FINAL

RADIOLOGICAL SURVEY REPORT FOR FORMER BUILDING D LOCKHEED MARTIN MIDDLE RIVER COMPLEX

2323 Eastern Boulevard
Middle River, Maryland

LOCKHEED MARTIN

Tetra Tech
Environmental Engineers & Scientists

TC#13724-01/April 2004

Final
Radiological Survey Report for Former Building D
Lockheed Martin Middle River Complex
2323 Eastern Boulevard
Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

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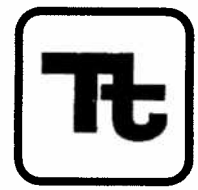

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1.0 Introduction

On behalf of Lockheed Martin Corporation (LMC), Tetra Tech has prepared the following Radiological Survey Report documenting the screening level radiological survey conducted at former Building D of the Lockheed Martin Middle River Complex located at 2323 Eastern Boulevard in Middle River, Maryland. The survey focused on the remaining foundation slab of former Building D, where it is suspected that past nuclear activities might have involved the use of radioactive materials. These activities may have potentially involved the use of uranium, plutonium, and strontium, including the possibility that other unknown isotopes may have been used. The radiological survey was conducted in areas where isotope usage was known to have occurred. These areas were identified by facility personnel who were present during the radiological operations conducted from the late 1950's through the 1960's. The radiological survey was conducted in accordance with the Radiological Survey Work Plan for Former Building D dated March 10, 2004.

2.0 History of Former Building D

Building D was formerly located in the southern portion of the Middle River Complex. The building encompassed approximately 400,000 square feet (ft^2) of floor space and was used for aircraft construction. Specifically, the building was used for the final assembly of metal carcasses and riveting of carcasses onto aircraft frames. Building D was demolished in the early 1970's.

According to the Phase I Environmental Site Assessment prepared by Earth Tech, unknown nuclear activities were previously conducted in Building D (Earth Tech, February 2003). No specific details regarding the scope of these activities were identified. Follow-up investigation by Tetra Tech, consisting of personnel interviews indicated that nuclear activities began in the 1950's and were conducted in the southwestern and western end of Building D. The nuclear activities conducted in included the preparation of uranium-aluminum and uranium-stainless steel fuel elements and the construction of thermo-electric generators known as Systems for

Nuclear Auxiliary Power (SNAP) generators. Additionally, a Cobalt-60 source was located in the wet lab. It is possible that other isotopes were used in radiological operations in Building D.

The nuclear activities began in the early to mid-1950's and were focused on research involving the uranium-aluminum fuel elements. The location of these operations is identified as the secondary area of concern and is shown in Figure 1 included in Attachment A. Figure 1 was generated using a 1969 building plat of the Building D basement. A pilot manufacturing lab was opened in the late 1950's (called the New Nuclear Labs) where activities involving the uranium-aluminum fuel elements reportedly occurred. This area is identified as the main area of concern in Figure 1.

3.0 Survey Description

A radiological scoping survey was performed at former Building D from March 16 through March 19, 2004. The purpose of the survey was to determine if radioactivity was present on building surfaces in quantities elevated above background levels. Surveys were performed using alpha (α) and beta (β) contamination monitors and a gamma (γ) radiation survey instrument. This instrumentation was determined to be appropriate for detecting the suspected radioisotopes of concern. Survey instrumentation for these activities consisted of a β-γ frisker (Bicron Surveyor with Ludlum Model 44-9 probe), a micro-R meter (Ludlum Model 19) and a gas-flow proportional detector-based floor monitor (Model 239-1F with Ludlum Model 2221 scaler and Model 43-5 detector). The α scintillation detector (Ludlum Model 2221 scaler and Ludlum Model 43-34B detector) was determined to be defective and was not used. The alpha detector from the floor monitor was used to take alpha readings in place of the defective 43.34B detector. Calibration certificates and daily inspection and source check information for each instrument are included in Attachment B.

A radiological scan survey of the exposed concrete building slab surfaces was performed. This was accomplished by performing the following steps:

1. A 10-foot by 10-foot area was identified and surveyed using the beta-gamma frisker to verify that contamination/radiation levels were at background. This background area is identified in Figure 1 included in Attachment A. Since the alpha detector was defective, the determination of alpha background was modified by placing a sheet of paper between the floor monitor detector and the slab. This would shield all of the alpha radiation if present and the net difference in counts would be attributed to alpha contamination. A difference in counts was not observed, so the alpha background was determined to be zero. Once this area had been surveyed, 15 static one-minute measurements were made using the floor monitor. Gamma background measurements were also taken using the Ludlum model 19.

2. The standard deviation (σ) of the static floor monitor counts was determined.

3. Areas of known isotope use were identified for focused scanning surveys. The foundation slab was comprised of smaller slabs, typically 40 to 90 ft^2. There were approximately 25 large individual slabs in the main area of concern. Slabs that had good surface integrity were chosen to be surveyed and accessible portions of these slabs were scanned with the floor monitor. The selection of 8 large slabs and 3 smaller slabs in the main area of concern was approximately 30% of the surface area of the foundation slab in the main area of concern. These 11 locations are identified in Figure 2 included in Attachment B. Beta-gamma spot check static counts were also performed using the Bicron Surveyor. Static measurements were acquired with the floor monitor for any area exceeding the standard deviation of the background count. There were no instances where the static measurement consistently exceeded the standard deviation of the background count. If the static measurement had exceeded the standard deviation of the background count it would have been surveyed with the Bicron Surveyor, and any area with elevated count rates would have been designated with marking paint. Alpha and beta-gamma readings could not be obtained in the secondary area of concern due to standing water. The secondary area of

concern is a low area and standing water was present at various depths from one to approximately four inches throughout the entire area.

4. Walkover gamma surveys were performed over most of the former Building D floor surface, for both impacted and non-impacted areas, using the Ludlum Model 19 to identify any areas of elevated background. The area covered is identified in Attachment Figure 3 included Attachment B. The extreme eastern area of the foundation slab had many parked flatbed trailers and was not easily accessible for surveying. The northeast corner of the foundation slab had a fenced area with a large shed and building materials/debris and was not easily accessible for surveying. All other areas of the slab were surveyed with the gamma walkover.

5. Survey results were documented on a survey map in μR/hr – *see Figure 3 in Attachment A*. Photographic documentation was also obtained and is included in Attachment C.

4.0 Survey Results

The background area was surveyed with the beta-gamma frisker, the floor monitor, and the micro-R meter verifying that the contamination levels were at background. Fifteen static measurements were then acquired with the floor monitor and the standard deviation of these counts was determined, as shown Table 1. The floor monitor was then used to survey eleven selected concrete slabs in the main area of concern. There were no areas in these eleven slabs that exhibited elevated count rates over the background count rate. Spot checks on these selected slabs were also made with the beta-gamma frisker and all count rates were consistent with the background count rate.

Table 1
Floor Monitor Static Measurements and Standard Deviation

Number (n)	Measurement (x_i)	Difference from Mean (x_i – mean)	Difference from Mean Squared $(x_i - mean)^2$	Variance $\sqrt{\sum(x_i - mean)^2/n-1}$	Standard Deviation (2 x Variance)
1	994	7.93	62.94	34.37	69
2	991	10.93	119.54		
3	1003	1.07	1.14		
4	1064	62.07	3852.27		
5	1038	36.07	1300.80		
6	942	59.93	3592.00		
7	1019	17.07	291.27		
8	1004	2.07	4.27		
9	996	5.93	35.20		
10	929	72.93	5319.27		
11	994	7.93	62.94		
12	997	4.93	24.34		
13	994	7.93	62.94		
14	1032	30.07	904.00		
15	1032	30.07	904.00		
Average	1001.93	Total	16536.93		

A walkover survey was then completed for all of the accessible areas of the foundation slab including the secondary area of concern. The secondary area of concern was a low area and standing water was present at various depths from one to approximately four inches. Although the water could shield gamma radiation, there was not enough water present to significantly impact the survey results.

Three areas on the foundation slab were identified as having elevated gamma readings above background. These areas are identified in Figure 3 included in Attachment A. Two of these areas were identified with marking paint, and were located in areas where the concrete was either removed or deteriorated to the point where grass was growing. The third area was above brick tiles on top of the foundation slab. These three areas do not appear to be associated with any particular source or activity. All other areas of the foundation slab were found to be consistent with background measurements.

Area #1

The first area of elevated readings was found in a grassy area within the main area of concern in the former Pilot Manufacturing Area. The 1-meter exposure rate was 5 to 6 μR/hr and the highest contact exposure rate was 11 to 12 μR/hr. The 1-meter and contact background exposure rates were 4 to 5 μR/hr. The elevated readings were concentrated in a 4-square foot area and were painted with orange marking paint.

Area #2

The second area of elevated readings was found above the brick tiles at the fence line running north to south near the middle of the foundation slab (the historical location of the "Cleaning/Plating" Room). The 1-meter and contact exposure rate was 6 to 7 μR/hr. The 1-meter and contact background exposure rates were 4 to 5 μR/hr. This area was approximately 50- foot long by 10-foot wide. Because of the size of the area, it was not marked with marking paint.

Area #3

The third area of elevated reading was found in a grassy area near the middle of the foundation slab on the northern edge, adjacent to the former Cafeteria. The 1-meter exposure rate was 5 to 6 μR/hr and the highest contact exposure rate was 7 to 8 μR/hr. The 1-meter and contact background exposure rate was 4 to 5 μR/hr. The grassy area was approximately 30-foot long by 20-foot wide and the elevated readings were fairly constant over the entire area. This area was identified with marking paint.

5.0 Conclusions

In general, a majority of the surveyed areas do not appear to be impacted. Alpha and beta measurements obtained with the floor monitor did not indicate any areas that were significantly above background. In addition, walkover gamma surveys did not identify any areas where exposure rates were significantly above background. The three areas in Section 4 represent elevated readings, but do not appear to present an exposure risk. Exposures to members of the public are limited to 100 mrem per year. The observed elevated readings are approximately an

order of magnitude below this limit, assuming a conservative full year (2000 hour) occupancy. It is common for naturally occurring radioactive material (NORM) to be present in building materials, such as the tile bricks. This could account for the elevated reading in Area #2. Elevated readings in the two grassy areas might also be attributable to NORM; however this was not indicated by background readings taken at a location of similar soil type.

The secondary area of concern, located at the west end of the survey area, was underwater, which resulted in only gamma exposure rates being obtained. No gamma measurements above background were observed.

6.0 Recommendations

The following recommendations are presented as follow-up actions to this survey. Execution of these recommendations may be dependent on the future use of the former Building D lot.

(1) Perform a review of any historical decommissioning information for the Middle River Complex. This should include a review of all survey records and applicable release criteria used to make area release determinations.

(2) Obtain soil and brick samples from the three areas where elevated gamma readings were observed and perform laboratory analysis to determine if radioactive constituents are present.

(3) Pump the standing water from the secondary area of concern, clear the slab of mud and debris, and perform spot checks for alpha and beta contamination to determine if this area was impacted from previous operations.

Attachment A

Figures

Figure 1 Middle River Radiological Survey – Building D
Areas of Concern

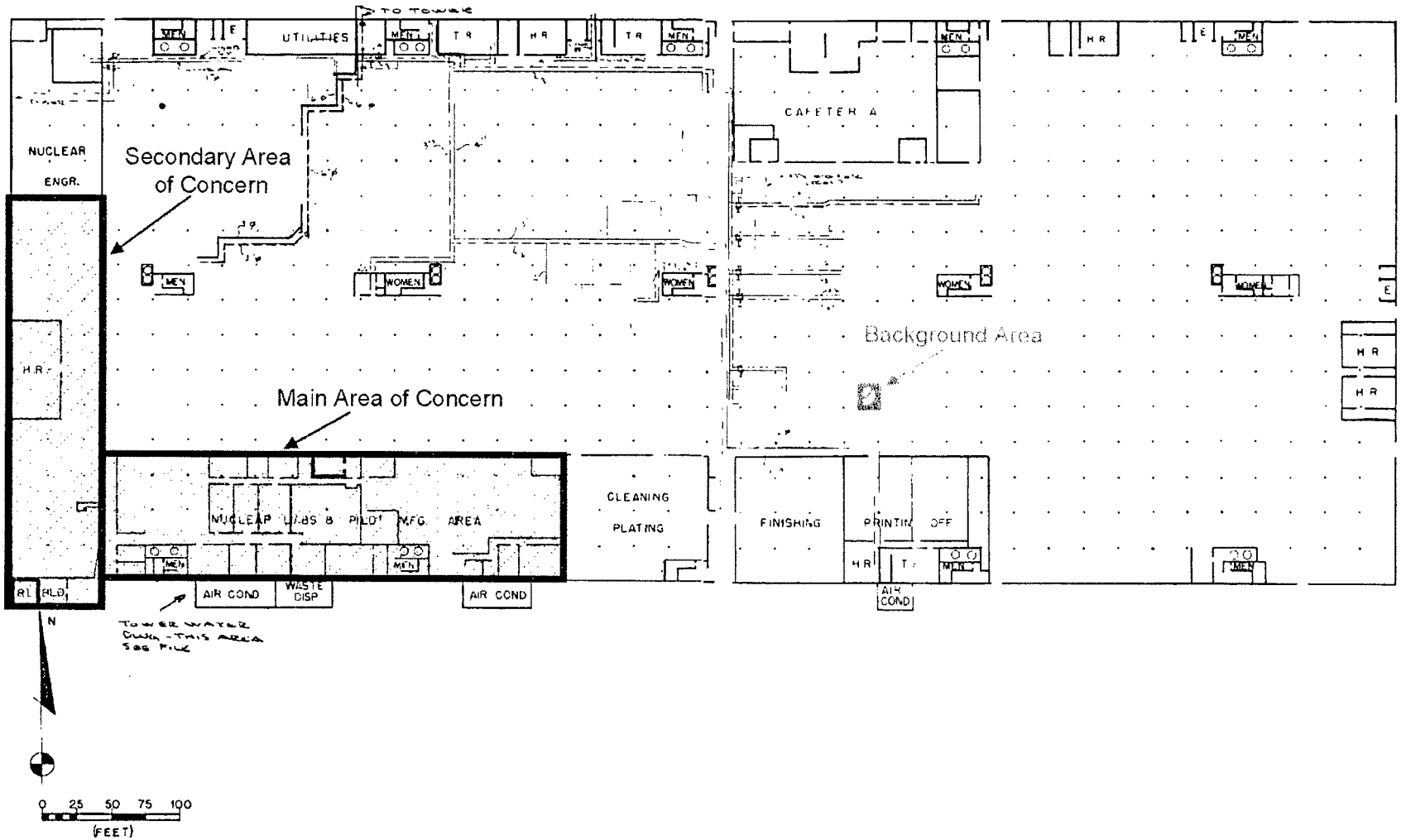
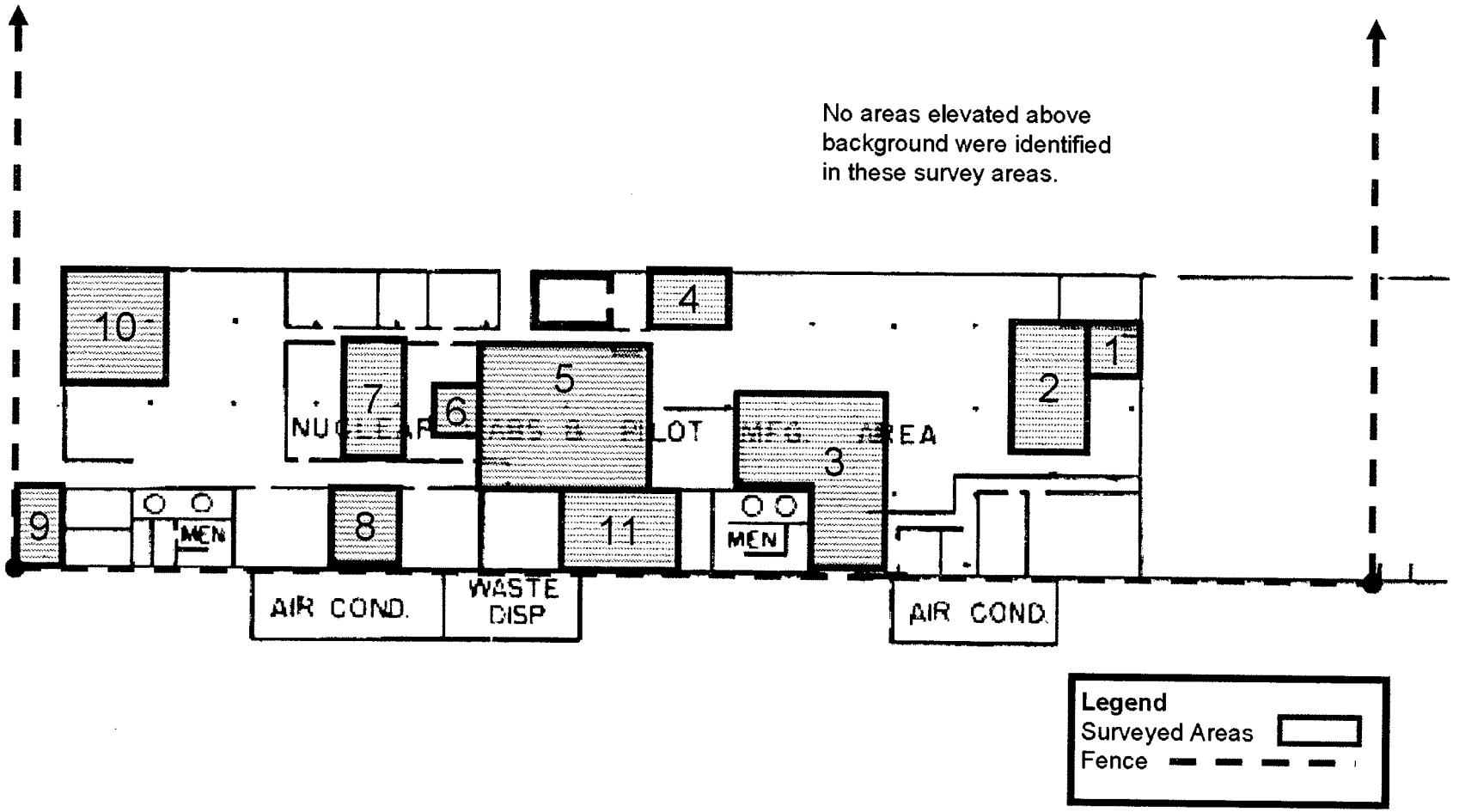


Figure 2 Middle River Radiological Survey – Building D
Alpha and Beta Survey Areas



Attachment B

Instrument Records

Duratek

CALIBRATION CERTIFICATE

Duratek Instrument Services
628 Gallaher Road
Kingston, TN 37763
Phone: (865) 376-8337
Fax: (865) 376-8331

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION		DETECTOR INFORMATION
Customer Name: Duratek Instrument Services		Manufacturer: Ludlum
Address: 628 Gallaher Rd Kingston, TN 37763		Detector Model: 43-37B
Contact Name: Thomas Scott		Serial Number: 093965
Customer Purchase Order Number: N/A	Work Order Number: 2004-01309	Evaluation Method: Source

DETECTOR EFFICIENCY/RESPONSE/PRECISION INFORMATION

Source Nuclide: Tc^{99}	Serial Number: 069605	Activity (dpm): 25,200	Certification Date: 06/20/96

Parameter	As Found	As Left	Precision Test	CPM
Count 1	6,630	6,630	Count 1 (Heel)	6,657
Count 2	6,658	6,658	Count 2 (Center)	6,584
Count 3	6,372	6,372	Count 3 (Toe)	6,431
Count 4	6,592	6,592	Average	6,557
Count 5	6,656	6,656	Tolerance	±10%
Count 6	6,555	6,555	Pass/Fail	Pass
Average	6,577	6,577		
Background (CPM)	1,031	1,031		
Net Counts	5,546	5,546		
Efficiency	22.0%	22.0%		

Low Sample Activity: Source #: N/A	High Sample Activity: Source #: N/A	Dead Time (DT): N/A	Calibration Constant (CC): N/A

SCALER INFORMATION / **DETECTOR INFORMATION**

Model	Serial Number	Due Date	Background (cpm)	Operating Voltage	Threshold
2221	97799	01/19/05	1,031	1825V	40 = 4mV

Detector Setup Report YES NO √	Barcode Report YES NO √	Voltage Plateau YES √ NO

COMMENTS

Calibrated in accordance with RP-INS-I-245
10 minute background performed
Efficiency performed on contact with 5Ft. cable

STATEMENT OF CERTIFICATION

We Certify that the detector listed above was evaluated for proper operation prior to shipment and that it met all the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology. (We are not responsible for damage incurred during shipment or use of this detector).

Detector Certified By: Mike Paul	Reviewed By: Thomas F. Scott	Date: 1-20-04
Certification Date: 01/20/04		Certification Due: 01/20/05

BACKGROUND PLATEAU 43-37#093965 5FT CABLE 1/19/2004

900	0
950	0
1000	0
1050	1
1100	0
1150	0
1200	2
1250	1
1300	6
1350	4
1400	1
1450	3
1500	6
1550	32
1600	77
1650	175
1700	314
1750	699
1800	1028 → 1825V
1850	1395
1900	106437

BETA PLATEAU TC-99#119715 21,900DPM

1400	6
1450	15
1500	130
1550	698
1600	1822
1650	3072
1700	4468
1750	5502
1800	5961
1850	6268 → 1825V
1900	8923

Thomas G. Scott

1-20-04

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER AUTOMATED ENG & ELECT SERVICES ORDER NO. 206417/276916

Ludlum Measurements, Inc. Model 19 Serial No. 109994

Model Serial No.

Cal. Date 19-Nov-03 Cal Due Date 19-Nov-04 Cal. Interval 1 Year Meterface 202-016

[x] mark [✓] applies to applicable instr. and/or detector IAW mfg. spec. T. 73 °F RH 33 % Alt 708.8 mm Hg

New Instrument Instrument Received [ ] Within Toler. +-10% [ ] 10-20% [✓] Out of Tol. [ ] Requiring Repair [ ] Other-See comments

[✓] Mechanical ck. [✓] Meter Zeroed [ ] Background Subtract [ ] Input Sens. Linearity
[ ] F/S Resp. ck [✓] Reset ck. [ ] Window Operation [✓] Geotropism
[ ] Audio ck. [ ] Alarm Setting ck. [✓] Batt. ck. (Min. Volt) 2.2 VDC
[ ] Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. [✓] Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 900 V Input Sens. 32 mV Det. Oper. V at mV Threshold Dial Ratio = mV

[ ] HV Readout (2 points) Ref./Inst. / V Ref./Inst. / V

COMMENTS:

Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
5000	4000 µR/hr	3800	4000
5000	1000 µR/hr	900	1000
500	400 µR/hr = 70,600 cpm	320	400
500	100 µR/hr	80	100
250	200 µR/hr = 35,100 cpm	160	200
250	100 µR/hr	85	100
50	7060 cpm	32	40
50	1770 cpm	8	10
25	3510 cpm	16	20
25	878 cpm	4	5

*Uncertainty within ± 10% C.F. within ± 20%

50, 25 **Range(s) Calibrated Electronically**

Digital Readout: REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*	Log Scale: REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*

Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. Calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

7 Gamma S/N [ ] 1162 [ ] G112 [✓] M565 [ ] 5105 [ ] T1008 [ ] T879 [ ] E552 [ ] E551 [ ] Neutron Am-241 Be S/N T-304

[ ] Alpha S/N [ ] Beta S/N [ ] Other

m 500 S/N 189509 [ ] Oscilloscope S/N [✓] Multimeter S/N 80820360

Calibrated By: Date 19-NOV-03

Reviewed By: Date 19 NOV 03

Automated Engineering & Electronic Services Inc.

AEES Inc. 165 Deer Run Ridge Road Kingston TN 1-865-376-0229 www.aeesinc.com

Calibration Certificate

Received Within Tolerance

Instrument Model No. 2221 **Instrument Serial No.** 81301 **Misc1** EDI **Misc2** MB

Battery Check ☑ Batt.Voltage: 5.9

Scale Range Testing

Test Range	As Found 100	As Found 200	As Found 400	As Left 100	As Left 200	As Left 400
1	100	200	400	100	200	400
10	1000	2000	4000	1000	2000	4000
100	10000	20000	40000	10000	20000	40000
1000	100000	200000	400000	100000	200000	400000
10000						

High Voltage Test

Test Point	As Found	As Left
500	505	505
1000	991	991
1500	1491	1491
2000	1995	1995

Logarithmic Meter Test

Range	1	10	100	1000
As Found	400	3750	40000	360000
As Left	400	3750	40000	360000

Time Tests

Test Point	Count Results
0.1	100
0.2	200
0.5	500
1	1000
2	2000
5	5000

Time base testing default = 1000 CPM

Functional Tests

- ☑ Fast/Slow
- ☑ Reset
- ☑ Lights
- ☑ Zero Push
- ☑ Count Push
- ☑ Hold Push
- ☐ Thermo Dynamic
- ☑ Geotropism
- ☑ HV Push Button
- ☐ Over Range
- ☐ Alarm Ack

Electronic Checks / Set Points

	As Found	As Left
Mechanical Zero:	0	0
High Voltage:	685	800
Threshold 1	7.5	10
Threshold 2	na	na
Threshold 3:	na	na
Over Load	na	na

Audio Tests

- ☑ AudioTest
- ☑ Audio Divide
- ☑ Audio Volume
- ☐ Audio Alarm
- ☑ HeadPhone

Parts Replaced during Calibration and or Repair.

Calibration Date: 8/1/03 Cal Cycle / Months 12

Calibration Due Date: 8/1/04

Calibrated By: K Murphy

Signature: Ken Murphy

Remarks: ESV #917231 Due 3-3-04

Automated Engineering & Electronic Services Inc.

AEES Inc. 165 Deer Run Ridge Road Kingston TN 1-865-376-0229 www.aeesinc.com

Calibration Certificate

Received Within Tolerance

Instrument Model No. Surveyor M Instrument Serial No. C926B Misc1 EDI Misc2 MB

Battery Check ☑ Batt.Voltage: Good

Scale Range Testing

Test Range	As Found 200	As Found 400	As Found 800	As Left 200	As Left 400	As Left 800
1	200	400	800	200	400	800
10	2000	4000	8000	2000	4000	8000
100	20000	40000	80000	20000	40000	80000
1000	200000	400000	800000	200000	400000	800000
10000						

High Voltage Test

Test Point	As Found	As Left
500	500	500
1000	1000	1000
1500	1500	1500
2000	1950	1950

Logarithmic Meter Test

Range	1	10	100	1000
As Found	0	0	0	0
As Left	0	0	0	0

Time Tests

Test Point	Count Results
0.1	100
1	1000
10	10000
0	0
0	0
0	0

Time base testing default = 1000 CPM

Functional Tests

- ☑ Fast/Slow
- ☑ Reset
- ☐ Lights
- ☐ Zero Push
- ☑ Count Push
- ☐ Hold Push
- ☐ Thermo Dynamic
- ☑ Geotropism
- ☐ HV Push Button
- ☐ Over Range
- ☐ Alarm Ack

Electronic Checks / Set Points

	As Found	As Left
Mechanical Zero:	0	0
High Voltage:	900	900
Threshold 1	10	10
Threshold 2	na	na
Threshold 3:	na	na
Over Load	na	na

Audio Tests

- ☐ AudioTest
- ☐ Audio Divide
- ☐ Audio Volume
- ☐ Audio Alarm
- ☐ HeadPhone

Parts Replaced during Calibration and or Repair.

Calibration Date: 8/1/03 Cal Cycle / Months 12

Calibration Due Date: 8/1/04

Calibrated By: K Murphy

Signature: Ken Murphy

Remarks: ESV #917231 Due 3-3-04

Automated Engineering & Electronic Services Inc.

AEES Inc. 165 Deer Run Ridge Road Kingston TN 1-865-376-0229 www.aeesinc.com

Calibration Certificate

Probe Model No. 44-9 **Probe Serial No.** 000251 **Misc1** EDI **Misc2** MB

Probe Type

☐ Proportional Flow Rate / LPM 0 ☐ Scintillation ☑ Geiger Mulller

Detector Mode Operating Voltage

Gross Mode Operating Voltage Alpha / Beta Operating Voltage GM HV Set @ 900

Thresholds MV

Threshold 1	35
Threshold 2	0
Threshold 3	0
Window Set @	0

Cable Length: 5 feet
Area: 15.5 cm sq.
Dead Time: 1 uSec
Temp: 78 F. RH 78 %
Pressure 762 mm/hg

☐ **LinearityTest**

Heel: Mid: Toe:
0 0 0
Uniformity:(%)

Other Tests

☐ Repairs Required
☐ CHI sq
☐ Control Chart

Source Calibrations **Results In:** Efficiency

Source 1 SN. 0438 MInutes
Background 212 Count Time: 5 cpm: 42.4
Source Count: 13229 Count Time: 5 cpm: 2645.8
Net Counts: 2603.4 Results **11.89**

Source 2 SN. 0439 Minutes
Background 212 Count Time: 5 cpm: 42.4
Source Count: 19403 Count Time: 5 cpm: 3880.6
Net Counts: 3838.2 Results **29.04**

Source 3 SN. 0 MInutes
Background 0 Count TIme: 0 cpm: 0
Source Count: 0 Count Time: 0 cpm: 0
Net Counts: 0 Results **0**

Source 4 SN. 0 Minutes
Background 0 Count Time: 0 cpm: 0
Source Count: 0 Count Time: 0 cpm: 0
Net Counts: 0 Results **0**

Plateau Data

HV	Background Plot			Source Plot #1			Source Plot #2		
	Alpha	Beta	Gross	Alpha	Beta	Gross	Alpha	Beta	Gross

Source Data

	Type	Serial#	Activity	Units	Cal Due Date
Source 1	TC-99	0438	21900	DPM	3/11/06
Source 2	SRY-90	0439	15900	DPM	3/11/06
Source 3					
Source 4					

Callbration Date: 8/1/03 Cal Cycle / Months 12
Callbration Due Date: 8/1/04
Calibrated By:: K Murphy
Signature: Ken Murphy
Remarks:

Automated Engineering & Electronic Services Inc.

AEES Inc. 165 Deer Run Ridge Road Kingston TN 1-865-376-0229 www.aeesinc.com

Calibration Certificate

Probe Model No. 43-5 **Probe Serial No.** 018081 **Misc1** EDI **Misc2** MB

Probe Type

☐ Proportional Flow Rate / LPM 0 ☑ Scintillation ☐ Geiger Mulller

Detector Mode Operating Voltage

Gross Mode Operating Voltage 800 Alpha / Beta Operating Voltage GM HV Set @ 0

Thresholds MV

Threshold 1	10
Threshold 2	0
Threshold 3	0
Window Set @	0

Cable Length: 5 feet
Area: 50 cm sq.
Dead Time: 1 uSec
Temp: 78 F. RH 78 %
Pressure 762 mm/hg

☐ **LinearityTest**

Heel: Mid: Toe:
0 0 0
Uniformity:(%)

Other Tests

☐ Repairs Requlred
☐ CHI sq
☐ Control Chart

Source Calibrations **Results In:** Efficiency

Source 1 SN. 0440 Minutes
Background 8 Count Time: 5 cpm: 1.6
Source Count: 10552 Count Time: 5 cpm: 2110.4
Net Counts: 2108.8 Results **10.99**

Source 2 SN. 0 Minutes
Background 0 Count Time: 0 cpm: 0
Source Count: 0 Count Time: 0 cpm: 0
Net Counts: 0 Results **0**

Source 3 SN. 0 Minutes
Background 0 Count Time: 0 cpm: 0
Source Count: 0 Count Time: 0 cpm: 0
Net Counts: 0 Results **0**

Source 4 SN. 0 Minutes
Background 0 Count Time: 0 cpm: 0
Source Count: 0 Count Time: 0 cpm: 0
Net Counts: 0 Results **0**

Plateau Data

HV	Background Plot			Source Plot #1			Source Plot #2		
	Alpha	Beta	Gross	Alpha	Beta	Gross	Alpha	Beta	Gross
500			0			0			
550			0			0			
600			0			62			
650			0			1338			
700			3			1951			
750			2			2089			
800			0			2159			
850			0			2131			
900			0			2176			
950			6			2228			
1000			525			2503			

Source Data

	Type	Serial#	Activity	Units	Cal Due Date
Source 1	TH230	0440	19200	DPM	3/11/06
Source 2					
Source 3					
Source 4					

Calibration Date: 8/1/03 Cal Cycle / Months 12

Calibration Due Date: 8/1/04

Callbrated By:: K Murphy

Signature: Ken Murphy

Remarks:

Automated Engineering & Electronic Services Inc.

AEES Inc. 165 Deer Run Ridge Road Kingston TN 1-865-376-0229 www.aeesinc.com

Calibration Certificate

Received Within Tolerance

Instrument Model No. 2221 Misc1 EDI

Instrument Serial No. 81328 Misc2

Battery Check ☑ Batt.Voltage: 6.1

Scale Range Testing

Test Range	As Found 100	200	400	As Left 100	200	400
1	100	200	400	100	200	400
10	1000	2000	4000	1000	2000	4000
100	10000	20000	40000	10000	20000	40000
1000	100000	200000	400000	100000	200000	400000
10000						

Logarithmic Meter Test

Range	1	10	100	1000
As Found	375	3750	37500	400000
As Left	375	3750	37500	400000

High Voltage Test

Test HV	As Found	As Left
500	518	518
1000	1005	1005
1500	1509	1509
2000	2011	2001

Time Tests

Default testing at 1000 cpm

Test Point	Count Results
0.1	100
0.2	200
0.5	500
1	1000
2	2000
5	4998

Functional Tests Performed

- ☑ Fast/Slow
- ☑ Reset
- ☑ Lights
- ☑ Zero Push
- ☑ Count Push
- ☑ Hold Push
- ☐ Thermo Dynamic
- ☑ Geotropism
- ☑ HV Push Button
- ☐ Over Range
- ☐ Alarm Ack

Audio Tests

- ☑ AudioTest
- ☑ Audio Divide
- ☑ Audio Volume
- ☐ Audio Alarm
- ☑ HeadPhone

Electronic Checks / Set Points

	As Found	As Left
Mechanical Zero:	0	0
High Voltage:	930	1825
Threshold 1	35	4
Threshold 2	na	na
Threshold 3:	na	na
Over Load	na	na

Callbration Date: 3/11/04 Cal Cycle / Months 12

Calibration Due Date: 3/11/05

Calibrated By: K Murphy

Signature: Ken Murphy

Remarks: ESV #917231

Probe Model No. 43-37 Misc1 EDI

Probe Serial No. 093965 Misc2 Duratel Lease

☑ Prop Flow Rate/LPM 50 ☐ Scintillation ☐ Geiger Muller

Gross Mode Op Voltag 1825 Alpha / Beta Op Volta GM HV @ 0

Thresholds MV

Thld 1	4
Thld 2	0
Thld 3	0
Window	0

Cable Length: 5 feet

Area: 500 cm sq.

Dead Time: 1 uSec

Temp: na F. RH: na %

Pressure na mmhg

☐ Repairs Required

☐ CHI sq ☐ Control Chart

☐ LinearityTest

Heel: Mid: Toe:

0 0 0

Uniformity: (%)

Source 1 SN.	0440	Minutes		Results In:	Efficiency
Background	87	Count Time:	5	cpm:	13.4
Source Count:	14078	Count Time:	5	cpm:	2815.6
Net Counts:	2802.2			Results:	14.60
Source 2 SN.	0438				
Background	5415	Count Time:	5	cpm:	1083
Source Count:	27199	Count Time:	5	cpm:	5439.8
Net Counts:	4356.8			Results:	19.89
Source 3 SN.	0439				
Background	5415	Count Time:	5	cpm:	1083
Source Count:	30629	Count Time:	5	cpm:	6125.8
Net Counts:	5042.8			Results:	38.75
Source 4 SN.	0				
Background	0	Count Time:	0	cpm:	0
Source Count:	0	Count Time:	0	cpm:	0
Net Counts:	0			Results:	0

Remarks: Efficiency data only. See calibration records from Duratek for HV Cals. Alpha HV @ 1350, Beta @ 1825 V.

HV	Background Plot			Source Plot #1			Source Plot #2		
	Alpha	Beta	Gross	Alpha	Beta	Gross	Alpha	Beta	Gross

Source Data	Type	Serial#	Activity	Units	Cal Due Date
Source 1	TH230	0440	19200	DPM	3/11/06
Source 2	TC-99	0438	21900	DPM	3/11/06
Source 3	SRY-90	0439	15900	DPM	3/11/06
Source 4					

Floor Monitor **Portable Instrument Check Log Sheet**

Alpha Frisker switched to Floor Monitor 3/18/04

Instrument Type: Ludlum 2221 Instrument Number: 81301 Cal.Date: 8-1-03

Radiation Detector Type: (α) β-γ γ Cal. Due: 8-1-04

Date/Time	Source Check	Battery Check	Condition	Zero	Bkgd.	Initials
17 March 04 10:45	Sat. (Unsat.)	(Sat.) Unsat. 5.9 V	(Sat.) Unsat. HV = 835 V	Sat. Unsat. (N/A)	Not Recorded	(JKB)
18 March 04 0855 (DAB)	(Sat.) Unsat. IK = 630 β = 810	(Sat.) Unsat. 5.8 V	(Sat.) Unsat. HV = 1908 V	Sat. Unsat. N/A		(JKB)
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
18 March 04 Ludlum 43-37 Serial 093965	(Sat.) Unsat.	Sat. Unsat. (N/A)	(Sat.) Unsat.	Sat. Unsat. (N/A)	NA	(JKB)
Cal 1-20-04 Due 1-20-05	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
17 March 04 Probe Ludlum 43-5	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
Serial 018081 Cal 8-1-03 HV @ 900 V	Sat. (Unsat.)	Sat. Unsat. (N/A)	(Sat.) Unsat.	Sat. Unsat. (N/A)	NA	(JKB)

Th-230 = 10.99% efficiency

Reviewed By: LB Date: 3/22/04

Portable Instrument Check Log Sheet

Instrument Type: Ludlum Model 19 Instrument Number: 109994 Cal.Date: 11-19-03

Radiation Detector Type: α β-γ (γ) Cal. Due: 11-19-04

Date/Time	Source Check	Battery Check	Condition	Zero	Bkgd.	Initials
18 March 04 1430	Sat. Unsat. (NA)	(Sat.) Unsat.	(Sat.) Unsat.	Sat. Unsat. (N/A)	4 μR/hr	[illegible]
19 March 04 0950	Sat. Unsat. (NA)	(Sat.) Unsat.	(Sat.) Unsat.	Sat. Unsat. (N/A)	3 μR/hr	[illegible]
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		

Reviewed By: LB Date: 3/22/04

Portable Instrument Check Log Sheet

Instrument Type: Bicron Surveyor Instrument Number: C926B Cal.Date: 8-1-03

Radiation Detector Type: α β-γ γ Cal. Due: 8-1-04

Date/Time	Source Check	Battery Check	Condition	Zero	Bkgd.	Initials
17 March 04 10:30	Sat. Unsat. Offscale	Sat. Unsat. ≈900V	Sat. Unsat.	Sat. Unsat. N/A	40cpm	[illegible]
18 March 04 0900	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A	35cpm	[illegible]
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
Probe W/ Bicron	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
Model 44-9 Serial 000251 Cal 8-1-03	Sat. Unsat.	Sat. Unsat. N/A	Sat. Unsat.	Sat. Unsat. N/A	NA	[illegible]

Tc-99 = 11.89% Sr-90 = 29.04%

Reviewed By: LB Date: 3/22/04

Attachment 1

HP-10

Do NOT USE
Floor Monitor

Portable Instrument Check Log Sheet

Instrument Type: Ludlum 2221 Instrument Number: 81328 Cal.Date: 3-11-04

Radiation Detector Type: (α) β-γ γ (β) Cal. Due: 3-11-05

Date/Time	Source Check	Battery Check	Condition	Zero	Bkgd.	Initials
17 March 04 11:30	(Sat.) Unsat. α + β	(Sat.) Unsat. 6.1 V	(Sat.) Unsat. Dent	Sat. Unsat. (N/A)	HV = 1835 V 5000 cpm	[initials]
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
17 March 04 Probe	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		
Ludlum 43-37 Serial 093965	(Sat.) Unsat. α + β	Sat. Unsat. (NA)	(Sat.) Unsat.	Sat. Unsat. (N/A)	NA	[initials]
Cal 1-20-04 Cal Due 1-20-05	Sat. Unsat.	Sat. Unsat.	Sat. Unsat.	Sat. Unsat. N/A		

Reviewed By: LB Date: 3/22/04

Attachment 1

Attachment C

Photographs

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 1

Date: March 17, 2004

Direction: Northeast

Comments: The view of the northeast corner of the lot from the south gate to D Lot. The foreground concrete slab is the old parking area and the building foundation is beyond the small grassy areas. The small portion of the slab where tractor-trailers were parked was not surveyed during the gamma walkover survey.

Photo No.: 2

Date: March 17, 2004

Direction: Northeast

Comments: The view of the southeast corner of the lot from the south gate of D Lot. The foreground concrete slab is the old parking area and the building foundation is to the left of the small grassy areas.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

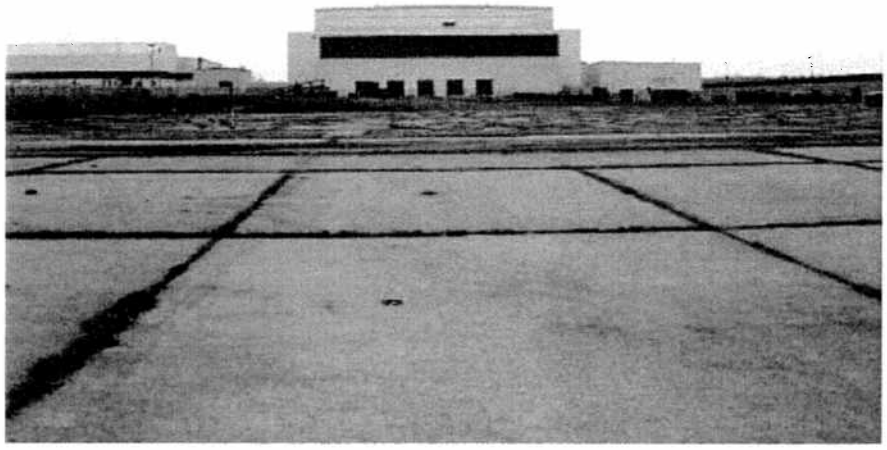


Photo No.: 3

Date: March 17, 2004

Direction: North

Comments: The view of the north area of the foundation slab from the south gate of D Lot. The foreground concrete slab is the old parking area and the building foundation is beyond the small grassy areas.

Photo No.: 4

Date: March 17, 2004

Direction: Northwest

Comments: The view of the northwest area of the foundation slab from the south gate of D Lot. The foreground concrete slab is the old parking area and the building foundation is along the fence line to the left.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 5

Date: March 17, 2004

Direction: Northwest

Comments: The view of the southwest area of the foundation slab from the south gate of D Lot. The foreground concrete slab is the old parking area and the building foundation is along and beyond the fence.

Photo No.: 6

Date: March 17, 2004

Direction: North

Comments: The view northward from the southwest corner of the foundation slab. This is the secondary area of concern where radiological operations were known to occur. Beta and alpha measurements were not possible in this area because the slab was not dry. A gamma walkover survey was performed of this area and the observations were consistent with background readings.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

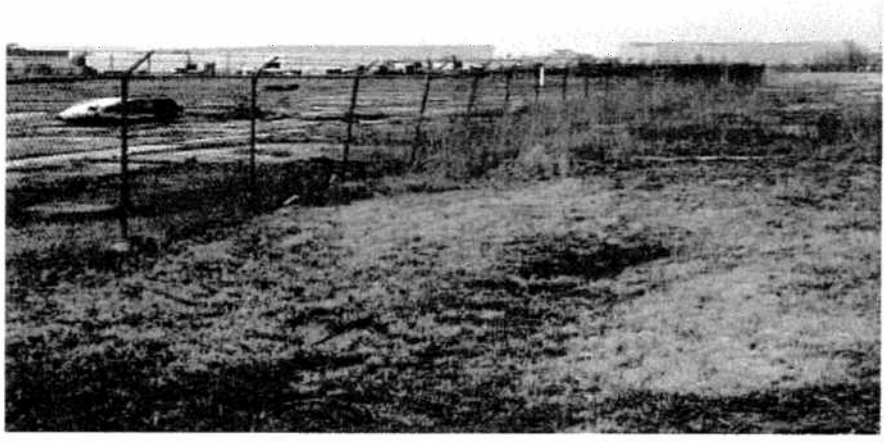


Photo No.: 7

Date: March 17, 2004

Direction: East

Comments: The view of the foundation slab from the southwest corner of the foundation slab. The main area of concern is just on the other side of the fence.

Photo No.: 8

Date: March 17, 2004

Direction: South

Comments: The view of the south gate of D Lot from the background area.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 9

Date: March 17, 2004

Direction: Southeast

Comments: A view of the background area, with the corners marked with white paint.

Photo No.: 10

Date: March 17, 2004

Direction: West

Comments: The view of the main area of concern from the background area. The gamma walkover survey of the bricked area near the fence had slightly elevated readings compared to background. The contact exposure rate was 6 to 7 μR/hr and the background rate was 3 to 5 μR/hr.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 11

Date: March 17, 2004

Direction: East

Comments: The view of the northeast corner of the slab from the middle of the foundation slab at the north edge.

Photo No.: 12

Date: March 17, 2004

Direction: West

Comments: The view of the northwest corner of the slab from the middle of the foundation slab at the north edge. The gamma walkover survey of the grassy area in the left foreground of the picture had slightly elevated readings compared to background. The contact exposure rate was 7 to 8 μR/hr and the background rate was 4 to 5 μR/hr.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 13

Date: March 17, 2004

Direction: South

Comments: The view of the slab looking south from the middle of the foundation slab at the north edge.

Photo No.: 14

Date: March 17, 2004

Direction: South

Comments: The view looking south from the northeast corner of the main area of concern.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 15

Date: March 17, 2004

Direction: Southwest

Comments: Pictured is the spray painting of the 5-foot grid on the main area of concern.

Photo No.: 16

Date: March 17, 2004

Direction: West

Comments: Pictured is the grid on the main area of concern.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 17

Date: March 17, 2004

Direction: North

Comments: The view looking north from the northeast corner of the main area of concern.

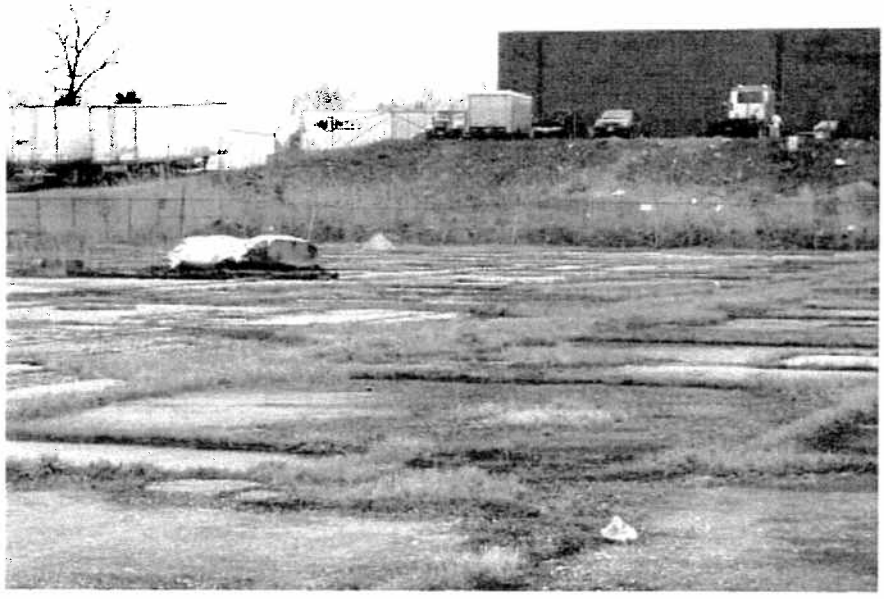


Photo No.: 18

Date: March 17, 2004

Direction: West

Comments: The view of the main area of concern from the northeast corner of the main area of concern.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

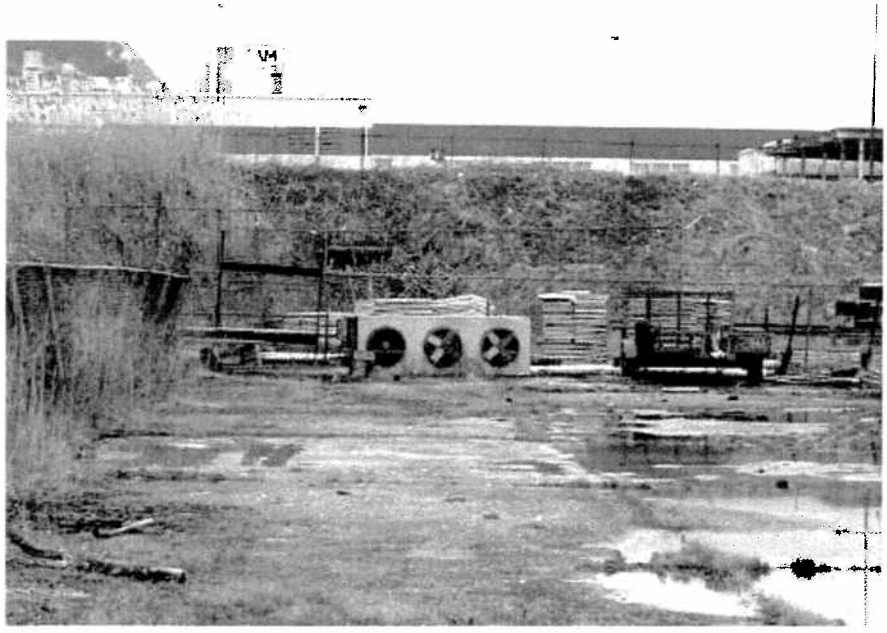


Photo No.: 19

Date: March 17, 2004

Direction: North

Comments: The view looking north from the northwest corner of the main area of concern. The tunnel is visible beyond the fence just to the left of the middle of the picture. Brush and debris are blocking the entrance to the tunnel. The secondary area of concern is on the other side of the fence to the left of the photograph.

Photo No.: 20

Date: March 17, 2004

Direction: South

Comments: A close-up view of the southwest corner of the main area of concern from the northwest corner of the main area of concern. The secondary area of concern is on the other side of the fence to the right of the photograph.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 21

Date: March 17, 2004

Direction: East

Comments: The view east from the northwest corner of the main area of concern. The majority of the main area of concern is pictured.

Photo No.: 22

Date: March 17, 2004

Direction: Northeast

Comments: The view northeast from the northwest corner of the main area of concern.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

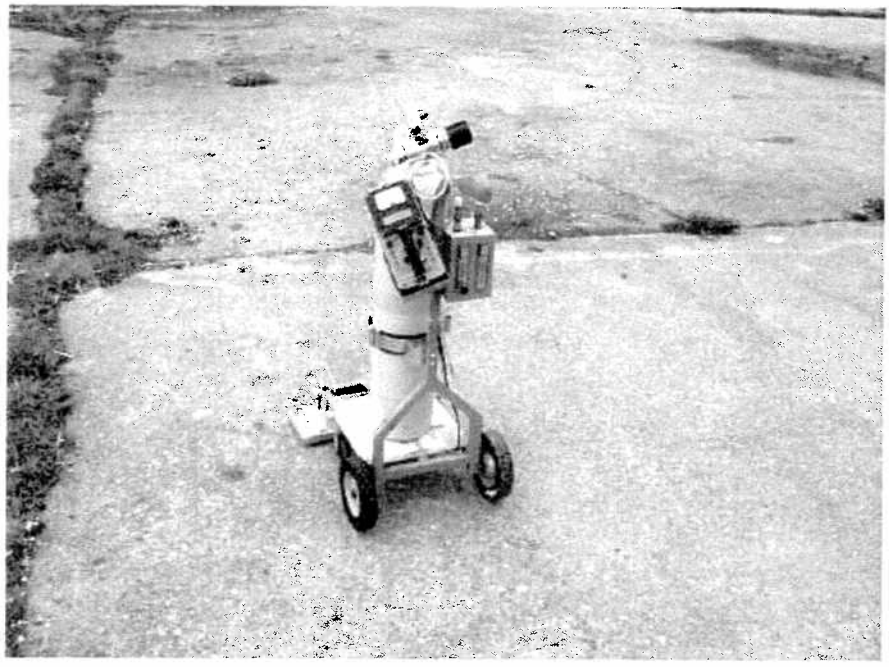


Photo No.: 23

Date: March 17, 2004

Direction: South

Comments: The floor monitor is pictured from behind. The detector is in front of the cart. The radiation detection meter and flow meters are located in the back of the cart.

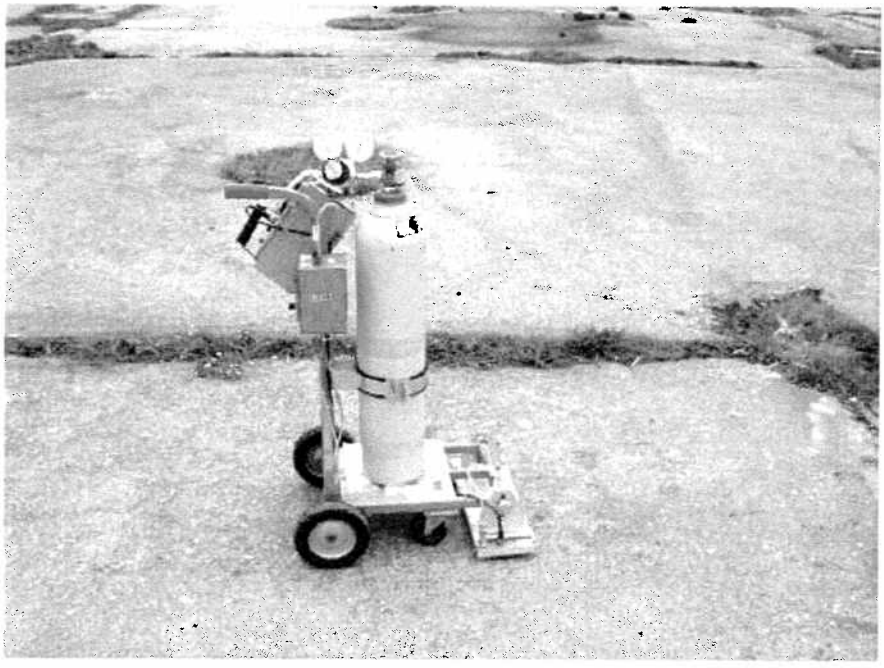


Photo No.: 24

Date: March 17, 2004

Direction: West

Comments: The floor monitor is pictured from the side with the regulator and P-10 gas bottle. The detector is located in the front of the cart.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 25

Date: March 18, 2004

Direction: North

Comments: The floor monitor is pictured while taking a static measurement of the background in the background area.

Photo No.: 26

Date: March 18, 2004

Direction: South

Comments: Many of the individual slabs of the foundation slab in the main area of concern were deteriorating. Grass was growing in the middle of many of the individual slabs that had crumbled. Areas like this could not be surveyed with the floor monitor.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

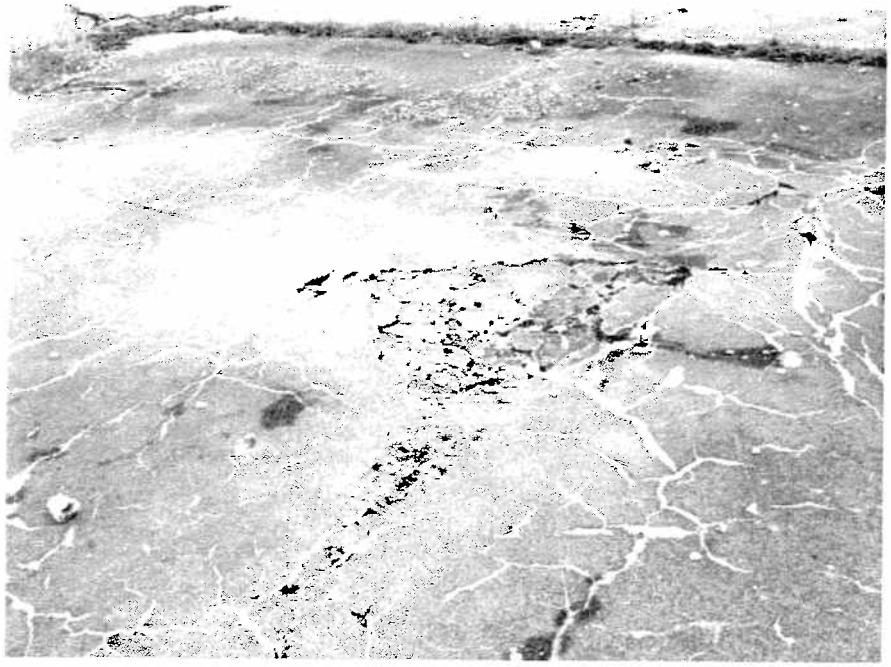


Photo No.: 27

Date: March 18, 2004

Direction: South

Comments: Many of the individual slabs of the foundation slab in the main area of concern were starting to crumble. The top few centimeters of this slab were "puffed" and would crumble if stepped on. Areas like this could not be surveyed with the floor monitor.

Photo No.: 28

Date: March 18, 2004

Direction: South

Comments: Many of the individual slabs of the foundation slab in the main area of concern were deteriorating from the edges in. The solid portion of this slab could be surveyed with the floor monitor.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 29

Date: March 18, 2004

Direction: West

Comments: Many pallets and other debris were present in the main area of concern. The gamma walkover survey of this area was as close as conditions allowed.

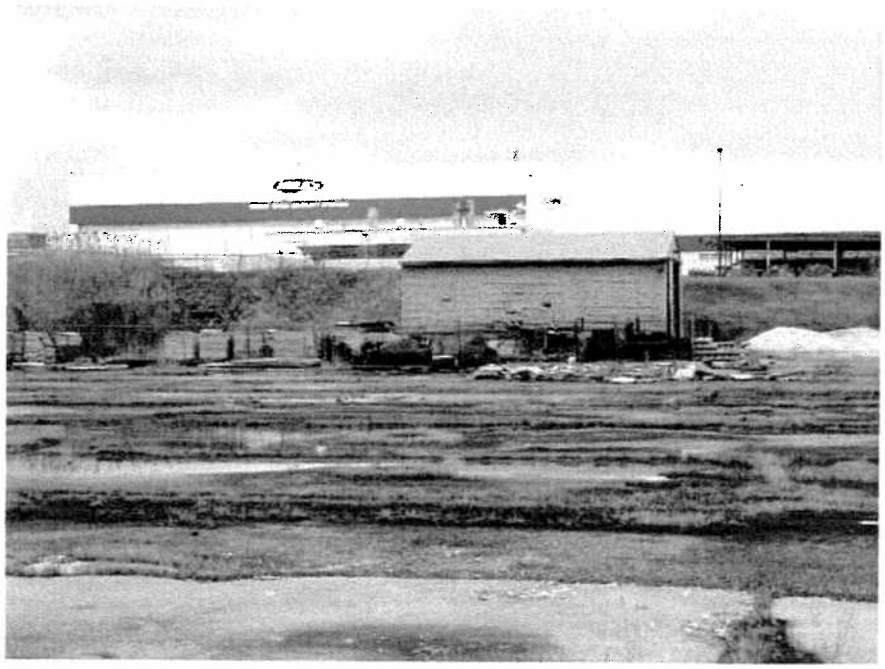


Photo No.: 30

Date: March 18, 2004

Direction: North

Comments: The view of the northwest corner of the slab from the middle of the main area of concern. The shed apparently contained sand or salt for adverse weather conditions. Other building materials and debris were located in this area. This area was not surveyed during the gamma walkover survey.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

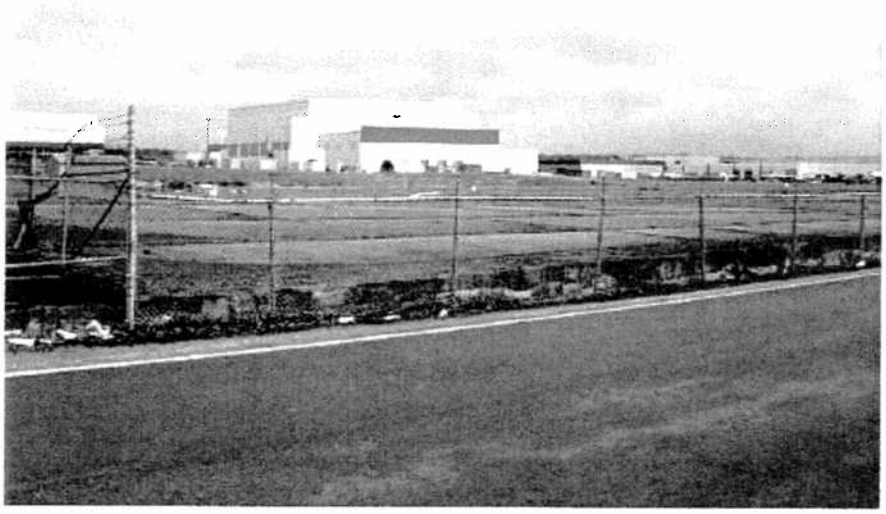


Photo No.: 31

Date: March 19, 2004

Direction: Northeast

Comments: The view of all of D Lot from outside of the southwest corner of the gate.

Photo No.: 32

Date: March 19, 2004

Direction: West

Comments: The view of all of D Lot from outside of the eastern side of the fence.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 33

Date: March 19, 2004

Direction: North

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 1. Measurements elevated above background were not observed.

Photo No.: 34

Date: March 19, 2004

Direction: North

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 2. Measurements elevated above background were not observed.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

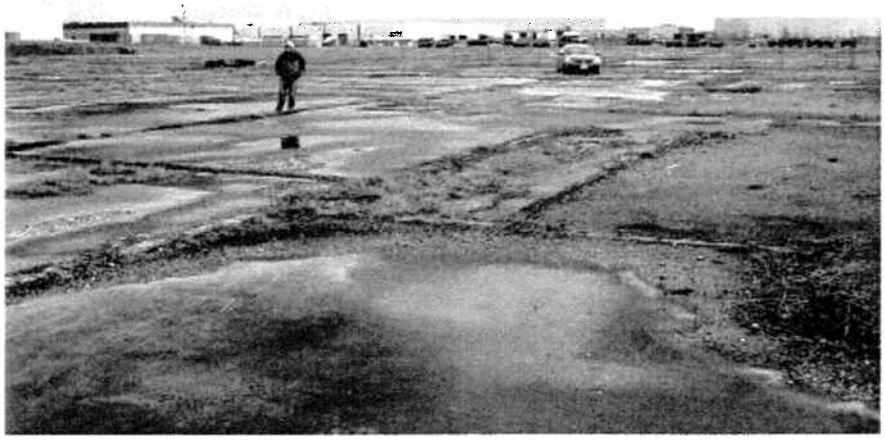


Photo No.: 35

Date: March 19, 2004

Direction: Northeast

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 3. Measurements elevated above background were not observed.

Photo No.: 36

Date: March 19, 2004

Direction: West

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 11. Measurements elevated above background were not observed.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 37

Date: March 19, 2004

Direction: North

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 5. Measurements elevated above background were not observed.

Photo No.: 38

Date: March 19, 2004

Direction: West

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 6. Measurements elevated above background were not observed.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 39

Date: March 19, 2004

Direction: North

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 4. Measurements elevated above background were not observed.

Photo No.: 40

Date: March 19, 2004

Direction: North

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 7. Measurements elevated above background were not observed.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 41

Date: March 19, 2004

Direction: West

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 8. Measurements elevated above background were not observed.

Photo No.: 42

Date: March 19, 2004

Direction: West

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 9. Measurements elevated above background were not observed.

LOCKHEED MARTIN MIDDLE RIVER FACILITY
PHOTOGRAPHIC RECORD
"D" LOT RADIOLOGICAL SURVEY

Photo No.: 43

Date: March 19, 2004

Direction: North

Comments: This area was surveyed with the floor monitor for alpha and beta contamination, and designated as Area 10. Measurements elevated above background were not observed.