AFRL-SA-WP-TR-2024-0009

Interim Report, Missile Community Cancer Study, Malmstrom Air Force Base, Round 3 Results

Lt Col Scott M. Boyd
Occupational & Environmental Health Department

Report Date
19 September 2024

DISTRIBUTION STATEMENT A. Clearance number is AFRL-2024-4935. Approved for public release: distribution is unlimited. 19 September 2024. Other requests shall be referred to DCPH-D/OEC, 2510 Fifth St., Bldg. 840, Wright-Patterson AFB, OH 45433-7913.

Date of Determination: 19 September 2024
Air Force Research Laboratory 711th Human Performance Wing
U.S. Air Force School of Aerospace Medicine
Occupational & Environmental Health
2510 Fifth Street, Bldg. 840
Wright-Patterson AFB, OH 45433-7913

NOTICE AND SIGNATURE PAGE

Using Government drawings, specifications, or other data included in this document for any purpose other than Government procurement does not in any way obligate the U.S. Government. The fact that the Government formulated or supplied the drawings, specifications, or other data does not license the holder or any other person or corporation; or convey any rights or permission to manufacture, use, or sell any patented invention that may relate to them.

Qualified requestors may obtain copies of this report from the Defense Technical Information Center (DTIC) (http://www.dtic.mil).

AFRL-SA-WP-TR-2024-0009 has been reviewed and is approved for publication in accordance with assigned distribution statement.

BOYD.SCOTT.M.1298312030 Digitally signed by BOYD.SCOTT.M.1298312030 Date: 2024.09.26 12:26:25 -04'00'

SCOTT M. BOYD, Lt Col, USAF, BSC
Chief Consulting Executive, Occupational & Environmental Health Department

RENTES.JOANNA.LYNNE.1012419585 Digitally signed by RENTES.JOANNA.LYNNE.1012419585 Date: 2024.09.26 18:15:50 -04'00'

JOANNA L. RENTES, Col, USAF, BSC
Chair, Occupational & Environmental Health Department

This report is published in the interest of scientific and technical information exchange and its publication does not constitute the Government's approval or disapproval of its ideas or findings.

REPORT DOCUMENTATION PAGE

PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED	
19 Sep 2024	CONSULTATIVE LETTER	START DATE 8 Apr 2024	END DATE 15 Apr 2024

4. TITLE AND SUBTITLE
Interim Report, Missile Community Cancer Study, Malmstrom Air Force Base, Round 3 Results

5a. CONTRACT NUMBER	5b. GRANT NUMBER	5c. PROGRAM ELEMENT NUMBER
5d. PROJECT NUMBER	**5e. TASK NUMBER**	**5f. WORK UNIT NUMBER**

6. AUTHOR(S)
Capt Leigh M. Durden, Occupational and Environmental Health Department

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NUMBER
Air Force Research Laboratory, 711th Human Performance Wing U.S. Air Force School of Aerospace Medicine, Occupational & Environmental Health Department 2510 Fifth Street, Bldg. 840 Wright-Patterson AFB, OH 45433-7913	AFRL-SA-WP-TR-2024-0009

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)	11. SPONSOR/MONITOR'S REPORT NUMBER(S)
Air Force Research Laboratory, 711th Human Performance Wing U.S. Air Force School of Aerospace Medicine, Occupational & Env. Health Dept 2510 Fifth St., Bldg. 840 Wright-Patterson AFB, OH 45433-7913		AFRL-SA-WP-TR-2024-0009

12. DISTRIBUTION/AVAILABILITY STATEMENT
DISTRIBUTION A. Clearance number is AFRL-2024-4935. Approved for public release: distribution is unlimited. 19 September 2024. Other requests shall be referred to DCPH-D/OEC, 2510 Fifth St., Bldg. 840, Wright-Patterson AFB, OH 45433-7913.

13. SUPPLEMENTARY NOTES

14. ABSTRACT
At the request of the Air Force Global Strike Commander (AFGSC/CC), the United States Air Force School of Aerospace Medicine (USAFSAM) Defense Centers for Public Health-Dayton (DCPH-D) Occupational and Environmental Health Department Consultative Services Division (OEC) performed an environmental health survey for all fifteen Missile Alert Facilities (MAFs) at Malmstrom AFB, Montana. The purpose of this environmental health survey was to assess elevated cancer concerns within the Air Force missile community by characterizing and documenting potential exposures to environmental hazards in the MAFs. Round 3 occurred from 8 April to 15 April 2024 and built upon Rounds 1 and 2 environmental health surveys which occurred from 20 to 30 June 2023 and 29 October to 9 November 2023, respectively. Round 3 was executed as part of a three-round surveillance effort to determine seasonal variations associated with potential environmental hazards at MAF locations. Except for Polychlorinated Biphenyl (PCB) swipe and air samples not being collected, Round 3 repeated area air sampling, direct reading instrument (DRI) air monitoring, drinking water sampling, and soil sampling which were conducted in Round 2.

15. SUBJECT TERMS
Missile Community Cancer Study, Malmstrom Air Force Base, Round 3 Results

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES
a. REPORT Unclassified	b. ABSTRACT Unclassified	C. THIS PAGE Unclassified	Unclassified	105

19a. NAME OF RESPONSIBLE PERSON	19b. PHONE NUMBER (Include area code)
Capt Leigh Durden	(937) 938-3297

PREVIOUS EDITION IS OBSOLETE.

STANDARD FORM 298 (REV. 5/2020)
Prescribed by ANSI Std. Z39.18

DEFENSE HEALTH AGENCY
DEFENSE CENTER FOR PUBLIC HEALTH - DAYTON
2510 5TH STREET, BUILDING 840
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-7951

19 September 2024

MEMORANDUM FOR: AFGSC/SGPB
ATTN: Lt Col Raymond Mak

FROM: DCPH-D/OE
2510 Fifth Street, Building 840
WPAFB OH 45433-7913

SUBJECT: Consultative Letter, AFRL-SA-WP-TR-2024-0009, Missileer Cancer Study, Malmstrom Air Force Base (AFB) Round 3 Results

References: (a) Emily C. Arceo, *Technical Guide for Indoor Air Quality Surveys* (OH: Air Force Research Laboratory, 2014), pp 4, 6 & 9.

(b) American Conference of Governmental Industrial Hygienists, *2023 Threshold Limit Values for Chemical Substances and Biological Exposure Indices* (OH: ACGIH, 2023).

(c) American Conference of Governmental Industrial Hygienists, *Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices* (OH: ACGIH, 2001).

(d) William E. Luttrell, Kenneth R. Still, Jeffrey A. Church, and Leslie A. Beyer, *Toxicology Principles for the Industrial Hygienist* (Second Edition) (VA: AIHA, 2019).

(e) Kyoung Jin Kim, Sinyoung Shin, and Jaekyng Choi, *Cancer Risk from Exposure to Particulate Matter and Ozone According to Obesity and Health-Related Behaviors: A Nationwide Population-Based Cross-Sectional Study* (MD: NIH, 2019).

(f) United States Environmental Protection Agency, *Volatile Organic Compounds' Impact on Indoor Air Quality*. (Washington, D.C.: EPA, 2023).

(g) United States Environmental Protection Agency, *Recognition and Management of Pesticide Poisonings (Sixth Edition)* (Washington, D.C.: EPA, 2013), 43.

(h) National Institute of Health, *Organophosphate Insecticide Use and Cancer Incidence Among Spouses of Pesticide Applicators in the Agricultural Health Study*, (MD: 2015).

(i) Agency for Toxic Substances and Disease Registry, *Polychlorinated Biphenyls ToxFAQs* (GA: ATSDR, 2014).

(j) United States Environmental Protection Agency, *Learn About Polychlorinated Biphenyls* (Washington, D.C.: EPA, 2023).

(k) United States Environmental Protection Agency, *PCBs: Cancer Dose-Response Assessment and Application to Environmental Mixtures* (Washington, D.C.: EPA, 1996).

(l) Lin Liu, Zhu Rao, Yuan Wang, Hamidreza Arandiyan, Jie Gong, Ming Liang, and Feng Guo, *Characteristics and Health Risk Assessment of Semi-Volatile Organic Contaminants in Rural Pond Water of Hebei Province* (MD: NIH, 2019).

(m) G. M. Jones and J. A. Vale, *Mechanisms of Toxicity, Clinical Features, and Management of Diquat Poisoning: A Review* (MD: NIH, 2000).

(n) Centers for Disease Control and Prevention, *Facts About Paraquat* (GA: CDC, 2018).

(o) Sue Kyung Park, Daehee Kang, et al, *Cancer Incidence Among Paraquat-Exposed Pesticide Applicators in the Agricultural Health Study* (MD: NIH 2016).

(p) United States Environmental Protection Agency, *Paraquat Dichloride* (Washington, D.C.: EPA, 2023).

(q) United States Environmental Protection Agency, *Learn about Dioxin* (Washington, D.C.: EPA, 2023).

(r) International Agency for Research on Cancer, Dioxin Revisited: Developments Since the 1997 IARC Classification of Dioxin as a Human Carcinogen (FR: IARC, 2004).

(s) Agency for Toxic Substances and Disease Registry, *Chlorinated Dibenzo-p-Dioxins (CDDs)* (GA: ATSDR, 1999).

(t) Agency for Toxic Substances and Disease Registry, *ToxFAQs for Nitrate and Nitrite* (GA: ATSDR, 2017).

(u) Agency for Toxic Substances and Disease Registry, *What are the Health Effects from Exposure to Nitrates and Nitrites* (GA: ATSDR, 2023).

(v) United States Environmental Protection Agency, *Chlorine* (Washington, D.C.: EPA, 2000).

(w) United States Environmental Protection Agency, *National Primary Drinking Standards* (Washington, D.C.: EPA, 2023).

(x) United States Environmental Protection Agency, *What Is pH?* (Washington, D.C.: EPA, 2023).

(y) United States Environmental Protection Agency, *Secondary Drinking Water Standards: Guidance for Nuisance Chemicals* (Washington, D.C.: EPA, 2023).

1. INTRODUCTION

At the request of the Air Force Global Strike Commander (AFGSC/CC), the United States Air Force School of Aerospace Medicine (USAFSAM) Defense Centers for Public Health-Dayton (DCPH-D) Occupational and Environmental Health Department Consultative Services Division (OEC) performed an environmental health survey for all fifteen Missile Alert Facilities (MAFs) at Malmstrom AFB, Montana. The purpose of this environmental health survey was to assess elevated cancer concerns within the Air Force missile community by characterizing and documenting potential exposures to environmental hazards in the MAFs. Round 3 occurred from 8 April to 15 April 2024 and built upon Rounds 1 and 2 environmental health surveys which occurred from 20 to 30 June 2023 and 29 October to 9 November 2023, respectively. Round 3 was executed as part of a three-round surveillance effort to determine seasonal variations associated with potential environmental hazards at MAF locations. Except for Polychlorinated Biphenyl (PCB) swipe and air samples not being collected, Round 3 repeated area air sampling, direct reading instrument (DRI) air monitoring, drinking water sampling, and soil sampling which were conducted in Round 2.

A. Survey Personnel:

(1) Capt Leigh Durden, Environmental Health Consultant, DCPH-D/OEC

(2) SSgt Jose Chavez-Reyes, Occupational & Environmental Health (OEH) Technician, DCPH-D/OEC

B. Malmstrom AFB Personnel: Lt Col Brian Schuler, 341st Operational Medical Readiness Squadron (OMRS) Bioenvironmental Engineering Flight Commander

C. Equipment Used:

(1) TSI Indoor Air Quality (IAQ) Meter: Temperature, humidity, carbon monoxide, carbon dioxide

(2) Forensics Detectors Ozone Meter

(3) HACH DR900 Colorimeter: pH, Total Chlorine, Free Available Chlorine in water

(4) Scientific Kit Corporation (SKC) Air Sampling Pumps

(5) MESA LABS Air Sampling Pump Calibrator

(6) Ancillary equipment including sterile containers, cassettes, tubes, swipes, and other items to facilitate sample collection and analysis

2. BACKGROUND

Following a March 2023 site visit to address cancer concerns in the missileer community, DCPH-D performed the first, second and third rounds of environmental sampling at all MAFs at Malmstrom AFB, Montana. The sampling plan targeted carcinogens which could potentially affect MAF personnel through dermal, ingestion, and inhalation exposure pathways. The survey also included other parameters such as air temperature, relative humidity, carbon dioxide (CO_2), and water potential of hydrogen (pH). The potential health hazards/concerns associated with each carcinogen and the other parameters sampled will be discussed in Section 3: Health Hazard Summary.

The missile squadrons included in this survey at Malmstrom AFB are the 10th, 12th, and 490th each comprised of five MAFs. The 10th Missile Squadron is responsible for MAFs Alpha through Echo, the 12th Missile Squadron is responsible for Foxtrot through Juliet and the 490th Missile Squadron is responsible for Kilo through Oscar. MAFs are of similar construction where the Topside Support Building consists of bedrooms, common areas, offices and a kitchen whereas the Launch Control Center (LCC) is completely underground with access by an elevator. The Launch Control Equipment Building (LCEB) which stores ancillary equipment and generators is also underground and connected to the LCC by a hallway.

When activated, Malmstrom AFB mans the MAFs for twenty-four hours per day, seven days per week, three hundred sixty-five days a year with rotating crews. Each crew works in the MAF seven straight days followed by two weeks in non-MAF locations. The LCCs are periodically deactivated for maintenance.

3. HEALTH HAZARD SUMMARY

This section details the potential health hazards and other parameters measured in the MAFs and LCCs. In addition to carcinogens that can be present in the air, soil and water, the survey also included IAQ parameters such as temperature, relative humidity and carbon dioxide that can indicate comfort levels in a workplace, as well as pH and chlorine in water. All samples were used to characterize and identify potential hazards in the work centers. Organophosphates and diquat/paraquat were sampled due to location/proximity of MAFs on/to agricultural land and historical use.

3.1 INDOOR AIR QUALITY

3.1.1 CARBON MONOXIDE

Carbon monoxide (CO) is an odorless gas that can cause fatigue and drowsiness at low concentrations and nausea, headache, and difficulty breathing at higher concentrations. Carbon monoxide poisoning prevents the body from absorbing enough oxygen and has the potential to lead to unconsciousness, coma and death. The major source of carbon monoxide is the combustion of fuels from equipment inside a building or vehicles running outside nearby the air intake vent of the building (Arceo, 2014). Carbon monoxide is also naturally produced in the human body. People who smoke are vulnerable to increased levels of carbon monoxide within their body. The American Conference of Governmental Industrial Hygienists (ACGIH) established a Threshold Limit Value (TLV) as an 8-hour time-weighted average (TWA) of

twenty-five parts-per-million (25 ppm, or 29 milligrams per cubic meter [29 mg/m^3]) for carbon monoxide (ACGIH, 2023). TLVs are ACGIH health-based recommendations which establish levels of exposures that workers can be exposed to without adverse health effects. The TLV-TWA is the airborne chemical concentration for a conventional eight-hour workday and forty-hour workweek (Ibid, 2023). The TLV-TWA for carbon monoxide is intended to maintain blood carboxyhemoglobin (COHb) levels below 3.5%, to minimize the potential for adverse neurobehavioral changes, and to maintain cardiovascular work and exercise capacities (ACGIH, 2001). Furthermore, this TLV provides a margin of safety for workers particularly susceptible to the adverse effects of carbon monoxide exposure, including pregnant workers (i.e., the fetus) and those with chronic heart and respiratory diseases (Ibid, 2001). Although not linked to cancer, sampling for carbon monoxide serves two purposes: (1) assess direct exposure to MAF occupants; and (2) assess the effectiveness of MAF ventilation systems.

3.1.2 CARBON DIOXIDE

Carbon dioxide is a gas released by human exhalation. If inadequate fresh air or "make-up" air is available in a building, carbon dioxide can accumulate indoors. Carbon dioxide is not considered a health risk unless at very high levels (5,000 parts-per-million and above), but symptoms of concentrations exceeding 600 parts-per-million (600 ppm [1,080 mg/m^3]) can include headache, drowsiness, difficulty concentrating, and dizziness (Arceo, 2014). The Bioenvironmental Engineering Technical Guide for IAQ Surveys further reflects maximum levels to carbon dioxide should not exceed one-thousand parts-per-million (Ibid, 2014). Although not linked to cancer, sampling for carbon dioxide serves three purposes: (1) assess direct exposure to MAF occupants; (2) assess the effectiveness of MAF ventilation systems; and (3) assess MAF structural integrity.

3.1.3 OZONE

Ozone is a colorless gas that can be emitted directly by urban and industrial processes, but also forms in the atmosphere by chemical reactions between nitrogen oxides and volatile organic compounds (VOCs). Ozone is also used as a bleaching agent for pulp and paper. Ozone affects the lower respiratory system and exposure limits are based on work activity levels (light, moderate, and heavy work activity). As respiratory rates increase, the potential for ozone reaching the deep lung also increases (Luttrell et al., 2019). The ACGIH established a TLV-TWA for light work recommending airborne ozone exposures are limited to 0.1 parts-per-million (0.1 ppm [0.2 mg/m^3]). Symptoms of excessive exposure to ozone include fatigue, dizziness, headache, and decreased concentration, motor activity, and cognitive response (Ibid, 2019). Although inconclusive, increased ozone levels have been linked to an increase in cancer risk (Kim, et al., 2019); however, ACGIH indicates ozone is Not Classifiable as a Human Carcinogen (A4) (ACGIH, 2023).

3.1.4 TEMPERATURE AND RELATIVE HUMIDITY

Temperature and humidity recommendations are set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and are based on comfort of the occupants as opposed to health risk. ASHRAE recommends indoor temperatures of 68°F – 74°F

in cold seasons and 72°F – 80°F during warm seasons. Relative humidity indoors below 40% is commonly associated with building occupant discomfort and dissatisfaction. Symptoms due to relative humidity less than 40% can include dry nose and throat, nose bleeds, sinus and throat irritation, and dry eyes. Long term exposure to low relative humidity can also contribute to respiratory illness via weakening pulmonary mucous membrane defense (Arceo, 2014). High relative humidity indoors promotes conditions suitable for fungi and mold growth.

3.2 VOLATILE ORGANIC COMPOUNDS

VOCs are a group of chemicals which include 1,2,3-trichloropropane, Benzene, Carbon Tetrachloride, Dibromochloropropane (DBCP), Ethylene dibromide, Bromodichloromethane, Methylene chloride, and Trichloroethylene (TCE). VOCs are substances that have a high vapor pressure and low water solubility. This makes them easily capable to change from a liquid or solid to a gaseous state which increases the potential for human exposure via inhalation. Exposure limits for VOCs are unique to each chemical. They are commonly found in both industrial environments and household products such as cleaning supplies, varnishes, plug-in air fresheners, essential oils, and pesticides (United States Environmental Protection Agency, 2023). Some VOCs (acetone, for example) can be present in the outdoor environment. Fifty-one (51) VOCs were sampled for at each MAF and their respective maximum contaminant levels (MCLs) can be found in the results tables in the Appendices. Health effects from VOC exposure vary from eye, nose, and throat irritation to headaches and damage to the liver, kidney, and central nervous system (Ibid, 2023). VOCs can accumulate in an indoor setting if there is insufficient ventilation and thereby affect the quality of indoor air. The most up-to-date and comprehensive method to sample and analyze for VOCs was used to test for VOCs within the MAFs.

3.3 ORGANOPHOSPHATES

Organophosphates are a type of insecticide or pesticide commonly used in agriculture, homes, and gardens. Several organophosphates are highly toxic and can potentially cause acute (sudden) or subacute (rapid) toxicity (United States Environmental Protection Agency, 2013). Various organophosphates were sampled in the air, soil, and water. These compounds have varying exposure limits or MCLs although their human health effects are similar. Acute symptoms from organophosphate exposure include diarrhea, excessive salivation, and constriction of pupils. Acute and subacute symptoms include fluid accumulation in the respiratory tract as well as central nervous system effects such as tremors, delirium, loss of coordination, and convulsions (Luttrell et al., 2019). Organophosphates (specifically malathion, diazinon, dichlorvos, parathion, and tetrachlorvinphos) have been deemed possible carcinogens or probable carcinogens by The International Agency for Research on Cancer (IARC) and/or the United States Environmental Protection Agency (USEPA) (National Institute of Health, 2015). Air, water, and soil samples were collected to test for organophosphate compounds due to MAF locations adjacent to agricultural land.

3.4 POLY CHLORINATED BIPHENYLS (PCBs)

PCBs are synthetic organic chemicals used for a variety of industrial and commercial purposes. They were commonly used as synthetic dielectric and coolant fluids in electrical

components, capacitors, and transformers. PCBs were developed in the 1940's and used through the late 1970's. In the late 1970's, they were banned because of evidence that determined PCBs accumulate in the environment and may be toxic to humans and wildlife. PCBs remain present in electrical components of equipment in the LCCs because of their capability to insulate and regulate equipment temperatures (Agency for Toxic Substances and Disease Registry, 2014). The USEPA classifies PCBs as a probable human carcinogen based on studies in animals which provided conclusive evidence of carcinogenicity and in studies with capacitor manufacturing workers which raise further concern of potential carcinogenicity (USEPA, 2023). Although the USEPA determined PCB carcinogenicity from ingestion studies only, the USEPA deems there is a reasonable basis to expect similar effects from dermal or inhalation exposures (USEPA, 1996). Many of the cancer concerns from MAF occupants originated with concerns about PCB exposures.

3.5 SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)

SVOCs are persistent pollutants in soils and aquatic environments which can be transported over long distances and accumulate in organisms (Liu et al., 2019). SVOCs can be found in many pesticides, oil-based products, and flame retardants. SVOCs have unique exposure limits yet have similar adverse health effects on the human body. Forty-two (42) SVOCs were analyzed for in the water samples and their respective MCLs can be found in the results tables in the Appendices. Some SVOCs could cause cancer (e.g., polycyclic aromatic hydrocarbons), reproductive disorders (e.g., phthalates), nervous system damage (e.g., pesticides, insecticides, and herbicides), and immune system disruption (Ibid, 2019). Considering concerns with carcinogenic effects, SVOC water samples were collected within the MAFs. The most comprehensive, up-to-date method was used to sample and analyze for SVOCs.

3.6 DIQUAT/PARAQUAT

Diquat and paraquat compounds are herbicides used in agriculture and homes, although diquat is utilized less in agriculture than paraquat (Jones and Vale, 2000). Paraquat was first produced for commercial purposes in 1961 and is one of the most used herbicides worldwide (Centers for Disease Control and Prevention, 2018). The USEPA set a MCL for diquat at 0.02 milligrams per liter. While no paraquat MCL exists, the USEPA requires mitigation measures to reduce risks to human health and the environment (USEPA, 2023). Health effects from diquat and paraquat exposure include gastrointestinal symptoms and heart, liver, and kidney failure (Centers for Disease Control and Prevention, 2018). Herbicides have the potential to be present in environments surrounding MAFs due to their proximity to agricultural land. Considering the National Institute of Health reports of potential links between diquat/paraquat and elevated rates of non-Hodgkin's lymphoma (National Institute of Health, 2016), water samples were collected to test for diquat/paraquat.

3.7 DIOXINS

Dioxins are persistent organic pollutants found throughout the world that can take a long time to break down once in the environment. They can bioaccumulate resulting in greater than 90% of typical human exposure via dietary intake of animal, dairy, and fish products (USEPA, 2023).

Dioxins can be found in the water from air emissions due from burning of waste or other combustion sources (Ibid, 2023). The dioxin 2,3,7,8-Tetrachlorodibenzodioxin is deemed a human carcinogen by the World Health Organization (IARC, 2004). The USEPA established a MCL of thirty picograms per liter (30 pg/L) for 2,3,7,8-Tetrachlorodibenzodioxin. Exposure to 2,3,7,8-Tetrachlorodibenzodioxin results in severe skin disease and acne-like skin lesions (Agency for Toxic Substances and Disease Registry, 1999). Variations of dioxins have been banned for use inside the United States. In the 1980s, 2,3,7,8-Tetrachlorodibenzodioxin was banned from use within the United States. Due to MAFs using wells for drinking water and dioxin's ability to remain present in environments and settle in sediment, drinking water samples were collected to test for dioxins in drinking water.

3.8 NITRATE/NITRITE

Fertilizers and animal waste can contain nitrogen increasing the concentration of nitrate (NO_3) and nitrite (NO_2) in water sources. Per the Agency for Toxic Substances and Disease Registry (ATSDR), nitrate and nitrite-containing compounds in the soil can easily dissolve in water making them easy to migrate into groundwater (ATSDR, 2017). Nitrite is more easily oxidized than nitrate, therefore nitrate is more commonly found in groundwater and surface waters. The USEPA established a MCL of ten milligrams per liter (10 mg/L) for total nitrates and nitrites as nitrogen and a MCL of one milligram per liter (1 mg/L) for nitrites as nitrogen. Due to hold times required by the lab, DCPH-D/OE could not sample for nitrites. Excessive nitrate or nitrite exposure can cause blood disorders. The IARC classified nitrates and nitrites as "probably carcinogenic to humans" (ATSDR, 2023). Due to the location of most MAFs near agricultural land, water samples were collected to test for nitrite and nitrate.

3.9 CHLORINE & POTENTIAL OF HYDROGEN (pH)

Chlorine is a commonly used microbe disinfectant for drinking water (USEPA, 2000). Personnel may be exposed to chlorine through the ingestion of drinking water which has been disinfected with an excess amount of chlorine (Ibid, 2000). The USEPA has established a chlorine MCL of four milligrams per liter (4 mg/L) (USEPA, 2023). Stomach discomfort has been the primary reported health effect resulting from long-term exposures to chlorine above the MCL (Ibid, 2023).

pH measures acidity and alkalinity of a substance (USEPA, 2023). pH ranges from zero to fourteen where substances equal to seven are "neutral", substances less than seven are "acidic", and substances greater than seven are "basic" (Ibid, 2023). In its purest form, the pH of water is neutral, however, the existence of other chemicals has the potential to increase or decrease pH (Ibid, 2023). Recommended pH levels are defined by the USEPA's National Secondary Drinking Water Regulations (NSDWR) which are established guidelines to manage aesthetical characteristics of drinking water such as taste, color, and odor (USEPA, 2023). NSDWRs that exceed their applicable secondary maximum contaminant levels (SMCLs) affect the palatability of drinking water but are not known to pose a health risk for consumers (Ibid, 2023). However, the USEPA establishes SMCLs to encourage the consumption of drinking water that is aesthetically and/or aromatically appealing and/or palatable (Ibid, 2023). The SMCL for pH is 6.5 to 8.5; drinking water below 6.5 have been reported to may have a bitter, metallic taste while pH greater than 8.5 have been reported to have a slippery texture and soda-like taste (Ibid, 2023).

4. METHODOLOGY & ANALYSIS

This section summarizes sampling plans utilized to ensure proper collection, analysis, and validity of results. Detailed sampling plans for each potential health hazard sampled will be included in the final report. National Institute for Occupational Safety and Health (NIOSH) and USEPA-approved methods were used to develop sampling plans and execute sample analysis. The individual methods for sampling can test for multiple analytes or chemical compounds. Laboratory analysis included five methods for water sampling, two methods for air sampling, and one method for soil sampling. The tables in the appendices of this report contain sample type, location, analyte, and result. Except for soil, which was collected outside of the MAFs, all samples were collected in the LCC and Topside Support Building. A summary of analytical methods and number of samples taken for each method can be found in Chart 1. Samples were shipped from Malmstrom AFB to three civilian analytical laboratories to conduct the analysis. DCPH-D/OE validated results as they were received from the laboratories.

4.1 WATER

Sample locations at each MAF were the kitchen sink in the Topside Support Building and the bathroom sink in the LCC. In accordance with USEPA sampling methods, screen aerators were removed, and the water was flushed for five minutes prior to sample collection. After sample collection, samples were immediately stored to meet required temperature parameters defined in the analytical method. Three samples for each method were taken at the two specified locations: (1) the sample, (2) matrix spike, and (3) matrix spike duplicate. Matrix spike and matrix spike duplicates are quality-control samples used to evaluate the performance of the analytical method by measuring the effect on interferences caused by the sample matrix – water in this case. Matrix spike and matrix spike duplicates were spiked with a required, known amount of the analyte and run through the analytical method by the labs. The lab calculates the percent recovery of the spike which must fall within parameters to ensure sample results are not affected by interferents.

4.2 AIR

Air sampling quantifies the concentration of analytes within the volume of air sampled. Area air samples were collected to characterize the indoor air environment in the MAFs. DCPH-D/OE used two different methods to analyze for sixty-one (61) analytes consisting of organophosphates and VOCs in each of the fifteen MAFs. The following area air samples were collected for each method:

A. Organophosphate: eight-hour samples in the LCC and in the Topside Support Building.

B. VOCs: eight-hour samples in the LCC and in the Topside Support Building.

In addition to the area air samples collected at each MAF, field and media blanks were also analyzed. Media blanks are never exposed to the environment and are used to ensure there is no contamination of media during the equipment/media manufacturing and handling processes. Field blanks are opened to the environment to assess any initial contamination that may be associated with the handling of the samples and then are capped, meaning no tested air would have flowed through the sample media.

Eight-hour area air samples were collected to minimize missile crew rest interruption. The two-man crew is in the LCC for twenty-four hours where each crew member will have crew rest for about eight hours. The remaining time is spent in the crew members' seat in front of their visual display console. Considering missileers are not performing any processes that would change LCC conditions, an eight-hour area sample appropriately characterizes a twenty-four-hour alert shift.

4.3 SOIL

To determine the presence of organophosphates, six grab samples were collected eight to twelve inches below the soil surface at each MAF. Samples were collected at each corner, outside of the MAF restricted area fence line to establish background concentrations. Additionally, a sample was collected near the air intake vent where dirt can potentially enter the MAF ventilation system. The sixth soil sample location was selected at random within the MAF fence line.

Chart 1: Summary of Analytical Methods and Sample Quantity for each Potential Health Hazard

Potential Health Hazard	Lab (Location)	Analytical Method	Matrix	No. of Samples (per MAF)	No. of Samples (per base)
PCBs	Australian Laboratory Services (Houston, TX)	EPA 505	Water	6	90
Total Nitrate/Nitrite as N	Australian Laboratory Services	EPA 353.2	Water	6	90
Pesticides/SVOCs	Australian Laboratory Services	EPA 525.2	Water	6	90
Diquat/Paraquat	Australian Laboratory Services	EPA 549.2	Water	6	90
Dioxin	Australian Laboratory Services	EPA 1613B	Water	6	90
VOCs	Bureau Veritas North America (Fort Lauderdale, FL)	EPA TO 17	Air	4	60
Organophosphates	Bureau Veritas North America	NIOSH 5600	Air	4	60
Organophosphates	Summit (Cuyahoga Falls, OH)	EPA 8270E	Soil	6	90

5. RESULTS & DISCUSSION

This section summarizes the findings of all samples collected at Malmstrom AFB. Sample results were received from the laboratories and checked for quality assurance and control. All results for each MAF received from the laboratories are documented in the appendices of this report. Each MAF result can be found as its own appendix, Appendix Alpha through Appendix Oscar. Non-Detects (ND) mean the sample result was below the laboratory limit of detection

(LOD) for that specific method. The appendices may document occurrences when the laboratory's reported LOD exceeded the associated health limit for a given analyte.

5.1 AIR SAMPLING

All organophosphate area air sampling in the LCC and Topside Support Building were non-detect. VOC air sampling detected trace amounts of:

A. Trans-1,2-Dichloroethylene was detected in Bravo LCC which has no corresponding health screening value
B. P+M Xylene was detected in Delta LCC at concentrations less than 1% of the health screening value
C. Toluene was detected in Delta LCC, Echo LCC, Echo Topside, and Oscar Topside all at concentrations less than 1% of the health screening value
D. Benzene was detected in Kilo LCC at concentrations less than 1.1% of the health screening value

Trace amounts of Beneze were detected in the Mike media blank. No other media blank or field blank samples showed trace amounts of any VOC above the reporting limit. A full list of results can be found in Tables 1 and 2 in the appendices.

5.2 WATER SAMPLING

All analytes with an USEPA-established MCL had results less than its corresponding MCL except Benzo[a]anthracene which were non-detect in MAFs Alpha Topside, Hotel LCC, and Oscar LCC. Therefore, there are currently no identified analytes within the drinking water presenting a current risk to human health. Some analytes evaluated do not have an MCL, noted not applicable (N/A) in the tables located in the Appendix. The USEPA has not determined these analytes to be a risk considering public health protection, technical and financial barriers. Free Available Chlorine was not analyzed in Kilo LCC while pH wase not analyzed in Charlie Topside, Kilo LCC, November Topside, Oscar Topside & Oscar LCC. The water results for each method can be found in Tables 3-7 of the Appendices.

5.3 SOIL SAMPLING

Soil sampling was performed to determine presence or absence of organophosphate compounds on and around MAF property. The results were non-detect for all ten analytes screened at all fifteen MAFs. The full list of results can be found in Table 8 the Appendices.

5.4 IAQ

Direct reading measurements for carbon monoxide, carbon dioxide, ozone, relative humidity, and temperature were taken in each MAF. Readings were compared to comfort levels provided by the ASHRAE Standard 62.1-2010 and exposure limits dictated by ACGIH. A full list of IAQ results can be found in Tables 9 in the appendices.

A. Carbon monoxide: Levels ranged from 0 to 5.7 parts-per-million; all below ACGIH TLV of twenty-five parts-per-million.

B. Carbon dioxide: MAF levels ranged from 460 to 970 parts-per-million, with an average concentration in the LCC of 595 parts-per-million and Topside Support Building of 702 parts-per-million.

C. Ozone: All levels were at below the ACGIH TLV of 0.1 parts-per-million for light work.

D. Relative humidity: Average relative humidity levels ranged from 22.5% to 42.5%, compared to ASHRAE's comfort criteria for relative humidity of 30% to 60%.

E. Temperature: MAF temperature ranged from 60.3°F to 79.8°F, with an average MAF temperature in the LCC of 67.6°F and Topside Support Building of 65.3°F. ASHRAE temperature recommendation range for summer is 72°F to 80°F. Although many locations had temperatures slightly below ASHRAE recommendations, DCPH-D/OE does not foresee any comfort risks associated with these temperature variances.

5.5 RADON

Round 3 radon sampling is captured in a separate report.

6. CONCLUSIONS

The results presented in this report are a part of a multi-faceted study to characterize the environment in which the missileer community works. Following the publication of all Round 3 reports, DCPH-D/OE will distribute a final report characterizing the health and carcinogenic risks to MAF occupants. If you have any questions, comments, or concerns, please contact Capt Leigh Durden at 937-938-3297 or by e-mail at leigh.durden@us.af.mil.

BOYD.SCOTT.M.1298312030 Digitally signed by BOYD.SCOTT.M.1298312030 Date: 2024.09.27 10:31:34 -04'00'

SCOTT M. BOYD, Lt Col, USAF, BSC
Chief Consulting Executive

Appendix 1: MAF ALPHA (A-01) Results, Sampled on 13 April 2024

Table 1A: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2A: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2A: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3A: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	1.06	1.07	10

Table 4A: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.22	<0.31	30

Table 5A: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6A: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00048	<0.00049	0.0005
PCB-1221	<0.00048	<0.00049	0.0005
PCB-1232	<0.00048	<0.00049	0.0005
PCB-1242	<0.00048	<0.00049	0.0005
PCB-1248	<0.00048	<0.00049	0.0005
PCB-1254	<0.00048	<0.00049	0.0005
PCB-1260	<0.00048	<0.00049	0.0005
Total PCBs	<0.00048	<0.00049	0.0005

Table 7A: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00021	<0.00019	N/A
4,4'-DDE	<0.00021	<0.00019	N/A
Acenaphthene	<0.00011	<0.000095	N/A
Acenaphthylene	<0.00011	<0.000095	N/A
Alachlor	<0.00021	<0.00019	0.002
Aldrin	<0.00021	<0.00019	N/A
Anthracene	<0.00021	<0.00019	N/A
Atrazine	<0.00021	<0.00019	0.003
Benzo[a]anthracene	<0.00011	<0.000095	0.0001
Benzo[a]pyrene	<0.00011	<0.000095	0.0002
Benzo[b]fluoranthene	<0.00011	<0.000095	0.0002
Benzo[g,h,i]perylene	<0.00011	<0.000095	N/A
Benzo[k]fluoranthene	<0.00011	<0.000095	0.0002
Bis(2-Ethylhexyl)phthalate	<0.0011	<0.00095	0.006
Butachlor	<0.00021	<0.00019	N/A
Butylbenzylphthalate	<0.0011	<0.00095	N/A
Chrysene	<0.00011	<0.000095	0.0002
Di(2-ethylhexyl)adipate	<0.0011	<0.00095	0.40
Dieldrin	<0.00021	<0.00019	N/A
Diethylphthalate	<0.0011	<0.00095	N/A
Dimethylphthalate	<0.0011	<0.00095	N/A
Di-n-butylphthalate	<0.0011	<0.00095	N/A
Endrin	<0.00021	<0.00019	0.002
EPTC	<0.00021	<0.00019	N/A
Fluoranthene	<0.00011	<0.000095	N/A
Fluorene	<0.00011	<0.000095	N/A
gamma-BHC (Lindane)	<0.00011	<0.000095	0.0002
Heptachlor	<0.00011	<0.000095	0.0004
Heptachlor Epoxide	<0.00011	<0.000095	0.0002
Hexachlorobenzene	<0.00011	<0.000095	0.001
Hexachlorocyclopentadiene	<0.00021	<0.00019	0.05
Indeno[1,2,3-cd]pyrene	<0.00011	<0.000095	0.0004
Methoxychlor	<0.00021	<0.00019	0.04
Metribuzin	<0.00021	<0.00019	N/A
Molinate	<0.00021	<0.00019	N/A
Naphthalene	<0.00021	<0.00019	N/A
Phenanthrene	<0.00011	<0.000095	N/A

Table 7A: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00021	<0.00019	N/A
Pyrene	<0.00011	<0.000095	0.0002
Simazine	<0.00021	<0.00019	0.004
Terbacil	<0.00053	<0.00048	N/A
Trifluralin	<0.00021	<0.00019	N/A

Table 8A: Soil Sampling Results

Analyte	SW Corner Near Fenceline (mg/kg-dry)	NW Corner Near Fenceline (mg/kg-dry)	NE Corner Near Fenceline (mg/kg-dry)
Methyl Parathion	<0.0293	<0.0280	<0.0319
Phorate	<0.0293	<0.0280	<0.0319
Parathion	<0.0293	<0.0280	<0.0319
Methamidophos	<0.0293	<0.0280	<0.0319
Malathion	<0.0293	<0.0280	<0.0319
Ethoprop	<0.0293	<0.0280	<0.0319
Dicrotophos	<0.0293	<0.0280	<0.0319
Diazinon	<0.0293	<0.0280	<0.0319
Chlorpyrifos	<0.0293	<0.0280	<0.0319
Terbufos	<0.0293	<0.0280	<0.0319

Table 8A: Soil Sampling Results Cont.

Analyte	SE Corner Near Fenceline (mg/kg-dry)	Behind MAF Near Air Intake Vent Next to MAF (mg/kg-dry)	Inside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0326	<0.0299	<0.0292
Phorate	<0.0326	<0.0299	<0.0292
Parathion	<0.0326	<0.0299	<0.0292
Methamidophos	<0.0326	<0.0299	<0.0292
Malathion	<0.0326	<0.0299	<0.0292
Ethoprop	<0.0326	<0.0299	<0.0292
Dicrotophos	<0.0326	<0.0299	<0.0292
Diazinon	<0.0326	<0.0299	<0.0292
Chlorpyrifos	<0.0326	<0.0299	<0.0292
Terbufos	<0.0326	<0.0299	<0.0292

Table 9A: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	595 ppm	529 ppm	<1000 ppm
Relative Humidity	30.9%	30.8%	30% - 60%
Temperature	70.7°F	69.9°F	72°F - 78°F
Carbon Monoxide	0 ppm	0 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10A: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	7.6	7.5	6.5 - 8.5
Free Available Chlorine	0.31	0.21	> 0 mg/L; < 4 mg/L

Appendix 2: MAF BRAVO (B-01) Results, Sampled on 10 April 2024

Table 1B: Air Sampling Results – Organophosphates

Analyte	LCC (8hr) Result (mg/m^3)	Topside (8hr) Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2B: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2B: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	36	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3B: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	<0.10	<0.10	10

Table 4B: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.42	<0.33	30

Table 5B: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6B: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00049	<0.00048	0.0005
PCB-1221	<0.00049	<0.00048	0.0005
PCB-1232	<0.00049	<0.00048	0.0005
PCB-1242	<0.00049	<0.00048	0.0005
PCB-1248	<0.00049	<0.00048	0.0005
PCB-1254	<0.00049	<0.00048	0.0005
PCB-1260	<0.00049	<0.00048	0.0005
Total PCBs	<0.00049	<0.00048	0.0005

Table 7B: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.00019	N/A
4,4'-DDE	<0.00019	<0.00019	N/A
Acenaphthene	<0.000096	<0.000095	N/A
Acenaphthylene	<0.000096	<0.000095	N/A
Alachlor	<0.00019	<0.00019	0.002
Aldrin	<0.00019	<0.00019	N/A
Anthracene	<0.00019	<0.00019	N/A
Atrazine	<0.00019	<0.00019	0.003
Benzo[a]anthracene	<0.000096	<0.000095	0.0001
Benzo[a]pyrene	<0.000096	<0.000095	0.0002
Benzo[b]fluoranthene	<0.000096	<0.000095	0.0002
Benzo[g,h,i]perylene	<0.000096	<0.000095	N/A
Benzo[k]fluoranthene	<0.000096	<0.000095	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00096	<0.00095	0.006
Butachlor	<0.00019	<0.00019	N/A
Butylbenzylphthalate	<0.00096	<0.00095	N/A
Chrysene	<0.000096	<0.000095	0.0002
Di(2-ethylhexyl)adipate	<0.00096	<0.00095	0.40
Dieldrin	<0.00019	<0.00019	N/A
Diethylphthalate	<0.00096	<0.00095	N/A
Dimethylphthalate	<0.00096	<0.00095	N/A
Di-n-butylphthalate	<0.00096	<0.00095	N/A
Endrin	<0.00019	<0.00019	0.002
EPTC	<0.00019	<0.00019	N/A
Fluoranthene	<0.000096	<0.000095	N/A
Fluorene	<0.000096	<0.000095	N/A
gamma-BHC (Lindane)	<0.000096	<0.000095	0.0002
Heptachlor	<0.000096	<0.000095	0.0004
Heptachlor Epoxide	<0.000096	<0.000095	0.0002
Hexachlorobenzene	<0.000096	<0.000095	0.001
Hexachlorocyclopentadiene	<0.00019	<0.00019	0.05
Indeno[1,2,3-cd]pyrene	<0.000096	<0.000095	0.0004
Methoxychlor	<0.00019	<0.00019	0.04
Metribuzin	<0.00019	<0.00019	N/A
Molinate	<0.00019	<0.00019	N/A
Naphthalene	<0.00019	<0.00019	N/A
Phenanthrene	<0.000096	<0.000095	N/A

Table 7B: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.00019	N/A
Pyrene	<0.000096	<0.000095	0.0002
Simazine	<0.00019	<0.00019	0.004
Terbacil	<0.00048	<0.00047	N/A
Trifluralin	<0.00019	<0.00019	N/A

Table 8B: Soil Sampling Results

Analyte	SW Corner (mg/kg-dry)	SE Corner (mg/kg-dry)	NE Corner (mg/kg-dry)
Methyl Parathion	<0.0325	<0.0295	<0.0315
Phorate	<0.0325	<0.0295	<0.0315
Parathion	<0.0325	<0.0295	<0.0315
Methamidophos	<0.0325	<0.0295	<0.0315
Malathion	<0.0325	<0.0295	<0.0315
Ethoprop	<0.0325	<0.0295	<0.0315
Dicrotophos	<0.0325	<0.0295	<0.0315
Diazinon	<0.0325	<0.0295	<0.0315
Chlorpyrifos	<0.0325	<0.0295	<0.0315
Terbufos	<0.0325	<0.0295	<0.0315

Table 8B: Soil Sampling Results Cont.

Analyte	NW Corner (mg/kg-dry)	SW Inside Corner Near Air Intake Vent (mg/kg-dry)	SW Inside Corner (mg/kg-dry)
Methyl Parathion	<0.0297	<0.0272	<0.0298
Phorate	<0.0297	<0.0272	<0.0298
Parathion	<0.0297	<0.0272	<0.0298
Methamidophos	<0.0297	<0.0272	<0.0298
Malathion	<0.0297	<0.0272	<0.0298
Ethoprop	<0.0297	<0.0272	<0.0298
Dicrotophos	<0.0297	<0.0272	<0.0298
Diazinon	<0.0297	<0.0272	<0.0298
Chlorpyrifos	<0.0297	<0.0272	<0.0298
Terbufos	<0.0297	<0.0272	<0.0298

Table 9B: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	650 ppm	910 ppm	<1000 ppm
Relative Humidity	38.3%	42.6%	30% - 60%
Temperature	61.3°F	60.3°F	72°F - 78°F
Carbon Monoxide	0.0 ppm	1.0 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10B: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	7.1	7.0	6.5 - 8.5
Free Available Chlorine	0.54	0.02	> 0 mg/L; < 4 mg/L

Appendix 3: MAF CHARLIE (C-01) Results, Sampled on 10 April 2024

Table 1C: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2C: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2C: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3C: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	<0.10	<0.10	10

Table 4C: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.52	<0.25	30

Table 5C: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6C: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00049	<0.00049	0.0005
PCB-1221	<0.00049	<0.00049	0.0005
PCB-1232	<0.00049	<0.00049	0.0005
PCB-1242	<0.00049	<0.00049	0.0005
PCB-1248	<0.00049	<0.00049	0.0005
PCB-1254	<0.00049	<0.00049	0.0005
PCB-1260	<0.00049	<0.00049	0.0005
Total PCBs	<0.00049	<0.00049	0.0005

Table 7C: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.0002	N/A
4,4'-DDE	<0.00019	<0.0002	N/A
Acenaphthene	<0.000096	<0.000098	N/A
Acenaphthylene	<0.000096	<0.000098	N/A
Alachlor	<0.00019	<0.0002	0.002
Aldrin	<0.00019	<0.0002	N/A
Anthracene	<0.00019	<0.0002	N/A
Atrazine	<0.00019	<0.0002	0.003
Benzo[a]anthracene	<0.000096	<0.000098	0.0001
Benzo[a]pyrene	<0.000096	<0.000098	0.0002
Benzo[b]fluoranthene	<0.000096	<0.000098	0.0002
Benzo[g,h,i]perylene	<0.000096	<0.000098	N/A
Benzo[k]fluoranthene	<0.000096	<0.000098	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00096	<0.00098	0.006
Butachlor	<0.00019	<0.0002	N/A
Butylbenzylphthalate	<0.00096	<0.00098	N/A
Chrysene	<0.000096	<0.000098	0.0002
Di(2-ethylhexyl)adipate	<0.00096	<0.00098	0.40
Dieldrin	<0.00019	<0.0002	N/A
Diethylphthalate	<0.00096	<0.00098	N/A
Dimethylphthalate	<0.00096	<0.00098	N/A
Di-n-butylphthalate	<0.00096	<0.00098	N/A
Endrin	<0.00019	<0.0002	0.002
EPTC	<0.00019	<0.0002	N/A
Fluoranthene	<0.000096	<0.000098	N/A
Fluorene	<0.000096	<0.000098	N/A
gamma-BHC (Lindane)	<0.000096	<0.000098	0.0002
Heptachlor	<0.000096	<0.000098	0.0004
Heptachlor Epoxide	<0.000096	<0.000098	0.0002
Hexachlorobenzene	<0.000096	<0.000098	0.001
Hexachlorocyclopentadiene	<0.00019	<0.0002	0.05
Indeno[1,2,3-cd]pyrene	<0.000096	<0.000098	0.0004
Methoxychlor	<0.00019	<0.0002	0.04
Metribuzin	<0.00019	<0.0002	N/A
Molinate	<0.00019	<0.0002	N/A
Naphthalene	<0.00019	<0.0002	N/A
Phenanthrene	<0.00019	<0.0002	N/A

Table 7C: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.0002	N/A
Pyrene	<0.000096	<0.000098	0.0002
Simazine	<0.00019	<0.0002	0.004
Terbacil	<0.00048	<0.00049	N/A
Trifluralin	<0.00019	<0.0002	N/A

Table 8C: Soil Sampling Results

Analyte	NE Perimeter Outside Fenceline (mg/kg-dry)	Outside Air Intake of North Wall (mg/kg-dry)	NW Perimeter Outside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0346	<0.0403	<0.0372
Phorate	<0.0346	<0.0403	<0.0372
Parathion	<0.0346	<0.0403	<0.0372
Methamidophos	<0.0346	<0.0403	<0.0372
Malathion	<0.0346	<0.0403	<0.0372
Ethoprop	<0.0346	<0.0403	<0.0372
Dicrotophos	<0.0346	<0.0403	<0.0372
Diazinon	<0.0346	<0.0403	<0.0372
Chlorpyrifos	<0.0346	<0.0403	<0.0372
Terbufos	<0.0346	<0.0403	<0.0372

Table 8C: Soil Sampling Results Cont.

Analyte	SW Perimeter Outisde Fenceline (mg/kg-dry)	Above Capsule (mg/kg-dry)	SE Perimeter Outside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0349	<0.0342	<0.0423
Phorate	<0.0349	<0.0342	<0.0423
Parathion	<0.0349	<0.0342	<0.0423
Methamidophos	<0.0349	<0.0342	<0.0423
Malathion	<0.0349	<0.0342	<0.0423
Ethoprop	<0.0349	<0.0342	<0.0423
Dicrotophos	<0.0349	<0.0342	<0.0423
Diazinon	<0.0349	<0.0342	<0.0423
Chlorpyrifos	<0.0349	<0.0342	<0.0423
Terbufos	<0.0349	<0.0342	<0.0423

Table 9C: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	640 ppm	525 ppm	<1000 ppm
Relative Humidity	35.5%	25.5%	30% - 60%
Temperature	68.7°F	64.6°F	72°F - 78°F
Carbon Monoxide	0 ppm	1.1 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10C: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	Not Taken	Not Taken	6.5 - 8.5
Free Available Chlorine	0.60	0.30	> 0 mg/L; < 4 mg/L

Appendix 4: MAF DELTA (D-01) Results, Sampled on 9 April 2024

Table 1D: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2D: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2D: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	17	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	99	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3D: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	<0.10	<0.10	10

Table 4D: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.35	<0.29	30

Table 5D: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6D: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00049	<0.00049	0.005
PCB-1221	<0.00049	<0.00049	0.005
PCB-1232	<0.00049	<0.00049	0.005
PCB-1242	<0.00049	<0.00049	0.005
PCB-1248	<0.00049	<0.00049	0.005
PCB-1254	<0.00049	<0.00049	0.005
PCB-1260	<0.00049	<0.00049	0.005
Total PCBs	<0.00049	<0.00049	0.005

Table 7D: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.00019	N/A
4,4'-DDE	<0.00019	<0.00019	N/A
Acenaphthene	<0.000094	<0.000094	N/A
Acenaphthylene	<0.000094	<0.000094	N/A
Alachlor	<0.00019	<0.00019	0.002
Aldrin	<0.00019	<0.00019	N/A
Anthracene	<0.00019	<0.00019	N/A
Atrazine	<0.00019	<0.00019	0.003
Benzo[a]anthracene	<0.000094	<0.000094	0.0001
Benzo[a]pyrene	<0.000094	<0.000094	0.0002
Benzo[b]fluoranthene	<0.000094	<0.000094	0.0002
Benzo[g,h,i]perylene	<0.000094	<0.000094	N/A
Benzo[k]fluoranthene	<0.000094	<0.000094	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00094	<0.00094	0.006
Butachlor	<0.00019	<0.00019	N/A
Butylbenzylphthalate	<0.00094	<0.00094	N/A
Chrysene	<0.000094	<0.000094	0.0002
Di(2-ethylhexyl)adipate	<0.00094	<0.00094	0.40
Dieldrin	<0.00019	<0.00019	N/A
Diethylphthalate	<0.00094	<0.00094	N/A
Dimethylphthalate	<0.00094	<0.00094	N/A
Di-n-butylphthalate	<0.00094	<0.00094	N/A
Endrin	<0.00019	<0.00019	0.002
EPTC	<0.00019	<0.00019	N/A
Fluoranthene	<0.000094	<0.000094	N/A
Fluorene	<0.000094	<0.000094	N/A
gamma-BHC (Lindane)	<0.000094	<0.000094	0.0002
Heptachlor	<0.000094	<0.000094	0.0004
Heptachlor Epoxide	<0.000094	<0.000094	0.0002
Hexachlorobenzene	<0.000094	<0.000094	0.001
Hexachlorocyclopentadiene	<0.00019	<0.00019	0.05
Indeno[1,2,3-cd]pyrene	<0.000094	<0.000094	0.0004
Methoxychlor	<0.00019	<0.00019	0.04
Metribuzin	<0.00019	<0.00019	N/A
Molinate	<0.00019	<0.00019	N/A
Naphthalene	<0.00019	<0.00019	N/A
Phenanthrene	<0.000094	<0.000094	N/A

Table 7D: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.00019	N/A
Pyrene	<0.000094	<0.000094	0.0002
Simazine	<0.00019	<0.00019	0.004
Terbacil	<0.00047	<0.00047	N/A
Trifluralin	<0.00019	<0.00019	N/A

Table 8D: Soil Sampling Results

Analyte	NW of MAF, 20 Feet from Corner of Building (mg/kg-dry)	3 Feet from Outside Air Intake Vent (mg/kg-dry)	SE Corner of MAF (mg/kg-dry)
Methyl Parathion	<0.0269	<0.0266	<0.0296
Phorate	<0.0269	<0.0266	<0.0296
Parathion	<0.0269	<0.0266	<0.0296
Methamidophos	<0.0269	<0.0266	<0.0296
Malathion	<0.0269	<0.0266	<0.0296
Ethoprop	<0.0269	<0.0266	<0.0296
Dicrotophos	<0.0269	<0.0266	<0.0296
Diazinon	<0.0269	<0.0266	<0.0296
Chlorpyrifos	<0.0269	<0.0266	<0.0296
Terbufos	<0.0269	<0.0266	<0.0296

Table 8D: Soil Sampling Results Cont.

Analyte	SW Corner of MAF, 5 Feet From Corner of Fence (mg/kg-dry)	NW Corner of MAF, 5 Feet From Corner of Fence (mg/kg-dry)	NE Corner of MAF (mg/kg-dry)
Methyl Parathion	<0.0285	<0.0290	<0.0307
Phorate	<0.0285	<0.0290	<0.0307
Parathion	<0.0285	<0.0290	<0.0307
Methamidophos	<0.0285	<0.0290	<0.0307
Malathion	<0.0285	<0.0290	<0.0307
Ethoprop	<0.0285	<0.0290	<0.0307
Dicrotophos	<0.0285	<0.0290	<0.0307
Diazinon	<0.0285	<0.0290	<0.0307
Chlorpyrifos	<0.0285	<0.0290	<0.0307
Terbufos	<0.0285	<0.0290	<0.0307

Table 9D: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	641 ppm	525 ppm	590 ppm
Relative Humidity	29.8%	28.8%	30% - 60%
Temperature	65.3°F	67.0°F	72°F - 78°F
Carbon Monoxide	0 ppm	0 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10D: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	>8.5	>8.5	6.5 - 8.5
Free Available Chlorine	0.26	0.03	> 0 mg/L; < 4 mg/L

Appendix 5: MAF ECHO (E-01) Results, Sampled on 8 April 2024

Table 1E: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2E: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2E: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	30	180
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3E: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	<0.10	<0.10	10

Table 4E: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.31	<0.29	30

Table 5E: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6E: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00049	<0.0005	0.0005
PCB-1221	<0.00049	<0.0005	0.0005
PCB-1232	<0.00049	<0.0005	0.0005
PCB-1242	<0.00049	<0.0005	0.0005
PCB-1248	<0.00049	<0.0005	0.0005
PCB-1254	<0.00049	<0.0005	0.0005
PCB-1260	<0.00049	<0.0005	0.0005
Total PCBs	<0.00049	<0.0005	0.0005

Table 7E: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.0002	N/A
4,4'-DDE	<0.00019	<0.0002	N/A
Acenaphthene	<0.000096	<0.000098	N/A
Acenaphthylene	<0.000096	<0.000098	N/A
Alachlor	<0.00019	<0.0002	0.002
Aldrin	<0.00019	<0.0002	N/A
Anthracene	<0.00019	<0.0002	N/A
Atrazine	<0.00019	<0.0002	0.003
Benzo[a]anthracene	<0.000096	<0.000098	0.0001
Benzo[a]pyrene	<0.000096	<0.000098	0.0002
Benzo[b]fluoranthene	<0.000096	<0.000098	0.0002
Benzo[g,h,i]perylene	<0.000096	<0.000098	N/A
Benzo[k]fluoranthene	<0.000096	<0.000098	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00096	<0.00098	0.006
Butachlor	<0.00019	<0.0002	N/A
Butylbenzylphthalate	<0.00096	<0.000098	N/A
Chrysene	<0.000096	<0.000098	0.0002
Di(2-ethylhexyl)adipate	<0.000096	<0.000098	0.40
Dieldrin	<0.00019	<0.0002	N/A
Diethylphthalate	<0.000096	0.00098	N/A
Dimethylphthalate	<0.000096	0.00098	N/A
Di-n-butylphthalate	<0.000096	0.00098	N/A
Endrin	<0.00019	<0.0002	0.002
EPTC	<0.00019	<0.0002	N/A
Fluoranthene	<0.000096	<0.000098	N/A
Fluorene	<0.000096	<0.000098	N/A
gamma-BHC (Lindane)	<0.000096	<0.000098	0.0002
Heptachlor	<0.000096	<0.000098	0.0004
Heptachlor Epoxide	<0.000096	<0.000098	0.0002
Hexachlorobenzene	<0.000096	<0.000098	0.001
Hexachlorocyclopentadiene	<0.00019	<0.0002	0.05
Indeno[1,2,3-cd]pyrene	<0.000096	<0.000098	0.0004
Methoxychlor	<0.00019	<0.0002	0.04
Metribuzin	<0.00019	<0.0002	N/A
Molinate	<0.00019	<0.0002	N/A
Naphthalene	<0.00019	<0.0002	N/A
Phenanthrene	<0.000096	<0.000098	N/A

Table 7E: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.0002	N/A
Pyrene	<0.000096	<0.000098	0.0002
Simazine	<0.00019	<0.0002	0.004
Terbacil	<0.00048	<0.00049	N/A
Trifluralin	<0.00019	<0.0002	N/A

Table 8E: Soil Sampling Results

Analyte	SE Corner Outside Fenceline (mg/kg-dry)	NE Corner Outside Fenceline (mg/kg-dry)	NW Corner Outside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0310	<0.0309	<0.0297
Phorate	<0.0310	<0.0309	<0.0297
Parathion	<0.0310	<0.0309	<0.0297
Methamidophos	<0.0310	<0.0309	<0.0297
Malathion	<0.0310	<0.0309	<0.0297
Ethoprop	<0.0310	<0.0309	<0.0297
Dicrotophos	<0.0310	<0.0309	<0.0297
Diazinon	<0.0310	<0.0309	<0.0297
Chlorpyrifos	<0.0310	<0.0309	<0.0297
Terbufos	<0.0310	<0.0309	<0.0297

Table 8E: Soil Sampling Results Cont.

Analyte	SW Corner Outside Fenceline (mg/kg-dry)	Behind MAF Next to Air Intake Vent (mg/kg-dry)	Middle of MAF Area Backside (mg/kg-dry)
Methyl Parathion	<0.0282	<0.0289	<0.0301
Phorate	<0.0282	<0.0289	<0.0301
Parathion	<0.0282	<0.0289	<0.0301
Methamidophos	<0.0282	<0.0289	<0.0301
Malathion	<0.0282	<0.0289	<0.0301
Ethoprop	<0.0282	<0.0289	<0.0301
Dicrotophos	<0.0282	<0.0289	<0.0301
Diazinon	<0.0282	<0.0289	<0.0301
Chlorpyrifos	<0.0282	<0.0289	<0.0301
Terbufos	<0.0282	<0.0289	<0.0301

Table 9E: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	589 ppm	590 ppm	<1000 ppm
Relative Humidity	27.5%	34.0%	30% - 60%
Temperature	68.7°F	70.2°F	72°F - 78°F
Carbon Monoxide	0 ppm	0.3 ppm	<25 ppm (8-hr TWA)
Ozone	0.02 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10E: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	7.9	7.8	6.5 - 8.5
Free Available Chlorine	0.13	0.00	> 0 mg/L; < 4 mg/L

Appendix 6: MAF FOXTROT (F-01) Results, Sampled on 11 April 2024

Table 1F: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2F: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2F: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3F: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	<0.10	<0.10	10

Table 4F: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.58	<0.21	30

Table 5F: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6F: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00046	<0.00049	0.0005
PCB-1221	<0.00046	<0.00049	0.0005
PCB-1232	<0.00046	<0.00049	0.0005
PCB-1242	<0.00046	<0.00049	0.0005
PCB-1248	<0.00046	<0.00049	0.0005
PCB-1254	<0.00046	<0.00049	0.0005
PCB-1260	<0.00046	<0.00049	0.0005
Total PCBs	<0.00046	<0.00049	0.0005

Table 7F: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00021	<0.0002	N/A
4,4'-DDE	<0.00021	<0.0002	N/A
Acenaphthene	<0.0001	<0.000098	N/A
Acenaphthylene	<0.0001	<0.000098	N/A
Alachlor	<0.00021	<0.0002	0.002
Aldrin	<0.00021	<0.0002	N/A
Anthracene	<0.00021	<0.0002	N/A
Atrazine	<0.00021	<0.0002	0.003
Benzo[a]anthracene	<0.0001	<0.000098	0.0001
Benzo[a]pyrene	<0.0001	<0.000098	0.0002
Benzo[b]fluoranthene	<0.0001	<0.000098	0.0002
Benzo[g,h,i]perylene	<0.0001	<0.000098	N/A
Benzo[k]fluoranthene	<0.0001	<0.000098	0.0002
Bis(2-Ethylhexyl)phthalate	<0.001	<0.00098	0.006
Butachlor	<0.00021	<0.0002	N/A
Butylbenzylphthalate	<0.001	<0.00098	N/A
Chrysene	<0.0001	<0.000098	0.0002
Di(2-ethylhexyl)adipate	<0.001	<0.00098	0.40
Dieldrin	<0.00021	<0.0002	N/A
Diethylphthalate	<0.0001	<0.000098	N/A
Dimethylphthalate	<0.0001	<0.000098	N/A
Di-n-butylphthalate	<0.0001	<0.000098	N/A
Endrin	<0.00021	<0.0002	0.002
EPTC	<0.00021	<0.0002	N/A
Fluoranthene	<0.0001	<0.000098	N/A
Fluorene	<0.0001	<0.000098	N/A
gamma-BHC (Lindane)	<0.0001	<0.000098	0.0002
Heptachlor	<0.0001	<0.000098	0.0004
Heptachlor Epoxide	<0.0001	<0.000098	0.0002
Hexachlorobenzene	<0.0001	<0.000098	0.001
Hexachlorocyclopentadiene	<0.00021	<0.0002	0.05
Indeno[1,2,3-cd]pyrene	<0.0001	<0.000098	0.0004
Methoxychlor	<0.00021	<0.0002	0.04
Metribuzin	<0.00021	<0.0002	N/A
Molinate	<0.00021	<0.0002	N/A
Naphthalene	<0.00021	<0.0002	N/A
Phenanthrene	<0.0001	<0.000098	N/A

Table 7F: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00021	<0.0002	N/A
Pyrene	<0.0001	<0.000098	0.0002
Simazine	<0.00021	<0.0002	0.004
Terbacil	<0.00052	<0.00049	N/A
Trifluralin	<0.00021	<0.0002	N/A

Table 8F: Soil Sampling Results

Analyte	SE Corner Outside Fenceline (mg/kg-dry)	NE Corner Outside Fenceline (mg/kg-dry)	NW Corner Outside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0290	<0.0304	<0.0299
Phorate	<0.0290	<0.0304	<0.0299
Parathion	<0.0290	<0.0304	<0.0299
Methamidophos	<0.0290	<0.0304	<0.0299
Malathion	<0.0290	<0.0304	<0.0299
Ethoprop	<0.0290	<0.0304	<0.0299
Dicrotophos	<0.0290	<0.0304	<0.0299
Diazinon	<0.0290	<0.0304	<0.0299
Chlorpyrifos	<0.0290	<0.0304	<0.0299
Terbufos	<0.0290	<0.0304	<0.0299

Table 8F: Soil Sampling Results Cont.

Analyte	SW Corner Outside Fenceline (mg/kg-dry)	Behind MAF Outside Air Intake Vent (mg/kg-dry)	Behind MAF (mg/kg-dry)
Methyl Parathion	<0.0289	<0.0285	<0.0293
Phorate	<0.0289	<0.0285	<0.0293
Parathion	<0.0289	<0.0285	<0.0293
Methamidophos	<0.0289	<0.0285	<0.0293
Malathion	<0.0289	<0.0285	<0.0293
Ethoprop	<0.0289	<0.0285	<0.0293
Dicrotophos	<0.0289	<0.0285	<0.0293
Diazinon	<0.0289	<0.0285	<0.0293
Chlorpyrifos	<0.0289	<0.0285	<0.0293
Terbufos	<0.0289	<0.0285	<0.0293

Table 9F: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	582 ppm	663 ppm	<1000 ppm
Relative Humidity	25.7%	22.5%	30% - 60%
Temperature	69.4°F	67.4°F	72°F - 78°F
Carbon Monoxide	0.3 ppm	2.0 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10F: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	8.4	8.2	6.5 - 8.5
Free Available Chlorine	0.84	0.86	> 0 mg/L; < 4 mg/L

Appendix 7: MAF GOLF (G-01) Results, Sampled on 13 April 2024

Table 1G: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2G: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2G: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3G: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	<0.10	<0.10	10

Table 4G: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.50	<0.31	30

Table 5G: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6G: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00048	<0.00049	0.0005
PCB-1221	<0.00048	<0.00049	0.0005
PCB-1232	<0.00048	<0.00049	0.0005
PCB-1242	<0.00048	<0.00049	0.0005
PCB-1248	<0.00048	<0.00049	0.0005
PCB-1254	<0.00048	<0.00049	0.0005
PCB-1260	<0.00048	<0.00049	0.0005
Total PCBs	<0.00048	<0.00049	0.0005

Table 7G: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.0002	<0.0002	N/A
4,4'-DDE	<0.0002	<0.0002	N/A
Acenaphthene	<0.0001	<0.0001	N/A
Acenaphthylene	<0.0001	<0.0001	N/A
Alachlor	<0.0002	<0.0002	0.002
Aldrin	<0.0002	<0.0002	N/A
Anthracene	<0.0002	<0.0002	N/A
Atrazine	<0.0002	<0.0002	0.003
Benzo[a]anthracene	<0.0001	<0.0001	0.0001
Benzo[a]pyrene	<0.0001	<0.0001	0.0002
Benzo[b]fluoranthene	<0.0001	<0.0001	0.0002
Benzo[g,h,i]perylene	<0.0001	<0.0001	N/A
Benzo[k]fluoranthene	<0.0001	<0.0001	0.0002
Bis(2-Ethylhexyl)phthalate	<0.001	<0.001	0.006
Butachlor	<0.0002	<0.0002	N/A
Butylbenzylphthalate	<0.001	<0.001	N/A
Chrysene	<0.0001	<0.0001	0.0002
Di(2-ethylhexyl)adipate	<0.001	<0.001	0.40
Dieldrin	<0.0002	<0.0002	N/A
Diethylphthalate	<0.001	<0.001	N/A
Dimethylphthalate	<0.001	<0.001	N/A
Di-n-butylphthalate	<0.001	<0.001	N/A
Endrin	<0.0002	<0.0002	0.002
EPTC	<0.0002	<0.0002	N/A
Fluoranthene	<0.0001	<0.0001	N/A
Fluorene	<0.0001	<0.0001	N/A
gamma-BHC (Lindane)	<0.0001	<0.0001	0.0002
Heptachlor	<0.0001	<0.0001	0.0004
Heptachlor Epoxide	<0.0001	<0.0001	0.0002
Hexachlorobenzene	<0.0001	<0.0001	0.001
Hexachlorocyclopentadiene	<0.0002	<0.0002	0.05
Indeno[1,2,3-cd]pyrene	<0.0001	<0.0001	0.0004
Methoxychlor	<0.0002	<0.0002	0.04
Metribuzin	<0.0002	<0.0002	N/A
Molinate	<0.0002	<0.0002	N/A
Naphthalene	<0.0002	<0.0002	N/A
Phenanthrene	<0.0001	<0.0001	N/A

Table 7G: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.0002	<0.0002	N/A
Pyrene	<0.0001	<0.0001	0.0002
Simazine	<0.0002	<0.0002	0.004
Terbacil	<0.0005	<0.00051	N/A
Trifluralin	<0.0002	<0.0002	N/A

Table 8G: Soil Sampling Results

Analyte	NE Corner Outside Fenceline (mg/kg-dry)	NW Corner Outside Fenceline (mg/kg-dry)	SW Corner Outside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0313	<0.0316	<0.0303
Phorate	<0.0313	<0.0316	<0.0303
Parathion	<0.0313	<0.0316	<0.0303
Methamidophos	<0.0313	<0.0316	<0.0303
Malathion	<0.0313	<0.0316	<0.0303
Ethoprop	<0.0313	<0.0316	<0.0303
Dicrotophos	<0.0313	<0.0316	<0.0303
Diazinon	<0.0313	<0.0316	<0.0303
Chlorpyrifos	<0.0313	<0.0316	<0.0303
Terbufos	<0.0313	<0.0316	<0.0303

Table 8G: Soil Sampling Results Cont.

Analyte	SE Corner Outside Fenceline (mg/kg-dry)	NE Corner Inside Fence Over Capsule (mg/kg-dry)	NE Corner Inside Fence Near Air Intake Vent (mg/kg-dry)
Methyl Parathion	<0.0316	<0.0334	<0.0303
Phorate	<0.0316	<0.0334	<0.0303
Parathion	<0.0316	<0.0334	<0.0303
Methamidophos	<0.0316	<0.0334	<0.0303
Malathion	<0.0316	<0.0334	<0.0303
Ethoprop	<0.0316	<0.0334	<0.0303
Dicrotophos	<0.0316	<0.0334	<0.0303
Diazinon	<0.0316	<0.0334	<0.0303
Chlorpyrifos	<0.0316	<0.0334	<0.0303
Terbufos	<0.0316	<0.0334	<0.0303

Table 9G: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	970 ppm	644 ppm	<1000 ppm
Relative Humidity	41.3%	36.5%	30% - 60%
Temperature	66.0°F	64.0°F	72°F - 78°F
Carbon Monoxide	0.1 ppm	1.3 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10G: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	8.2	8.1	6.5 - 8.5
Free Available Chlorine	0.79	0.35	> 0 mg/L; < 4 mg/L

Appendix 8: MAF HOTEL (H-01) Results, Sampled on 11 April 2024

Table 1H: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2H: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2H: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3H: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	4.10	4.08	10

Table 4H: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.71	<0.38	30

Table 5H: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6H: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00049	<0.00049	0.0005
PCB-1221	<0.00049	<0.00049	0.0005
PCB-1232	<0.00049	<0.00049	0.0005
PCB-1242	<0.00049	<0.00049	0.0005
PCB-1248	<0.00049	<0.00049	0.0005
PCB-1254	<0.00049	<0.00049	0.0005
PCB-1260	<0.00049	<0.00049	0.0005
Total PCBs	<0.00049	<0.00049	0.0005

Table 7H: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.00021	N/A
4,4'-DDE	<0.00019	<0.00021	N/A
Acenaphthene	<0.000095	<0.00011	N/A
Acenaphthylene	<0.000095	<0.00011	N/A
Alachlor	<0.00019	<0.00021	0.002
Aldrin	<0.00019	<0.00021	N/A
Anthracene	<0.00019	<0.00021	N/A
Atrazine	<0.00019	<0.00021	0.003
Benzo[a]anthracene	<0.000095	<0.00011	0.0001
Benzo[a]pyrene	<0.000095	<0.00011	0.0002
Benzo[b]fluoranthene	<0.000095	<0.00011	0.0002
Benzo[g,h,i]perylene	<0.000095	<0.00011	N/A
Benzo[k]fluoranthene	<0.000095	<0.00011	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00095	<0.0011	0.006
Butachlor	<0.00019	<0.00021	N/A
Butylbenzylphthalate	<0.00095	<0.0011	N/A
Chrysene	<0.000095	<0.00011	0.0002
Di(2-ethylhexyl)adipate	<0.00095	<0.0011	0.40
Dieldrin	<0.00019	<0.00021	N/A
Diethylphthalate	<0.00095	<0.0011	N/A
Dimethylphthalate	<0.00095	<0.0011	N/A
Di-n-butylphthalate	<0.00095	<0.0011	N/A
Endrin	<0.00019	<0.00021	0.002
EPTC	<0.00019	<0.00021	N/A
Fluoranthene	<0.000095	<0.00011	N/A
Fluorene	<0.000095	<0.00011	N/A
gamma-BHC (Lindane)	<0.000095	<0.00011	0.0002
Heptachlor	<0.000095	<0.00011	0.0004
Heptachlor Epoxide	<0.000095	<0.00011	0.0002
Hexachlorobenzene	<0.000095	<0.00011	0.001
Hexachlorocyclopentadiene	<0.00019	<0.00021	0.05
Indeno[1,2,3-cd]pyrene	<0.000095	<0.00011	0.0004
Methoxychlor	<0.00019	<0.00021	0.04
Metribuzin	<0.00019	<0.00021	N/A
Molinate	<0.00019	<0.00021	N/A
Naphthalene	<0.00019	<0.00021	N/A
Phenanthrene	<0.000095	<0.00011	N/A

Table 7H: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.00021	N/A
Pyrene	<0.000095	<0.00011	0.0002
Simazine	<0.00019	<0.00021	0.004
Terbacil	<0.00047	<0.00053	N/A
Trifluralin	<0.00019	<0.00021	N/A

Table 8H: Soil Sampling Results

Analyte	Above Capsule (mg/kg-dry)	Above HVAC (mg/kg-dry)	SW Corner (mg/kg-dry)
Methyl Parathion	<0.0282	<0.0287	<0.0273
Phorate	<0.0282	<0.0287	<0.0273
Parathion	<0.0282	<0.0287	<0.0273
Methamidophos	<0.0282	<0.0287	<0.0273
Malathion	<0.0282	<0.0287	<0.0273
Ethoprop	<0.0282	<0.0287	<0.0273
Dicrotophos	<0.0282	<0.0287	<0.0273
Diazinon	<0.0282	<0.0287	<0.0273
Chlorpyrifos	<0.0282	<0.0287	<0.0273
Terbufos	<0.0282	<0.0287	<0.0273

Table 8H: Soil Sampling Results Cont.

Analyte	NW Corner (mg/kg-dry)	NE Corner (mg/kg-dry)	SE Corner (mg/kg-dry)
Methyl Parathion	<0.0297	<0.291	<0.292
Phorate	<0.0297	<0.291	<0.292
Parathion	<0.0297	<0.291	<0.292
Methamidophos	<0.0297	<0.291	<0.292
Malathion	<0.0297	<0.291	<0.292
Ethoprop	<0.0297	<0.291	<0.292
Dicrotophos	<0.0297	<0.291	<0.292
Diazinon	<0.0297	<0.291	<0.292
Chlorpyrifos	<0.0297	<0.291	<0.292
Terbufos	<0.0297	<0.291	<0.292

Table 9H: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	807 ppm	590 ppm	<1000 ppm
Relative Humidity	28.1%	23.3%	30% - 60%
Temperature	66.4°F	70.2°F	72°F - 78°F
Carbon Monoxide	0 ppm	0.5 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10H: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	>8.5	>8.5	6.5 - 8.5
Free Available Chlorine	0.22	0.22	> 0 mg/L; < 4 mg/L

Appendix 9: MAF INDIA (I-01) Results, Sampled on 14 April 2024

Table 1I: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2I: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2I: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3I: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	2.35	0.22	10

Table 4I: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	0.43	<0.67	30

Table 5I: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6I: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.0005	<0.00049	0.0005
PCB-1221	<0.0005	<0.00049	0.0005
PCB-1232	<0.0005	<0.00049	0.0005
PCB-1242	<0.0005	<0.00049	0.0005
PCB-1248	<0.0005	<0.00049	0.0005
PCB-1254	<0.0005	<0.00049	0.0005
PCB-1260	<0.0005	<0.00049	0.0005
Total PCBs	<0.0005	<0.00049	0.0005

Table 7I: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.00019	N/A
4,4'-DDE	<0.00019	<0.00019	N/A
Acenaphthene	<0.000095	<0.000094	N/A
Acenaphthylene	<0.000095	<0.000094	N/A
Alachlor	<0.00019	<0.00019	0.002
Aldrin	<0.00019	<0.00019	N/A
Anthracene	<0.00019	<0.00019	N/A
Atrazine	<0.00019	<0.00019	0.003
Benzo[a]anthracene	<0.000095	<0.000094	0.0001
Benzo[a]pyrene	<0.000095	<0.000094	0.0002
Benzo[b]fluoranthene	<0.000095	<0.000094	0.0002
Benzo[g,h,i]perylene	<0.000095	<0.000094	N/A
Benzo[k]fluoranthene	<0.000095	<0.000094	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00095	<0.00094	0.006
Butachlor	<0.00019	<0.00019	N/A
Butylbenzylphthalate	<0.00095	<0.00094	N/A
Chrysene	<0.000095	<0.000094	0.0002
Di(2-ethylhexyl)adipate	<0.00095	<0.00094	0.40
Dieldrin	<0.00019	<0.00019	N/A
Diethylphthalate	<0.00095	<0.00094	N/A
Dimethylphthalate	<0.00095	<0.00094	N/A
Di-n-butylphthalate	<0.00095	<0.00094	N/A
Endrin	<0.00019	<0.00019	0.002
EPTC	<0.00019	<0.00019	N/A
Fluoranthene	<0.000095	<0.000094	N/A
Fluorene	<0.000095	<0.000094	N/A
gamma-BHC (Lindane)	<0.000095	<0.000094	0.0002
Heptachlor	<0.000095	<0.000094	0.0004
Heptachlor Epoxide	<0.000095	<0.000094	0.0002
Hexachlorobenzene	<0.000095	<0.000094	0.001
Hexachlorocyclopentadiene	<0.00019	<0.00019	0.05
Indeno[1,2,3-cd]pyrene	<0.000095	<0.000094	0.0004
Methoxychlor	<0.00019	<0.00019	0.04
Metribuzin	<0.00019	<0.00019	N/A
Molinate	<0.00019	<0.00019	N/A
Naphthalene	<0.00019	<0.00019	N/A
Phenanthrene	<0.000095	<0.000094	N/A

Table 7I: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.00019	N/A
Pyrene	<0.000095	<0.000094	0.0002
Simazine	<0.00019	<0.00019	0.004
Terbacil	<0.00048	<0.00047	N/A
Trifluralin	<0.00019	<0.00019	N/A

Table 8I: Soil Sampling Results

Analyte	5 Feet From MAF Intake Vent (mg/kg-dry)	17 Feet From UHF Radio Antenna (mg/kg-dry)	SW of MAF, 17 Feet From Fence Post Corner (mg/kg-dry)
Methyl Parathion	<0.0308	<0.0306	<0.0291
Phorate	<0.0308	<0.0306	<0.0291
Parathion	<0.0308	<0.0306	<0.0291
Methamidophos	<0.0308	<0.0306	<0.0291
Malathion	<0.0308	<0.0306	<0.0291
Ethoprop	<0.0308	<0.0306	<0.0291
Dicrotophos	<0.0308	<0.0306	<0.0291
Diazinon	<0.0308	<0.0306	<0.0291
Chlorpyrifos	<0.0308	<0.0306	<0.0291
Terbufos	<0.0308	<0.0306	<0.0291

Table 8I: Soil Sampling Results Cont.

Analyte	NW of MAF, 14 Feet from Fence Post Corner (mg/kg-dry)	NW of MAF, 6 Feet from Fence Post Corner (mg/kg-dry)	NW of MAF, 20 Feet from Fence Post Corner (mg/kg-dry)
Methyl Parathion	<0.0292	<0.0286	<0.0273
Phorate	<0.0292	<0.0286	<0.0273
Parathion	<0.0292	<0.0286	<0.0273
Methamidophos	<0.0292	<0.0286	<0.0273
Malathion	<0.0292	<0.0286	<0.0273
Ethoprop	<0.0292	<0.0286	<0.0273
Dicrotophos	<0.0292	<0.0286	<0.0273
Diazinon	<0.0292	<0.0286	<0.0273
Chlorpyrifos	<0.0292	<0.0286	<0.0273
Terbufos	<0.0292	<0.0286	<0.0273

Table 9I: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	768 ppm	460 ppm	<1000 ppm
Relative Humidity	40.6 %	33.2%	30% - 60%
Temperature	64.3°F	66.9°F	72°F - 78°F
Carbon Monoxide	0 ppm	5.7 ppm	<25 ppm (8-hr TWA)
Ozone	0.01 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10I: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	7.3	7.3	6.5 - 8.5
Free Available Chlorine	0.18	0.03	> 0 mg/L; < 4 mg/L

Appendix 10: MAF JULIET (J-01) Results, Sampled on 14 April 2024

Table 1J: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2J: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2J: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3J: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	3.68	3.69	10

Table 4J: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.22	<0.38	30

Table 5J: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6J: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.0005	<0.00049	0.0005
PCB-1221	<0.0005	<0.00049	0.0005
PCB-1232	<0.0005	<0.00049	0.0005
PCB-1242	<0.0005	<0.00049	0.0005
PCB-1248	<0.0005	<0.00049	0.0005
PCB-1254	<0.0005	<0.00049	0.0005
PCB-1260	<0.0005	<0.00049	0.0005
Total PCBs	<0.0005	<0.00049	0.0005

Table 7J: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.00019	N/A
4,4'-DDE	<0.00019	<0.00019	N/A
Acenaphthene	<0.000093	<0.000095	N/A
Acenaphthylene	<0.000093	<0.000095	N/A
Alachlor	<0.00019	<0.00019	0.002
Aldrin	<0.00019	<0.00019	N/A
Anthracene	<0.00019	<0.00019	N/A
Atrazine	<0.00019	<0.00019	0.003
Benzo[a]anthracene	<0.000093	<0.000095	0.0001
Benzo[a]pyrene	<0.000093	<0.000095	0.0002
Benzo[b]fluoranthene	<0.000093	<0.000095	0.0002
Benzo[g,h,i]perylene	<0.000093	<0.000095	N/A
Benzo[k]fluoranthene	<0.000093	<0.000095	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00093	<0.00095	0.006
Butachlor	<0.00019	<0.00019	N/A
Butylbenzylphthalate	<0.00095	<0.00095	N/A
Chrysene	<0.00093	<0.000095	0.0002
Di(2-ethylhexyl)adipate	<0.00093	<0.00095	0.40
Dieldrin	<0.00019	<0.00019	N/A
Diethylphthalate	<0.00093	<0.000095	N/A
Dimethylphthalate	<0.00093	<0.000095	N/A
Di-n-butylphthalate	<0.00093	<0.000095	N/A
Endrin	<0.00019	<0.00019	0.002
EPTC	<0.00019	<0.00019	N/A
Fluoranthene	<0.000093	<0.000095	N/A
Fluorene	<0.000093	<0.000095	N/A
gamma-BHC (Lindane)	<0.000093	<0.000095	0.0002
Heptachlor	<0.000093	<0.000095	0.0004
Heptachlor Epoxide	<0.000093	<0.000095	0.0002
Hexachlorobenzene	<0.000093	<0.000095	0.001
Hexachlorocyclopentadiene	<0.00019	<0.00019	0.05
Indeno[1,2,3-cd]pyrene	<0.000093	<0.000095	0.0004
Methoxychlor	<0.00019	<0.00019	0.04
Metribuzin	<0.00019	<0.00019	N/A
Molinate	<0.00019	<0.00019	N/A
Naphthalene	<0.00019	<0.00019	N/A
Phenanthrene	<0.000093	<0.000095	N/A

Table 7J: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.00019	N/A
Pyrene	<0.000093	<0.000095	0.0002
Simazine	<0.00019	<0.00019	0.004
Terbacil	<0.00047	<0.00048	N/A
Trifluralin	<0.00019	<0.00019	N/A

Table 8J: Soil Sampling Results

Analyte	NW of MAF Outside Fenceline (mg/kg-dry)	SW of MAF Outside Fenceline (mg/kg-dry)	SE of MAF Outside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0303	<0.0318	<0.0298
Phorate	<0.0303	<0.0318	<0.0298
Parathion	<0.0303	<0.0318	<0.0298
Methamidophos	<0.0303	<0.0318	<0.0298
Malathion	<0.0303	<0.0318	<0.0298
Ethoprop	<0.0303	<0.0318	<0.0298
Dicrotophos	<0.0303	<0.0318	<0.0298
Diazinon	<0.0303	<0.0318	<0.0298
Chlorpyrifos	<0.0303	<0.0318	<0.0298
Terbufos	<0.0303	<0.0318	<0.0298

Table 8J: Soil Sampling Results Cont.

Analyte	SW of MAF Outside Fenceline (mg/kg-dry)	Behind MAF Outside Air Intake Vent (mg/kg-dry)	Above Capsule (mg/kg-dry)
Methyl Parathion	<0.0300	<0.0285	<0.0315
Phorate	<0.0300	<0.0285	<0.0315
Parathion	<0.0300	<0.0285	<0.0315
Methamidophos	<0.0300	<0.0285	<0.0315
Malathion	<0.0300	<0.0285	<0.0315
Ethoprop	<0.0300	<0.0285	<0.0315
Dicrotophos	<0.0300	<0.0285	<0.0315
Diazinon	<0.0300	<0.0285	<0.0315
Chlorpyrifos	<0.0300	<0.0285	<0.0315
Terbufos	<0.0300	<0.0285	<0.0315

Table 9J: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	654 ppm	560 ppm	<1000 ppm
Relative Humidity	35.0%	31.4%	30% - 60%
Temperature	63.8°F	66.2°F	72°F - 78°F
Carbon Monoxide	0 ppm	0.01 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10J: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	7.9	8.2	6.5 - 8.5
Free Available Chlorine	0.18	0.16	> 0 mg/L; < 4 mg/L

Appendix 11: MAF KILO (K-01) Results, Sampled on 12 April 2024

Table 1K: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2K: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2K: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	17	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3K: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	<0.10	<0.10	10

Table 4K: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.24	<0.25	30

Table 5K: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6K: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00049	<0.0005	0.0005
PCB-1221	<0.00049	<0.0005	0.0005
PCB-1232	<0.00049	<0.0005	0.0005
PCB-1242	<0.00049	<0.0005	0.0005
PCB-1248	<0.00049	<0.0005	0.0005
PCB-1254	<0.00049	<0.0005	0.0005
PCB-1260	<0.00049	<0.0005	0.0005
Total PCBs	<0.00049	<0.0005	0.0005

Table 7K: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.0002	N/A
4,4'-DDE	<0.00019	<0.0002	N/A
Acenaphthene	<0.000096	<0.000098	N/A
Acenaphthylene	<0.000096	<0.000098	N/A
Alachlor	<0.00019	<0.0002	0.002
Aldrin	<0.00019	<0.0002	N/A
Anthracene	<0.00019	<0.0002	N/A
Atrazine	<0.00019	<0.0002	0.003
Benzo[a]anthracene	<0.000096	<0.000098	0.0001
Benzo[a]pyrene	<0.000096	<0.000098	0.0002
Benzo[b]fluoranthene	<0.000096	<0.000098	0.0002
Benzo[g,h,i]perylene	<0.000096	<0.000098	N/A
Benzo[k]fluoranthene	<0.000096	<0.000098	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00096	<0.00098	0.006
Butachlor	<0.00019	<0.0002	N/A
Butylbenzylphthalate	<0.00096	<0.00098	N/A
Chrysene	<0.000096	<0.000098	0.0002
Di(2-ethylhexyl)adipate	<0.00096	<0.00098	0.40
Dieldrin	<0.00019	<0.0002	N/A
Diethylphthalate	<0.00096	<0.00098	N/A
Dimethylphthalate	<0.00096	<0.00098	N/A
Di-n-butylphthalate	<0.00096	<0.00098	N/A
Endrin	<0.00019	<0.0002	0.002
EPTC	<0.00019	<0.0002	N/A
Fluoranthene	<0.000096	<0.000098	N/A
Fluorene	<0.000096	<0.000098	N/A
gamma-BHC (Lindane)	<0.000096	<0.000098	0.0002
Heptachlor	<0.000096	<0.000098	0.0004
Heptachlor Epoxide	<0.000096	<0.000098	0.0002
Hexachlorobenzene	<0.000096	<0.000098	0.001
Hexachlorocyclopentadiene	<0.00019	<0.0002	0.05
Indeno[1,2,3-cd]pyrene	<0.000096	<0.000098	0.0004
Methoxychlor	<0.00019	<0.0002	0.04
Metribuzin	<0.00019	<0.0002	N/A
Molinate	<0.00019	<0.0002	N/A
Naphthalene	<0.00019	<0.0002	N/A
Phenanthrene	<0.000096	<0.000098	N/A

Table 7K: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.0002	N/A
Pyrene	<0.000096	<0.000098	0.0002
Simazine	<0.00019	<0.0002	0.004
Terbacil	<0.00048	<0.00049	N/A
Trifluralin	<0.00019	<0.0002	N/A

Table 8K: Soil Sampling Results

Analyte	SW Corner Near Fenceline (mg/kg-dry)	NW Corner Near Fenceline (mg/kg-dry)	NE Corner Near Fenceline (mg/kg-dry)
Methyl Parathion	<0.0308	<0.0291	<0.0268
Phorate	<0.0308	<0.0291	<0.0268
Parathion	<0.0308	<0.0291	<0.0268
Methamidophos	<0.0308	<0.0291	<0.0268
Malathion	<0.0308	<0.0291	<0.0268
Ethoprop	<0.0308	<0.0291	<0.0268
Dicrotophos	<0.0308	<0.0291	<0.0268
Diazinon	<0.0308	<0.0291	<0.0268
Chlorpyrifos	<0.0308	<0.0291	<0.0268
Terbufos	<0.0308	<0.0291	<0.0268

Table 8K: Soil Sampling Results Cont.

Analyte	SE Corner Near Fenceline (mg/kg-dry)	Outside MAF Above Air Intake Vent (mg/kg-dry)	Inside MAF Fence (mg/kg-dry)
Methyl Parathion	<0.0293	<0.0287	<0.0289
Phorate	<0.0293	<0.0287	<0.0289
Parathion	<0.0293	<0.0287	<0.0289
Methamidophos	<0.0293	<0.0287	<0.0289
Malathion	<0.0293	<0.0287	<0.0289
Ethoprop	<0.0293	<0.0287	<0.0289
Dicrotophos	<0.0293	<0.0287	<0.0289
Diazinon	<0.0293	<0.0287	<0.0289
Chlorpyrifos	<0.0293	<0.0287	<0.0289
Terbufos	<0.0293	<0.0287	<0.0289

Table 9K: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	620 ppm	713 ppm	<1000 ppm
Relative Humidity	25.8%	26.1%	30% - 60%
Temperature	61.2°F	68.1°F	72°F - 78°F
Carbon Monoxide	0.7 ppm	0.3 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10K: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	>8.5	Not Taken	6.5 - 8.5
Free Available Chlorine	0.95	Not Taken	> 0 mg/L; < 4 mg/L

Appendix 12: MAF LIMA (L-01) Results, Sampled on 15 April 2024

Table 1L: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2L: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2L: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3L: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	0.13	0.14	10

Table 4L: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.34	<0.34	30

Table 5L: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6L: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.0005	<0.0005	0.0005
PCB-1221	<0.0005	<0.0005	0.0005
PCB-1232	<0.0005	<0.0005	0.0005
PCB-1242	<0.0005	<0.0005	0.0005
PCB-1248	<0.0005	<0.0005	0.0005
PCB-1254	<0.0005	<0.0005	0.0005
PCB-1260	<0.0005	<0.0005	0.0005
Total PCBs	<0.0005	<0.0005	0.0005

Table 7L: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.0002	N/A
4,4'-DDE	<0.00019	<0.0002	N/A
Acenaphthene	<0.000095	<0.000098	N/A
Acenaphthylene	<0.000095	<0.000098	N/A
Alachlor	<0.00019	<0.0002	0.002
Aldrin	<0.00019	<0.0002	N/A
Anthracene	<0.00019	<0.0002	N/A
Atrazine	<0.00019	<0.0002	0.003
Benzo[a]anthracene	<0.000095	<0.000098	0.0001
Benzo[a]pyrene	<0.000095	<0.000098	0.0002
Benzo[b]fluoranthene	<0.000095	<0.000098	0.0002
Benzo[g,h,i]perylene	<0.000095	<0.000098	N/A
Benzo[k]fluoranthene	<0.000095	<0.000098	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00095	<0.00098	0.006
Butachlor	<0.00019	<0.0002	N/A
Butylbenzylphthalate	<0.00095	<0.00098	N/A
Chrysene	<0.000095	<0.000098	0.0002
Di(2-ethylhexyl)adipate	<0.00095	<0.00098	0.40
Dieldrin	<0.00019	<0.0002	N/A
Diethylphthalate	<0.00095	<0.00098	N/A
Dimethylphthalate	<0.00095	<0.00098	N/A
Di-n-butylphthalate	<0.00095	<0.00098	N/A
Endrin	<0.00019	<0.0002	0.002
EPTC	<0.00019	<0.0002	N/A
Fluoranthene	<0.000095	<0.000098	N/A
Fluorene	<0.000095	<0.000098	N/A
gamma-BHC (Lindane)	<0.000095	<0.000098	0.0002
Heptachlor	<0.000095	<0.000098	0.0004
Heptachlor Epoxide	<0.000095	<0.000098	0.0002
Hexachlorobenzene	<0.000095	<0.000098	0.001
Hexachlorocyclopentadiene	<0.00019	<0.0002	0.05
Indeno[1,2,3-cd]pyrene	<0.000095	<0.000098	0.0004
Methoxychlor	<0.00019	<0.0002	0.04
Metribuzin	<0.00019	<0.0002	N/A
Molinate	<0.00019	<0.0002	N/A
Naphthalene	<0.00019	<0.0002	N/A
Phenanthrene	<0.000095	<0.000098	N/A

Table 7L: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.0002	N/A
Pyrene	<0.000095	<0.000098	0.0002
Simazine	<0.00019	<0.0002	0.004
Terbacil	<0.00048	<0.00049	N/A
Trifluralin	<0.00019	<0.0002	N/A

Table 8L: Soil Sampling Results

Analyte	NE Corner of MAF Outside Fenceline (mg/kg-dry)	SE Corner of MAF Outside Fenceline (mg/kg-dry)	SW Corner Outside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0292	<0.0308	<0.0297
Phorate	<0.0292	<0.0308	<0.0297
Parathion	<0.0292	<0.0308	<0.0297
Methamidophos	<0.0292	<0.0308	<0.0297
Malathion	<0.0292	<0.0308	<0.0297
Ethoprop	<0.0292	<0.0308	<0.0297
Dicrotophos	<0.0292	<0.0308	<0.0297
Diazinon	<0.0292	<0.0308	<0.0297
Chlorpyrifos	<0.0292	<0.0308	<0.0297
Terbufos	<0.0292	<0.0308	<0.0297

Table 8L: Soil Sampling Results Cont.

Analyte	NW Corner Outside Fenceline (mg/kg-dry)	Behind MAF Outside Air Intake Vent (mg/kg-dry)	Above Capsule Behind MAF (mg/kg-dry)
Methyl Parathion	<0.0298	<0.0287	<0.0291
Phorate	<0.0298	<0.0287	<0.0291
Parathion	<0.0298	<0.0287	<0.0291
Methamidophos	<0.0298	<0.0287	<0.0291
Malathion	<0.0298	<0.0287	<0.0291
Ethoprop	<0.0298	<0.0287	<0.0291
Dicrotophos	<0.0298	<0.0287	<0.0291
Diazinon	<0.0298	<0.0287	<0.0291
Chlorpyrifos	<0.0298	<0.0287	<0.0291
Terbufos	<0.0298	<0.0287	<0.0291

Table 9L: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	738 ppm	603 ppm	<1000 ppm
Relative Humidity	42.4%	33.7%	30% - 60%
Temperature	66.7°F	57.6°F	72°F - 78°F
Carbon Monoxide	0.7 ppm	1.9 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0.1 ppm	<0.1 ppm (8-hr TWA)

Table 10L: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	8.0	>8.5	6.5 - 8.5
Free Available Chlorine	0.21	0.40	> 0 mg/L; < 4 mg/L

Appendix 13: MAF MIKE (M-01) Results, Sampled on 8 April 2024

Table 1M: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2M: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2M: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3M: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	2.35	2.36	10

Table 4M: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	0.43	<0.24	30

Table 5M: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6M: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.0005	<0.0005	0.0005
PCB-1221	<0.0005	<0.0005	0.0005
PCB-1232	<0.0005	<0.0005	0.0005
PCB-1242	<0.0005	<0.0005	0.0005
PCB-1248	<0.0005	<0.0005	0.0005
PCB-1254	<0.0005	<0.0005	0.0005
PCB-1260	<0.0005	<0.0005	0.0005
Total PCBs	<0.0005	<0.0005	0.0005

Table 7M: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00019	<0.00019	N/A
4,4'-DDE	<0.00019	<0.00019	N/A
Acenaphthene	<0.000095	<0.000095	N/A
Acenaphthylene	<0.000095	<0.000095	N/A
Alachlor	<0.00019	<0.00019	0.002
Aldrin	<0.00019	<0.00019	N/A
Anthracene	<0.00019	<0.00019	N/A
Atrazine	<0.00019	<0.00019	0.003
Benzo[a]anthracene	<0.000095	<0.000095	0.0001
Benzo[a]pyrene	<0.000095	<0.000095	0.0002
Benzo[b]fluoranthene	<0.000095	<0.000095	0.0002
Benzo[g,h,i]perylene	<0.000095	<0.000095	N/A
Benzo[k]fluoranthene	<0.000095	<0.000095	0.0002
Bis(2-Ethylhexyl)phthalate	<0.00095	<0.00095	0.006
Butachlor	<0.00019	<0.00019	N/A
Butylbenzylphthalate	<0.00095	<0.00095	N/A
Chrysene	<0.000095	<0.000095	0.0002
Di(2-ethylhexyl)adipate	<0.00095	<0.00095	0.40
Dieldrin	<0.00019	<0.00019	N/A
Diethylphthalate	<0.00095	<0.00095	N/A
Dimethylphthalate	<0.00095	<0.00095	N/A
Di-n-butylphthalate	<0.00095	<0.00095	N/A
Endrin	<0.00019	<0.00019	0.002
EPTC	<0.00019	<0.00019	N/A
Fluoranthene	<0.000095	<0.000095	N/A
Fluorene	<0.000095	<0.000095	N/A
gamma-BHC (Lindane)	<0.000095	<0.000095	0.0002
Heptachlor	<0.000095	<0.000095	0.0004
Heptachlor Epoxide	<0.000095	<0.000095	0.0002
Hexachlorobenzene	<0.000095	<0.000095	0.001
Hexachlorocyclopentadiene	<0.00019	<0.00019	0.05
Indeno[1,2,3-cd]pyrene	<0.000095	<0.000095	0.0004
Methoxychlor	<0.00019	<0.00019	0.04
Metribuzin	<0.00019	<0.00019	N/A
Molinate	<0.00019	<0.00019	N/A
Naphthalene	<0.00019	<0.00019	N/A
Phenanthrene	<0.000095	<0.000095	N/A

Table 7M: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00019	<0.00019	N/A
Pyrene	<0.000095	<0.000095	0.0002
Simazine	<0.00019	<0.00019	0.004
Terbacil	<0.00048	<0.00048	N/A
Trifluralin	<0.00019	<0.00019	N/A

Table 8M: Soil Sampling Results

Analyte	Inside MAF Fenceline (mg/kg-dry)	NE Corner Near Fenceline (mg/kg-dry)	Behind MAF Near Air Intake Vent Next to MAF (mg/kg-dry)
Methyl Parathion	<0.0306	<0.0325	<0.0366
Phorate	<0.0306	<0.0325	<0.0366
Parathion	<0.0306	<0.0325	<0.0366
Methamidophos	<0.0306	<0.0325	<0.0366
Malathion	<0.0306	<0.0325	<0.0366
Ethoprop	<0.0306	<0.0325	<0.0366
Dicrotophos	<0.0306	<0.0325	<0.0366
Diazinon	<0.0306	<0.0325	<0.0366
Chlorpyrifos	<0.0306	<0.0325	<0.0366
Terbufos	<0.0306	<0.0325	<0.0366

Table 8M: Soil Sampling Results Cont.

Analyte	NW Corner Near Fenceline (mg/kg-dry)	SW Corner Near Fenceline (mg/kg-dry)	SE Corner Near Fenceline (mg/kg-dry)
Methyl Parathion	<0.0325	<0.0295	<0.0291
Phorate	<0.0325	<0.0295	<0.0291
Parathion	<0.0325	<0.0295	<0.0291
Methamidophos	<0.0325	<0.0295	<0.0291
Malathion	<0.0325	<0.0295	<0.0291
Ethoprop	<0.0325	<0.0295	<0.0291
Dicrotophos	<0.0325	<0.0295	<0.0291
Diazinon	<0.0325	<0.0295	<0.0291
Chlorpyrifos	<0.0325	<0.0295	<0.0291
Terbufos	<0.0325	<0.0295	<0.0291

Table 9M: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	535 ppm	568 ppm	<1000 ppm
Relative Humidity	25.8%	30.9%	30% - 60%
Temperature	66.7°F	67.5°F	72°F - 78°F
Carbon Monoxide	0 ppm	1.0 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10M: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	Not Taken	Not Taken	6.5 - 8.5
Free Available Chlorine	0.39	0.15	> 0 mg/L; < 4 mg/L

Appendix 14: MAF NOVEMBER (N-01) Results, Sampled on 12 April 2024

Table 1N: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2N: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2N: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride (Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3N: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	0.10	0.10	10

Table 4N: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.41	<0.28	30

Table 5N: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6N: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00049	<0.00049	0.0005
PCB-1221	<0.00049	<0.00049	0.0005
PCB-1232	<0.00049	<0.00049	0.0005
PCB-1242	<0.00049	<0.00049	0.0005
PCB-1248	<0.00049	<0.00049	0.0005
PCB-1254	<0.00049	<0.00049	0.0005
PCB-1260	<0.00049	<0.00049	0.0005
Total PCBs	<0.00049	<0.00049	0.0005

Table 7N: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.00021	<0.0002	N/A
4,4'-DDE	<0.00021	<0.0002	N/A
Acenaphthene	<0.0001	<0.000099	N/A
Acenaphthylene	<0.0001	<0.000099	N/A
Alachlor	<0.00021	<0.0002	0.002
Aldrin	<0.00021	<0.0002	N/A
Anthracene	<0.00021	<0.0002	N/A
Atrazine	<0.00021	<0.0002	0.003
Benzo[a]anthracene	<0.0001	<0.000099	0.0001
Benzo[a]pyrene	<0.0001	<0.000099	0.0002
Benzo[b]fluoranthene	<0.0001	<0.000099	0.0002
Benzo[g,h,i]perylene	<0.0001	<0.000099	N/A
Benzo[k]fluoranthene	<0.0001	<0.000099	0.0002
Bis(2-Ethylhexyl)phthalate	<0.001	<0.00099	0.006
Butachlor	<0.00021	<0.0002	N/A
Butylbenzylphthalate	<0.001	<0.00099	N/A
Chrysene	<0.0001	<0.000099	0.0002
Di(2-ethylhexyl)adipate	<0.001	<0.00099	0.40
Dieldrin	<0.00021	<0.0002	N/A
Diethylphthalate	<0.001	<0.00099	N/A
Dimethylphthalate	<0.001	<0.00099	N/A
Di-n-butylphthalate	<0.001	<0.00099	N/A
Endrin	<0.00021	<0.0002	0.002
EPTC	<0.00021	<0.0002	N/A
Fluoranthene	<0.0001	<0.000099	N/A
Fluorene	<0.0001	<0.000099	N/A
gamma-BHC (Lindane)	<0.0001	<0.000099	0.0002
Heptachlor	<0.0001	<0.000099	0.0004
Heptachlor Epoxide	<0.0001	<0.000099	0.0002
Hexachlorobenzene	<0.0001	<0.000099	0.001
Hexachlorocyclopentadiene	<0.00021	<0.0002	0.05
Indeno[1,2,3-cd]pyrene	<0.0001	<0.000099	0.0004
Methoxychlor	<0.00021	<0.0002	0.04
Metribuzin	<0.00021	<0.0002	N/A
Molinate	<0.00021	<0.0002	N/A
Naphthalene	<0.00021	<0.0002	N/A
Phenanthrene	<0.0001	<0.000099	N/A

Table 7N: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.00021	<0.0002	N/A
Pyrene	<0.0001	<0.000099	0.0002
Simazine	<0.00021	<0.0002	0.004
Terbacil	<0.00052	<0.00049	N/A
Trifluralin	<0.00021	<0.0002	N/A

Table 8N: Soil Sampling Results

Analyte	4 Feet from Air Intake Vent (mg/kg-dry)	Center of MAF (mg/kg-dry)	SW of MAF Outside of Fenceline (mg/kg-dry)
Methyl Parathion	<0.0284	<0.0287	<0.0294
Phorate	<0.0284	<0.0287	<0.0294
Parathion	<0.0284	<0.0287	<0.0294
Methamidophos	<0.0284	<0.0287	<0.0294
Malathion	<0.0284	<0.0287	<0.0294
Ethoprop	<0.0284	<0.0287	<0.0294
Dicrotophos	<0.0284	<0.0287	<0.0294
Diazinon	<0.0284	<0.0287	<0.0294
Chlorpyrifos	<0.0284	<0.0287	<0.0294
Terbufos	<0.0284	<0.0287	<0.0294

Table 8N: Soil Sampling Results Cont.

Analyte	Air Handler Corner 4 Feet from Fence (mg/kg-dry)	SE Corner Outside Fenceline By Antenna & Windmill (mg/kg-dry)	NE Corner Outside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0288	<0.0283	<0.0289
Phorate	<0.0288	<0.0283	<0.0289
Parathion	<0.0288	<0.0283	<0.0289
Methamidophos	<0.0288	<0.0283	<0.0289
Malathion	<0.0288	<0.0283	<0.0289
Ethoprop	<0.0288	<0.0283	<0.0289
Dicrotophos	<0.0288	<0.0283	<0.0289
Diazinon	<0.0288	<0.0283	<0.0289
Chlorpyrifos	<0.0288	<0.0283	<0.0289
Terbufos	<0.0288	<0.0283	<0.0289

Table 9N: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	561 ppm	580 ppm	<1000 ppm
Relative Humidity	26.6%	33.5%	30% - 60%
Temperature	64.0°F	70.0°F	72°F - 78°F
Carbon Monoxide	0 ppm	2.3 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10N: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	Not Taken	8.1	6.5 - 8.5
Free Available Chlorine	0.72	0.11	> 0 mg/L; < 4 mg/L

Appendix 15: MAF OSCAR (O-01) Results, Sampled on 9 April 2024

Table 1O: Air Sampling Results – Organophosphates

Analyte	LCC Result (mg/m^3)	Topside Result (mg/m^3)
Chloropyrifos (Dursban)	<0.0026	<0.0026
Diazinon	<0.0026	<0.0026
Dicrotophos	<0.0026	<0.0026
Ethoprophos (Mocap)	<0.0026	<0.0026
Malathion	<0.0026	<0.0026
Methamidophos	<0.0026	<0.0026
Methyl Parathion	<0.0026	<0.0026
Parathion (Parathion Ethyl)	<0.0026	<0.0026
Phorate	<0.0026	<0.0026
Terbufos	<0.0026	<0.0026

Table 2O: Air Sampling Results – VOCs

Analyte	LCC Result ($\mu g/m^3$)	Topside Result ($\mu g/m^3$)
1,1,1,2-Tetrachloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
1,1,2,2-Tetrachloroethane	<10	<10
1,1,2-Trichloroethane	<10	<10
1,1-Dichloroethane	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloropropylene	<10	<10
1,2,3-Trichlorobenzene	<10	<10
1,2,3-Trichloropropane	<10	<10
1,2,4-Trichlorobenzene	<10	<10
1,2,4-Trimethylbenzene	<10	<10
1,2-Dibromo-3-chloropropane (DBCP)	<10	<10
Ethylene Dibromide	<10	<10
1,2-Dichlorobenzene	<10	<10

Table 2O: Air Sampling Results – VOCs Cont.

Analyte	LCC Result (µg/m^3)	Topside Result (µg/m^3)
1,2-Dichloroethane	<10	<10
1,2-Dichloropropane	<10	<10
1,3,5-Trimethylbenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,3-Dichloropropane	<10	<10
1,4-Dichlorobenzene	<10	<10
2-Chlorotoluene	<10	<10
4-chlorotoluene	<10	<10
Benzene	<10	<10
Bromobenzene	<10	<10
Bromochloromethane	<10	<10
Bromodichloromethane	<10	<10
Bromoform	<10	<10
Carbon Tetrachloride	<10	<10
Chlorobenzene	<10	<10
Chloroform	<10	<10
cis-1,2-Dichloroethylene	<10	<10
cis-1,3-Dichloropropene	<10	<10
Dibromochloromethane	<10	<10
Ethylbenzene	<10	<10
Hexachlorobutadiene	<10	<10
Isopropylbenzene	<10	<10
Methylene Chloride(Dichloromethane)	<10	<10
p+m-Xylene	<10	<10
Naphthalene	<10	<10
n-Butylbenzene	<10	<10
n-Propylbenzene	<10	<10
o-Xylene	<10	<10
p-isopropyltoluene	<10	<10
sec-butylbenzene	<10	<10
Styrene	<10	<10
tert-butylbenzene	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	16
trans-1,2-Dichloroethylene	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10

Table 3O: Water Sampling Results – Nitrate/Nitrite

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Nitrate/Nitrite (Total)	<0.10	<0.10	10

Table 4O: Water Sampling Results – Dioxins

Analyte	Topside Result (pg/L)	LCC Result (pg/L)	Maximum Contaminant Level (pg/L)
2-3-7-8-Tetrachlorodibenzo-p-dioxin	<0.61	<0.27	30

Table 5O: Water Sampling Results – Diquat/Paraquat

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Diquat	<0.002	<0.002	0.02
Paraquat	<0.002	<0.002	N/A

Table 6O: Water Sampling Results – PCBs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
PCB-1016	<0.00048	<0.00049	0.0005
PCB-1221	<0.00048	<0.00049	0.0005
PCB-1232	<0.00048	<0.00049	0.0005
PCB-1242	<0.00048	<0.00049	0.0005
PCB-1248	<0.00048	<0.00049	0.0005
PCB-1254	<0.00048	<0.00049	0.0005
PCB-1260	<0.00048	<0.00049	0.0005
Total PCBs	<0.00048	<0.00049	0.0005

Table 7O: Water Sampling Results – Pesticides/SVOCs

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
2-Methylnapthalene	<0.0002	<0.00022	N/A
4,4'-DDE	<0.0002	<0.00022	N/A
Acenaphthene	<0.0001	<0.00011	N/A
Acenaphthylene	<0.0001	<0.00011	N/A
Alachlor	<0.0002	<0.00022	0.002
Aldrin	<0.0002	<0.00022	N/A
Anthracene	<0.0002	<0.00022	N/A
Atrazine	<0.0002	<0.00022	0.003
Benzo[a]anthracene	<0.0001	<0.00011	0.0001
Benzo[a]pyrene	<0.0001	<0.00011	0.0002
Benzo[b]fluoranthene	<0.0001	<0.00011	0.0002
Benzo[g,h,i]perylene	<0.0001	<0.00011	N/A
Benzo[k]fluoranthene	<0.0001	<0.00011	0.0002
Bis(2-Ethylhexyl)phthalate	<0.001	<0.0011	0.006
Butachlor	<0.0002	<0.00022	N/A
Butylbenzylphthalate	<0.001	<0.0011	N/A
Chrysene	<0.0001	<0.00011	0.0002
Di(2-ethylhexyl)adipate	<0.001	<0.0011	0.40
Dieldrin	<0.0002	<0.00022	N/A
Diethylphthalate	<0.0001	<0.0011	N/A
Dimethylphthalate	<0.0001	<0.0011	N/A
Di-n-butylphthalate	<0.0001	<0.0011	N/A
Endrin	<0.0002	<0.00022	0.002
EPTC	<0.0002	<0.00022	N/A
Fluoranthene	<0.0001	<0.00011	N/A
Fluorene	<0.0001	<0.00011	N/A
gamma-BHC (Lindane)	<0.0001	<0.00011	0.0002
Heptachlor	<0.0001	<0.00011	0.0004
Heptachlor Epoxide	<0.0001	<0.00011	0.0002
Hexachlorobenzene	<0.0001	<0.00011	0.001
Hexachlorocyclopentadiene	<0.0002	<0.00022	0.05
Indeno[1,2,3-cd]pyrene	<0.0001	<0.00011	0.0004
Methoxychlor	<0.0002	<0.00022	0.04
Metribuzin	<0.0002	<0.00022	N/A
Molinate	<0.0002	<0.00022	N/A
Naphthalene	<0.0002	<0.00022	N/A
Phenanthrene	<0.0001	<0.00011	N/A

Table 7O: Water Sampling Results – Pesticides/SVOCs Cont.

Analyte	Topside Result (mg/L)	LCC Result (mg/L)	Maximum Contaminant Level (mg/L)
Propachlor	<0.0002	<0.00022	N/A
Pyrene	<0.0001	<0.00011	0.0002
Simazine	<0.0002	<0.00022	0.004
Terbacil	<0.00051	<0.00055	N/A
Trifluralin	<0.0002	<0.00022	N/A

Table 8O: Soil Sampling Results

Analyte	NW Corner Outside Fenceline (mg/kg-dry)	SW Corner Outside Fenceline (mg/kg-dry)	SE Corner Outside Fenceline (mg/kg-dry)
Methyl Parathion	<0.0298	<0.0300	<0.0314
Phorate	<0.0298	<0.0300	<0.0314
Parathion	<0.0298	<0.0300	<0.0314
Methamidophos	<0.0298	<0.0300	<0.0314
Malathion	<0.0298	<0.0300	<0.0314
Ethoprop	<0.0298	<0.0300	<0.0314
Dicrotophos	<0.0298	<0.0300	<0.0314
Diazinon	<0.0298	<0.0300	<0.0314
Chlorpyrifos	<0.0298	<0.0300	<0.0314
Terbufos	<0.0298	<0.0300	<0.0314

Table 8O: Soil Sampling Results Cont.

Analyte	NE Corner Outside Fenceline (mg/kg-dry)	Behind MAF Outside Air Intake Vent (mg/kg-dry)	South of MAF Outside Bedroom Doors (mg/kg-dry)
Methyl Parathion	<0.0311	<0.0293	<0.0304
Phorate	<0.0311	<0.0293	<0.0304
Parathion	<0.0311	<0.0293	<0.0304
Methamidophos	<0.0311	<0.0293	<0.0304
Malathion	<0.0311	<0.0293	<0.0304
Ethoprop	<0.0311	<0.0293	<0.0304
Dicrotophos	<0.0311	<0.0293	<0.0304
Diazinon	<0.0311	<0.0293	<0.0304
Chlorpyrifos	<0.0311	<0.0293	<0.0304
Terbufos	<0.0311	<0.0293	<0.0304

Table 9O: Air Direct Reading Values

Analyte	Topside Measured Value	LCC Measure Value	Recommended Range
Carbon Dioxide	740 ppm	670 ppm	<1000 ppm
Relative Humidity	61.3%	79.8%	30% - 60%
Temperature	79.8°F	64.0°F	72°F - 78°F
Carbon Monoxide	0 ppm	2.9 ppm	<25 ppm (8-hr TWA)
Ozone	0 ppm	0 ppm	<0.1 ppm (8-hr TWA)

Table 10O: Water Direct Reading Values

Analyte	Topside Measured Value	LCC Measured Value	Recommended Range
pH	Not Taken	Not Taken	6.5 - 8.5
Free Available Chlorine	0.11	0.00	> 0 mg/L; < 4 mg/L