Lockheed Martin Corporation - Environment, Safety & Health
Burbank Program Office
2550 N. Hollywood Way, 3rd Floor Burbank, CA 91505-1055
Program Office, Regulatory Affairs, and
Remediation Demolition Departments: 818-847-0256 (Facsimile)
Business Office and Groundwater Department: 818-847-0170 (Facsimile)

LOCKHEED MARTIN

VIA Federal Express
RNH0398/089 WBS# DP

April 17, 1998

Mr. Girish Desai
New York State Department of Environmental Conservation (NYSDEC)
SUNY at Stony Brook
Building 40
Stony Brook, New York 11790-2356

Dear Mr. Desai:

Subject: Submittal of Dry Well Excavation Work Plan for Lockheed Martin Corporation Great Neck, New York Facility, Site ID# 130045

Lockheed Martin Corporation (Lockheed Martin) submits to you the work plan for the excavation and removal of the Dry Well Area Soil prepared by Integrated Technical Services for the above-referenced site as required in the OU-1 Administrative Order on Consent dated October 29, 1997. The intent of this work plan is to provide you details of the procedures for conducting the excavation and removal of the Dry Well Area Soil.

We will commence the field work once you have completed the review and approval of this work plan. If you have any questions regarding this submittal, please do not hesitate to contact Mr. Robert Gilbert of my staff at (818) 847-0210.

Sincerely,

R. N. Helgerson
Director

RH:EW:gc
Enclosure

cc: R. Baldwin (H2M)
D. Batrack (Tetra Tech)
R. Becherer (NYDEC)
T. Budzynski (ITS)

DRY WELL EXCAVATION
WORK PLAN

Lockheed Martin Corporation
365 Lakeville Road
Great Neck, New York

NYSDEC Site No. 130045

April 1998

Prepared for:
Lockheed Martin Corporation
Burbank Program Office
Burbank, California

H2M ASSOCIATES, INC.
555 Preakness Avenue
Totowa, New Jersey 07512

H2MGROUP
Engineers, Scientists, Planners

4.4.7 Community Air Monitoring Plan

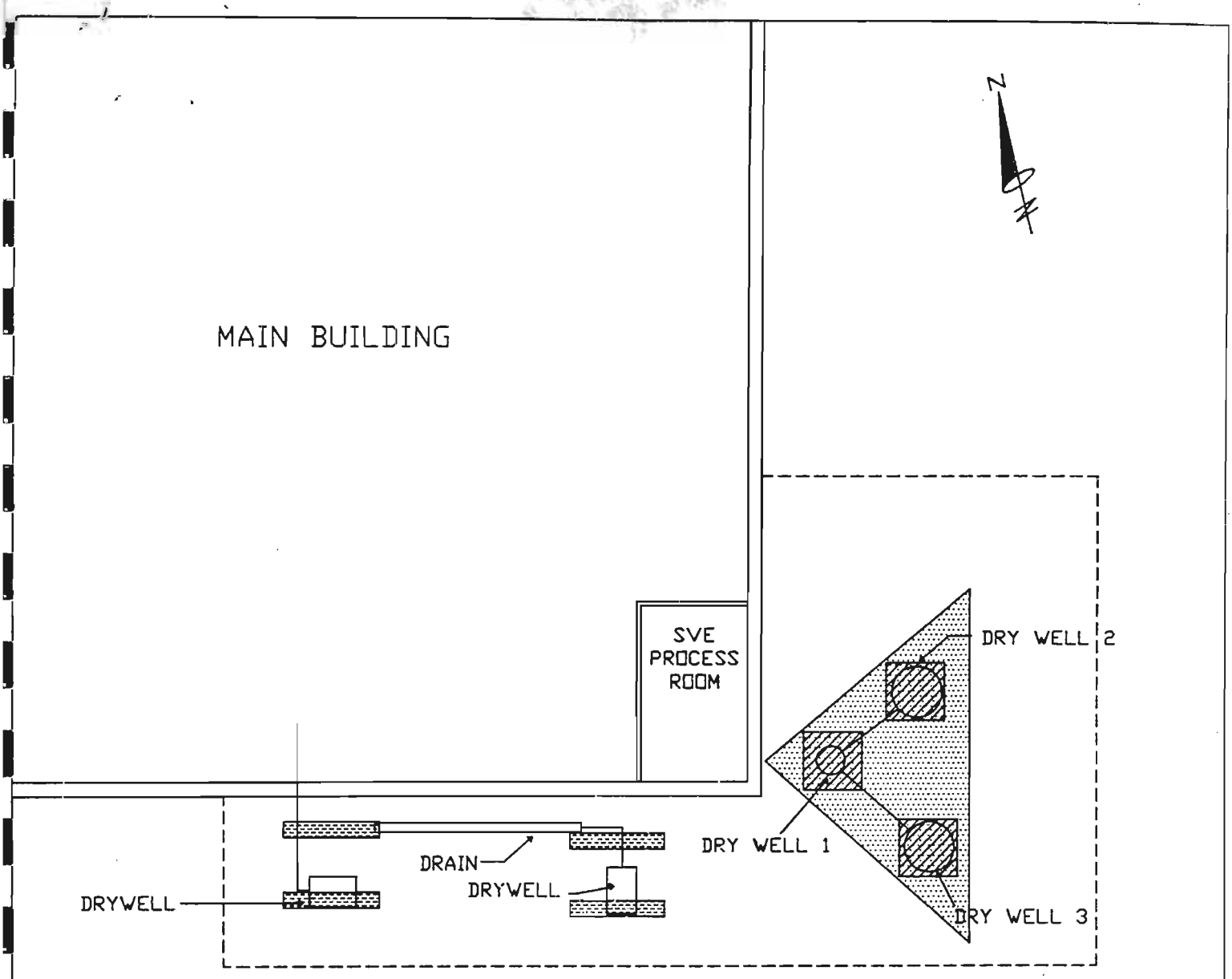
During excavation activities, air monitoring for volatile organic compounds and particulates will be conducted at the perimeter of the work zone, as well as within the work zone in accordance with the HASP. Real time monitoring will be conducted for volatile organic compounds (VOCs) utilizing an 11.7 eV portable photoionization detector (PID), and for dust utilizing an aerosol dust meter (PDM3).

Continuous ambient air monitoring will be conducted within the work/exclusion and at the perimeter of the clean/support zones. PID measurements will be recorded hourly if levels are within 5 parts per million (ppm) of background levels. If readings at the downwind perimeter of the work zone exceed 3 ppm above background in the breathing zone, air monitoring will be expanded to the downwind property perimeter. The air monitoring locations within the work/exclusion and clean/support zones, and the property perimeter will be selected to be downwind of site activities based upon wind direction at the time of monitoring. PID measurements shall be recorded hourly if levels are within 3 ppm of background levels. For PID readings above 3 ppm of background levels, readings shall be recorded in 15 minute intervals or whenever a new high PID reading is encountered. If total VOC levels at the clean/support perimeter exceeds 5 ppm above background, all site excavation and loading activities will be halted and the actions contained in the Vapor Emission Response Plan followed (see Appendix B).

Air monitoring and response levels for determining personnel respiratory upgrades for workers within the exclusion zone are specified within the project specific HASP (Appendix C).

Similarly, air monitoring will also be conducted for particulates at upwind, downwind and within the work area at temporary particulate monitoring stations. If the particulate levels exceed 100 ug/m^3 above background at the work zone perimeter, air monitoring will be conducted at the downwind property line. If downwind particulate levels at the work zone perimeter reach 150 ug/m^3 greater than the measured upwind particulate level, engineering controls will be employed. Dust suppression techniques may include the spraying of water over the area in which the dust is becoming airborne.

All real time air monitoring data will be recorded on daily log sheets and made available at the site for NYSDEC and/or Nassau County Department of Health personnel to review.



Approximate Scale

0′ 50′

Figure 3

Dry Well Excavation Map
Lockheed Martin Corporation
Great Neck, New York

Legend:

- Limit of Exclusion Zone
- Excavation to +/− 30' below grade
- Trench to a depth of +/− 6' below grade
- Soil removal to +/− 4' below grade

H2M GROUP

Table 1
Waste Characterization Data from Dry Well Samples
Lockheed Martin Corporation
Great Neck, New York
June 1997

Sample ID#	Dry Well #1		Dry Well #2		Dry Well #3	
	WU	WM	WU	WM	WU	WM
Lab ID#	9715572	9715573	9715569	9715570	9715576	9715575
TCLP Volatiles, ug/l						
Vinly Chloride	<10	<10	<10	<10	<10	<10
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10
Chloroform	<10	<10	<10	<10	<10	<10
1,2-Dichloroethane	<10	<10	<10	<10	<10	<10
Carbon Tetrachloride	<10	<10	<10	<10	<10	<10
Trichloroethene	<10	10,000D	<10	11,000D	<10	3,000D
Tetrachloroethene	80	13,000D	<10	5,700D	36	11,000D
Chlorobenzene	<10	<10	<10	<10	<10	<10
Benzene	<10	<10	<10	<10	<10	<10
2-Butanone (MEK)	<10	<10	<10	<10	<10	<10
TCLP Semi-Volatiles, ug/l						
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10	<10	<10
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10
Pentachlorophenol	<25	<25	<25	<25	<25	<25
2-Methlyphenol	<10	<10	<10	16	<10	<10
2,4,5-Trichlorophenol	<25	<25	<25	<25	<25	<25
4-Methylphenol	<10	11	<10	19	<10	<10
3-Methylphenol	<10	*	<10	*	<10	<10
Pyridine	<10	<10	<10	<10	<10	12
TCLP Herbicides, ug/l						
2,4,-D	<100	<100	<100	<100	<100	<100
2,4,5-TP (Silvex)	<10	<10	<10	<10	<10	<10
TCLP Pesticides, ug/l						
Lindane	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlo Epoxide	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toxaphene	<10	<10	<10	<10	<10	<10
Chlordane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Polychlorinated Biphenyls, mg/kg						
Aroclor 1016	<3.5	<3.7	<3.5	<3.6	<3.4	<3.6
Aroclor 1221	<3.5	<3.7	<3.5	<3.6	<3.4	<3.6
Aroclor 1232	<3.5	<3.7	<3.5	<3.6	<3.4	<3.6
Aroclor 1242	<3.5	<3.7	<3.5	<3.6	<3.4	<3.6
Aroclor 1248	<3.5	19	<3.5	4.6	<3.4	6.4
Aroclor 1254	<3.5	<3.7	<3.5	<3.6	<3.4	<3.6
Aroclor 1260	<3.5	3.1J	<3.5	0.9J	<3.4	0.9J
Inorganics, mg/l						
Silver	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Arsenic	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	0.35	0.34	0.52	0.42	0.35	0.53
Cadmium	0.02	<0.005	0.01	<0.005	0.01	<0.005
Chromium	0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	<0.20 ug/l	<0.20 ug/l	<0.20 ug/l	<0.20 ug/l	<0.20 ug/l	<0.20 ug/l
Lead	0.87	0.28	1.8	0.08	0.1	0.2
Selenium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
pH (Corros.)	6.6 units	7.5 units	7.6 units	7.4 units	9.7 units	7.1 units
Reactivity	No	No	No	No	No	No
Flashpoint	>60° C	>60° C	>60° C	>60° C	>60° C	>60° C

Notes :
< - Indicates that analyte was not detected above the instrument detection limit
WU Samples were composited from 12 to 18 feet, and WM samples were composited from 25 to 31 feet below grade.

Community Air Monitoring Plan (Ground Intrusive Activities)

Real-time air monitoring, for volatile compounds and particulate levels at the perimeter of the work area is necessary. The plan must include the following:

- Volatile organic compounds must be monitored at the downwind perimeter of the work area on a continuous basis. If total organic vapor levels exceed 5 ppm above background, work activities must be halted and monitoring continued under the provisions of a Vapor Emission Response Plan. All readings must be recorded and be available for State (DEC & DOH) personnel to review.
- Particulates should be continuously monitored upwind, downwind and within the work area at temporary particulate monitoring stations. If the downwind particulate level is 150 $\mu g/m^3$ greater than the upwind particulate level, then dust suppression techniques must be employed. All readings must be recorded and be available for State (DEC & DOH) personnel to review.

Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the work area, activities will be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities can resume. If the organic vapor levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the work area, activities can resume provided:

- the organic vapor level 200 ft. downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. When work shutdown occurs, downwind air monitoring as directed by the Safety Officer will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

Community Air Monitoring Plan
(Ground Intrusive Activities)

Major Vapor Emission

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source are unsuccessful and if the following levels persist for more than 30 minutes in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect;

- if organic vapor levels are approaching 5 ppm above background.

However, the Major Vapor Emission Response Plan shall be immediately placed into effect if organic vapor levels are greater than 10 ppm above background.

Major Vapor Emission Response Plan

Upon activation, the following activities will be undertaken:

1. All Emergency Response Contacts as listed in the Health and Safety Plan of the Work Plan will go into effect.
2. The local police authorities will immediately be contacted by the Safety Officer and advised of the situation.
3. Frequent air monitoring will be conducted at 30 minutes intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Safety Officer.

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utilizing report only format. One trip blank sample and one blind duplicate sample will be collected for quality assurance/quality control. The trip blank sample will be analyzed for VOCs only (EPA Method 8240) and the blind duplicate samples will be analyzed for all parameters (VOCs, SVOCs, PP Metals and PCBs).

If no subsurface structure is encountered in any of the trenches and/or test pits, two confirmatory soil samples will be collected from the loading dock area from the approximate location of each of the two dry wells being investigated. Their locations will be established based on the 1941 site plans. The soil samples will be collected from the bottom of the trenches and/or test pits (at a maximum depth of 6 feet below grade). The samples will be analyzed for VOCs (EPA Method 8240), SVOCs (EPA Method 8270), PP Metals (EPA SW-846), and PCBs (EPA Method 8080), utilizing report only format. QA/QC samples will include a trip blank and a blind duplicate sample.

Following completion of sampling activities, the trenches and/or test pits will be backfilled to grade with the soil removed from the excavation.

4.2 Dry Well Excavation

The remediation of the soil and sludges within and beneath the three dry wells (#1, 2, and 3) will extend to 30 feet below grade. Piping connecting the three dry wells will be removed. In addition, piping connecting Dry Well #1 to the building will be cleaned and capped at the exterior building wall. Soil removed from the dry wells will be disposed of off-site at a RCRA permitted treatment/disposal facility.

Excavation of the three dry wells will be conducted in four phases as summarized below, and described in further detail in the sections to follow.

- Phase I: Pre-Construction Activities
  - Subsurface utility markouts
  - Obtain local excavation permits, as required
  - Sample dry wells to obtain waste approvals from disposal facility
- Phase II: Excavation Activities
  - Work zone delineation
  - Soil vapor extraction system temporary shutdown
  - Sheeting and shoring
  - Dry well soil excavation
  - Loading of soils for disposal

In June 1997, soil samples were collected from each of the dry wells for analysis of waste characterization parameters (i.e., TCLP VOCs, TCLP Semi-Volatile Organic Compounds (SVOCs), TCLP Metals, TCLP Pesticides and Herbicides, and for PCBs, pH, ignitability and reactivity). From each of the three dry wells, two samples composited from between 0 to 30 feet were obtained. The "WU" samples from each dry well were collected by compositing individual soil samples from 12 through 18 feet below grade, while the "WM" samples from each dry well were composites of soil samples from 25 through 31 feet below grade. The analytical data for the waste characterization parameters is summarized in Table 1 of Appendix A.

4.0 Scope of Work

In accordance with the ROD, soil from within the three dry wells (Dry Wells #1, 2, and 3) will be excavated to a depth of approximately 30 feet below grade. In addition, subsurface investigation activities will be conducted in the southeast loading dock to confirm the presence or absence of dry well structures.

4.1 Southeast Loading Bay Subsurface Investigation

During previous soil sampling conducted for the RI, it could not be confirmed whether the dry wells that served the southeast loading bay, and the dry well located immediately west of the loading bay have been removed. To help determine this, shallow trenches or test pits will be dug in the area west of the southeast loading bay to determine if any evidence of the two dry wells shown in the original site plans in this area can be found. The trenches and/or test pits will allow for visual inspection of the subsurface to help confirm the presence or absence of these subsurface structures. The general area where trenching/test pitting will be performed is shown in Figure 3.

Trenching and/or test pitting will be performed utilizing a backhoe. Field screening during these activities will be performed using a portable photoionization detector (PID). The trenches and/or test pits will extend to a maximum depth of 6 feet below grade, unless a subsurface structure is encountered, at which time the trenches and/or test pits will extend deep enough to allow for a visual inspection and assessment of the structure and surrounding soil conditions. Samples will be collected from around and/or beneath the structure to determine if concentrations in soil warrant any remedial actions. Sampling will be performed utilizing the bucket of the backhoe or other sampling equipment to preclude the need for field personnel to enter the excavation. The samples collected will be analyzed for VOCs (EPA Method 8240), SVOCs (EPA Method 8270), PP Metals (EPA SW-846), and PCBs (EPA Method 8080),

According to a 1941 site plan, Dry Well #3 is constructed of 8-inch concrete block with an 8 foot outside diameter, and extend down to approximately 16 feet below grade. The materials of construction and dimensions of Dry Wells #1 and 2 have not been confirmed. All three dry wells are currently inactive and have been filled in with soil and/or concrete debris to grade. Two of the dry wells are located beneath a concrete pad, while the third dry well is beneath soil and accessible via a manway.

The two other dry well structures located on the south side of the building and west of the southeast loading dock were reportedly removed in 1989 at the time that the former underground storage tanks, also located in this area, were removed. (See Figure 3.) According to the 1941 building plan, these dry wells are rectangular in shape with dimensions of 8 feet by 5 feet. The absence of these two dry wells adjacent to the loading dock will be confirmed through trenching and/or test pitting which will be conducted as part of this work plan.

3.2 Dry well Soil Analytical Data

Past subsurface investigations conducted in the Dry Well Area confirm that the soil located within the three out-of-service dry wells contain VOCs. These VOCs are the primary source of contamination to groundwater.

Previous soil investigations conducted in the Dry Well area as part of the Remedial Investigation (RI) included the collection of soil samples from the out-of-service dry wells as well as a soil-gas survey in the area surrounding the dry wells. Methods and results are described in detail in the RI report (H2M, 1996). These results are summarized below:

- The soil-gas survey detected elevated volatile organic compounds (VOCs) in the Dry Well area. These results are consistent with previous analytical results from this area which showed elevated levels of trichloroethene (TCE), tetrachloroethene (PCE) and cis-1,2-dichloroethene (1,2-DCE).

- Analysis of soil samples from the dry well soil borings confirmed the presence of elevated concentrations of VOCs and indicated that elevated concentrations of some metals are also present. The primary contaminants detected include tetrachloroethene, trichloroethene, toluene, ethylbenzene, xylenes, with lower levels of 1,2-dichloroethene. The highest concentrations of VOCs and metals detected during the dry well soil boring program were associated with sludge material contained within the inactive dry wells. In addition, low concentrations of semi-volatile organic compounds (SVOCs) and trace concentrations of pesticides and PCBs were detected.

H2M GROUP

Holzmacher, McLendon & Murrell, P.C. • H2M Labs, Inc.
H2M Construction Management, Inc. • H2M Associates, Inc.
575 Broad Hollow Road, Melville, New York 11747
PHONE: (516) 756-8000 • FAX: (516) 694-4122

fax

TO: Girish Desai

FROM: Rich Baldwin

COMPANY: NYSDEC

RE: Great Neck

DATE: 6-1-98

OF PAGES (incl. cover sheet): 11

TIME:

NOTE: PLEASE CALL IMMEDIATELY IF YOU DO NOT RECEIVE ALL PAGES

FAX: 444-0248

COMMENTS:

Dear Girish,

Pursuant to Bob Gilbert's request, please find the attached revised pages of the OU-1 Dry Well Area Excavation Work Plan.

Thank You,

Rich

cc: Bob Gilbert (818) 847-0170

FOR OFFICE USE ONLY:
Project No.:
Reimb:
Sender (initial):

H2M GROUP

Holzmacher, McLendon & Murrell, P.C. • H2M Associates, Inc.
H2M Construction Management, Inc. • H2M Labs, Inc.

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555 Preakness Avenue, Totowa, NJ 07512
(973) 942-0700 • FAX: (973) 942-1333

FAX TRANSMITTAL FORM

DATE: June 3, 1998

TIME: 12:15

NUMBER OF PAGES (including cover sheet): 2

TO: Girish Desai

COMPANY: NYSDEC

FAX NUMBER: (516) 444-0248

FROM: Chuck Martello

RE:

COMMENTS:

Dear Girish,

Pursuant to your conversation with Rich Baldwin, attached please find the amended table. Please beep Rich with any questions or comments.

Thanks,

CONTACT SENDER IF YOU
DO NOT RECEIVE ALL PAGES
OR COPY IS NOT LEGIBLE:
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FAX: (973) 942-1333

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TABLE 1
SOIL AND QA/QC SAMPLE MATRIX
LOCKHEED MARTIN
GREAT NECK, NEW YORK

Sampling Event	Number of Field Samples	Chemical Analyses	Level of QA/QC	QA/QC Samples				Total Number of Samples
				Field Blanks	Trip Blanks	Blind Duplicates	MS/MSD Samples	
Southeast Loading Bay Test Pits[1]	4	TCL VOCs[3], TCL SVOCs[4], TCL Pesticides/PCB[5]s and TAL Metals[6]	ASP CLP	1	1[2]	1	2	9
Dry Well Excavations	3 (1 per Drywell)	TCL SVOCs[4], TCL Pesticides/PCBs[5] and TAL Metals[6]	ASP CLP	1	NA	1	2	7
Top 4 Feet of Soil Around Dry Wells	1	TCL VOCs[3], TCL SVOCs[4], TCL Pesticides/PCB[5]s and TAL Metals[6]	Report Only	1	1[2]	0	0	3
Dry Well Excavations	3 (1 per Drywell)	TCL VOCs[7]	Report Only	0	3	1	0	7

Notes:

[1] Four test pits will be excavated and require sampling.

[2] The test pits are expected to be conducted in one day.

[3] All samples will be analyzed for TCL VOCs using NYSDEC Method 95-1. Analysis will include Freon 113.
The holding time for TCL VOCs is seven days and the samples must be cooled to 4°C for preservation.
One 2-oz glass jar is the required container.

[4] All samples will be analyzed for TCL SVOCs using NYSDEC Method 95-2.
The holding time for TCL SVOCs is 5 days for extraction and 40 days for analysis and the samples must be cooled to 4°C for preservation.
One 4-oz glass jar is the required container.

[5] All samples will be analyzed for TCL Pesticide/PCBs using NYSDEC Method 95-3.
The holding time for TCL PCBs is 5 days for extraction and 40 days for analysis and the samples must be cooled to 4°C for preservation.
One 4-oz glass jar is the required container.

[6] All samples will be analyzed for TAL Metals using NYSDEC 200.7 CLP-M.
The holding time for TAL Metals is six months.
One 4-oz glass jar is the required container.

[7] All samples will be analyzed for TCL VOCs using EPA Method 8240.
The holding time for TCL VOCs is seven days and the samples must be cooled to 4°C for preservation.
One 2-oz glass jar is the required container.

H2MGROUP

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FAX TRANSMITTAL FORM

DATE: June 2, 1998

TIME:

NUMBER OF PAGES (Including cover sheet): 8

TO: Girish Desai

COMPANY: New York State Department of Environmental Conservation

FAX NUMBER: (516) 444-0248

FROM: Sui Leong

RE: Lockheed Martin Great Neck

COMMENTS:

As requested by Bob Gilbert, attached are the revised pages from the Dry Well Area Excavation Work Plan which incorporates your most recent comments. Please contact Bob Gilbert with any questions. Thanks.

Please contact sender if you do not receive all pages or copy is not legible.

PHONE: (201) 942-0700

FAX: (201) 942-1333

H2M GROUP

Holzmacher, McLendon & Murrell, P.C. • H2M Labs, Inc.
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575 Broad Hollow Road, Melville, New York 11747
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fax

TO: Girish Desai	**FROM:** Rich Baldwin
COMPANY: NYSDEC	**RE:** Great Neck
DATE: 6-3-98	**# OF PAGES (incl. cover sheet):** 5
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FAX: 444-0248	

COMMENTS:

Dear Girish,

Pursuant to Bob Gilbert's request, please find the attached revised pages of the OU-1 Dry Well Area Excavation Work Plan.

Thank You,

Rich

cc: Bob Gilbert (818) 847-0170

FOR OFFICE USE ONLY:
Project No.:
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DRY WELL AREA EXCAVATION
WORK PLAN
Operable Unit 1
Lockheed Martin Corporation
(Former Unisys Corp. Site)
365 Lakeville Road
Great Neck, New York

NYSDEC Site No. 130045

May 1998

Prepared for:
Lockheed Martin Corporation
Burbank Program Office
Burbank, California

- Confirm the location of the two dry wells which are currently not accessible at grade,
- Allow for equipment maneuvering during installation of the steel sheeting boxes, and
- Assist in the identification of any unknown underground utilities within the exclusion zone, including piping that interconnects the three dry wells, prior to installing the sheeting. Any utilities within the top 4 feet of the excavation will be disconnected, and temporarily removed. Piping from the building to Dry Well #1 will be removed and capped at the building exterior.

The top 4 feet of soil from within the circumference of each dry well will be loaded directly into trucks for off-site disposal. Soil from the top 4 feet from around the outside perimeter of the dry wells will be staged on plastic. The soil will be analyzed for TCL VOCs, TCL SVOCs, TAL Metals and TCL Pesticides/PCBs (report only format). The soil may be reused as fill if it does not exhibit signs of impact (based on analytical results). Otherwise, the staged soil will be combined with the dry well soil for off-site disposal.

4.4.4 Excavation Activities

Soil and sludge from within the 10 foot by 10 foot area sheeting box surrounding each dry well will be excavated utilizing a trackhoe excavator and clam shell crane with a vertical reach of at least 30 feet. The excavation will proceed to a depth of approximately 30 feet bgs. The total soil volume is estimated to be 474 tons, estimated based on the following:

Volume calculation:	10' x 10' 30' deep		
Formula:	10' x 10' x 30'	=	3,000 cubic feet/dry well
	Cubic feet/27 cubic feet	=	111.1 cubic yards/dry well
Soil density:	105 lbs. per cubic feet 1 cubic yard	=	27 cubic feet
	105 lbs. per cu. ft. x 27 cu. ft. (1 cu. yd.) = 2,835 lbs./cu. yd.		
Density conversion:	$\frac{\text{2,835 lbs. per cubic yard}}{\text{2,000 lbs./ton}}$	=	1.42 tons/cu. yd.
Soil volume:	111.1 cu. yd. x 1.42	=	158 tons/dry well
Total Volume:	158 tons/dry well x 3 dry wells	=	474 tons

TABLE 1
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LOCKHEED MARTIN
GREAT NECK, NEW YORK

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Dry Well Excavations	3 (1 per Drywell)	TCL VOCs[7]	Report Only	0	3	1	0	7

Notes:

[1] Four test pits will be excavated and require sampling.

[2] The test pits are expected to be conducted in one day.

[3] All samples will be analyzed for TCL VOCs using NYSDEC Method 95-1. Analysis will include Freon 113.
The holding time for TCL VOCs is seven days and the samples must be cooled to 4°C for preservation.
One 2-oz glass jar is the required container.

[4] All samples will be analyzed for TCL SVOCs using NYSDEC Method 95-2.
The holding time for TCL SVOCs is 5 days for extraction and 40 days for analysis and the samples must be cooled to 4°C for preservation.
One 4-oz glass jar is the required container.

[5] All samples will be analyzed for TCL Pesticide/PCBs using NYSDEC Method 95-3.
The holding time for TCL PCBs is 5 days for extraction and 40 days for analysis and the samples must be cooled to 4°C for preservation.
One 4-oz glass jar is the required container.

[6] All samples will be analyzed for TAL Metals using NYSDEC 200.7 CLP-M.
The holding time for TAL Metals is six months.
One 4-oz glass jar is the required container.

[7] All samples will be analyzed for TCL VOCs using EPA Method 8240.
The holding time for TCL VOCs is seven days and the samples must be cooled to 4°C for preservation.
One 2-oz glass jar is the required container.

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TABLE 1
SOIL AND QA/QC SAMPLE MATRIX
LOCKHEED MARTIN
GREAT NECK, NEW YORK

Sampling Event	Number of Field Samples	Chemical Analyses	Level of QA/QC	QA/QC Samples				Total Number of Samples
				Field Blanks	Trip Blanks	Blind Duplicates	MS/MSD Samples	
Southeast Loading Bay Test Pits[1]	4	TCL VOCs[3], TCL SVOCs[4], TCL PCB[5]s and TAL Metals[6]	ASP CLP	1	1 [2]	1	2	9
Dry Well Excavations	3 (1 per Drywell)	TCL SVOCs[4], TCL PCBs[5] and TAL Metals[6]	ASP CLP	1	NA	1	2	7
Dry Well Excavations	3 (1 per Drywell)	TCL VOCs [7]	Report Only	0	3	1	0	7

Notes:

[1] Four test pits will be excavated and require sampling.

[2] The test pits are expected to be conducted in one day.

[3] All samples will be analyzed for TCL VOCs using NYSDEC Method 95-1.
The holding time for TCL VOCs is seven days and the samples must be cooled to 4°C for preservation.
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- Dust Control Procedures
- Community Air Monitoring

- Phase III: Site Restoration
  - Backfill dry wells to grade
  - SVE system start-up
  - Decontamination of equipment

- Phase IV: Transport & Disposal
  - Manifesting

4.3 Phase I - Pre-Construction Activities

Phase I of this project, pre-construction activities, is anticipated to begin in April 1998. Activities conducted during the pre-construction phase are necessary to ensure the successful completion of this project in a timely and safe manner. Pre-construction activities will include the securing of local excavation permits (as required), coordination of the mark-out of subsurface utilities, and the characterization of the soil and sludge waste stream for off-site disposal.

4.3.1 Local Permits

Excavation permits, as may be required by the local municipality, will be obtained by the remediation contractor performing this work prior to initiation of field activities.

4.3.2 Subsurface Utility Mark-Outs

Several below grade utilities are known to be present in the area of the dry wells. These utilities include the SVE system piping, municipal water lines, storm water drainage and electrical lines. All subsurface utilities within the work area will be identified prior to any excavation activities. This will include notifying the New York City and Long Island One Call Center (516-661-6000) for utility mark-outs. Any live utilities will be identified and tagged.

4.3.3 Waste Characterization and Waste Stream Approval

Based upon source operations, Lockheed Martin has determined that the soils will be classified as F002-listed RCRA hazardous waste for solvent organic compounds from non-specific sources. The soils will be pre-treated at the disposal to meet Land Disposal Regulation (LDR) limits prior to secure landfill disposal. This disposal method was selected based on the results of the treatability test and the acceptance of the waste stream by the selected disposal facility (Michigan Disposal).

4.2.1 Confirmatory Soil Samples

Upon excavating to approximately 30 feet below ground surface (bgs) at each dry well, bottom soil samples will be brought to the surface using the bucket of the excavator and examined visually and olfactory to determine if non-sludge material (e.g., native soils such as sand and gravel) are present. The excavation will be continued, as feasible and practicable, if sludge materials are still evident in the bottom soil samples.

One confirmatory soil sample will be collected from the bottom of each excavation, at approximately 30 feet bgs, once field inspections indicate native materials have been encountered. Soil samples will be collected utilizing the bucket of the excavator and analyzed for TCL SVOCs and TAL Metals using NYSDEC ASP CLP procedures, and for TCL VOCs using report-only format. Samples for TCL VOC and TCL SVOC analysis will be collected as grab samples from the center of each dry well excavation, while the samples for TAL Metals analysis will be a composite sample from the bottom of each excavation. QA/QC samples to accompany these soil matrix samples are included in Table 1.

The samples will be submitted to H2M Labs, Inc. for expedited turn-around, which will allow for evaluation of the analytical results prior to backfilling. Additional soil may be removed from the bottom of the excavation, to the extent practicable and feasible, depending on the results of the post-excavation soil samples.

- Dust Control Procedures
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services protocol (ASP) contract-laboratory protocols (CLP) procedures (see Table 1). The list of QA/QC samples to be utilized is included in Table 1.

If no subsurface structure is encountered in any of the trenches and/or test pits, two confirmatory soil samples will be collected from the loading dock area from the approximate location of each of the two dry wells being investigated. Their locations will be established based on the 1941 site plans. The soil samples will be collected from the bottom of the trenches and/or test pits (at a maximum depth of 6 feet below grade). The samples will be analyzed for TCL VOCs, TCL SVOCs, TAL Metals, and PCBs, utilizing NYSDEC ASP CLP format. The list of QA/QC samples to be utilized is included in Table 1.

Following completion of sampling activities, the trenches and/or test pits will be backfilled to grade with the soil removed from the excavation.

4.2 Dry Well Excavation

The remediation of the soil and sludges within and beneath the three dry wells (#1, 2, and 3) will extend to 30 feet below grade. Piping connecting the three dry wells will be removed. In addition, piping connecting Dry Well #1 to the building will be cleaned and capped at the exterior building wall. Soil removed from the dry wells will be disposed of off-site at a RCRA permitted treatment/disposal facility.

Excavation of the three dry wells will be conducted in four phases as summarized below, and described in further detail in the sections to follow.

- Phase I: Pre-Construction Activities
  - Subsurface utility markouts
  - Obtain local excavation permits, as required
  - Sample dry wells to obtain waste approvals from disposal facility
- Phase II: Excavation Activities
  - Work zone delineation
  - Soil vapor extraction system temporary shutdown
  - Sheeting and shoring
  - Dry well soil excavation
  - Loading of soils for disposal
  - Confirmatory soil samples

In June 1997, soil samples were collected from each of the dry wells for analysis of waste characterization parameters (i.e., TCLP VOCs, TCLP Semi-Volatile Organic Compounds (SVOCs), TCLP Metals, TCLP Pesticides and Herbicides, and for PCBs, pH, ignitability and reactivity). From each of the three dry wells, two samples composited from between 0 to 30 feet were obtained. The "WU" samples from each dry well were collected by compositing individual soil samples from 12 through 18 feet below grade, while the "WM" samples from each dry well were composites of soil samples from 25 through 31 feet below grade. The analytical data for the waste characterization parameters is summarized in Table 1 of Appendix A.

4.0 Scope of Work

In accordance with the ROD, soil from within the three dry wells (Dry Wells #1, 2, and 3) will be excavated to a depth of approximately 30 feet below grade. In addition, subsurface investigation activities will be conducted in the southeast loading dock to confirm the presence or absence of dry well structures.

4.1 Southeast Loading Bay Subsurface Investigation

During previous soil sampling conducted for the RI, it could not be confirmed whether the dry wells that served the southeast loading bay, and the dry well located immediately west of the loading bay have been removed. To help determine this, shallow trenches or test pits will be dug in the area west of the southeast loading bay to determine if any evidence of the two dry wells shown in the original site plans in this area can be found. The trenches and/or test pits will allow for visual inspection of the subsurface to help confirm the presence or absence of these subsurface structures. The general area where trenching/test pitting will be performed is shown in Figure 3.

Trenching and/or test pitting will be performed utilizing a backhoe. Field screening during these activities will be performed using a portable photoionization detector (PID). The trenches and/or test pits will extend to a maximum depth of 6 feet below grade, unless a subsurface structure is encountered, at which time the trenches and/or test pits will extend deep enough to allow for a visual inspection and assessment of the structure and surrounding soil conditions. Samples will be collected from around and/or beneath the structure to determine if concentrations in soil warrant any remedial actions. Sampling will be performed utilizing the bucket of the backhoe or other sampling equipment to preclude the need for field personnel to enter the excavation. The samples collected will be analyzed for target Compound List (TCL) VOCs, TCL SVOCs, target analyte list (TAL) Metals, and PCBs, utilizing NYSDEC analytical

Dry Well Area Excavation
Work Plan
Lockheed Martin Corporation
Great Neck, New York

NYSDEC Site No. 130045

May 1998

1.0 Introduction

This work plan describes the scope of work for the removal of soils and sludges located within and directly below three inactive dry wells at the Lockheed Martin Corporation (Lockheed Martin) site located at 365 Lakeville Road, Great Neck, New York (see Figure 1). The Lockheed Martin site has been listed by the New York State Department of Environmental Conservation (NYSDEC) in the Registry of Inactive Hazardous Waste Disposal sites in New York State (Site No. 130045). The site is classified by NYSDEC as a Class 2 Site due to the presence of contamination in soil and groundwater at the property.

In 1991, Unisys Corporation (a previous owner of the site) entered into an Administrative Order on Consent (W-1-0527-91-02) with NYSDEC which required implementation of IRMs for soil and groundwater and the completion of a remedial investigation/feasibility study (RI/FS). A groundwater IRM utilizing granulated activated carbon filters was initiated in April of 1993. In January 1994, the SVE system to address soil contamination in the Dry Well Area was initiated. This Dry Well Area consists of three interconnected dry wells located outside the east wall of the southeast corner of the main building. Soil within and immediately beneath these three dry wells have been found to contain volatile organic compounds (VOCs) at concentrations above the New York State Recommended Soil Cleanup Objectives (NYS RSCOs).

In 1995, NYSDEC divided the site into two operable units for administrative purposes. Operable Unit 1 (OU-1) includes the 94 acre on-site project area owned by Lockheed Martin and Operable Unit 2 (OU-2) includes the off-site areas immediately surrounding the site. The Record of Decision (ROD) detailing the selected remedies for OU-1 was signed by the NYSDEC on March 31, 1997. The existing SVE IRM system was selected in the ROD as the permanent remedy for the Dry Well Area soil. As a means of source removal, the soils within the dry wells is to be removed to a depth of 30 feet below grade. Additionally, the ROD requires that a subsurface investigation be conducted to investigate the presence or absence of two other dry

Dry Well Area Excavation
Work Plan
Operable Unit 1
Lockheed Martin Corporation
(Former Unisys Corp. Site)
Great Neck, New York

NYSDEC Site No. 130045

May 1998

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Holzmacher, McLendon & Murrell, P.C. • H2M Associates, Inc.
H2M Construction Management, Inc. • H2M Labs, Inc.

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555 Preakness Avenue, Totowa, NJ 07512
(201) 942-0700 • FAX: (201) 942-1333

FAX TRANSMITTAL FORM

DATE: June 2, 1998

TIME:

NUMBER OF PAGES (Including cover sheet): 3

TO: Girish Desai

COMPANY: New York State Department of Environmental Conservation

FAX NUMBER: (516) 444-0248

FROM: Sui Leong

RE: Lockheed Martin Great Neck

COMMENTS:

As requested by Bob Gilbert, attached is Page 10 (revised) of the Dry Well Area Excavation Work Plan which was omitted from my earlier fax to you. Also, we've made some additional revisions to Table 1 to include sampling of the soil removed from the top 4 feet surrounding the dry wells. Please contact Bob Gilbert with any questions. Thanks.

Please contact sender if you do not receive all pages or copy is not legible.

PHONE: (201) 942-0700

FAX: (201) 942-1333

TABLE 1
SOIL AND QA/QC SAMPLE MATRIX
LOCKHEED MARTIN
GREAT NECK, NEW YORK

Sampling Event	Number of Field Samples	Chemical Analyses	Level of QA/QC	QA/QC Samples				Total Number of Samples
				Field Blanks	Trip Blanks	Blind Duplicates	MS/MSD Samples	
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Dry Well Excavations	3 (1 per Drywell)	TCL SVOCs[4], TCL Pesticides/PCBs[5] and TAL Metals[6]	ASP CLP	1	NA	1	2	7
Top 4 Feet of Soil Around Dry Wells	1	TCL VOCs[3], TCL SVOCs[4], TCL Pesticides/PCB[5]s and TAL Metals[6]	Report Only	1	1[2]	0	0	3
Dry Well Excavations	3 (1 per Drywell)	TCL VOCs[7]	Report Only	0	3	1	0	7

Notes:

[1] Four test pits will be excavated and require sampling.

[2] The test pits are expected to be conducted in one day.

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One 2-oz glass jar is the required container.

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The holding time for TCL SVOCs is 5 days for extraction and 40 days for analysis and the samples must be cooled to 4°C for preservation.
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One 2-oz glass jar is the required container.

H2MGROUP

- Confirm the location of the two dry wells which are currently not accessible at grade,
- Allow for equipment maneuvering during installation of the steel sheeting boxes, and
- Assist in the identification of any unknown underground utilities within the exclusion zone, including piping that interconnects the three dry wells, prior to installing the sheeting. Any utilities within the top 4 feet of the excavation will be disconnected, and temporarily removed. Piping from the building to Dry Well #1 will be removed and capped at the building exterior.

The top 4 feet of soil from within the circumference of each dry well will be loaded directly into trucks for off-site disposal. Soil from the top 4 feet from around the outside perimeter of the dry wells will be staged on plastic. The soil will be analyzed for TCL VOCs, TCL SVOCs, TAL Metals and TCL Pesticides/PCBs (report only format). The soil may be reused as fill if it does not exhibit signs of impact (based on analytical results). Otherwise, the staged soil will be combined with the dry well soil for off-site disposal.

4.4.4 Excavation Activities

Soil and sludge from within the 10 foot by 10 foot area sheeting box surrounding each dry well will be excavated utilizing a trackhoe excavator and clam shell crane with a vertical reach of at least 30 feet. The excavation will proceed to a depth of approximately 30 feet bgs. The total soil volume is estimated to be 474 tons, estimated based on the following:

Volume calculation:	10' x 10' 30' deep		
Formula:	10' x 10' x 30'	=	3,000 cubic feet/dry well
	Cubic feet/27 cubic feet	=	111.1 cubic yards/dry well
Soil density:	105 lbs. per cubic feet 1 cubic yard	=	27 cubic feet
	105 lbs. per cu. ft. x 27 cu. ft. (1 cu. yd.) = 2,835 lbs./cu. yd.		
Density conversion:	$\frac{2,835 \text{ lbs. per cubic yard}}{2,000 \text{ lbs./ton}}$	=	1.42 tons/cu. yd.
Soil volume:	111.1 cu. yd. x 1.42	=	158 tons/dry well
Total Volume:	158 tons/dry well x 3 dry wells	=	474 tons