1400

Background 0.8 x1

Reached x1 scale

Reach 20 x10

Steady 11.0 x10

10/17/91

Background

Jar Trunk

Jar 1

Bkgd 1.6 Pe

1.1

Jar 2

Bkgd 1

Bucket a

Jar 3

Bkgd

1

4

10/17/91

Background 2.0 x1

	1345	
ground	0.8	x
	1.0 - 1.1	x
ground	0.8	x1
	2.2	x1
	peak 5.4	
	filter	
ground	1.0	x1
	1.0	x1
#6		1400
ground	0.8	x1
[illegible]	x1 scale	
Peak	20	x10
Steady	11.0	x10

On Trench 3 6.0

Jar 1 0-8 Linear
6-8' deep
Bkgd 1.6 Pegged X1
1.1 X10

Jar 2 8-16 Linear
6-8' deep
Bkgd 1.8
7.2 X1

Bucket [illegible] 2.0 Bkgd
2.6 - 2.8 X1

Jar 3 16-18'
6-8'
Bkgd 1.4 X1
Pegged X1
8 X10

Bucket Side wall
Bkgd 1.4
3.0 X1

Jar 4 bkgd 2.0
peak 7.0 x1
steady 2.8

North side step down

Jar #5 bkgd 3.1 X10
4.4 X10

Piezomet[illegible]

Upwind

B. Z.

Upwind

Pier meter Check

Upward bkgd 2.4 x.1

B.Z. Excavation 2.8 x1

Upward Ex. Peak 5.2 x1

Steady 3.4

Step down

bkgd 3.1 x10

4.4 x10

Test Pits Lagoon 2

1st Bucket

bkgd 7.1 x10
9.2

OVA capped out
PID pegged 1000 ppm +

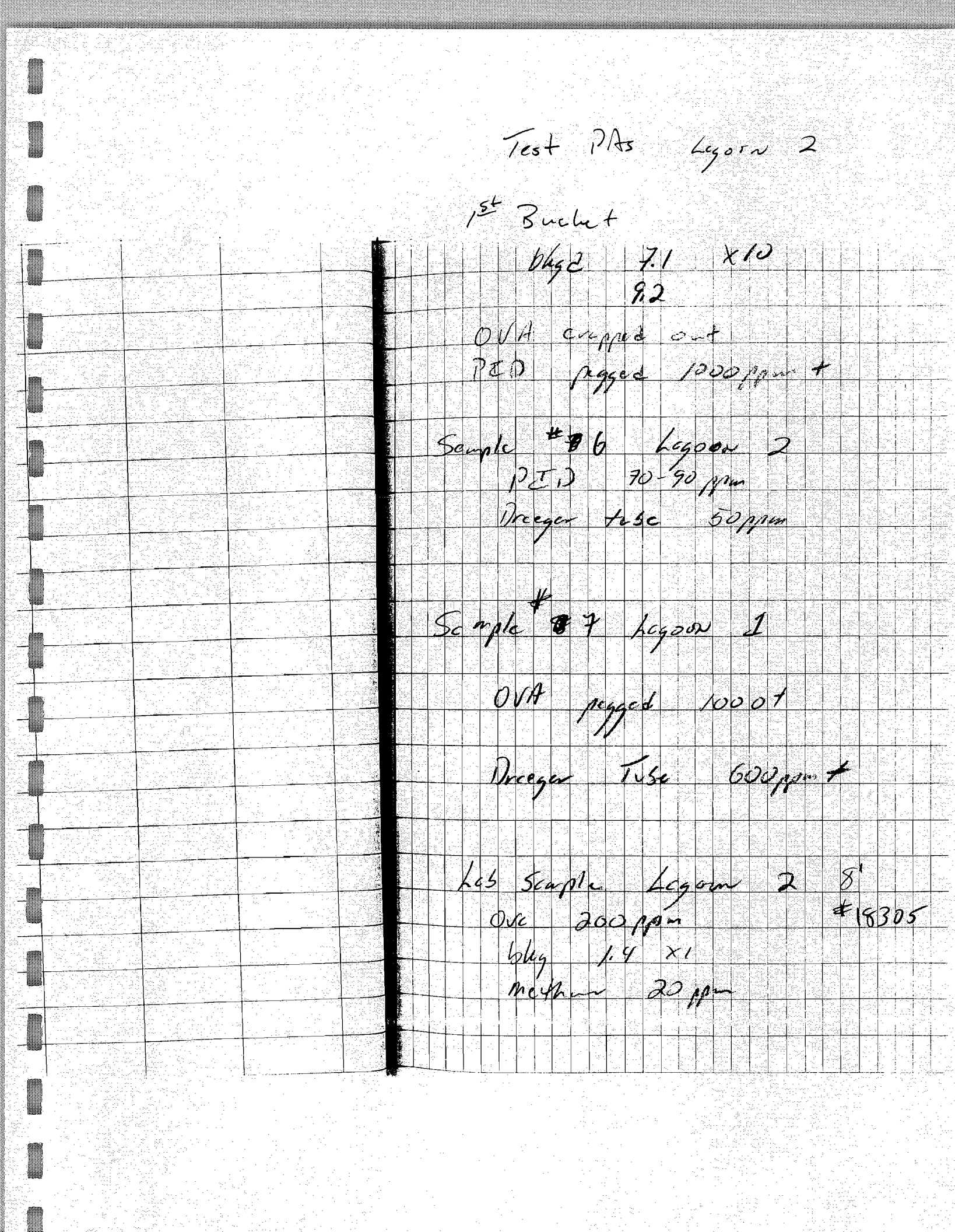
Sample #6 Lagoon 2
PID 70-90 ppm
Dreager tube 50 ppm

Sample #7 Lagoon 1

OVA pegged 1000 +

Dreager Tube 600 ppm +

Lab Sample Lagoon 2 8'
#18305
OVC 200 ppm
bkgd 1.4 x1
Methane 20 ppm



10/15/91

LCS Sample Lagoon I 10'
Bkg 1.4 #1 #55304
pegged 10000+
methane 0

Backgrd.
0830 Site walk
bkgd
Registered
0915 Site walk
Mostly
around
Bucket
Headspace
100-200
Scan
1015 Site
Bracketing
bkgd
Recdg
did got

Cal3 0 -> 0
95 -> 95 span 3.0

10/18/91 Friday

Bkgd 1.0 X1

1.4	X1		#18304
	1000+		
	0		

0830
Site walk around levels all bkgd
Agitated soil : 60 ppm

0915
Site walk around
Mostly bkgd. some hits (60-70) around the piles
Bucket check is 1000+
Headspace of sed. drums 100-200 PID read the same side by side.

1015 Site walk around
Breathing zone in ex. area
bkgd 1.2 X1
Reading 5-6 ppm X1
did get peak ≈ 10 ppm

Perimeter is bkgd except near piles (up to 60 ppm)

Walked along edge of soil (diagram 1) gets peaks as high as 20 ppm. We are ventin[g] gas now

Air temp ≈ 60°F

Sample 1

Bagged

Draeger

Tubes

Sample 2

Step down

Bagged

Draeger

1300 Checked

8 - 20 ppm

When win

200 - 700

When even

Pulled

Will try

with plexiglas

Sealed up

window.

bkgd 3.0

Casm 3.5

20 ppm. We are ...

60°F

Sample 1 Lagoon 1 12-14'
Pegged OVA 1000+
Draeger Tube 600+
Lcs Sample # 18306

Sample 2
Step down south lagoon 1
Pegged OVA
Draeger Tube [illegible]-300

1300 Checked B.L. in [illegible]
8-20 ppm above bkgd (3.5)
when wind is blowing
200-700 ppm above bkgd
when everything is calm.
Pulled operator out.
Will try and shut up casing
with plexiglass.
Sealed up casing. Checked [illegible] side
window.
bkgd 3.0
Casing 3.5-4.0
Outside 10 ppm

Step down Lagoon 1 North side

Reading 20-80 ppm in bucket
3-4 ppm above background.

Sample #3 North side
Slope down
3 ppm above background (1.0)
Lab Sample #18307

Sample #4
North side Lagoon 1
20-24'
Pegged OVA 1000+
Dräger tube 600+ ppm
Lab Sample #18317

Calibr

0 air → 0
95 ppm 94 ppm span 3.0

Bkgd 1.0
Site walk around had
all readings at background
except within area of
contam. soil.

Ex. stepped down until
side lagoon #1

Monday

Sample #1
Taken from
Lagoon 1
Headspace
80 pp

Had 1
over ar
Sample #
bkgd
headspace

Sample #
28' d
wet
OVA
Draeger
Lcs s

Air rec
4-5

4 ppm [illegible] 3 [illegible]

1.0

with [illegible] [illegible]

readings at background

[illegible] while [illegible] at

[illegible] soil.

Stepped down into

the Lagoon 1

Monday Oct 21, 1991

Sample # 1 0900

Taken from spread waste from

Lagoon 1

Headspace reading (bkgd 1.0)

80 ppm

Had ~~at~~ loader turn soil

over and took ~~[illegible]~~ [illegible]

Sample #2 1100

bkgd 10 ppm

headspace 200 ppm

Sample # 3

28' down Lagoon 1

wet

OVA 380 ppm

Draeger < 50 ppm

Lab sample # 18320

Air readings and [illegible]

4-5 ppm (bkgd 1.5)

in ccb ex. 4-5 ppm

Sample 4 Top 6' of berm
between lagoons 1+2
bkd 2.0 ppm
peak 200
steady 40ppm
lab sample # 18287

Sample 5 6-8' of berm
between lagoons 1+2
bkgd 1.5
Reading 50

Sample 6 2-3' deep West
berm Lagoon 1
bkgd 1.0
reading 5.0

Sample 7
Lagoon 1 soil near MW 4
bkgd 1.0
Reading 52

Sample 8
Cat Scan West Side
8.' Down
Pegged OVM 1000+
Draeger 600+
LCS sample # 18308

Tuesday

Sample 2
bkgd
Reading

Site Walk
no reading
except

Test Pit

Sample # 2
Bkg
Read

Test Pit

Sample #

0 → 0
95 ppm → 94 ppm Span 3.

Tuesday Oct 22, 1991

Sample 1 ^ Soil Near MW-4
Lagoon 1 0900.

Bkgd 1.2
Reading 100 ppm

Site Walk around showed no readings above Bkgd except around stock pile.

Test Pit W-1 30' Center Pit

Sample # 2 0-6'
Bkgd 1.0
Reading 10.0

Test Pit W-2

Sample # 3 0-6'
Bkgd 1.2
Reading 2.4

Sample # 18308

Test Pit N-2 35' Cen of pit

Sample #1 6-12'
Bkgd 1.6
Reading 8.1
Lab sample 0-12'
0940 #18309

Test Pit N-3 45' Cen of pit

Sample #5 0-6' 0955
Bkg 1.8 x1
Reading 2.2

Sample #6 6-12' 1005
Bkgd 1.2
Reading 4.2
Lab Sample 12' #(53
1831

Sample # 7 14'
Bkd 2.2
Reading 3.2 Packed 6.0

Test P

Sample #8
Bkgd
Read

Sample #9
Bkgd
Read
Lab

Sample #
Bkgd
Read

Test Pit W-2 Lagoon 1
50' from
center pit

6-12'
1.6
8.1
Sample 0-12'
#18309

W-3 45' Center of pit

0-6' 0955
1.8 X1
2.2

6-12' 1005
1.2
4.2
Sample 12' #183

7 14'
2.2
3.2 Peched 6.0
~~Sample~~

Sample #8 0-6'
Bkgd 2.2 X1
Reading 2.2

Sample #9 6-12' 1050
Bkgd 1.8
Reading 1.8
Lab Sample 0-12' #19398

Sample #10 12-18'
Bkgd 1.6
Reading 2.0-2.6

Test Pit S-1
14' N of Test Pit 4
Sample #11 0-6' 1140
Bkgd 1.4
Reading 2.4 Peak 6.0

Sample #12 6-10' 1150
Bkgd 1.6
Reading 2.2 peak 3.4

Sample #13 12' 1157
Bkgd 1.6
Reading 2.5 peak 4.4

Sample #14 12-16' 1205
Bkgd 1.7
Reading 2.8 Peak 5.4
Lab Sample #18311

Test Pit
15' [illegible]
Sample 1
Bkgd
Reading

Sample 16
Bkgd
Reading
Lab Sam

Test Pit
10' North
Sample 17
Bkgd
Reading

Sample 18
Bkgd
Read
Lab Sa

11 0-6' 1140

1.4

2.4 Peak 6.0

#12 6-12' 1150

Bkgd 1.6

Reading 2.2 peak 3.4

#13 12' 1157

Bkgd 1.6

Reading 2.5 peak 4.4

#14 12-16' 1205

Bkgd 1.7

Reading 2.8 Peak 5.4

Lab Sample #18311

Test Pit W-1

15' from edge of pit

Sample 15 6-10'

Bkgd 1.2

Reading 8.0 Peak 26

Sample 16 ~~10-14'~~ 13'

Bkgd 1.2 1310

Reading 8.0 Peak 58

Lab Sample. #19397

Test Pit N-4 Lagoon 2

10' North Lagoon 2

Sample 17 0-6' 1315

Bkgd 2.0

Reading 14 peak 28

Sample 18 6-12' 1320

Bkgd 2.0

Reading Beyond 1000+

Lab Sample Dreager 6004

#17213

APPENDIX B

LABORATORY REPORTS

CAMO LABORATORIES, INC
367 VIOLET AVENUE
POUGHKEEPSIE, NEW YORK 12601
(914) 473-9200
FED. I.D. #14-1725654
NYS LAB ID NO.: 10310

Lawler, Matusky & Skelly Engineers
53 Hudson Avenue
Nyack, New York 10960

Attn: QA Department

Date of Invoice:	11/06/91
P.O. #:	25920
Typed by:	kag
Invoice #:	91-10-5387

Analytical Report

Date Samples Collected:	10/17/91
Date Samples Received:	10/18/91
Samples Collected By:	Client
Samples Delivered By:	Client
Matrix:	Soil

Sample Identification

(01) Pile 1-a
(02) Pile 1-b
(03) Pile 2-a
(04) Pile 2-b

Parameters	Unit/ Measure	(01)	(02)	(03)	(04)
Method 601	ug/kg dry wt.	*	*	*	*

Analysis Comments: * See Attached Reports.

Pile 1-c and Pile 1-d cancelled as per Stu Bassell.

Comments: All samples will be discarded after twenty-one (21) days or EPA Holding time, whichever is shorter, unless we are notified otherwise.

Hazardous waste samples will be returned to client.

Analytical Methods: All analytical methods comply with those specified in APHA "Standard Methods" and/or EPA approved methods.

Laboratory Director _____
John F. Eisenhardt

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name:
Sample Location: Pile 1-a
Matrix: Soil
Method: EPA 601

Sample ID: 5387-01
Date Collected: 10/17/91
Date Received: 10/18/91
Date Analyzed: 10/31/91
Date Reported: 11/06/91

Dilution Factor: 1
% Moisture: 9

COMPOUND	Detection Limit (ug/kg dry wt.)	Sample Conc. (ug/kg dry wt.)	Q
Chloromethane	1.1		U
Bromomethane	1.1		U
Vinyl Chloride	1.1		U
Chloroethane	1.1		U
Methylene Chloride	1.1		U
1,1-Dichloroethene	1.1		U
1,1-Dichloroethane	1.1		U
Trans-1,2-dichloroethylene	1.1		U
Chloroform	1.1		U
1,2-Dichloroethane	1.1		U
1,1,1-Trichloroethane	1.1	6.3	
Carbon Tetrachloride	1.1		U
Bromodichloromethane	1.1		U
1,2-Dichloropropane	1.1		U
trans-1,3-Dichloropropene	1.1		U
Trichloroethene	1.1		U
Dibromochloromethane	1.1		U
cis-1,3-Dichloropropene	1.1		U
1,1,2-Trichloroethane	1.1		U
2-Chloroethylvinyl ether	11.0		U
Bromoform	1.1		U
Tetrachloroethene	1.1		U
1,1,2,2-Tetrachlorethane	1.1		U
Dichlorodifluoromethane	1.1		U
Trichlorofluoromethane	1.1		U
Chlorobenzene	1.1		U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name:
Sample Location: Pile 1-b
Matrix: Soil
Method: EPA 601

Sample ID: 5387-02
Date Collected: 10/17/91
Date Received: 10/18/91
Date Analyzed: 10/31/91
Date Reported: 11/06/91

Dilution Factor: 1
% Moisture: 14

COMPOUND	Detection Limit (ug/kg dry wt.)	Sample Conc. (ug/kg dry wt.)	Q
Chloromethane	1.2		U
Bromomethane	1.2		U
Vinyl Chloride	1.2		U
Chloroethane	1.2		U
Methylene Chloride	1.2		U
1,1-Dichloroethene	1.2		U
1,1-Dichloroethane	1.2		U
Trans-1,2-dichloroethylene	1.2		U
Chloroform	1.2		U
1,2-Dichloroethane	1.2		U
1,1,1-Trichloroethane	1.2	3.1	
Carbon Tetrachloride	1.2		U
Bromodichloromethane	1.2		U
1,2-Dichloropropane	1.2		U
trans-1,3-Dichloropropene	1.2		U
Trichloroethene	1.2		U
Dibromochloromethane	1.2		U
cis-1,3-Dichloropropene	1.2		U
1,1,2-Trichloroethane	1.2		U
2-Chloroethylvinyl ether	11.6		U
Bromoform	1.2		U
Tetrachloroethene	1.2		U
1,1,2,2-Tetrachlorethane	1.2		U
Dichlorodifluoromethane	1.2		U
Trichlorofluoromethane	1.2		U
Chlorobenzene	1.2		U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name:
Sample Location: Pile 2-a
Matrix: Soil
Method: EPA 601

Sample ID: 5387-03
Date Collected: 10/17/91
Date Received: 10/18/91
Date Analyzed: 10/31/91
Date Reported: 11/06/91

Dilution Factor: 1
% Moisture: 12

COMPOUND	Detection Limit (ug/kg dry wt.)	Sample Conc. (ug/kg dry wt.)	Q
Chloromethane	1.1		U
Bromomethane	1.1		U
Vinyl Chloride	1.1		U
Chloroethane	1.1		U
Methylene Chloride	1.1		U
1,1-Dichloroethene	1.1		U
1,1-Dichloroethane	1.1		U
Trans-1,2-dichloroethylene	1.1		U
Chloroform	1.1		U
1,2-Dichloroethane	1.1		U
1,1,1-Trichloroethane	1.1	1.7	
Carbon Tetrachloride	1.1		U
Bromodichloromethane	1.1		U
1,2-Dichloropropane	1.1		U
trans-1,3-Dichloropropene	1.1		U
Trichloroethene	1.1		U
Dibromochloromethane	1.1		U
cis-1,3-Dichloropropene	1.1		U
1,1,2-Trichloroethane	1.1		U
2-Chloroethylvinyl ether	11.4		U
Bromoform	1.1		U
Tetrachloroethene	1.1		U
1,1,2,2-Tetrachlorethane	1.1		U
Dichlorodifluoromethane	1.1		U
Trichlorofluoromethane	1.1		U
Chlorobenzene	1.1		U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name:
Sample Location: Pile 2-b
Matrix: Soil
Method: EPA 601

Sample ID: 5387-04
Date Collected: 10/17/91
Date Received: 10/18/91
Date Analyzed: 10/31/91
Date Reported: 11/06/91

Dilution Factor: 1
% Moisture: 15

COMPOUND	Detection Limit (ug/kg dry wt.)	Sample Conc. (ug/kg dry wt.)	Q
Chloromethane	1.2		U
Bromomethane	1.2		U
Vinyl Chloride	1.2		U
Chloroethane	1.2		U
Methylene Chloride	1.2		U
1,1-Dichloroethene	1.2		U
1,1-Dichloroethane	1.2		U
Trans-1,2-dichloroethylene	1.2		U
Chloroform	1.2		U
1,2-Dichloroethane	1.2		U
1,1,1-Trichloroethane	1.2		U
Carbon Tetrachloride	1.2		U
Bromodichloromethane	1.2		U
1,2-Dichloropropane	1.2		U
trans-1,3-Dichloropropene	1.2		U
Trichloroethene	1.2		U
Dibromochloromethane	1.2		U
cis-1,3-Dichloropropene	1.2		U
1,1,2-Trichloroethane	1.2		U
2-Chloroethylvinyl ether	11.8		U
Bromoform	1.2		U
Tetrachloroethene	1.2		U
1,1,2,2-Tetrachlorethane	1.2		U
Dichlorodifluoromethane	1.2		U
Trichlorofluoromethane	1.2		U
Chlorobenzene	1.2		U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name:
Sample Location: Method Blank
Matrix: Water
Method: EPA 601

Sample ID: Method Blank
Date Collected:
Date Received:
Date Analyzed: 10/31/91
Date Reported: 1/06/92

COMPOUND	Detection Limit (ug/L)	Sample Conc. (ug/L)	Q
Chloromethane	1.0		U
Bromomethane	1.0		U
Vinyl Chloride	1.0		U
Chloroethane	1.0		U
Methylene Chloride	1.0		U
1,1-Dichloroethene	1.0		U
1,1-Dichloroethane	1.0		U
Trans-1,2-dichloroethylene	1.0		U
Chloroform	1.0		U
1,2-Dichloroethane	1.0		U
1,1,1-Trichloroethane	1.0		U
Carbon Tetrachloride	1.0		U
Bromodichloromethane	1.0		U
1,2-Dichloropropane	1.0		U
trans-1,3-Dichloropropene	1.0		U
Trichloroethene	1.0		U
Dibromochloromethane	1.0		U
cis-1,3-Dichloropropene	1.0		U
1,1,2-Trichloroethane	1.0		U
2-Chloroethylvinyl ether	10.0		U
Bromoform	1.0		U
Tetrachloroethene	1.0		U
1,1,2,2-Tetrachlorethane	1.0		U
Dichlorodifluoromethane	1.0		U
Trichlorofluoromethane	1.0		U
Chlorobenzene	1.0		U
Freon 113	1.0		U

CAMO LABORATORIES

A DIVISION OF CAMO POLLUTION CONTROL, INC.

POUGHKEEPSIE AREA FACILITY:
CAMO LABORATORY
367 VIOLET AVENUE
POUGHKEEPSIE, N.Y. 12601
(914) 473-9200

Hours _____

CHAIN OF CUSTODY

CLIENT: L. M. S. Engineers

SAMPLER: J. Condello

SAMPLE NO./ID	LOCATION/CONTAINER	PRIORITY	DATE	TIME	SAMPLE TYPE	COMP	GRAB	No. of CONT.	ANALYSIS REQUIRED
18296	Pile 1 - a	(1)	10/17/91	1330	Soil		X	1	VOC 601 Scan
18297	Pile 1 - b	(2)		1335				1	
18300	Pile 1 - c	(5)		1340				1	
18301	Pile 1 - d	(6)		1345				1	
18298	Pile 2 - a	(3)		1400				1	
18299	Pile 2 - b	(4)		1405				1	
[illegible]	[illegible]			1410					
[illegible]	[illegible]			1415					

		Date	Time
Relinquished by: [signature]	Received by: D. KASSELL	10/17/91	1900
Relinquished: D. KASSELL	Received by:	Date	Time
Dispatched by:	Date / Time	Received for Laboratory by: Kathy Sullivan	Date 10/18 / Time 11:10 AM
Method of Shipment:			

Comments: RUSH ASAP - RUN IN ORDER OF PRIORITY
TELEPHONE RESULTS TO STU BASSELL @ LMS.

CAMO Containers ☐

CAMO LABORATORIES, INC.
367 VIOLET AVENUE
POUGHKEEPSIE, NEW YORK 12601
(914) 473-9200
FED. I.D. #14-1725654
NYS LAB ID NO.: 10310

Attn: Stu Bassell
Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, New York 10965

Date of Invoice: 11/07/91
P.O. #: 27802
Typed By: kag
Invoice #: 91-10-5492

LMS Project No.: 442-138

Facility: Harris W. Chazy

Analytical Report — Sample Identification

Date Samples Collected: 10/17, 10/18, 10/21, 10/22/91 — See Attached
Date Samples Received: 10/24/91
Samples Collected By: Client
Samples Delivered By: Hugo
Matrix: Soil

Parameters	Unit/ Measure	(01) - (16)
Method 8010	ug/kg wet wt.	*

Analysis Comments: * See attached tables.

Comments: All samples will be discarded after twenty-one (21) days or EPA Holding time, whichever is shorter, unless we are notified otherwise.

Hazardous waste samples will be returned to client.

Analytical Methods: All analytical methods comply with those specified in APHA "Standard Methods" and/or EPA approved methods.

Laboratory Director

John F. Eisenhardt

MO LOG NO.: 91-10-5492

Sample ID	Method 8010
(01) Lagoon 1-10'	*
(02) Lagoon 2	*
(03) Lagoon 1 12-14'	*
(04) Lagoon 1 20-24'	*
(05) North Side Step Down	*
(06) Berm Top 6'	*
(07) West Side 8'	*
(08) N-2 6-12'(N-2 0'-12')	*
(09) N-3 12'(N-2 12')	*
(10) N-4 6-12'	*
(11) N-5 12-13'	*
(12) S-1 12-16'(S-1 0'-16')	*
(13) S-2 6-9'(S-2 6'-10')	*
(14) S-2 9-14'	*
(15) S-3 6-12'	*
(16) W-1 13'	*

* See attached tables for results.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: Lagoon 1-10'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-01
Date Collected: 10/17/91
Date Received: 10/24/91
Date Analyzed: 10/31/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	30	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: Lagoon 2
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-02
Date Collected: 10/17/91
Date Received: 10/24/91
Date Analyzed: 10/31/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1000.0		U
	Bromomethane	1000.0		U
*	Vinyl Chloride	1000.0		U
	Chloroethane	1000.0		U
	Methylene Chloride	1000.0		U
	1,1-Dichloroethene	1000.0		U
	1,1-Dichloroethane	1000.0		U
	Trans-1,2-dichloroethylene	1000.0		U
	Chloroform	1000.0		U
	1,2-Dichloroethane	1000.0		U
	1,1,1-Trichloroethane	1000.0	430000	D
	Carbon Tetrachloride	1000.0		U
	Bromodichloromethane	1000.0		U
	1,2-Dichloropropane	1000.0		U
*	trans-1,3-Dichloropropene	1000.0		U
	Trichloroethene	1000.0		U
*	Dibromochloromethane	1000.0		U
	cis-1,3-Dichloropropene	1000.0		U
*	1,1,2-Trichloroethane	1000.0		U
	2-Chloroethylvinyl ether	10000.0		U
	Bromoform	1000.0		U
*	Tetrachloroethene	1000.0		U
*	1,1,2,2-Tetrachlorethane	1000.0		U
*	Dichlorodifluoromethane	1000.0		U
	Trichlorofluoromethane	1000.0		U
	Chlorobenzene	1000.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: Lagoon 1 12-14'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-03
Date Collected: 10/18/91
Date Received: 10/24/91
Date Analyzed: 11/01/91

Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	150	D
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0	0.7	J
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0	31	

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: Lagoon 1 20-24'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-04
Date Collected: 10/18/91
Date Received: 10/24/91
Date Analyzed: 11/01/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	32	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0	65	

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: North Side Step Down
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-05
Date Collected: 10/18/91
Date Received: 10/24/91
Date Analyzed: 11/01/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	55	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: Berm Top 6'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-06
Date Collected: 10/21/91
Date Received: 10/24/91
Date Analyzed: 11/02/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	33	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: West Side 8'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-07
Date Collected: 10/21/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	2.0		U
	Bromomethane	2.0		U
*	Vinyl Chloride	2.0		U
	Chloroethane	2.0		U
	Methylene Chloride	2.0		U
	1,1-Dichloroethene	2.0		U
	1,1-Dichloroethane	2.0		U
	Trans-1,2-dichloroethylene	2.0		U
	Chloroform	2.0		U
	1,2-Dichloroethane	2.0		U
	1,1,1-Trichloroethane	2.0	83	D
	Carbon Tetrachloride	2.0		U
	Bromodichloromethane	2.0		U
	1,2-Dichloropropane	2.0		U
*	trans-1,3-Dichloropropene	2.0		U
	Trichloroethene	2.0		U
*	Dibromochloromethane	2.0	46	D
	cis-1,3-Dichloropropene	2.0		U
*	1,1,2-Trichloroethane	2.0		U
	2-Chloroethylvinyl ether	20.0		U
	Bromoform	2.0		U
*	Tetrachloroethene	2.0	89	D
*	1,1,2,2-Tetrachlorethane	2.0		U
*	Dichlorodifluoromethane	2.0		U
	Trichlorofluoromethane	2.0		U
	Chlorobenzene	2.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: N-2 6-12'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-08
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	4	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: N-3 12'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-09
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	78	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: N-4 6-12'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-10
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1000.0		U
	Bromomethane	1000.0		U
*	Vinyl Chloride	1000.0		U
	Chloroethane	1000.0		U
	Methylene Chloride	1000.0		U
	1,1-Dichloroethene	1000.0		U
	1,1-Dichloroethane	1000.0		U
	Trans-1,2-dichloroethylene	1000.0		U
	Chloroform	1000.0		U
	1,2-Dichloroethane	1000.0		U
	1,1,1-Trichloroethane	1000.0	2400	D
	Carbon Tetrachloride	1000.0		U
	Bromodichloromethane	1000.0		U
	1,2-Dichloropropane	1000.0		U
*	trans-1,3-Dichloropropene	1000.0		U
	Trichloroethene	1000.0		U
*	Dibromochloromethane	1000.0		U
	cis-1,3-Dichloropropene	1000.0		U
*	1,1,2-Trichloroethane	1000.0		U
	2-Chloroethylvinyl ether	10000.0		U
	Bromoform	1000.0		U
*	Tetrachloroethene	1000.0		U
*	1,1,2,2-Tetrachlorethane	1000.0		U
*	Dichlorodifluoromethane	1000.0		U
	Trichlorofluoromethane	1000.0		U
	Chlorobenzene	1000.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: N-5 12-13'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-11
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	3	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: S-1 12-16'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-12
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	0.6	J
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: S-2 6-9'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-13
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	101	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: S-2 9-14'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-14
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	27	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: S-3 6-12'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-15
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0	3	
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: W-1 13'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-16
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

	COMPOUND	Detection Limit (ug/kg wet wt.)	Sample Conc. (ug/kg wet wt.)	Q
	Chloromethane	1.0		U
	Bromomethane	1.0		U
*	Vinyl Chloride	1.0		U
	Chloroethane	1.0		U
	Methylene Chloride	1.0		U
	1,1-Dichloroethene	1.0		U
	1,1-Dichloroethane	1.0		U
	Trans-1,2-dichloroethylene	1.0		U
	Chloroform	1.0		U
	1,2-Dichloroethane	1.0		U
	1,1,1-Trichloroethane	1.0		U
	Carbon Tetrachloride	1.0		U
	Bromodichloromethane	1.0		U
	1,2-Dichloropropane	1.0		U
*	trans-1,3-Dichloropropene	1.0		U
	Trichloroethene	1.0		U
*	Dibromochloromethane	1.0		U
	cis-1,3-Dichloropropene	1.0		U
*	1,1,2-Trichloroethane	1.0		U
	2-Chloroethylvinyl ether	10.0		U
	Bromoform	1.0		U
*	Tetrachloroethene	1.0		U
*	1,1,2,2-Tetrachlorethane	1.0		U
*	Dichlorodifluoromethane	1.0		U
	Trichlorofluoromethane	1.0		U
	Chlorobenzene	1.0		U

* Coelution Compounds

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: S-1 12-16'
Matrix: SOIL
Method: EPA 8010

Sample ID: 5492-12 MS
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91

Date Reported: 11/08/91

COMPOUND	SAMPLE CONC	KNOWN	OBTAINED	% REC
Chloromethane	<1	10.0	10.6	106
Bromomethane	<1	10.0	8.4	84
Vinyl Chloride	<1			
Chloroethane	<1	10.0	12.0	120
Methylene Chloride	<1	10.0	12.1	121
1,1-Dichloroethene	<1			
1,1-Dichloroethane	<1	10.0	12.2	122
Trans-1,2-dichloroethylene	<1	10.0	11.6	116
Chloroform	<1	10.0	12.1	121
1,2-Dichloroethane	<1			
1,1,1-Trichloroethane	0.6	10.0	13.1	125
Carbon Tetrachloride	<1	10.0	12.0	120
Bromodichloromethane	<1	10.0	9.4	94
1,2-Dichloropropane	<1	10.0	10.2	102
trans-1,3-Dichloropropene	<1			
Trichloroethene	<1	10.0	11.6	116
Dibromochloromethane	<1			
cis-1,3-Dichloropropene	<1	10.0	9.6	96
1,1,2-Trichloroethane	<1			
2-Chloroethylvinyl ether	<1			
Bromoform	<1			
Tetrachloroethene	<1			
1,1,2,2-Tetrachlorethane	<1			
Dichlorodifluoromethane	<1			
Trichlorofluoromethane	<1	10.0	13.1	131
Chlorobenzene	<1	10.0	10.2	102

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: S-1 12-16'
Matrix: Soil
Method: EPA 8010

Sample ID: 5492-12 MSD
Date Collected: 10/22/91
Date Received: 10/24/91
Date Analyzed: 11/04/91
Date Reported: 11/08/91

COMPOUND	SAMPLE CONC	KNOWN	OBTAINED	% REC
Chloromethane	<1	10.0	10.6	106
Bromomethane	<1	10.0	9.2	92
Vinyl Chloride	<1			
Chloroethane	<1	10.0	11.7	117
Methylene Chloride	<1	10.0	11.1	111
1,1-Dichloroethene	<1			
1,1-Dichloroethane	<1	10.0	10.7	107
Trans-1,2-dichloroethylene	<1	10.0	10.2	102
Chloroform	<1	10.0	10.6	106
1,2-Dichloroethane	<1			
1,1,1-Trichloroethane	0.6	10.0	12.1	115
Carbon Tetrachloride	<1	10.0	10.6	106
Bromodichloromethane	<1	10.0	8.7	87
1,2-Dichloropropane	<1	10.0	8.9	89
trans-1,3-Dichloropropene	<1			
Trichloroethene	<1	10.0	9.9	99
Dibromochloromethane	<1			
cis-1,3-Dichloropropene	<1	10.0	8.2	82
1,1,2-Trichloroethane	<1			
2-Chloroethylvinyl ether	<1			
Bromoform	<1			
Tetrachloroethene	<1			
1,1,2,2-Tetrachlorethane	<1			
Dichlorodifluoromethane	<1			
Trichlorofluoromethane	<1	10.0	11.6	116
Chlorobenzene	<1	10.0	8.9	89

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: Method Blank
Matrix: Water
Method: EPA 8010

Sample ID: Method Blank
Date Collected:
Date Received:
Date Analyzed: 10/31/91
Date Reported: 1/06/92

COMPOUND	Detection Limit (ug/L)	Sample Conc. (ug/L)	Q
Chloromethane	1.0		U
Bromomethane	1.0		U
Vinyl Chloride	1.0		U
Chloroethane	1.0		U
Methylene Chloride	1.0		U
1,1-Dichloroethene	1.0		U
1,1-Dichloroethane	1.0		U
Trans-1,2-dichloroethylene	1.0		U
Chloroform	1.0		U
1,2-Dichloroethane	1.0		U
1,1,1-Trichloroethane	1.0		U
Carbon Tetrachloride	1.0		U
Bromodichloromethane	1.0		U
1,2-Dichloropropane	1.0		U
trans-1,3-Dichloropropene	1.0		U
Trichloroethene	1.0		U
Dibromochloromethane	1.0		U
cis-1,3-Dichloropropene	1.0		U
1,1,2-Trichloroethane	1.0		U
2-Chloroethylvinyl ether	10.0		U
Bromoform	1.0		U
Tetrachloroethene	1.0		U
1,1,2,2-Tetrachlorethane	1.0		U
Dichlorodifluoromethane	1.0		U
Trichlorofluoromethane	1.0		U
Chlorobenzene	1.0		U
Freon 113	1.0		U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: Method Blank
Matrix: Water
Method: EPA 8010

Sample ID: Method Blank
Date Collected:
Date Received:
Date Analyzed: 11/01/91
Date Reported: 1/06/92

COMPOUND	Detection Limit (ug/L)	Sample Conc. (ug/L)	Q
Chloromethane	1.0		U
Bromomethane	1.0		U
Vinyl Chloride	1.0		U
Chloroethane	1.0		U
Methylene Chloride	1.0		U
1,1-Dichloroethene	1.0		U
1,1-Dichloroethane	1.0		U
Trans-1,2-dichloroethylene	1.0		U
Chloroform	1.0		U
1,2-Dichloroethane	1.0		U
1,1,1-Trichloroethane	1.0		U
Carbon Tetrachloride	1.0		U
Bromodichloromethane	1.0		U
1,2-Dichloropropane	1.0		U
trans-1,3-Dichloropropene	1.0		U
Trichloroethene	1.0		U
Dibromochloromethane	1.0		U
cis-1,3-Dichloropropene	1.0		U
1,1,2-Trichloroethane	1.0		U
2-Chloroethylvinyl ether	10.0		U
Bromoform	1.0		U
Tetrachloroethene	1.0		U
1,1,2,2-Tetrachlorethane	1.0		U
Dichlorodifluoromethane	1.0		U
Trichlorofluoromethane	1.0		U
Chlorobenzene	1.0		U
Freon 113	1.0		U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: Method Blank
Matrix: Water
Method: EPA 8010

Sample ID: Method Blank
Date Collected:
Date Received:
Date Analyzed: 11/02/91

Date Reported: 1/06/92

COMPOUND	Detection Limit (ug/L)	Sample Conc. (ug/L)	Q
Chloromethane	1.0		U
Bromomethane	1.0		U
Vinyl Chloride	1.0		U
Chloroethane	1.0		U
Methylene Chloride	1.0		U
1,1-Dichloroethene	1.0		U
1,1-Dichloroethane	1.0		U
Trans-1,2-dichloroethylene	1.0		U
Chloroform	1.0		U
1,2-Dichloroethane	1.0		U
1,1,1-Trichloroethane	1.0		U
Carbon Tetrachloride	1.0		U
Bromodichloromethane	1.0		U
1,2-Dichloropropane	1.0		U
trans-1,3-Dichloropropene	1.0		U
Trichloroethene	1.0		U
Dibromochloromethane	1.0		U
cis-1,3-Dichloropropene	1.0		U
1,1,2-Trichloroethane	1.0		U
2-Chloroethylvinyl ether	10.0		U
Bromoform	1.0		U
Tetrachloroethene	1.0		U
1,1,2,2-Tetrachlorethane	1.0		U
Dichlorodifluoromethane	1.0		U
Trichlorofluoromethane	1.0		U
Chlorobenzene	1.0		U
Freon 113	1.0		U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CAMO Laboratories, Inc.
Client Name: LMS
Project/Facility Name: 442-138
Sample Location: Method Blank
Matrix: Water
Method: EPA 8010

Sample ID: Method Blank
Date Collected:
Date Received:
Date Analyzed: 11/04/91

Date Reported: 1/06/92

COMPOUND	Detection Limit (ug/L)	Sample Conc. (ug/L)	Q
Chloromethane	1.0		U
Bromomethane	1.0		U
Vinyl Chloride	1.0		U
Chloroethane	1.0		U
Methylene Chloride	1.0		U
1,1-Dichloroethene	1.0		U
1,1-Dichloroethane	1.0		U
Trans-1,2-dichloroethylene	1.0		U
Chloroform	1.0		U
1,2-Dichloroethane	1.0		U
1,1,1-Trichloroethane	1.0		U
Carbon Tetrachloride	1.0		U
Bromodichloromethane	1.0		U
1,2-Dichloropropane	1.0		U
trans-1,3-Dichloropropene	1.0		U
Trichloroethene	1.0		U
Dibromochloromethane	1.0		U
cis-1,3-Dichloropropene	1.0		U
1,1,2-Trichloroethane	1.0		U
2-Chloroethylvinyl ether	10.0		U
Bromoform	1.0		U
Tetrachloroethene	1.0		U
1,1,2,2-Tetrachlorethane	1.0		U
Dichlorodifluoromethane	1.0		U
Trichlorofluoromethane	1.0		U
Chlorobenzene	1.0		U
Freon 113	1.0		U

LAWLER, MATUSKY & SKELLY ENGINEERS
CHAIN OF CUSTODY RECORD

PROJECT No. 442-138

PROJECT Harris

COLLECTION SITE Brault Lagoon

FIELD PERSONNEL JAE

NYS FACILITY Nyack

SAMPLE TYPE (Circle):
Drinking water, Industrial Waste, Coliform (T / F), Stream/Pond, River/Ocean, Leachate, Monitoring Wells, Treatment Facility, Other, Bottom Sediment, (Soil)

SAMPLE ID NUMBER	DATE	TIME	SAMPLE SITE	PARAMETERS		SAMPLE PREP PRESERVATIVE	SAMPLE PREP FILTER (Y/N)
18305	10/17/91		Lagoon 2	VOC 601 Scan	●	4°C	N
18304	↓		Lagoon 1 10'		✱		
18306	10/18/91		Lagoon 1 12-14'		✱		
18307			North Side Stg Pond				
18317	↓		Lagoon 1 20-24'		✱		
18287	10/21/91		Berm Top 6'				
18308	↓		West Side 8'		✱		
18309	10/22/91	0940	N-2 6-12'	A (0-12'			
18310		1005	N-3 12'	N-2 12'			
18311		1205	S-1 12-16'	S-1 (-16'			
19397		1310	W-1 13'				
17213		1320	N-4 6-12'		✱		
17248		1350	W-5 12-13'				
18314		1432	S-2 6-9'	S-2 (6-1)			
10812		1435	S-2 9-14'				
10813	↓	1525	S-3 6-12'				

Relinquished By:	Date/Time:	No. Bottles: 16	Received By:
Relinquished By:	Date/Time: 10/24/91 0915		Received By:
Relinquished By:	Date/Time:		Received By:
Messenger: Hugo	Shipped To: GANCO	Received at Laboratory By:	Kathy Sullivan 10/24

Remarks: ✱ Expect VOC concentrations greater than 1000 ppm

One Blue Hill Plaza, Pearl River, New York 10965
(914) 735-8300
Sample Drop-Off: 53 Hudson Avenue, Nyack, New York 10960

ROUTE

LAWLER, MATUSKY & SKELLY ENGINEERS **INTEROFFICE MEMO**

TO Stu Bessell | DATE Nov 15, 1991 | JOB NO 942-138

FROM Joe Condello | RE Sample Headspace Readings

Sample #	Background	Reading
19397	1.2	2.0 - 2.2
18302	↓	1.6
10813 ✓		1.6
18314 ✓		1.8
10812 ✓		1.8
18304 ✓		3.6
18306 ✓		2.4
18287 ✓		5.2
18317 ✓		3.6
18308		22
18309 ✓		1.6
18305 ✓		26
18307 ✓		2.2
18311 ✓		1.8
17248 ✓		2.4
17213 ✓		50
18310 ✓	↓	3.0