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(Provided electronically via compact disc)

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Michelle Lujan Grisham
Governor

Howie C. Morales
Lieutenant Governor

**NEW MEXICO
ENVIRONMENT DEPARTMENT**

Ground Water Quality Bureau

1190 St. Francis Drive / PO Box 5469
Santa Fe, NM 87502-5469
Phone (505) 827-2900 Fax (505) 827-2965
www.env.nm.gov



James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 28, 2020

Colonel David S. Miller, Commander
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland AFB NM 87117

RE: KAFB, Groundwater Discharge Permit DP-1839, Approval of Work Plan for Installation of Class V Underground Injection Control Well KAFB-106IN2, Bulk Fuels Facility, Solid Waste Management Unit ST-106/SS-111

Dear Colonel Miller,

On December 24, 2019, the Ground Water Quality Bureau of the New Mexico Environment Department (NMED) received the above referenced Work Plan from Kirtland Air Force Base (KAFB or Permittee). The Work Plan identifies tasks associated with the installation of a Class V underground injection control (UIC) well. Condition 10 of KAFB's Groundwater Discharge Permit (DP-1839 or "Permit" associated with the Bulk Fuels Facility and the associated Ground Water Treatment System (GWTS)) requires submittal of such a Work Plan for NMED's approval, requires the Work Plan address numerous specific groundwater protection criteria, and that the Work Plan satisfy the corrective action provisions at Part 6 of the Resource Conservation and Recovery Act (RCRA) Permit.

DP-1839 authorizes the Permittee to discharge treated GWTS effluent via UIC wells not to exceed 1,440,000 gallons per day (gpd). Current effluent disposition methods for the treated effluent include irrigation of the on-Base golf course and underground placement via Class V injection well KAFB-7. A second Class V UIC injection well (KAFB-106IN2), the subject of this correspondence, will provide needed redundancy for the disposition of the treated GWTS effluent.

NMED finds the Work Plan satisfies all requirements of DP-1839 and the corrective action provisions at Part 6 of the RCRA Permit and therefore approves the Work Plan as submitted. Groundwater discharges associated with the Work Plan shall be performed in accordance with the Work Plan and are subject to all conditions of DP-1839. Prior to discharging to the new UIC well, the Permittee must submit written notification to NMED stating the date that the discharge is to commence.

In accordance with Permit Condition 4, KAFB-106IN2 will be located within the Designated UIC Area and therefore the addition of this well does not constitute a discharge permit modification as defined at 20.6.2.D(4) NMAC and does not trigger the public notice and participation requirements at 20.6.2.3108 NMAC. NMED provides a revised DP-1839 Table 1 listing the UIC wells authorized by the Permit.

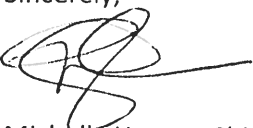
Groundwater in the area near proposed KAFB-106IN2 exists in the regional aquifer. The nearest regional aquifer monitoring well (KAFB-2628) to the proposed KAFB-106IN2 is approximately 175 feet (ft) to the north-northeast and in 2018 the depth to water in the well was 499 ft below ground surface (bgs).

Groundwater in the area near proposed KAFB-106IN2 also exists variably within a perched groundwater system with depths ranging from 200 to 415 ft bgs. The perched aquifer monitoring well nearest to proposed KAFB-106IN2 having measurable groundwater is KAFB-0506. KAFB-0506 is located approximately 1,350 ft south of proposed KAFB-106IN2 and has a measured depth to groundwater of approximately 210 ft bgs. The three perched groundwater monitoring wells located most proximal to proposed KAFB-106IN2 are KAFB-2627, KAFB-2524, and KAFB-2623. These wells are located 250, 800, and 600 ft respectively south-southwest from the proposed UIC well and as of 2018 are dry at the depth of the perched aquifer.

Approval of the Work Plan does not relieve the Permittees of the responsibility to comply with any other applicable federal, state, and/or local laws and regulations. This approval also does not relieve the Permittees of liability should operations associated with this Work Plan result in actual pollution of ground or surface waters.

If you have any questions, please contact Andrew Romero at (505) 827-0076. Thank you for your cooperation.

Sincerely,



Michelle Hunter, Chief
Ground Water Quality Bureau

MH:AR

Attachment: revised Permit Table 1

cc: Rebecca Roose, NMED WPD
Stephanie Stringer, NMED RPD
Dave Cobrain, NMED HWB
Steve Pullen, NMED GWQB
Melanie Sandoval, NMED GWQB
Kathryn Lynnes, SAF-IEE
Scott Clark, AFCEC/CZ



Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

**NEW MEXICO
ENVIRONMENT DEPARTMENT**

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov

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James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

MAR 04 2020

Colonel David S. Miller
Base Commander
377 ABW/CC
2000 Wyoming Blvd SE
Kirtland AFB, NM 87117

Lt. Colonel Wayne J. Acosta
Civil Engineer Office
377 Civil engineer Division
2050 Wyoming Blvd SE, Suite 116
Kirtland AFB, NM 87117

**RE: DISAPPROVAL
ETHYLENE DIBROMIDE IN SITU BIODEGRADATION PILOT TEST REPORT
BULK FUELS FACILITY SOLID WASTE MANAGEMENT UNITS ST-106 AND SS-111
KIRTLAND AIR FORCE BASE, NEW MEXICO
EPA ID# NM6213820974
HWB-KAFB-19-011**

Dear Colonel Miller and Lt. Colonel Acosta:

The New Mexico Environment Department (NMED) is in receipt of the Kirtland Air Force Base (Permittee) *Ethylene Dibromide In Situ Biodegradation Pilot Test Report* (Report), dated April 2019. NMED has reviewed the Report and hereby issues this Disapproval. Although the Permittee demonstrated that in-situ biodegradation of 1,2-dibromoethane (EDB) had occurred during the pilot test, deficiencies were identified throughout the Report. This should not be construed to mean that the approach would be an effective remedial option, but simply that biodegradation of EDB was observed to occur during the pilot test.

The attached comments are related to general inadequacies and inaccuracies, technical inadequacies and inaccuracies, and direction for future light nonaqueous phase liquids (LNAPL) delineation and mitigation. Determining the extent of LNAPL is necessary for establishment of an effective monitoring system and the evaluation of future remedial alternatives. The Permittee must address the attached comments.

The Permittee must submit a revised Report that addresses all comments contained in the attachment to this Disapproval. Two hard copies and an electronic version of the revised Report must be submitted to the NMED. The Permittee must also include a redline-strikeout version in electronic format showing where all revisions to the Report have been made. The revised Report must be accompanied with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. The Revised Report must be submitted to NMED no later than **June 5, 2020**.

Should you have any questions or wish to meet with us to discuss these comments, please contact me at (505) 476-6035 or have your staff contact Michiya Suzuki of my staff at (505) 476-6046.

Sincerely,



Kevin M. Pierard, Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
B. Wear, NMED HWB
M. Suzuki, NMED HWB
L. King EPA Region 6 (6LCRRC)
S. Clark, KAFB
K. Lynnes, KAFB

File: KAFB 2020 Bulk Fuels Facility Spill and Reading

Attachment

GENERAL COMMENT

1. Inconsistency in the Designations of Wells

NMED Comment: The Permittee used multiple designations for wells in the Report. For instance, on Figure 2 of the Report, well KAFB-106008 is designated as KAFB-1068. Use of multiple designations for wells results in confusion for document reviewers and the public. The Permittee must use the official full designation for each well in every instance in all future documents submitted to NMED.

SPECIFIC COMMENTS

2. Executive Summary, page ES-3

Permittee Statement: "The modified Phase 3 was approved by the NMED in a letter dated August 7, 2018 (NMED, 2018)."

NMED Comment: It should be noted that the NMED's letter dated August 7, 2018 approved the proposed modification under the following conditions: 1. Bioaugmentation shall remain as an approved, but deferred, component of the pilot test, and 2. The biochemistry/LNAPL technical working group shall meet as soon as practicable to review pilot test results and to discuss the deferral of bioaugmentation. The response letter must include details of the technical work group meeting where the deferral of bioaugmentation was discussed and along with any conclusions reached.

3. Section 1, Introduction, page 1-1

Permittee Statement: "[Anaerobic in- situ bioremediation] ISB, with and without bioaugmentation, is a common remedial approach to treat chlorinated solvents such as trichloroethene and is a promising technology for promoting the degradation of EDB to nontoxic products."

NMED Comment: Anaerobic in-situ bioremediation of chlorinated solvents (e.g., trichloroethene) produces toxic byproducts such as vinyl chloride. Some byproducts are recalcitrant under anaerobic conditions. Although Section 4.5.2, *EDB, EDB Degradation Products*, pages 4-20, discusses EDB degradation products, the discussion lacks detail; therefore, it is not clear whether or not EDB produces toxic byproducts under anaerobic conditions (e.g., bromoethane, bromoethanol, vinyl bromide). Provide a more detailed discussion regarding EDB toxic degradation byproducts under anaerobic conditions in the revised Report.

4. Section 1.3, Site History, page 1-3

Permittee Statement: “Based on historical Air Force fuel usage, AvGas containing EDB as a lead scavenger would have been in use from approximately the 1940s to 1975.”

NMED Comment: Aviation fuels are known to contain additives. Clarify whether or not the fuels currently used at the site contain other potentially toxic fuel additives in the revised Report.

5. Section 1.4, Site Conditions, pages 1-3 and 1-4

Permittee Statement: “Based on data reviewed for the pilot test design, the groundwater gradient in the pilot test area was less than 0.002 foot/foot (First Quarter 2016), and the direction of groundwater flow had shifted from north-northeast to a more east-southeast direction, likely due to continuing water-conservation practices and seasonal fluctuations, as discussed in the Second Quarter 2018 Quarterly Monitoring Report (USACE, 2018b).”

NMED Comment: According to Figure 2, *Site Location Map*, extraction well KAFB-106EX1 is located downgradient (east-southeast) from injection well KAFB-106IN1 that is consistent with current groundwater flow direction; hence, well KAFB-106EX1 is likely effective to enhance the hydraulic gradient, recirculate groundwater in the vicinity, and facilitate the distribution of the injection fluid. However, extraction well KAFB-106EX2 is located upgradient (west-northwest) from injection well KAFB-106IN1. Well KAFB-106EX2 is less effective for the distribution of the injection fluid as demonstrated during the tracer test. In the response letter, provide an explanation for the purpose of using well KAFB-106EX2.

6. Section 1.4, Site Conditions, page 1-4

Permittee Statement: “Additionally, treatability testing using Kirtland AFB soil and groundwater showed that bioaugmentation with a known debrominating culture (SDC-9) significantly enhanced EDB degradation rates (Figure 3). These results indicated that ISB, by stimulating the activity of indigenous EDB degrading organisms (i.e., biostimulation) or bioaugmenting with a debrominating culture (e.g., SDC-9), showed promise for enhancing EDB degradation at Kirtland AFB.”

NMED Comment: According to Figure 3, *Concentrations of EDB in Anaerobic Microcosms Prepared with Aquifer Samples Collected from the BFF Source Area*, the microcosm vessel augmented with the debrominating culture demonstrated EDB degradation. However, other vessels amended with nutrients but only aimed to stimulate indigenous microbes did

not appear to demonstrate EDB degradation. Accordingly, the statement is inaccurate and misleading. Correct the statement for accuracy or provide an additional explanation regarding other vessels/methods that did not appear to demonstrate EDB degradation in the revised Report.

7. Section 2.3, Well Design and Installation, page 2-3

Permittee Statement: "Existing monitoring wells KAFB-106063 (screened from 505 to 520 feet bgs [below ground surface], with top of screen approximately 25 feet below the water table) and KAFB-106064 (screened from 485 to 505 feet bgs, with top of screen approximately 5 feet below the water table) were used for groundwater monitoring during the pilot test, along with the other newly installed wells."

NMED Comment: According to Appendix A, *Site Photographs*, a photograph shows that light non-aqueous phase liquid (LNAPL) was detected in well KAFB-106S2. Presumably, KAFB-106S2 is the same well identified as KAFB-1068 in Figure 2, *Site Location Map*. In the revised Report, correct the well nomenclature in Figure 2 as necessary to be consistent. Additionally, since well KAFB-106S2 is located upgradient of the pilot test area, LNAPL may be present in the pilot test area as well. Wells with screened intervals submerged below the water table are not appropriate to evaluate the presence or absence of LNAPL. Well KAFB-106063 was used to evaluate the intermediate groundwater zone for the purpose of the pilot test; therefore, the submerged screen is acceptable. However, well KAFB-106064 was used to evaluate the shallow groundwater zone; therefore, the screened interval must not be submerged. It is critical that the extent of LNAPL plume is delineated. If this issue has not already been addressed, submit a work plan to propose to replace submerged screened intervals of all monitoring wells installed to evaluate the shallow groundwater zone in the source area (e.g., KAFB-106064).

8. Section 2.3, Well Design and Installation, page 2-4

Permittee Statement: "The two pairs of nested groundwater monitoring wells, two extraction wells, and one injection well were installed by Cascade Drilling (formerly National Exploration Wells & Pumps) using an Air Rotary Casing Hammer (ARCH) drill rig from January through March 2017. During borehole advancement, soil cuttings were logged every 5 feet by the site geologist in accordance with the Unified Soil Classification System and American Standard Test Method International D1586-84."

NMED Comment: The Air Rotary Casing Hammer (ARCH) drilling method pulverizes soil cuttings and prevents the ability to observe details in soil cores such as presence or absence of fractures and exact locations of hydrocarbon stains. Undisturbed soil cores characterize the subsurface conditions more accurately and such information can maximize the

effectiveness of remediation later on. Acknowledge the shortcomings related to the drilling method used in the revised Report.

9. Section 2.3, Well Design and Installation, page 2-4

Permittee Statement: "Soil drill cuttings from just above and in the saturated zone were screened for presence of NAPL and volatile organic compounds (VOCs) using a photo ionization detector (PID) to collect headspace measurements. Drill cuttings were also visually inspected for evidence of staining. PID readings were recorded on the soil boring logs (Appendix C)."

NMED Comment: The collection of soil samples for laboratory analyses is necessary for every boring in the source area. The soil sampling data will provide useful information to determine the extent of soil contamination. The described field screening method does not provide sufficient data for site characterization. Propose to collect soil samples from every boring at the site in all future work plans.

10. Section 2.3, Well Design and Installation, page 2-4

Permittee Statement: "Table 1 presents the completion details for the wells, including surveyed elevations and coordinates, and screen depths."

NMED Comment: According to Table 1, *Well Completion and Survey Data*, the depth to groundwater and the depth to the screened interval in injection well KAFB-106IN1 are recorded as 477.00 feet bgs and 477 – 497 feet bgs, respectively. The depth to the top of the screened interval coincides with the depth of the water table. However, the depth to the top of the filter pack is recorded as 467 feet bgs according to Appendix C, *Well Installation Forms*, which is 10 feet above the depth to the water table. Since the filter pack is positioned above the water table, the injection fluid applied from the well is likely to follow the least resistant pathway above the water table, rather than in the aquifer matrix due to the lack of the hydrostatic pressure. The screen and filter pack intervals should have been positioned below the water table. The pilot test data obtained from the injection wells with screened intervals positioned above the water table may generate positively biased results for the shallow groundwater zone because injection fluids will be distributed in larger lateral extent on the groundwater interface. No revision required.

11. Section 2.3.1, Groundwater Monitoring Well Installation, page 2-5

Permittee Statement: "The two shallow monitoring wells (KAFB-106MW1-S and KAFB-106MW2-S) were constructed with 4-inch diameter, Schedule 80, polyvinyl chloride (PVC) riser pipe; and the two intermediate wells (KAFB-106MW1-I and KAFB-106MW2-I) were constructed with 3-inch diameter, Schedule 80, PVC riser pipe."

NMED Comment: The screened intervals for intermediate wells KAFB-106MW1-I and KAFB-1062-I were both installed at 513 – 523 feet bgs. According to Section 1.4, *Site Conditions*, the deepest depths of the water table at the site ranged from 500 to 502 feet bgs in 2009, which is approximately 25 feet below the current groundwater table. According to Appendix C, *Well Installation Forms*, the elevated PID readings are recorded at the depths ranging from 485 feet to 510 feet bgs in the borings installed in the pilot test area. Adsorbed and submerged LNAPL may be present at depths of 485 feet to 510 feet bgs. The PID readings corresponding with the depth of the screened intervals for the intermediate wells (513 - 523 feet bgs) are relatively low; therefore, adsorbed LNAPL is unlikely to be present at the screened depth. These intermediate wells may be useful to evaluate the distribution of the injection fluids at the deeper groundwater bearing zone during the pilot test; however, since the screened intervals of the wells do not correspond with the depths where adsorbed/submerged LNAPL is present, these wells are not suitable for future LNAPL monitoring and remediation purposes. No revision required.

12. Section 2.4.4, Pump Installation, page 2-11

Permittee Statement: “A 6-inch sanitary well seal and a 1.5-inch-diameter threaded steel pipe were installed in the injection well casing to convey water from the piping exiting the system Conex box to the screened interval of the injection well. The injection pipe extended down into the water column and was fitted with a 4-inch diameter, custom designed and fabricated down-hole flow control valve (FCV, manufactured by Baski, Inc.) to limit risks of cavitation within the pipe, and to minimize volatilization and aeration of the anaerobic recirculation water.”

NMED Comment: The flow control valve was used to regulate the injection flowrate, indicating that the injection was controlled by flowrate rather than pressure. Explain whether the injection flowrate was regulated by the height of the water column or the groundwater extraction flowrate or both. In addition, during the Phase 2 and Phase 3 periods of the pilot test, the height of the water column in the injection well significantly increased due to the biofouling of the screen. Unless this issue is resolved, the tested remedial approach would not be practicable for long-term or large-scale operations due to well screens clogging from biofouling and restricting the ability to add amendments to the contaminated groundwater. Discuss potential measures to resolve the issue in the revised Report.

13. Section 2.6, Recirculation Pilot System Equipment and Materials, page 2-13

Permittee Statement: “The system was designed to extract groundwater from the two extraction well locations and reinject that groundwater in the injection well after tracer or amendment addition, at a design flow rate of up to 24 gpm.”

NMED Comment: According to Figure 6, *Process Flow Diagram*, and Figure 5, *Recirculation and Amendment System Piping and Instrumentation Diagram*, an injection or transfer pump that delivers the injection fluid is not depicted in the system. Explain how the fluid is delivered to the injection well without a transfer pump in the response letter. In addition, LNAPL is present at the site; however, the components depicted in the system do not appear to have a mechanism to remove LNAPL, if present, from the recovered groundwater. Explain how LNAPL is handled by the recirculation system in the response letter. The system must have a mechanism to remove LNAPL from the recovered groundwater.

14. Section 3.3, Phase 1 – Tracer Testing, page 3-3

Permittee Statement: “During the entire Phase 1 recirculation period, approximately 1,024,000 gallons of water were extracted and reinjected.”

NMED Comment: Based on the distance from the injection well to the extraction wells, aquifer thickness, effective porosity, and volume of groundwater extracted and reinjected, provide an estimate for how many pore volumes of groundwater were exchanged in the treatment zone. Additionally, provide the estimate of pore volumes exchanged for the subsequent phases of the pilot test. Include the calculations and discussion in the revised Report.

15. Section 3.3, Phase 1 – Tracer Testing, page 3-4

Permittee Statements: “The likely cause of the inaccurate [pressure transducer] readings was electrical interference from the extraction well pumps’ power leads running down the well to the pump near the drop tubes where the transducers and their control wires were housed. As a result, manual water level readings were periodically measured using the Solinst water level meter. Manual water level readings are summarized in Table 5.”
and,

“During recirculation system operation, it became apparent that the water level readings from pressure transducers located in the extraction well drop pipes were not accurate. While the readings returned to the SCADA were erratic, the overall trends in the data were decipherable.”

NMED Comment: The recirculation operation during the Phase 1 period was conducted from October 2 to November 3, 2017. According to Table 5, *Manual Extraction Well Water Level Measurements*, only three measurements (October 17, 23, and 31, 2017) were collected during that time. The data should have been collected more frequently, particularly at the beginning of the recirculation process because the drawdown data would be useful to determine the properties of the aquifer. In the revised Report, provide the original data initially collected from the pressure transducers and demonstrate how the data is decipherable. Additionally, correlate the erratic data collected from the pressure

transducers with the limited data collected manually and provide interpreted data for the missing portion of the drawdown data between October 2 and 17, 2017, if possible.

16. Section 3.3, Phase 1 – Tracer Testing, page 3-5

Permittee Statement: “The field water quality parameters, NAPL, and water level measurements were recorded on the purge logs for each well. Purge logs and sample collection logs are included as Appendix F.”

NMED Comment: Appendix F, *Field Sampling Records*, does not clearly indicate whether NAPL was detected in the wells. A photograph included in Appendix A shows the presence of LNAPL in the vicinity of the test site. In the response letter explain whether LNAPL was detected from the wells, and if so, provide the gauging data in the revised Report.

17. Section 3.4, Phase 2 – Biostimulation, page 3-6

Permittee Statement: “During the recirculation period, groundwater was extracted and an easily fermentable sodium lactate-based substrate (WilClear Plus®, manufactured by JRW Bioremediation), nutrient (DAP), and conservative tracer (KI) were added to the recirculated process water stream.”

NMED Comment: Commercially available remediation products were used for the pilot test. The Report does not include information for the products. Provide all available information for the products (e.g., safety data sheets) in the revised Report.

18. Section 3.4, Phase 2 – Biostimulation, page 3-7

Permittee Statement: “A pulsed amendment injection scenario was implemented in an attempt to minimize biofouling in the injection well.”

NMED Comment: Explain how a pulsed amendment injection scenario would minimize biofouling in the injection well in the revised Report.

19. Section 3.4, Phase 2 – Biostimulation, page 3-7

Permittee Statement: “... an increase in mounding (up to 9 feet above static [476 feet bgs]) at the injection well was observed.”

NMED Comment: The water column increased to 467 feet bgs due to the mounding in the injection well. The depth to the top of the filter pack is 467 feet bgs according to Appendix C. The mounded water laterally asserts pressure through the interval of the filter pack and

spreads above the groundwater interface. Based on the inappropriate design of the injection well, the data collected from the pilot test is likely biased (see Comment 10).

20. Section 3.4, Phase 2 – Biostimulation, page 3-8

Permittee Statement: “Introduction of amendments using the new concentrations began on December 29, 2017. The active portion of Phase 2 was extended until February 7, 2018 to deliver the planned mass of amendments.”

NMED Comment: Clarify the design (target) concentrations of the amendments in the aquifer beneath the pilot test area and explain the basis for the design concentrations. Provide the calculations and explanation in terms of the total volume of groundwater to be recirculated, the mass and volume of amendments, and the stoichiometric/theoretical requirement of the amendments in the revised Report.

21. Section 3.4, Phase 2 – Biostimulation, page 3-8

Permittee Statement: “During Phase 2, approximately 11 feet of water level drawdown was observed at KAFB-106EX2 during active Phase 2 system operations. The flowrate at KAFB-106EX2 was incrementally reduced to 7 gpm beginning on January 8 through January 22, 2018 to prevent drawdown of water below the top of the screened interval.”

NMED Comment: Contrary to the action taken during the operation of the Phase 2 period, it is appropriate to reduce the water level to intersect the screened interval in the extraction well. Eleven feet of water level drawdown is sufficient to reduce the water level below the top of the screened interval and it should have been maintained. The drawdown would have allowed LNAPL that may be present at the interface to be recovered from the extraction well. However, despite the benefit of potential LNAPL recovery, the flowrate was reduced to prevent drawdown of water below the top of the screened interval. The reduction of flowrate was intended to minimize aeration of groundwater. LNAPL recovery must be a primary focus of remedial efforts and must not be compromised. The issues associated with aeration of groundwater must be resolved by other means, as necessary. No revision necessary.

22. Section 3.5, Phase 3 – Biostimulation, page 3-9

Permittee Statement: “Therefore, similar to Phase 2, the purpose of Phase 3 was to continue to evaluate biostimulation in the subsurface after distribution of treatment amendments in recirculated groundwater. Phase 3 also consisted of two operational periods, a recirculation/mixing (active) period, and a subsequent passive monitoring period (no recirculation).”

NMED Comment: Since the Permittee did not implement an evaluation of bioaugmentation during the Phase 3 period of the pilot test, the testing conducted during Phases 2 and 3 appears to be almost identical. Explain the significance of conducting Phase 3 of the pilot test in the revised Report. Revise the Report to combine the discussion of Phase 3 with that of Phase 2, as appropriate.

23. Section 3.5, Phase 3 – Biostimulation, page 3-10

Permittee Statement: "Increased mounding was also observed throughout the active portion of Phase 3 at the injection well (see Figure 7), increasing to approximately 35 feet above the static level by the end of Phase 3 active recirculation."

NMED Comment: Since the filter pack of the injection well is set above the water table, an excessive injection pressure (35 feet of water) likely further pushed the fluid laterally above the water table, rather than within the aquifer matrix. Due to the design of the injection well, the distribution of amendments is likely limited to the interface (see Comments 10 and 19). Additionally, the issue of well screen fouling must be resolved, if this remedy is to be considered as part of a future remedy. No revision necessary.

24. Section 3.5, Phase 3 – Biostimulation, page 3-11

Permittee Statement: "After approximately 40 minutes of pumping, the water level in the well was manually checked and found to have drawn down below the transducer to the level of the pump intake (492 feet bgs). Thus, it seemed the loss of well capacity suggested by the increased mounding at the injection well (shown on Figure 7) was preventing groundwater from flowing into the well to sustain pumped flow to the surface; likely due to fouling of the well screen."

NMED Comment: Explain whether measures to remediate the biofouling were developed during the pilot test. If so, provide a detailed explanation in the revised Report. Unless the issue is resolved, the remedial approach would not be practicable for long-term or larger scale implementation (see Comments 12 and 23).

25. Section 3.5, Phase 3 – Biostimulation, page 3-11

Permittee Statement: "As a result, of the decreased well capacity, sample collection using the injection well pump was no longer possible, and samples from KAFB-106IN1 were collected using a 0.85-inch by 36-inch stainless steel bailer lowered to the groundwater through the transducer drop tube."

NMED Comment: It should be noted that the sample collected from the injection well was not representative of groundwater conditions. The sample collected from the injection well

was likely the remaining injection fluid that is stagnant in the injection well. The data obtained from the sample must not be used in any decision-making process, such as the evaluation and selection of remedial alternatives, confirmation that an area meets contaminant standards, or conclusion that a site meets the requirements for a Corrective Action Complete status. No revision necessary.

26. Section 3.7, NAPL Sampling, page 3-12

Permittee Statement: "Measurable NAPL was detected in the shallow nested well KAFB 106MW1-S during QED pump installation on September 5, 2017. Three separate measurements were collected using a Solinst interface probe and confirmed a thickness of approximately 0.27 to 0.31 feet. NAPL was not detected at any other shallow monitoring wells within or around the treatment zone, or in the injection well."

NMED Comment: LNAPL was also present in well KAFB-106S2 that is located near the pilot test area. Unless the extent of the LNAPL plume is delineated and eliminated, the groundwater that is treated for dissolved phase constituents (e.g., EDB) will be re-contaminated by residual LNAPL. LNAPL will act as a source of the dissolved phase contaminants. It is essential to eliminate all recoverable LNAPL from the site (see Comment 30).

27. Section 3.7, NAPL Sampling, page 3-12

Permittee Statement: "The extraction wells were not gauged for NAPL, as the top of the well screens were designed to be installed below the static water level."

NMED Comment: A primary focus for the remedy at the site is an abatement of LNAPL. Once LNAPL is abated, the concentrations of the dissolved constituents are likely to gradually decrease. Therefore, the screened intervals of the extraction wells should not have been designed to be submerged below the water table. In the future, the screened intervals of all shallow groundwater monitoring and recovery wells must intersect the water table to capture LNAPL unless otherwise pre-approved by NMED.

28. Section 3.7, NAPL Sampling, page 3-13

Permittee Statement: "Additional product recovery was attempted on September 13 and 14, 2017, and approximately 60 milliliters [of LNAPL] were recovered and sent to the APTIM Lawrenceville laboratory."

NMED Comment: APTIM executed the pilot test and prepared the Report. APTIM should not have sent the samples to an internal corporate-owned laboratory. Industry standards provide that all laboratory analyses should have been conducted by a certified and

independent third-party laboratory to avoid the perception of conflict of interest. The analytical results reported from the laboratory affiliated with the consultant must be identified as such in the Report. Revise the Report accordingly.

29. Section 3.7, NAPL Sampling, page 3-13

Permittee Statement: "The $\delta^{13}\text{C}$ value of the EDB in the NAPL, as determined by the University of Oklahoma, was approximately $-21 \pm 2\text{‰}$."

NMED Comment: In the revised Report, discuss the implication of the finding associated with the C^{13} isotope analysis for the EDB in the NAPL in comparison to the ratios of isotopes for the EDB in the groundwater samples collected during the pilot test.

30. Section 3.7, NAPL Sampling, page 3-13

Permittee Statement: "The fall and rise of the water table during well installation and development may have impacted the vertical transport and subsequent distribution of NAPL in the lower vadose zone, capillary fringe, and top of the unconfined aquifer; causing the measureable [sic] NAPL at KAFB-106MW1-S."

NMED Comment: Section 1.4 states, "[t]he deepest depth to water, representing the lowest historical groundwater elevation, measured at groundwater wells in the BFF source area ranged from approximately 500 to 502 feet bgs in 2009. In recent years, the water table has been rising due to water-conservation efforts by the Albuquerque community and reduction of pumping of production wells by Albuquerque Bernalillo County Water Utility Authority. As a result, the current vadose zone at the BFF site is approximately 455 to 480 feet thick." At the time the LNAPL release occurred, the water table was approximately 20 to 30 feet below the current depth of the water table. Therefore, adsorbed and submerged LNAPL may also be present at depths below the current groundwater interface. Propose to submit a work plan to investigate the vertical and lateral extent of LNAPL at the current groundwater interface and at depths below the current water table where LNAPL was likely trapped as the water table rose.

31. Section 3.10, Quality Control, page 3-15

Permittee Statement: "Laboratory data packages are also provided in Appendix G-2."

NMED Comment: Appendix G-2 was not included in the Report. Ensure that Appendix G-2 is included in the revised Report.

32. Section 3.11.1, Soil IDW, page 3-16

Permittee Statement: "All drill cuttings were containerized in plastic-lined, steel roll-off containers pending laboratory analysis for waste characterization and disposal. Each roll-off was sampled for waste characterization."

NMED Comment: Provide more detailed information regarding the sampling method for waste characterization in the revised Report. More specifically, explain the frequency of sample collection (e.g., soil volume per sample), whether composite or discrete samples were collected, and the number of subsamples in a composite sample, if collected, in the revised Report.

33. Section 3.11.2, Liquid IDW – Development and Decontamination, page 3-18

Permittee Statement: "Non-hazardous waste manifests are included in Appendix H-3. Hazardous liquid IDW generated from development and decontamination activities was disposed of by Chemical Transportation, Inc. and Clean Harbors at Clean Harbors Deer Trail, LLC in Colorado. Hazardous waste manifests are included in Appendix H-4."

NMED Comment: Non-hazardous waste manifests are included in Appendix H-4 and hazardous waste manifests are included in Appendix H-3 of the Report. Correct the typographical errors in the revised Report.

34. Section 4.2.2, Tracer Distribution During Phase 2 and 3, Phase 2, page 4-5

Permittee Statements: "Also evident in the iodide data is that final concentrations observed at the nearest monitoring wells of 17 mg/L (KAFB-106MW2-S) and 18 mg/L (KAFB-106064) are equivalent with injected iodide concentrations (KAFB-106IN), which indicates that most of the groundwater observed at these wells was previously amended and reinjected."

and,

"Overall, iodide concentrations observed during the Phase 2 recirculation period indicated good distribution of injected waters, particularly within the treatment zone encompassing the shallow monitoring wells nearest to the injection well."

NMED Comment: The tracer volume injected into the aquifer is estimated to be less than 30% of pore volume for the radial distance between the injection well and well KAFB-106MW2-S. Therefore, the highest concentrations of the tracer detected in the wells cannot be equivalent to the tracer concentrations of the injection fluid if uniform distribution of the injection fluid was achieved within the aquifer matrix. The top depth to the filter pack was set above the water table; therefore, the injection fluid may have migrated above the groundwater interface without being adequately mixed in the aquifer. Consequently, an

undiluted or less diluted tracer solution may have reached the wells and been detected in the samples collected from the wells. The injection well construction likely provides positively biased data (see Comments 10, 19 and 23).

35. Section 4.2.3, Distribution of Fermentable Substrate, page 4-7

Permittee Statement: "Recirculated groundwater during Phase 2 and Phase 3 was amended with WilClear Plus®, which served as a fermentable substrate to stimulate debrominating organisms in the subsurface during the pilot test."

NMED Comment: Although the Permittee asserts that debrominating organisms are present at the site, the data provided in Figure 3, *Concentrations of EDB in Anaerobic Microcosms Prepared with Aquifer Samples Collected from the BFF Source Area*, indicate otherwise (see Comment 6). The result of the microcosm study appears contradictory; however, the pilot test successfully demonstrated the occurrence of in-situ EDB degradation through carbon isotope analysis of EDB. No revision necessary.

36. Section 4.2.3, Distribution of Fermentable Substrate, page 4-8

Permittee Statement: "While lactate was introduced to the subsurface at around 110 mg/L, concentrations at monitoring wells never exceeded 4 mg/L."

NMED Comment: Provide information regarding the volume of the lactate solution introduced through the injection well in the revised Report.

37. Section 4.2.3, Distribution of Fermentable Substrate, page 4-8

Permittee Statement: "The observed increases in acetate and propionate strongly suggest that organic substrate capable of stimulating reductive debromination of EDB was distributed to most wells during the pilot test."

NMED Comment: Lactate is fermented to acetate and propionate by various bacteria and is not limited by debrominating bacteria. The statement is speculative and can be misleading. Revise the statement for accuracy.

38. Section 4.3, Microbial Analysis, page 4-9

Permittee Statement: "This increase in EBAC [eubacteria] after Phase 1 recirculation activity may be the result of organic carbon and nutrient redistribution in the treatment zone along with the increased groundwater flows due to recirculation."

NMED Comment: Although the carbon substrate and nutrients were not distributed during the Phase 1 period of the pilot test, the measured microbial population increased approximately two orders of magnitude. The increase in microbial population occurred before the biostimulation period was implemented. The observation indicates that microbial population can be increased with or without biostimulation amendments. Since hydrocarbon constituents (e.g., benzene, toluene) are ubiquitous in the groundwater, they may also be utilized as carbon substrates by anaerobic bacteria. In this case, an amendment of appropriate electron acceptors (e.g., sulfate) may further increase microbial populations and enhance biodegradation of the contaminants. Figure 19, *APS Concentrations – All Wells*, indicates that the population of sulfate reducing bacteria in groundwater samples collected from all wells except injection well KAFB-106IN plateaued during the Phase 2 and Phase 3 biostimulation period of the pilot test; sulfate may be a limiting factor for the population growth. Evaluate whether an amendment of appropriate electron acceptors enhances biodegradation of contaminants without compromising EDB degradation. Provide the discussion in the revised Report.

39. Section 4.3, Microbial Analysis, page 4-9

Permittee Statement: "As with the high cell numbers prior to recirculation and amendments at the site, the large numbers of organisms capable of reductive debromination (10^5 to 10^6 cells/mL for DHBt, and around 10^5 cells/mL for DSB) after biostimulation, suggest that EDB debromination activity may have been stimulated during the pilot test."

NMED Comment: According to Figure 21, *DHBt Concentrations – All Wells*, and Figure 24, *DSB Concentrations – All Wells*, the populations of DHBt and DSB appear to have plateaued during the Phase 2 and Phase 3 biostimulation period of the pilot test in all wells. These figures suggest that EDB debromination activity may not be stimulated by carbon substrate and nutrient amendments. The increase of the DHBt and DSB population was observed in groundwater samples collected from intermediate wells KAFB-106063, KAFB-106MW1-I and KAFB-106MW2-I during the Phase 1 period that was not related to biostimulation. Correct the statement for accuracy, discuss the implication of the observed population growth, acknowledge that other conclusions could be reached, and state that the data is not conclusive in the revised Report.

40. Section 4.4, Geochemistry, pages 4-10 and 4-11

Permittee Statement: "DO [dissolved oxygen] concentrations were below 1 mg/L at all wells, with most concentrations below 0.5 mg/L."

and,

"The low DO concentrations within the treatment zone reflect favorable conditions for reductive debromination of EDB."

NMED Comment: The site groundwater is anaerobic due to the presence of hydrocarbons which favors reductive debromination of EDB. Hydrocarbons in the aquifer may serve as carbon substrate to degrade EDB anaerobically. When dissolved hydrocarbons are utilized for EDB debromination, the concentrations of hydrocarbons may also decrease which provides synergistic degradation. However, carbon substrates (e.g., lactic acid) that were amended to stimulate indigenous bacteria are more readily utilized in comparison to hydrocarbons. Subsequently, the degradation of hydrocarbons may potentially be hindered. Since EDB may be naturally degrading due to the current site conditions (e.g., anaerobic conditions, presence of hydrocarbons), the amendment of the carbon substrate may not be useful. Evaluate the necessity of the amendment to balance the EDB and hydrocarbon constituents degradation and provide the discussion in the revised Report.

41. Section 4.4, Geochemistry, page 4-11

Permittee Statement: "With the exception of KAFB-106EX2 (25 mg/L), sulfate concentrations in shallow wells were low (<5 mg/L) under baseline conditions presumably due to past sulfate reduction to sulfide."

NMED Comment: Sulfate is a critical component for anaerobic biodegradation of dissolved hydrocarbon constituents. Since hydrocarbons are present in addition to EDB at the site, hydrocarbons must be remediated as well. According to Figure 19, *APS Concentrations – All Wells*, the population of sulfate reducing bacteria is abundant; however, sulfate concentrations appear to be insufficient to increase the activity of the sulfate reducing bacteria. Evaluate the viability of sulfate amendment to promote biodegradation of dissolved phase hydrocarbons in the revised Report (see Comment 38) and propose to submit a work plan for a pilot test to evaluate the effect of sulfate amendment, as appropriate.

42. Section 4.4, Geochemistry, page 4-11

Permittee Statement: "The low sulfate concentrations within the treatment zone reflect favorable conditions for reductive debromination of EDB."

NMED Comment: Clarify whether elevated sulfate levels inhibit reductive debromination of EDB in the revised Report. Also, propose to submit a work plan to evaluate the sulfide concentrations in the groundwater; if sulfide levels are too high in the groundwater, sulfate amendment may not increase the activity of sulfate reducing bacteria.

43. Section 4.4, Geochemistry, page 4-12

Permittee Statement: "Due to the low solubility of ferric (Fe(III)) iron under circumneutral conditions as found at the site, dissolved iron concentrations are often assumed to reflect concentrations of more reduced ferrous (Fe(II)) iron. Minerals containing oxidized Fe(III) are fairly ubiquitous and elevated dissolved iron concentrations are usually indicative of iron reducing environments. Baseline measurements at the site indicated dissolved iron concentrations ranging from 1 mg/L (KAFB-106MW1-S) to 12 mg/L (KAFB-106MW2-S) in shallow wells, but concentrations at deeper, less impacted wells were all less than 1 mg/L."

NMED Comment: According to Figure 27, *Iron (Dissolved) Concentrations – All Wells*, the dissolved iron concentration in the baseline groundwater sample collected from intermediate well KAFB-106MW2-I exceeds 11 mg/L. Accordingly, the statement is not accurate. Correct the statement on Figure 27 to resolve the discrepancy in the revised Report. Additionally, the dissolved oxygen concentration in the baseline groundwater sample collected from the same intermediate well KAFB-106MW2-I is recorded as approximately 1.8 mg/L, which is higher than the most wells according to Figure 25, *Dissolved Oxygen – All Wells*. The inverse relationship between the levels of dissolved iron and oxygen is not clearly demonstrated by the data collected during the pilot test. Remove or revise the statement, as appropriate.

44. Section 4.4, Geochemistry, page 4-12

Permittee Statement: "During the Phase 2 recirculation period when lactate amendments were introduced, methane concentrations generally fell again, but increased by many OOM [(orders of magnitude)] at several wells during the following passive period, with concentrations exceeding 10,000 µg/L at the injection well and KAFB-106MW2-S."

NMED Comment: Methane may be beneficial to EDB remediation since it is considered a viable substrate for similar halogenated compounds (e.g., chlorinated ethenes). However, methanogens are known to produce ethene and ethane under the presence of brominated compounds (e.g., EDB). If methanogens produce more ethene and ethane which are main end products of EDB, they may potentially hinder degradation of EDB (e.g., via Le Chatelier's principle). Regardless, the increased methane production is merely an indicator of bacterial activity but not necessarily effective remediation. No revision or response required.

45. Section 4.5.1, Benzene and Toluene, page 4-14

Permittee Statements: "With the exception of the injection well (KAFB-106IN1) and monitoring well KAFB-106MW1-S, benzene concentrations in shallow monitoring wells for the remainder of the pilot test ranged in concentration from 1,680 µg/L at KAFB-106MW2S to 4,400 µg/L at KAFB-106EX2, indicating limited losses due to biodegradation or abiotic mechanisms (e.g., volatilization, dilution)."

and,

"Interestingly, benzene increased during the passive periods at the shallow well KAFB-106MW1-S to concentrations as high as 9,800 µg/L. The higher concentration at KAFB-106MW1-S is similar to baseline conditions prior to recirculation and may be the result of increased mass transfer from residual NAPL phases, as NAPL had previous[ly] been observed at that location."

NMED Comment: Unless LNAPL is eliminated, LNAPL constituents will constantly leach into the groundwater and re-contaminate the aquifer. In order to abate LNAPL, the extent of LNAPL plume must be delineated laterally and vertically (see Comment 30). The reduction of all dissolved phase constituent concentrations will likely occur once the bulk of LNAPL is removed from the site.

46. Section 4.5.1, Benzene and Toluene, page 4-15

Permittee Statement: "Interestingly, toluene concentrations decreased during Phase 4 passive monitoring at shallow wells KAFB-106MW2-S to 150 µg/L (from 4,900 µg/L in the previous sampling event) and KAFB-106064 to 960 µg/L (from 11,000 µg/L in the previous sampling event). These decreases were far greater than for benzene and may indicate some anaerobic biodegradation of toluene."

NMED Comment: Toluene is known to be more bioavailable as a carbon substrate than benzene. Presumably, anaerobic bacteria responsible for hydrocarbon degradation depleted the amended carbon substrates (e.g., lactate) during the Phase 4 passive monitoring period and initiated utilization of subsequently bioavailable hydrocarbon constituent, toluene. Further decline of toluene levels may be expected along with the decline of benzene level later in the passive monitoring period. Clarify whether the passive monitoring is on-going at this time and provide a reference that presents the most recent analytical data in the revised Report.

47. Section 4.5.2, EDB, EDB Degradation Products, pages 4-20 and 4-21

Permittee Statements: "Based the assumption of reductive debromination and its stoichiometry, equivalent quantities of EDB degraded can be estimated using measured concentrations of ethene and ethane..."

and,

“During and after the Phase 2 recirculation period, estimates of EDB equivalents degraded based on ethene and ethane increased to magnitudes similar to initial EDB concentrations, suggesting substantial conversion. The highest estimate of EDB equivalents degraded occurred at KAFB-106MW1-S after Phase 3 biostimulation efforts with an estimated concentration of approximately 270 µg/L.”

NMED Comment: According to Tables 7 through 15, the concentrations of ethane, ethene, and methane were detected in the baseline groundwater samples collected from the pilot test wells. These dissolved gas constituents may or may not be degradation products of EDB. Since other hydrocarbon constituents (e.g., benzene and toluene) are concurrently present with EDB and the degradation products (ethane, ethene, and methane) are not exclusive to EDB biodegradation products, the quantity of degraded EDB cannot be estimated by measured concentrations of ethene and ethane. It should be noted that methanogens produce ethane and ethene under the presence of halogenated compounds and the presence of brominated compounds drives methanogens to produce even more ethane and ethene from small organic compounds such as carbon dioxide. Remove the statements from the revised Report.

48. Section 4.5.2, EDB, EDB Degradation Products, page 4-22

Permittee Statement: “The largest apparent increase in bromide to chloride ratio occurred during and after the Phase 3 recirculation period. This coincided with use of a new certified analytical laboratory after the original analytical laboratory measuring bromide ceased operations. Several of the increases in bromide appear to be on the order of 1 mg/L, which corresponds to degradation of approximately 1,200 µg/L of EDB – much more than was observed in aqueous phase measurements during the pilot test.”

NMED Comment: Since the notable increase occurred when an analytical laboratory was changed, the data generated from the new laboratory may or may not be accurate. Even if the analytical method is consistent and the new laboratory is certified for the analysis, the observed increase may potentially be caused by changes associated with various differences among laboratories. The samples should have been analyzed by two independent certified laboratories to confirm the results. Incorporate this measure when an analytical laboratory is to be changed during the course of periodic groundwater monitoring and sampling in the future. No revision required.

49. Section 4.5.2, EDB, Carbon Isotope Analysis of EDB, page 4-22

Permittee Statement: “As EDB degrades, its carbon (C) stable isotope composition can change as EDB with a heavy C isotope substitution (¹³C) degrades slightly slower than EDB with only ¹²C (Koster van Groos et al, 2018).”

NMED Comment: Provide information regarding the difference in degradability of EDB with ^{12}C and ^{13}C in the revised Report. Additionally, according to Figure 38, *EDB $\delta^{13}\text{C}$ – Shallow Wells*, EDB $\delta^{13}\text{C}$ values notably increased in groundwater samples collected from wells KAFB-106MW2-S and KAFB-106064 prior to Phase 2 of the pilot test, in which biostimulation was initiated. Provide an explanation for whether the occurrence of abiotic degradation (e.g., hydrolysis, oxidation) can also increase the fraction of ^{13}C EDB in the revised Report.

50. Section 5.1, Conclusions, pages 5-1 and 5-2

Permittee Statements: “Baseline measurements indicated that EDB was likely degrading prior to the pilot test.”

and,

“ISB appears to be a promising approach targeting EDB source areas in Kirtland AFB groundwater. While debromination may be occurring at Kirtland AFB without additional support, the addition of biostimulation amendments and mixing of water appeared to enhance reductive debromination.”

NMED Comment: The degradation of hydrocarbon constituents (e.g., benzene and toluene) appeared to be hindered by the amended carbon substrates (see Comment 46). The pilot test demonstrated in-situ anaerobic biodegradation of EDB in the most pilot test wells; however, future remediation must focus on the abatement of LNAPL. Once the LNAPL plume is delineated and remediated, EDB levels will likely reduce naturally. The vertical and lateral extent of LNAPL must be investigated (see Comment 30).

51. Figure 9, Fluorescein [sic] Concentrations – Shallow Wells

NMED Comment: The tracer concentrations in injection well KAFB-106IN1 are depicted below 10 ug/L during the baseline, Phase 1 Tracer Test, and Non-pumping Passive Phase according to Figure 9. Section 4.2.1, *Tracer Distribution During Phase 1*, page 4-2, states that three measurements of fluorescein concentrations of injected water collected directly from the KAFB-106IN1 sample port averaged 570 $\mu\text{g/L}$ during the 24 hours of tracer injection, while background concentrations were not detected. The data presented in the figure is therefore not accurate. Revise the figure to show that the tracer concentration in the injection well was 570 ug/L during the injection period.

52. Figure 11, $\delta^2\text{H}$ Concentrations – Shallow Wells

NMED Comment: The $\delta^2\text{H}$ values of deuterium labeled water in injection well KAFB-106IN1 are depicted between -80‰ and -100‰ during the baseline, Phase 1 Tracer Test, and Non-pumping Passive Phase according to Figure 11. Section 4.2.1, *Tracer Distribution During Phase 1*, page 4-3, states that three measurements of $\delta^2\text{H}$ values of the injected water

averaged +590‰ during the 24 hours of tracer injection, while background $\delta^2\text{H}$ values at the test area ranged from -97‰ to -92‰. The data presented in the figure is therefore not accurate. Revise the figure to show that the $\delta^2\text{H}$ value in the injection well was +590‰ during the injection period.

53. Figure 13, Iodide Concentrations – Shallow Wells

NMED Comment: The tracer concentrations in injection well KAFB-106IN1 are depicted below 9 mg/L during the Phase 2 and 3 Biostimulation Recirculation, Non-pumping Passive Phase according to Figure 13. Section 4.2.2, *Tracer Distribution During Phase 2 and 3*, page 4-4, states that iodide results from the injectate ranged from 18 to 26 mg/L. The data presented in the figure is therefore not accurate. Revise the figure to show that the tracer concentration in the injection well was 18 to 26 mg/L during the injection period.

54. Figure 15, Lactic Acid Concentrations – All Wells (Except 106IN1)

NMED Comment: The lactic acid concentrations were positively detected in groundwater samples collected from wells KAFB-106MW2-S, KAFB-106MW2-I, KAFB-106MW1-S, and KAFB-106064 prior to Phase 1 Tracer Recirculation according to Figure 15 although lactic acid was not amended to the injection fluid during Phase 1. Provide an explanation for the detections in the revised Report.



Michelle Lujan Grisham
Governor

Howie C. Morales
Lieutenant Governor

NEW MEXICO ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

1190 St. Francis Drive / PO Box 5469
Santa Fe, NM 87502-5469
Phone (505) 827-2900 Fax (505) 827-2965
www.env.nm.gov



James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

March 10, 2020

Colonel David S. Miller, Commander
Kirtland Air Force Base
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland AFB NM 87117

RE: Response to Notice of Intent to Discharge; Discharge Permit Not Required for Kirtland Air Force Base, AI-2404

Dear Colonel Miller:

The New Mexico Environment Department's (NMED) Ground Water Quality Bureau (GWQB) received a Notice of Intent (NOI) from Kirtland Air Force Base (KAFB) on December 17, 2019, proposing to discharge groundwater associated with the maintenance of injection well KAFB-7 that has the potential to impact groundwater. The proposed discharge location is to the lined KAFB Golf Course Main Pond (GCMP) in Section 9, Township 9, Range 4, Bernalillo County, for utilization as irrigation water. The NOI satisfies the requirements of New Mexico's Ground and Surface Water Protection Regulations (20.6.2 NMAC), specifically 20.6.2.1201.B NMAC.

The proposed discharge is described as follows:

KAFB-7, which receives treated water from the Bulk Fuels Facility (BFF) Groundwater Treatment System (GWTS) for underground injection as permitted under Groundwater Discharge Permit DP-1839, is proposed to undergo rehabilitation activities and routine disinfection. The NOI describes the operation as generating water with constituent concentrations below NM's groundwater standards (20.6.2.3103 NMAC) and EPA maximum contaminant levels (MCLs; November 2019).

The proposal describes mechanical rehabilitation of the well to include gentle brushing, surging, bailing and pumping. Well disinfection will occur utilizing a dilute sodium hypochlorite solution placed in the well, surged to treat surrounding sediments, left in the well overnight. then pumped to the surface to remove the free chlorine in accordance with the NMED letter dated August 6, 2018 regarding well disinfection. Water removed from the well is proposed to be containerized, characterized, and then discharged to the lined GCMP if the water conforms to the above referenced standards.

Based on the information in the NOI and KAFB's obligation to perform the discharge as described in the NOI, NMED has determined that an adverse groundwater quality impact is not apt to occur and that a groundwater discharge permit is not required.

Although a discharge permit is not required for this discharge at this time, KAFB is not relieved of liability should the proposed operation result in the pollution of surface or groundwaters. Further, this decision by NMED does not relieve KAFB of the responsibility to comply with any and all other applicable federal, state, and/or local laws and regulations, zoning requirements, plumbing codes, and nuisance ordinances.

If at some time in the future KAFB intends to change the amount, character or location of the discharge, or if observation or monitoring shows that the discharge is not as described in the NOI, KAFB must file a revised NOI with the GWQB.

If you have any questions please contact either Andrew Romero at (505) 827-0076 or Steve Pullen, Program Manager of the Ground Water Pollution Prevention Section, at (505) 827-2962.

Sincerely,



Michelle Hunter, Chief (for)
Ground Water Quality Bureau

MH:AR

cc: Steve Pullen, Program Manager
John Rhoderick, District Manager, NMED District I
Kathryn Lynnes, (Kathryn.lynnes@us.af.mil)
Scott Clark, (scott.clark@us.af.mil)
County File



Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

**NEW MEXICO
ENVIRONMENT DEPARTMENT**

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov



James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

APR 02 2020

Colonel Christopher J. King
Vice Commander
377 ABW/CC
2000 Wyoming Blvd SE
Kirtland AFB, NM 87117

**RE: REQUEST FOR EXTENSION
RESPONSE TO DISAPPROVAL FOR THE
ETHYLENE DIBROMIDE IN-SITU BIODEGRADATION REPORT
BULK FUELS FACILITY SOLID WASTE MANAGEMENT UNIT ST-106/SS-111
KIRTLAND AIR FORCE BASE, NEW MEXICO
EPA ID# NM6213820974
HWB-KAFB-20-001**

Dear Colonel King:

Thank you for your letter of March 26, 2020, regarding the NMED Disapproval of the EDB Bioremediation Report for KAFB. Our Disapproval cited several deficiencies in the report as well as several observations concerning the study itself. The intent of the pilot study was not only to determine if the bioaugmentation and biostimulation enhanced EDB biodegradation, but also to ascertain the scalability of the approach and its potential inclusion of this option in any array of feasible remedial alternatives.

At the conclusion of the pilot study many questions remained. It was clear that EDB biodegradation had occurred, but the study also raised other questions concerning breakdown products and the physical design of the wells that are important considerations in any decision to move forward with the technology. This does not represent a failure of the pilot. In fact, it is to be expected that pilots such as this answer the immediate question, provide insights for

future work, and identify additional questions that must be answered before a decision is made on the acceptability of the approach.

We agree, as I mentioned in a follow up e-mail to your staff, that the scope of the pilot was not to determine the extent of LNAPL. However, the presence or absence of LNAPL is very important to the success or failure of biodegradation and was prominently highlighted in the workplan. As you mention, the presence and distribution of LNAPL in the vadose and saturated zones is critical to defining the nature and extent of contamination and evaluating potential corrective measures. Bioremediation can be one potential component of any corrective measure. Understanding the limits of this technology and how the technology could be most efficiently deployed must be a goal during the study phase. Understanding such issues at an early stage will allow us to efficiently and cost effectively proceed to a remedy evaluation and ultimate remedy selection. To that end, our comments in the March 4, 2020 Disapproval included questions and concerns that remain regarding the implementation and potential success of this technology. If some of our comments were misinterpreted by your staff, a teleconference would be helpful to resolve any misunderstandings. Your letter requests a meeting with NMED to discuss the Disapproval. We will reach out to your staff to arrange this teleconference.

Regarding the continuation of monitoring associated with this pilot, I want to acknowledge receipt of the In-Situ Bioremediation Long Term Monitoring Workplan and advise that this plan does not require NMED approval. We hope that you will use the information provided in our March 4, 2020 Disapproval to support the ongoing assessment of the efficacy of bioremediation. Once the results from this continued monitoring effort are available, please submit them as a supplement to the existing Report. This approach should make any extension of time for submittal of the revised report unnecessary. However, in order to assure KAFB has sufficient time to make the necessary changes to the Report and, in light of workload challenges associated with the COVID-19 pandemic, we are extending the due date for a response to our Disapproval to September 18, 2020.

I appreciate your dedication to this project, and we look forward to continued work with you and your staff toward its completion. Should you or your staff have any questions, please contact me at (505) 476-6035.

Sincerely,



Kevin M. Pierard, Chief
Hazardous Waste Bureau

cc: Stephanie Stringer, Director NMED RPD
Colonel David S. Miller, Base Commander KAFB
D. Cobrain, NMED HWB
B. Wear, NMED HWB
M. Suzuki, NMED HWB
L. King EPA Region 6 (6LCRRC)
S. Kottkamp, KAFB
K. Lynnes, KAFB

File: KAFB 2020 Bulk Fuels Facility Spill and Reading

**KIRTLAND AIR FORCE BASE
ALBUQUERQUE, NEW MEXICO**

**QUARTERLY BIOVENTING STATUS REPORT
BULK FUELS FACILITY
SOLID WASTE MANAGEMENT UNITS ST-106/SS-111**

JUNE 2020



**377 MSG/CEI
2050 Wyoming Boulevard SE
Kirtland Air Force Base, New Mexico 87117-5270**

**KIRTLAND AIR FORCE BASE
ALBUQUERQUE, NEW MEXICO**

**Quarterly Bioventing Status Report
Bulk Fuels Facility
Solid Waste Management Units ST-106/SS-111**

June 2020

Prepared for

Kirtland Air Force Base
2050 Wyoming Boulevard SE
Kirtland Air Force Base, New Mexico 87117-5270

Prepared by

EA Engineering, Science, and Technology, Inc., PBC
320 Gold Avenue Southwest, Suite 1300
Albuquerque, New Mexico 87102
Contract No. W9128F-13-D-0006
Delivery Order DM02

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PREFACE

This report was prepared for Kirtland Air Force Base under U.S. Army Corps of Engineers Contract Number W9128F-13-D-0006, Delivery Order DM02 by EA Engineering, Science, and Technology, Inc., PBC. This report provides the data obtained from the bioventing pilot testing performed at the Bulk Fuels Facility, Solid Waste Management Units ST-106/SS 111, located in Albuquerque, New Mexico during the fourth quarter of 2019. The first quarter of the long-term bioventing pilot test took place between October 2019 and January 2020. The data presented herein were used to obtain system operational parameters in order to evaluate system performance.

This report was prepared in accordance with applicable federal, state, and local laws and regulations, including the New Mexico Hazardous Waste Act, New Mexico Statutes Annotated 1978, New Mexico Hazardous Waste Management Regulations, Resource Conservation and Recovery Act, and regulatory correspondence between the New Mexico Environment Department Hazardous Waste Bureau and the U.S. Air Force, dated March 25 and May 20, 2016.

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LIST OF ACRONYMS AND ABBREVIATIONS

%	percent
AFB	Air Force Base
BFF	Bulk Fuels Facility
BTEX	benzene, toluene, ethylbenzene, and total xylenes
EDB	ethylene dibromide
EPA	U.S. Environmental Protection Agency
GRO	gasoline range organics
mg/kg/day	milligram(s) per kilogram per day
NMED	New Mexico Environment Department
RCRA	Resource Conservation and Recovery Act
ROI	radius of Influence
scfm	standard cubic feet per minute
SVEW	soil vapor extraction well
SVMW	soil vapor monitoring well
SWMU	Solid Waste Management Unit
TPH	total petroleum hydrocarbons
USACE	U.S. Army Corps of Engineers
VOC	volatile organic compound

EXECUTIVE SUMMARY

The investigation and remediation of the Kirtland Air Force Base (AFB) Bulk Fuels Facility (BFF) release (Solid Waste Management Units ST-106/SS 111) are being implemented pursuant to the Resource Conservation and Recovery Act (RCRA) corrective action provisions in Part 6 of Kirtland AFB's Hazardous Waste Treatment Facility Operating Permit (Permit Number NM9570024423 [RCRA Permit]) (New Mexico Environment Department [NMED], 2010). This report summarizes the first quarter operation of the long-term bioventing pilot test.

A historic release of petroleum hydrocarbons occurred at the BFF and the use of bioventing is being evaluated to assess its effectiveness at site remediation. The goal of the bioventing respiration pilot test is to determine if bioventilation (air injection) promotes the natural degradation of organic contaminants by providing oxygen to microbes in the subsurface. The rate at which the supplied oxygen is utilized is directly proportional to the rate of fuel hydrocarbon degradation. This oxygen utilization rate and corresponding degradation rate can be used to determine the effectiveness of bioventing to achieve site cleanup.

The bioventing pilot test is being performed in accordance with the Bioventing Respiration Pilot Testing Procedure (Kirtland AFB, 2018) and the Work Plan for Bioventing and Air-Lift Enhanced Bioremediation Pilot Tests, dated November 2017 (Kirtland AFB, 2017a). These documents were approved by NMED in letters dated February 25, 2019 (NMED, 2019) and April 6, 2018 (NMED, 2018a), respectively. The bioventing soil vapor monitoring wells KAFB-106V1 and KAFB-106V2 were installed under the Work Plan for Vadose Zone Coring, Vapor Monitoring, and Water Supply Sampling, Revision 1 dated December 2017 (Kirtland AFB, 2017b). This work plan was approved by NMED in a letter dated February 23, 2018 (NMED, 2018b).

The long-term bioventing pilot test was initiated on October 7, 2019, utilizing operational parameters obtained from the data analysis of the bioventing respiration pilot tests. This report includes data collected between October 7, 2019 and January 13, 2020. Monitoring of the long-term bioventing pilot test is ongoing in accordance with the Work Plan (Kirtland AFB, 2017a).

During the first quarter of bioventing, field data to assess oxygen utilization and radius of influence were collected. Soil vapor samples were also collected and submitted to an analytical laboratory for analysis of total petroleum hydrocarbons and volatile organic constituents to assess hydrocarbon degradation. The data are presented herein. Field data will continue to be collected monthly and analytical samples will continue to be collected quarterly. An annual report for the first year of bioventing pilot test operation is anticipated to be included within the appropriate quarterly groundwater monitoring report. The annual report will provide an assessment of the progress of bioventilation based on the data collected for the year.

1. INTRODUCTION

Solid Waste Management Units (SWMUs) ST-106/SS-111 are located at Kirtland Air Force Base (AFB) in Bernalillo County, New Mexico. Kirtland AFB is located southeast of, and adjacent to, the City of Albuquerque and the Albuquerque International Sunport. The approximate area of the base is 52,287 acres. The Bulk Fuels Facility (BFF or Site) is located in the northwestern portion of Kirtland AFB (Figure 1-1).

Dr. Robert Hinchee, coauthor of Principles and Practices of Bioventing, Volume 2: Bioventing Design (Leeson and Hinchee, 1996), acted as subject matter expert for the pilot test. Dr. Hinchee provided technical guidance on pilot test operation, reviewed data, and assisted with the data interpretation.

1.1 Regulatory Framework

Environmental restoration efforts at the BFF are being performed pursuant to the corrective action provisions in Part 6 of the Resource Conservation and Recovery Act (RCRA) Permit Number NM9570024423 (RCRA Permit). The New Mexico Environment Department (NMED) is the lead regulatory agency (NMED, 2010). This work has been performed under U.S. Army Corps of Engineers (USACE) Contract Number W9128F-13-D-0006, Delivery Order DM02.

The bioventing pilot test is being performed in accordance with the Bioventing Respiration Pilot Testing Procedure (Kirtland AFB, 2018) and the Work Plan for Bioventing and Air-Lift Enhanced Bioremediation Pilot Tests, dated November 2017 (Work Plan [Kirtland AFB, 2017a]). These documents were approved by NMED in letters dated February 25, 2019 (NMED, 2019) and April 6, 2018 (NMED, 2018a), respectively. The bioventing soil vapor monitoring wells (SVMWs) KAFB-106V1 and KAFB-106V2 were installed under the Work Plan for Vadose Zone Coring, Vapor Monitoring, and Water Supply Sampling, Revision 1 dated December 2017 (Kirtland AFB, 2017b). Well details are provided in Table 1-1 and well locations are shown on Figure 1-2. This Work Plan was approved by NMED in a letter dated February 23, 2018 (NMED, 2018b).

1.2 Bioventing Pilot Test Objectives and Scope

The bioventing pilot test is being performed to evaluate the feasibility of this technology to remediate residual petroleum hydrocarbon concentrations in the vadose zone. The goal of the bioventing respiration pilot test is to determine if bioventing (air injection) promotes the natural degradation of organic contaminants by providing oxygen to microbes in the subsurface. The rate at which the supplied oxygen is utilized is directly proportional to the rate of fuel hydrocarbon degradation. This oxygen utilization rate and corresponding degradation rate can be used to determine the effectiveness of bioventing to achieve site cleanup.

The bioventing respiration pilot test utilizes soil vapor extraction wells (SVEWs) SVEW-01, SVEW-02/03, and SVEW-04/05 as well as SVMW-10 and SVMW-11 for air injection (Kirtland AFB, 2017a, 2018) and two new SVMW clusters at KAFB-106V1 and KAFB-106V2 (Kirtland AFB, 2017b) for observation. Well details are provided in Table 1-1 and well locations are shown on Figure 1-2. The long-term bioventing pilot test was initiated on October 7, 2019. The system was shut down between January 6 and January 13, 2020 in order to obtain respirometry data. This report includes data collected between October 7, 2019 and January 13, 2020.

Data collected during this quarter were used to calculate oxygen utilization rates, and corresponding biodegradation rates, and estimate intrinsic permeability and radius of influence (ROI). Details regarding

the operational parameters were provided in the Bioventilation Construction and Initiation Report (Kirtland AFB, 2020).

Respirometry was monitored in wells KAFB-106V1 and KAFB-106V2 as identified in Table 1-1. Injection flow rates and pressures are provided in Tables 1-2 through 1-4. Respirometry readings were collected using a sample train consisting of 0.5-inch fluorinated ethylene propylene tubing and a 4-way stainless-steel cross equipped with quick connects was connected to the well head. Well head pressures were collected using a digital manometer.

Well purging was performed by removing one well volume (casing volume plus the filter pack pore space volume of the screened interval) from the monitoring well utilizing a Gast rotary vane pump. Each well was purged at a predetermined flow rate for a given amount of time to ensure adequate volume removal.

Soil vapor relative humidity and temperature were collected during purging by placing an Amprobe TH 3 humidity meter inside a clear flow cell and positioning the instrument where the extracted soil vapor passes directly over the sensor. Relative humidity and temperature readings were collected just prior to completing the purge to allow stabilization. After purging was completed, volatile organic compound (VOC), oxygen, and carbon dioxide readings were collected using the Horiba Mexa-584L; barometric pressure and temperature readings were collected from the Albuquerque Sunport Weather Station. Baseline respirometry readings were recorded and are presented in Tables 1-5 through 1-16.

Analytical sampling was performed weekly for the first month of operation and quarterly thereafter. Immediately after collection of field parameters, analytical samples were collected from each well screen from SVMWs KAFB-106V1 and KAFB-106V2. Analytical samples were collected using 6-liter Summa canisters and analyzed for total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) by U.S. Environmental Protection Agency (EPA) Method TO-3; VOCs including EDB, benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method TO 15 selected ion monitoring; and fixed gases/C1-C5 hydrocarbon compounds by ASTM International D1945 (Table 1-17). Samples were shipped to Eurofins Air Toxics under chain-of-custody documentation.

Status reports will be provided quarterly as an appendix to the appropriate Groundwater Monitoring Report. A summary report will be provided at the end of four quarters of data collection that will summarize the results of the previous year's data.

2. BIOVENTING MONITORING RESULTS

The data that were collected and the calculation of the long-term bioventing operational parameters are discussed below.

2.1 Bioventing Parameter Assessment

Data collected during the bioventing pilot test were utilized to assess oxygen utilization rates and corresponding biodegradation rates. Bioventing assessment and operational parameters were calculated using the field data that were collected and calculated as described in the Work Plan (Kirtland AFB, 2017a). Discussion of the operational parameters is provided below.

2.1.1 Field Parameters

Field parameters were collected throughout the first quarter of the long-term bioventing pilot test and are provided in Tables 1-5 through 1-16. Oxygen concentration increased from the low background concentrations (between 0.12% and 13.97%) to near ambient air concentrations (between 18.57% and 20.97%) while carbon dioxide concentrations generally decreased from high background concentrations (between 8.3% and 12.46%) to near ambient concentrations (between 0.0% and 2.36%) as the bioventing system supplied ambient air throughout the vadose zone. Oxygen and carbon dioxide concentrations remained near ambient condition until January 6, 2020 when the bioventing blowers were shut down to assess bioventing parameters. Field soil vapor VOC concentrations generally decreased throughout the first quarter, however, remained relatively high in the majority of the observation points (Tables 1-5 through 1-16). Relative humidity generally varied between approximately 35% and 70% throughout the quarter. Extracted vapor temperature generally decreased throughout the quarter as ambient temperatures decreased in the winter months.

2.1.2 Oxygen Utilization Rate

To assess the oxygen utilization rates, the bioventing blowers were shut down between January 6 and January 13, 2020. Field measurements were collected and plotted versus time (Appendix A provides graphs of oxygen utilization). A linear regression was applied to determine the oxygen utilization rate.

Oxygen utilization rates varied between 0.03 and 0.18 percent (%) per day for KAFB-106V1 and between 0.07 and 0.81% per day for KAFB-106V2 (Appendix A and Table 2-1). The site-wide oxygen utilization rate averaged 0.18% per day.

2.1.3 Biodegradation Rate

Biodegradation rates were calculated for each observation well utilizing the oxygen utilization rates obtained at the end of the fourth quarter 2019. Biodegradation rates for each well were calculated in accordance with the Work Plan (Kirtland AFB, 2017a). The formula used to calculate the biodegradation rates is provided in Appendix B. The degradation of hexane was used to establish the oxygen utilization in accordance with the Work Plan (Kirtland AFB, 2017a) and Leeson and Hinchee (1996).

Biodegradation rates during the dry respiration testing ranged between 0.020 and 0.107 milligrams per kilogram per day (mg/kg/day) for KAFB-106V1 and between 0.041 and 0.480 mg/kg/day KAFB-106V2 (Table 2-1). The site-wide biodegradation rate averaged 0.105 mg/kg/day.

2.1.4 Oxygen Demand Air Flow Rate

The oxygen demand flow rate represents the minimum ambient air injection flow rate required to maintain the biodegradation rates obtained in the respirometry calculations. The oxygen demand air flow rate was calculated for each injection well using the average oxygen utilization rate obtained from the observation wells (Appendix B-1).

Oxygen demand flow rates varied between 0.27 and 0.82 standard cubic feet per minute (scfm) for the SVMWs and between 0.91 and 1.05 scfm for the SVEWs (Table 2-1).

2.1.5 Intrinsic Permeability

Intrinsic permeability was calculated for the SVEWs utilizing data from January 13, 2020 (Table 2-1). The calculations are provided in Appendix B-2. Intrinsic permeability varied between 46 and 52 darcys. Intrinsic permeability was not calculated for the SVMWs as the large amount of head loss that occurred in the 0.5-inch diameter wells did not allow for accurate pressure monitoring at the injection point.

2.1.6 Radius of Influence

In accordance with the Work Plan (Kirtland AFB, 2017a), the ROI was monitored using two methods: physical or pressure response and oxygen response. Physical pressure monitoring was performed prior to respirometry monitoring at the observation wells (Tables 1-5 through 1-16). However, due to low injection flow rates, injection pressures could not overcome the variability in barometric pressure, a reliable pressure ROI was not obtained.

As a result, the oxygen ROI was calculated using the average oxygen utilization rate of wells KAFB-106V1 and KAFB-106V2 and the operation flow rates as described in the Work Plan (Kirtland AFB, 2017a). The oxygen ROI for each well is presented in Table 2-1 and calculations are provided in Appendix B-1. The oxygen ROI varied between 134 and 264 feet.

2.1.7 Soil Vapor Analytical Results

Laboratory analytical samples were collected weekly for the first month of operation and quarterly thereafter. Laboratory analytical samples were collected from each of the screened intervals in SVMWs KAFB-106V1 and KAFB-106V2 to assess the changes in concentration of BTEX, ethylene dibromide (EDB), and TPH-GRO. Field parameters collected during sampling are provided in Tables 1-5 through 1-16. Soil vapor analytical data and the analytical laboratory reports are provided in Appendix C. TPH-GRO, BTEX, and EDB concentrations were collected and are provided in Table 2-2.

Laboratory results for vapor samples from wells KAFB-106V1-102, KAFB-106V1-113, KAFB-106V1-160, and KAFB-106V1-217 collected on October 22, 2019 appear to have been diluted with atmospheric air during the sample collection process. The TPH and related VOC concentrations were reported to be significantly lower than the concentrations reported for the same samples collected on October 15 and 31, 2019 (Table 2-2). Laboratory receipt vacuums indicate that a leak in transit did not occur. In addition, a leak in the sample train is unlikely as the field parameters are collected from the same sample train and a significant decrease in VOC concentrations was not observed.

It is believed that the leak occurred during sampling within the canister fittings and connections to the sample trains. As a result, the canisters and fittings will be thoroughly inspected for tightness and proper seal prior to sampling. Additional inspection of each canister gauge/filter assembly will be performed

during the initial vacuum recording to ensure that a leak is not occurring within assembly or the valving on the canister. If a leak is observed within the canister assembly, the filter/gauge assembly will be flagged and replaced, and the canister and assembly will be re-inspected. If the leak still occurs, the canister will be flagged and replaced.

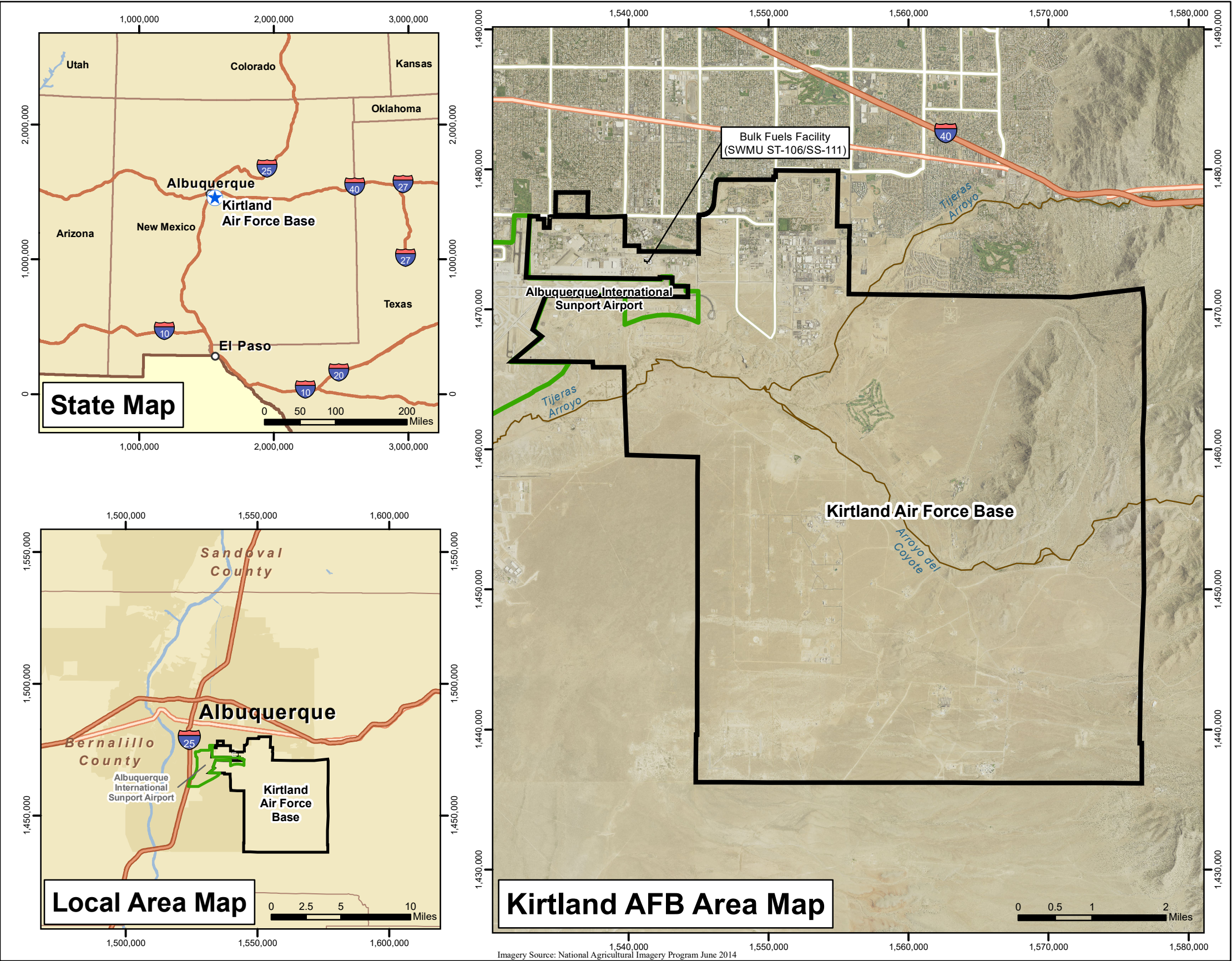
Based on the data usability and comparability assessment by the project team, the VOC, TPH and fixed gases/hydrocarbon sample data have been qualified “R,” signifying rejected data in the project database for the four samples collected on October 22, 2019. No additional suspect data was detected for the remainder of the quarter.

High concentrations of VOCs and TPH were observed in laboratory samples throughout the quarter with all but one monitoring location being equal to or greater than 60,000,000 $\mu\text{g}/\text{m}^3$ of TPH during the January 2020 sampling event. Analytical samples will continue to be monitored quarterly after a week-long respirometry event to allow for a comparable data set collected under similar conditions and will allow for more accurate trend analysis.

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- NMED. 2018b. February 23, 2018 correspondence from Mr. Juan Carlos Borrego, Deputy Secretary to Colonel Richard W. Gibbs, Base Commander, 377 AB/CC, Kirtland AFB, NM and Mr. Chris Segura, Chief, Installation Support Section, AFCEC/CZOW, Kirtland AFB, NM, re: *Work Plan for Vadose Zone Coring, Vapor Monitoring, and Water Supply Sampling, Revision 2, Bulk Fuels Facility, Solid Waste Management Unit ST-106/SS-111, Kirtland Air Force Base, EPA ID# NM9570024423, HWB-KAFB-19-MISC*.
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FIGURES



Legend

- Kirtland Air Force Base Installation Boundary
- Albuquerque International Sunport Airport
- Major Highways
- Highways
- Major Roads
- Arroyos
- Rivers
- Source Area

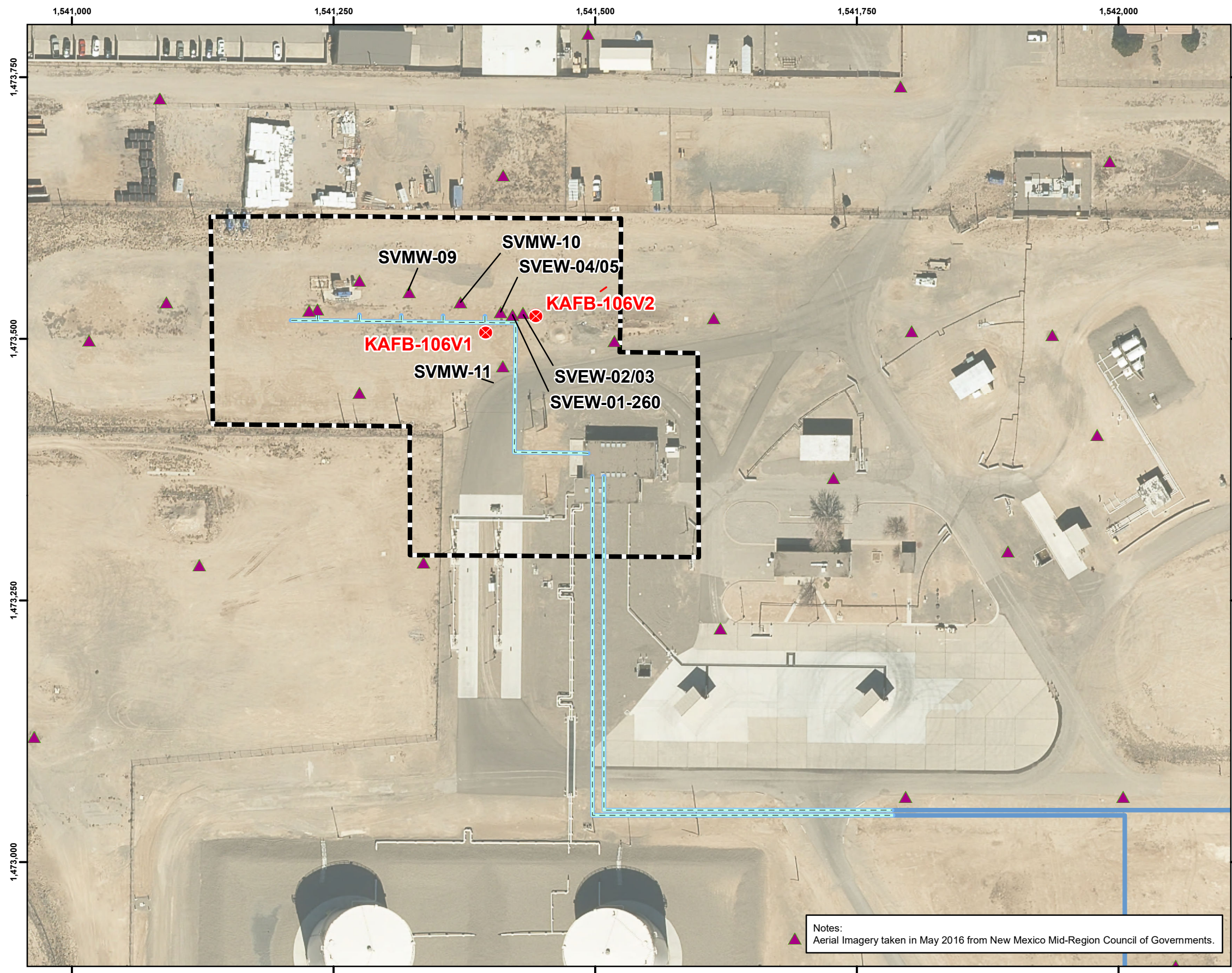


Projection: NAD83 State Plane New Mexico Central FIPS3002 Feet

QUARTERLY BIOVENTING STATUS REPORT
BULK FUELS FACILITY
SOLID WASTE MANAGEMENT UNIT ST-106/SS-111
KIRTLAND AIR FORCE BASE, NEW MEXICO

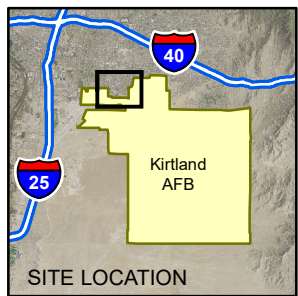
FIGURE 1-1

SITE LOCATION MAP



Legend

- ▲ Existing Soil Vapor Well
- ⊗ Bioventing Observation Well
- Former Buried Fuel Transfer Line
- Former Aboveground Fuel Transfer Line
- Bulk Fuels Facility (SWMU ST-106/SS-111)



0 50 100 200
Feet

1 inch = 100 feet

Projection: NAD83 State Plane New Mexico Central FIPS3002 Feet

QUARTERLY BIOVENTING STATUS REPORT
BULK FUELS FACILITY
SOLID WASTE MANAGEMENT UNIT ST-106/SS-111
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 1-2

BIOVENTING PILOT TEST AREA

TABLES

**Table 1-1
Bioventing Respiration Pilot Test Well Details and Function**

Well ID	Screened Interval (ft bgs)	Diameter (inches)	Status	Well Use	Applicable Tests	Attendant Observation Wells^a	Radial Distance between Observation and Injection Well (ft)
SVMW-11-100	100-102.5	0.5	Existing	Air Injection	Long-Term Bioventing	KAFB-106V1-102	36
						KAFB-106V2-102	57
SVMW-11-250	250-252.5	0.5	Existing	Air Injection	Long-Term Bioventing	KAFB-106V1-252	36
						KAFB-106V2-252	57
SVMW-11-260	260-262.5	0.5	Existing	Air Injection	Long-Term Bioventing	KAFB-106V1-252	36
						KAFB-106V2-252	57
SVEW-01-260	245-260	4	Existing	Air Injection	Long-Term Bioventing	KAFB-106V2-252	31
						KAFB-106V1-252	22
SVMW-10-100	100-102.5	0.5	Existing	Air Injection	Long-Term Bioventing	KAFB-106V1-102	37
						KAFB-106V2-102	73
SVMW-10-150	150-152.5	0.5	Existing	Air Injection	Long-Term Bioventing	KAFB-106V1-160	37
						KAFB-106V2-160	73
SVMW-10-250	250-252.5	0.5	Existing	Air Injection	Long-Term Bioventing	KAFB-106V1-252	37
						KAFB-106V2-252	73
SVEW-02/03-160	145-160	2	Existing	Air Injection	Long-Term Bioventing	KAFB-106V2-160	41
						KAFB-106V1-160	13

**Table 1-1
Bioventing Respiration Pilot Test Well Details and Function**

Well ID	Screened Interval (ft bgs)	Diameter (inches)	Status	Well Use	Applicable Tests	Attendant Observation Wells^a	Radial Distance between Observation and Injection Well (ft)
SVEW-04/05-313	298-313	2	Existing	Air Injection	Long-Term Bioventing	KAFB-106V1-263	24
						KAFB-106V2-270	34
KAFB-106V1	100-102.5	0.75	Existing	Observation	Long-Term Bioventing	NA	NA
	115-117.5	0.75				NA	NA
	157.5-160	0.75				NA	NA
	215-217.5	0.75				NA	NA
	250-252.5	0.75				NA	NA
	270-272.5	0.75				NA	NA
KAFB-106V2	100-102.5	0.75	Existing	Observation	Long-Term Bioventing	NA	NA
	115-117.5	0.75				NA	NA
	157.5-160	0.75				NA	NA
	215-217.5	0.75				NA	NA
	250-252.5	0.75				NA	NA
	270-272.5	0.75				NA	NA

^a During the long-term bioventing test, observation wells will also be used for respiration measurements.

bgs = below ground surface

ft = foot/feet

ID = identification

NA = not applicable

Table 1-2
Bioventing Respiration Pilot Test Air Injection Summary - SVMW-10

Well ID	SVMW-10-100			SVMW-10-150			SVMW-10-250		
Long-Term Bioventing Pilot Test									
Date and Time	Flow Rate (scfm)	Well Head Pressure (in-WC)	Total Volume Injected (ft³)	Flow Rate (scfm)	Well Head Pressure (in-WC)	Total Volume Injected (ft³)	Flow Rate (scfm)	Well Head Pressure (in-WC)	Total Volume Injected (ft³)
10/7/2019 8:30	2.5	81.4	0.0	2.0	65.5	0.0	2.8	129.0	0.0
10/8/2019 11:43	2.5	81.0	4083	2.0	68.9	3266	2.8	130.3	4572
10/9/2019 11:49	2.5	80.3	7697	2.0	68.5	6158	2.8	132.6	8621
10/15/2019 13:00	2.5	83.3	29475	2.0	69.0	23580	2.8	134.6	33012
10/22/2019 11:51	2.5	82.7	54503	2.0	62.7	43602	2.8	132.5	61043
10/31/2019 10:58	2.5	88.9	86770	2.0	63.9	69416	2.8	138.4	97182
11/5/2019 11:38	2.5	80.4	104870	2.0	65.8	83896	2.8	126.7	117454
1/6/2020 9:00	0	0	327675	0.0	0	262140	0.0	0.0	366996
1/13/2020 11:04	2.5	73	327675	2.0	62.5	262140	2.8	134.0	366996

Bioventing blowers were turned off on January 1, 2020 to assess oxygen utilization rates. The blowers were restarted on January 13, 2020.

ft³ = cubic feet

ID = identification

in-WC = inches of water column

scfm = standard cubic feet per minute

Table 1-3
Bioventing Respiration Pilot Test Air Injection Summary - SVMW-11

Well ID	SVMW-11-100			SVMW-11-250			SVMW-11-260		
Long-Term Bioventing Pilot Test									
Date and Time	Flow Rate (scfm)	Well Head Pressure (in-WC)	Total Volume Injected (ft ³)	Flow Rate (scfm)	Well Head Pressure (in-WC)	Total Volume Injected (ft ³)	Flow Rate (scfm)	Well Head Pressure (in-WC)	Total Volume Injected (ft ³)
10/7/2019 8:30	3.3	111.9	0.0	2.5	92.5	0.0	3.0	78.2	0.0
10/8/2019 11:45	3.3	107.1	5396	2.5	86.7	4088	3.0	71.0	4905
10/9/2019 11:52	3.3	111.2	10171	2.5	76.4	7705	3.0	73.2	9246
10/15/2019 13:02	3.3	104.1	38914	2.5	87.4	29480	3.0	68.8	35376
10/22/2019 11:54	3.3	103.4	71953	2.5	87.5	54510	3.0	73.2	65412
10/31/2019 11:43	3.3	104.7	114685	2.5	86.2	86883	3.0	74.8	104259
11/5/2019 11:41	3.3	100.3	138438	2.5	84.5	104878	3.0	75.6	125853
1/6/2020 9:00	0	0	432531	0.0	0	327675	0.0	0.0	393210
1/13/2020 11:10	3.3	102.2	432531	2.5	77.7	327675	3.0	68.8	393210

Bioventing blowers were turned off on January 6, 2020 to assess oxygen utilization rates. The blowers were restarted on January 13, 2020.

ft³ = cubic feet

ID = identification

in-WC = inches of water column

scfm = standard cubic feet per minute

Table 1-4
Bioventing Respiration Pilot Test Air Injection Summary - SVEWs

Well ID	SVEW-01-260			SVEW-02/03-160			SVEW-04/05-313		
Long-Term Bioventing Pilot Test									
Date and Time	Flow Rate (scfm)	Well Head Pressure (in-WC)	Total Volume Injected (ft ³)	Flow Rate (scfm)	Well Head Pressure (in-WC)	Total Volume Injected (ft ³)	Flow Rate (scfm)	Well Head Pressure (in-WC)	Total Volume Injected (ft ³)
10/7/2019 8:30	12	-1.1	0.0	15.0	-0.7	0.0	10.0	-1.7	0.0
10/8/2019 11:45	12	2.1	19620	15.0	2.8	0	10.0	2.0	16350
10/9/2019 11:52	12	2.6	36984	15.0	3.3	21705	10.0	2.7	30820
10/15/2019 13:02	12	0.6	141504	15.0	1.2	152355	10.0	0.0	117920
10/22/2019 11:54	12	0	261648	15.0	0	302535	10.0	-1.0	218040
10/31/2019 11:43	12	-1.7	417036	15.0	-1.5	496770	10.0	-2.2	347530
11/5/2019 11:41	12	0.8	503412	15.0	1.2	604740	10.0	0.5	419510
1/6/2020 9:00	0	0	1572840	0.0	0	1941525	0.0	0.0	1310700
1/13/2020 11:10	12	1.4	1572840	15.0	2.2	1941525	10.0	1.3	1310700

On October 7, 2019 at 1330, the flowmeter to SVEW-02/03-160 was damaged. Air injection on that well was shut off. On October 8, 2019 at 0720, the flowmeter was repaired and air injection was resumed.

Bioventing blowers were turned off on January 6, 2020 to assess oxygen utilization rates. The blowers were restarted on January 13, 2020.

ft³ = cubic feet

ID = identification

in-WC = inches of water column

scfm = standard cubic feet per minute

Table 1-5
KAFB-106V1-102 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 12:42	0.8/0.9	2	42.1	18,690	35.6	75.7	66	30.35	4.20	9.60	NM
10/8/2019 12:21	0.0/0.0	2	44.1	18,440	47.2	72.9	72	30.13	4.18	9.50	NM
10/9/2019 12:03	0.8/0.9	2	41	19,430	52.1	79.0	70	30.10	4.09	9.58	NM
10/15/2019 9:23	0.0/0.0	2	44.5	19,440	52.2	65.8	56	30.07	12.18	7.32	NM
10/22/2019 8:25	0.0/0.0	2	44.3	18,260	69.4	45.4	36	30.27	16.80	3.96	NM
10/31/2019 8:09	0.0/0.0	2	46.3	17,380	52.0	24.5	22	30.51	18.65	2.42	NM
11/5/2019 8:13	0.0/0.0	2	46.5	18,820	59.0	44.5	41	30.22	19.06	1.88	NM
1/6/2020 9:00	-0.6	2	-40.3	19,590	47.0	48.2	36	30.51	19.99	0.96	NM
1/7/2020 8:15	-0.3	2	-42.3	18,640	57.5	31.1	21	30.52	19.52	0.86	NM
1/8/2020 8:27	0.5	2	-39.1	19,340	49.5	37.6	22	30.15	19.54	0.84	NM
1/9/2020 8:13	0.1	2	-43.9	19,200	60.9	36.7	33	30.02	19.69	0.72	NM
1/10/2020 8:34	0.1	2	-37.7	19,120	65.3	39.5	34	29.95	19.02	0.74	NM
1/13/2020 8:49	0.0/0.0	2	42.3	18,110	60.1	34.7	32	30.11	19.73	0.5	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

**Table 1-6
KAFB-106V1-113 Respiration Monitoring**

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 12:48	1.2/1.2	2	40.3	20,900	58.7	74.5	66	30.35	4.26	9.40	NM
10/8/2019 12:25	0.0/0.0	2	44	20,330	47.2	72.9	72	30.13	4.11	9.38	NM
10/9/2019 12:08	1.0/1.0	2	43.2	21,350	54.3	78.3	70	30.10	3.08	10.36	NM
10/15/2019 9:32	0.0/0.0	2	46.8	21,280	55.5	63.4	56	30.07	12.08	7.90	NM
10/22/2019 8:49	0.0/0.0	2	46.9	20,280	69.9	47.1	36	30.27	15.98	4.96	NM
10/31/2019 8:29	0.0/-0.5	2	45.2	18,710	52.0	24.6	22	30.51	17.77	3.58	NM
11/5/2019 8:29	0.0/0.0	2	45.3	20,760	61.1	45.3	41	30.22	18.30	2.90	NM
1/6/2020 9:04	-0.6	2	-43.5	21,370	46.7	50.1	36	30.51	19.62	1.41	NM
1/7/2020 8:20	-0.3	2	-44.5	20,490	51.8	35.2	21	30.52	19.22	1.26	NM
1/8/2020 8:30	0.4	2	-42.6	21,070	47.2	40.0	22	30.15	19.03	1.34	NM
1/9/2020 8:16	0.1	2	-48.2	20,700	60.4	37.5	33	30.02	18.51	1.68	NM
1/10/2020 8:37	0	2	-43.3	20,700	64.5	37.7	34	29.94	17.89	1.78	NM
1/13/2020 9:07	0.0/0.0	2	43.8	19,360	64.0	35.9	32	30.11	18.89	1.18	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-7
KAFB-106V1-160 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 12:51	-1.4/-1.4	2	45.0	21,840	58.2	73.8	66	30.35	0.18	10.94	NM
10/8/2019 12:28	0.7/0.7	2	44.5	21,040	47.2	72.9	72	30.13	0.25	10.72	NM
10/9/2019 12:11	2.4/2.3	2	42.7	21,710	55.6	77.8	71	29.77	2.69	10.68	NM
10/15/2019 9:52	-1.4/-1.3	2	44.8	21,150	62.6	62.3	56	30.07	19.16	1.82	NM
10/22/2019 9:00	-2.1/-2.1	2	46.5	19,130	70.0	47.7	36	30.27	19.92	0.46	NM
10/31/2019 8:45	-3.5/-3.5	2	47.6	10,170	55.5	25.4	22	30.51	20.34	0.42	NM
11/5/2019 8:41	-0.9/-0.9	2	45.6	17,560	66.2	46.4	41	30.22	20.00	0.28	NM
1/6/2020 9:08	-2.8	2	-46.6	13,270	43.0	52.0	36	30.10	20.81	0.30	NM
1/7/2020 8:24	-2.7	2	-46.6	12,480	51.0	39.5	21	30.52	19.98	0.34	NM
1/8/2020 8:34	1.3	2	-40.6	13,430	45.5	42.3	22	30.15	19.86	0.30	NM
1/9/2020 8:19	1.8	2	-42.7	14,030	62.5	37.9	33	30.02	19.86	0.30	NM
1/10/2020 8:40	2	2	-47.6	13,820	64.2	37.5	34	29.95	20.03	0.30	NM
1/13/2020 9:22	0.5/0.5	2	41.6	13,250	66.5	37.3	32	30.11	19.41	0.32	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-8
KAFB-106V1-217 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 12:57	-1.5/-1.5	2	53.9	25,170	61.7	71.6	66	30.35	0.12	12.20	NM
10/8/2019 12:33	0.6/0.6	2	48.2	24,420	55.3	75.1	72	30.13	0.35	11.72	NM
10/9/2019 12:15	2.3/2.3	2	48.1	25,530	57.0	77.4	71	29.77	1.66	11.38	NM
10/15/2019 10:20	-1.2/-1.3	2	48.6	23,160	65.1	62.2	59	30.07	12.96	5.02	NM
10/22/2019 9:20	-2.1/-2.2	2	50.6	9,800	65.6	49.9	44	30.25	18.77	1.42	NM
10/31/2019 9:12	-3.5/-3.5	2	54.2	996	60.7	27.4	27	30.53	20.65	0.18	NM
11/5/2019 9:09	-0.6/-0.6	2	47.6	6,420	69.1	49.3	45	30.20	19.84	0.64	NM
1/6/2020 9:12	-2.9	2	-47.9	20,596	44.7	53.3	36	30.10	19.63	0.88	NM
1/7/2020 8:27	-2.6	2	-44.4	5,700	49.0	40.3	21	30.52	20.10	0.34	NM
1/8/2020 8:37	1.2	2	-47.8	15,850	46.0	43.0	22	30.15	18.79	1.06	NM
1/9/2020 8:22	1.8	2	-44.2	18,670	66.1	38.8	33	30.02	18.79	1.08	NM
1/10/2020 8:43	1.9	2	-44.8	18,760	68.1	37.4	34	24.95	18.99	1.10	NM
1/13/2020 9:43	0.7/0.8	2	45.0	19,080	69.0	35.5	40	30.10	18.53	1.02	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-9
KAFB-106V1-252 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 13:00	-1.3/-1.3	2	44.0	21,540	63.0	73.3	66	30.35	2.63	9.20	NM
10/8/2019 12:35	0.8/0.7	2	50.8	21,690	54.0	78.7	72	30.13	3.11	8.88	NM
10/9/2019 12:19	2.5/2.5	2	44.9	22,430	57.3	77.0	71	29.77	10.25	7.80	NM
10/15/2019 10:35	-1.2/-1.1	2	47.6	22,350	69.0	62.9	59	30.07	19.60	0.14	NM
10/22/2019 9:33	-2.0/-2.0	2	47.5	19,870	71.4	51.1	44	30.25	20.07	0.00	NM
10/31/2019 9:28	-3.3/-3.3	2	51.4	15,290	64.4	28.8	27	30.53	20.28	0.00	NM
11/5/2019 9:23	-0.9/-0.9	2	47.7	18,990	70.8	51.0	46	30.20	20.04	0.00	NM
1/6/2020 9:16	-2.8	2	-47.9	17,790	42.9	55.8	36	30.51	20.91	0.04	NM
1/7/2020 8:31	-2.8	2	-46.5	15,590	51.2	41.3	21	30.52	20.11	0.18	NM
1/8/2020 8:41	1.2	2	-42.1	16,010	48.0	44.0	22	30.15	19.90	0.16	NM
1/9/2020 8:25	1.9	2	-43.3	16,830	64.7	39.7	33	30.02	19.97	0.16	NM
1/10/2020 8:47	2	2	-44.0	15,870	70.1	37.2	34	29.95	20.29	0.18	NM
1/13/2020 9:58	0.0/0.0	2	43.2	16,380	71.2	41.1	40	30.10	19.86	0.14	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-10
KAFB-106V1-263 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 13:05	-1.3/-1.3	2	44.4	22,910	63.6	72.9	66	30.35	3.35	8.38	NM
10/8/2019 12:39	0.6/0.6	2	50.7	22,220	54.0	78.2	72	30.13	3.17	8.36	NM
10/9/2019 12:23	2.5/2.4	2	44.0	22,990	54.7	76.7	71	29.77	5.44	8.36	NM
10/15/2019 10:51	-1.1/-1.0	2	45.3	23,150	70.8	63.8	59	30.07	18.82	1.10	NM
10/22/2019 9:47	-2.0/-2.0	2	47.2	20,650	71.0	54.0	44	30.25	19.96	0.02	NM
10/31/2019 9:50	-3.2/-3.3	2	47.5	16,670	68.0	30.5	30	30.50	20.28	0.00	NM
11/5/2019 9:43	-0.7/-0.7	2	47.1	21,470	70.7	53.5	49	30.18	19.99	0.00	NM
1/6/2020 9:20	-2.9	2	-52.9	19,040	41.2	56.8	36	30.51	20.97	0.02	NM
1/7/2020 8:35	-2.8	2	-44.3	16,690	50.1	43.5	21	30.52	20.45	0.02	NM
1/8/2020 8:44	1.3	2	-45.3	17,210	47.3	45.3	22	30.15	20.00	0.10	NM
1/9/2020 8:28	1.9	2	-40.7	18,190	68.3	40.9	33	30.02	20.03	0.10	NM
1/10/2020 8:51	1.9	2	-43.0	16,960	70.1	37.5	34	29.95	20.23	0.16	NM
1/13/2020 10:15	0.0/0.0	2	43.2	17,600	71.1	42.5	40	30.10	19.90	0.04	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-11
KAFB-106V2-102 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 13:30	0.0/0.0	2	41.3	27,780	61.4	74.2	66	30.35	1.98	10.80	NM
10/8/2019 13:00	0.0/0.0	2	45.9	28,800	49.6	80.0	72	30.13	2.09	10.82	NM
10/9/2019 12:32	0.6/0.5	2	45.7	27,710	52.4	78.0	73	29.72	2.30	10.50	NM
10/15/2019 11:19	0.0/0.0	2	47.7	28,190	69.9	66.3	64	30.03	5.34	9.80	NM
10/22/2019 10:23	0.0/0.0	2	46.1	26,110	52.4	60.0	50	30.23	12.98	6.26	NM
10/31/2019 10:18	0.0/0.0	2	46.2	22,060	62.0	32.5	32	30.47	16.74	4.04	NM
11/5/2019 10:14	0.0/0.0	2	47.8	27,590	63.4	57.9	53	30.19	17.31	2.96	NM
1/6/2020 9:27	-0.7	2	-48.3	24,800	35.6	56.5	36	30.51	19.57	1.42	NM
1/7/2020 8:45	-0.5	2	-38.7	22,980	41.9	45.6	24	30.52	19.17	1.36	NM
1/8/2020 8:53	0.4	2	-47.5	24,580	44.5	44.9	27	30.15	19.13	1.46	NM
1/9/2020 8:35	0.1	2	-43.0	24,640	60.9	42.7	35	30.02	18.95	1.62	NM
1/10/2020 9:03	0.0	2	-42.9	22,610	66.6	36.1	34	29.95	18.82	1.76	NM
1/13/2020 10:42	0.0/0.0	2	44.8	23,520	59.7	44.5	43	30.09	19.02	1.16	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-12
KAFB-106V2-117 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 13:33	0.0/0.0	2	42.5	29,440	58.4	74.8	66	30.35	1.97	10.54	NM
10/8/2019 13:05	0.5/0.5	2	49.1	31,350	48.4	80.1	72	30.13	1.49	10.74	NM
10/9/2019 12:37	0.0/0.0	2	47.2	30,530	50.0	78.9	73	29.72	5.58	8.64	NM
10/15/2019 11:45	0.0/0.0	2	49.4	31,250	66.0	67.5	64	30.03	4.01	9.90	NM
10/22/2019 10:37	0.0/0.0	2	48.5	27,990	55.3	59.0	50	30.23	11.01	7.32	NM
10/31/2019 10:35	0.0/0.0	2	47.4	23,500	58.2	33.0	32	30.47	15.05	5.52	NM
11/5/2019 10:29	0.0/0.0	2	48.3	29,640	65.1	59.1	53	30.19	14.21	5.16	NM
1/6/2020 9:29	-0.8	2	-44.4	26,440	41.3	57.5	36	30.51	18.59	2.54	NM
1/7/2020 8:47	-0.6	2	-45.8	24,670	45.9	42.0	24	30.52	18.19	2.36	NM
1/8/2020 8:56	0.4	2	-44.5	26,770	49.6	42.8	27	30.15	14.55	4.90	NM
1/9/2020 8:38	0.1	2	-45.3	26,160	59.4	42.7	35	30.02	14.70	5.10	NM
1/10/2020 9:08	0	2	-41.1	23,680	65.7	35.6	34	29.95	13.81	5.80	NM
1/13/2020 10:59	0.0/0.0	2	46.1	26,200	56.7	45.3	43	30.09	13.00	6.74	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-13
KAFB-106V2-160 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 13:37	-1.6/-1.8	2	43.4	11,120	59.0	74.3	66	30.35	13.97	8.40	NM
10/8/2019 13:08	1.1/1.1	2	46.3	11,080	49.2	80.3	72	30.13	19.23	2.32	NM
10/9/2019 12:44	2.6/2.6	2	42.8	9,390	48.7	79.9	73	29.72	19.94	0.48	NM
10/15/2019 12:08	-0.5/-0.5	2	47.2	4,990	65.0	69.4	67	30.04	20.12	0.04	NM
10/22/2019 10:55	-2.0/-1.9	2	46.9	3,470	57.0	59.6	55	30.21	20.40	0.08	NM
10/31/2019 11:00	-2.4/-2.4	2	48.9	2,340	58.2	34.0	35	30.44	20.56	0.16	NM
11/5/2019 10:50	0.0/0.0	2	47.1	2,400	64.4	59.9	57	30.14	20.33	0.10	NM
1/6/2020 9:33	-2.7	2	-44.0	960	47.3	47.7	36	30.51	20.84	0.12	NM
1/7/2020 8:51	-2.7	2	-41.2	1,050	57.1	40.2	24	30.52	20.51	0.26	NM
1/8/2020 8:59	1.3	2	-45.0	1,136	51.8	42.0	27	30.15	20.80	0.26	NM
1/9/2020 8:41	1.9	2	-42.5	1,313	61.2	42.9	35	30.02	20.80	0.26	NM
1/10/2020 9:11	1.9	2	-42.7	1,448	66.3	35.0	34	29.95	20.31	0.26	NM
1/13/2020 11:20	0.5/0.5	2	43.4	1,600	63.1	46.8	43	30.09	19.73	0.52	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-14
KAFB-106V2-217 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 13:41	-1.3/-1.4	2	44.5	22,860	62.2	73.6	66	30.35	0.45	12.46	NM
10/8/2019 13:12	0.9/0.9	2	45.7	23,610	55.6	80.2	72	30.13	0.43	12.56	NM
10/9/2019 12:47	2.3/2.3	2	42.1	22,730	55.1	80.7	73	29.72	0.71	12.20	NM
10/15/2019 12:22	-0.8/-0.8	2	48.0	23,450	64.4	71.2	67	30.04	7.00	10.12	NM
10/22/2019 11:08	-2.2/-2.2	2	47.7	21,890	60.4	59.1	55	30.21	12.17	6.80	NM
10/31/2019 11:13	-3.3/-3.4	2	49.6	19,600	64.0	35.0	35	30.44	16.11	4.18	NM
11/5/2019 11:03	-0.5/-0.5	2	48.8	22,840	66.3	60.5	57	30.14	17.33	2.42	NM
1/6/2020 9:37	-3	2	-48.3	20,910	52.9	43.8	36	30.51	19.31	0.96	NM
1/7/2020 8:54	-2.8	2	-45.0	20,170	57.0	38.3	24	30.52	18.89	1.15	NM
1/8/2020 9:02	1.3	2	-40.9	20,960	56.0	41.5	27	30.15	19.11	1.18	NM
1/9/2020 8:44	1.7	2	-40.6	21,010	65.7	43.6	35	30.02	19.19	1.08	NM
1/10/2020 9:14	1.8	2	-45.7	19,270	68.5	34.6	34	29.95	18.75	1.10	NM
1/13/2020 11:30	0.0/0.0	2	46.9	20,640	65.4	48.5	46	30.08	18.47	0.98	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-15
KAFB-106V2-252 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 13:44	-1.0/-1.3	2	44.6	15,100	63.4	73.4	66	30.35	2.00	10.38	NM
10/8/2019 13:15	1.1/1.1	2	46.2	15,590	54.0	79.6	72	30.13	16.15	5.02	NM
10/9/2019 12:51	2.6/2.7	2	41.0	15,190	53.4	81.3	74	29.71	19.50	0.92	NM
10/15/2019 12:35	0.0/0.0	2	48.3	15,360	62.8	72.2	70	30.00	19.90	0.00	NM
10/22/2019 11:22	-1.7/-1.8	2	49.2	14,680	67.0	58.1	55	30.24	20.19	0.00	NM
10/31/2019 11:28	-3.0/-3.1	2	49.2	12,730	66.4	36.2	36	30.41	20.46	0.00	NM
11/5/2019 11:14	0.0/0.0	2	46.7	14,490	67.2	60.9	59	30.16	20.13	0.00	NM
1/6/2020 9:40	-2.8	2	-43.3	10,990	60.2	42.1	36	30.51	20.95	-0.01	NM
1/7/2020 8:57	-2.7	2	-42.9	9,900	60.4	37.7	24	30.52	20.58	0.06	NM
1/8/2020 9:06	1.4	2	-43.2	10,740	53.7	42.5	27	30.15	20.87	0.08	NM
1/9/2020 8:47	2	2	-42.7	11,320	63.2	45.1	35	30.02	20.86	0.10	NM
1/10/2020 9:17	1.9	2	-44.6	10,200	71.3	34.6	34	29.95	20.30	0.10	NM
1/13/2020 11:42	0.0/0.0	2	46.0	11,150	60.5	50.1	46	30.08	20.07	0.04	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-16
KAFB-106V2-270 Respiration Monitoring

Date and Time	Well Head Pressure Pre/Post Purge (in-WC)	Flow Rate (scfm)	Vacuum (in-WC)	VOC (ppmv)	Relative Humidity (%)	Vapor Temperature (°F)	Ambient Temperature (°F)	Barometric Pressure (in-Hg)	O ₂ (%)	CO ₂ (%)	CH ₄ (%)
Long-Term Bioventing											
10/7/2019 13:48	-1.2/-1.3	2	45.4	19,600	63.4	73.5	66	30.35	2.18	9.72	NM
10/8/2019 13:19	1.0/1.0	2	45.3	19,680	52.3	78.5	72	30.13	9.99	8.82	NM
10/9/2019 12:55	2.6/2.6	2	44.1	18,890	46.2	81.7	74	29.71	18.58	2.08	NM
10/15/2019 12:46	0.0/0.0	2	48.8	18,950	60.7	73.0	70	30.00	19.64	0.08	NM
10/22/2019 11:35	-1.7/-1.7	2	49.8	17,420	67.8	58.7	55	30.24	19.99	0.00	NM
10/31/2019 11:36	-3.0/-3.0	2	50.5	14,470	65.1	37.0	36	30.41	20.22	0.00	NM
11/5/2019 11:25	0.0/0.0	2	49.8	17,560	67.5	61.5	59	30.16	19.98	0.00	NM
1/6/2020 9:44	-2.8	2	-46.8	11,340	62.6	41.2	36	30.50	20.88	0.02	NM
1/7/2020 9:00	-2.8	2	-43.2	10,960	61.4	37.5	24	30.52	20.49	0.08	NM
1/8/2020 9:08	1.3	2	-57.8	11,680	53.5	42.3	27	30.15	20.75	0.14	NM
1/9/2020 8:57	2	2	-42.6	12,410	64.0	45.7	35	30.02	20.45	0.44	NM
1/10/2020 9:20	2	2	-45.0	11,050	71.8	34.6	34	29.95	19.71	0.58	NM
1/13/2020 11:57	0.0/0.0	2	46.8	12,390	62.1	51.6	46	30.08	19.73	0.26	NM

% = percent

°F = degrees Fahrenheit

CH₄ = methane

CO₂ = carbon dioxide

in-Hg = inches of mercury

in-WC = inches of water column

NM = not measured

O₂ = oxygen

ppmv = part per million by volume

scfm = standard cubic feet per minute

VOC = volatile organic compound

Table 1-17
Bioventing Respiration Pilot Test Analytical Requirements and Frequency

Parameter	Method	Media	Number of Samples Per Event^a	Sample Container	Data Use	Respiration Test Frequency	Long-Term Test Frequency
BTEX/TPH-GRO	EPA TO-3	Soil Vapor	12	1-liter Summa canister	Evaluate soil vapor hydrocarbons	Baseline and end of test	Weekly for first month; quarterly to end of test
VOCs	EPA TO-15 SIM	Soil Vapor	12	1-liter Summa canister	Evaluate soil vapor EDB concentrations	Baseline and end of test	Weekly for first month; quarterly to end of test
Fixed Gases ^b	ASTM D1945	Soil Vapor	12	1-liter Summa canister	Verify field instrument reading	Baseline and end of test	Weekly for first month; quarterly to end of test
C1-C5 Hydrocarbon Compounds ^c	ASTM D1945	Soil Vapor	12	1-liter Summa canister	Evaluate degradation of EDB	Baseline and end of test	Weekly for first month; quarterly to end of test

^a Soil vapor samples collected from each of the six nested wells in both KAFB-106V1 and KAFB-106V2 (does not include quality control samples).

^b Fixed gases: nitrogen, oxygen, hydrogen, carbon monoxide, and carbon dioxide.

^c C1-C5 hydrocarbon compounds: methane, ethane, propane, butane, and pentane.

ASTM = ASTM International

BTEX = benzene, toluene, ethylbenzene, and total xylenes

EDB = ethylene dibromide (1,2-dibromoethane)

EPA = U.S. Environmental Protection Agency

GRO = gasoline range organics

SIM = selective ion monitoring

TPH = total petroleum hydrocarbons

VOC = volatile organic compound

**Table 2-1
Respirometry Parameter Summary**

Injection Parameters				
Well ID	Oxygen Demand Flow Rate (scfm)	Oxygen Radius of Influence (ft)	Intrinsic Permeability (Darcy)	Operational Flow Rate (scfm)
SVMW-10-100	0.29	207	NC	2.5
SVMW-10-150	0.35	169	NC	2.0
SVMW-10-250	0.37	192	NC	2.8
SVMW-11-100	0.30	233	NC	3.3
SVMW-11-250	0.27	215	NC	2.5
SVMW-11-260	0.82	134	NC	3.0
SVEW-01-260	0.94	250	52	12
SVEW-02/03-160	1.05	264	46	15
SVEW-04/05-313	0.91	232	51	10

Respirometry Parameters		
Well ID	Oxygen Utilization Rate (% per day)	Biodegradation Rate (mg/kg/day)
106V1-102	0.03	0.020
106V1-113	0.13	0.077
106V1-160	0.15	0.089
106V1-217	0.18	0.107
106V1-252	0.09	0.053
106V1-263	0.12	0.071
106V2-102	0.07	0.041
106V2-117	0.81	0.480
106V2-160	0.15	0.089
106V2-217	0.10	0.059
106V2-252	0.12	0.071
106V2-270	0.17	0.101
Average	0.18	0.105

Injection parameters were calculated using the average oxygen utilization rate from 106V1 and 106V2

cm = centimeter

Darcy = $1.062 \times 10^{-8} \text{ cm}^2$

ft = foot/feet

ID = identification

NC = not calculated

scfm = standard cubic feet per minute

Table 2-2
Summary of Hydrocarbon Analytical Results

Well ID	Sample Event	Sample Date	Analyte											
			1,2-Dibromoethane		Benzene		Ethylbenzene		Toluene		Xylenes, Total		TPH-GRO (C6-C10)	
			µg/m ³		µg/m ³		µg/m ³		µg/m ³		µg/m ³		µg/m ³	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
KAFB-106V1-102	Baseline	4/10/2019	3,800	J	2,100,000	--	170,000	--	1,900,000	--	350,000	--	120,000,000	--
	Post-Dry Respirometry	5/9/2019	3,500	J	2,300,000	--	280,000	--	2,100,000	--	610,000	--	120,000,000	--
	Post-Wet Respirometry	7/5/2019	3,100	J	2,000,000	--	190,000	J	1,800,000	--	400,000	J	110,000,000	--
	Long-Term Bioventing	10/15/2019	< 19000	U	2,300,000	--	180,000	--	1,900,000	--	370,000	--	130,000,000	--
		10/31/2019	3,100	J	2,200,000	--	120,000	--	1,600,000	--	200,000	--	120,000,000	--
		11/5/2019	4,500	J	2,300,000	J	230,000	J	2,100,000	J	450,000	J	130,000,000	--
		1/13/2020	3,600	J	2,300,000	J	160,000	J	1,800,000	J	320,000	J	130,000,000	--
KAFB-106V1-113	Baseline	4/10/2019	3,800	J	1,600,000	--	190,000	--	1,700,000	--	410,000	--	120,000,000	--
	Post-Dry Respirometry	5/9/2019	2,800	J	1,400,000	--	200,000	--	1,500,000	--	420,000	--	74,000,000	--
	Post-Wet Respirometry	7/5/2019	5,000	J	1,500,000	--	220,000	J	2,200,000	--	460,000	J	110,000,000	--
	Long-Term Bioventing	10/15/2019	5,800	J	2,900,000	J	270,000	J	3,100,000	J	560,000	J	140,000,000	--
		10/31/2019	4,600	J	2,300,000	--	120,000	--	1,900,000	--	200,000	--	120,000,000	--
		11/5/2019	6,900	--	2,500,000	--	250,000	--	2,700,000	--	480,000	--	130,000,000	--
		1/13/2020	4,300	J	1,900,000	--	160,000	--	1,800,000	--	320,000	--	150,000,000	--
KAFB-106V1-160	Baseline	4/10/2019	2,800	J	1,300,000	--	280,000	--	2,200,000	--	790,000	--	110,000,000	--
	Post-Dry Respirometry	5/9/2019	2,600	J	1,600,000	--	390,000	--	2,800,000	--	1,200,000	--	130,000,000	--
	Post-Wet Respirometry	7/5/2019	2,700	J	1,600,000	J	330,000	J	1,800,000	J	920,000	J	130,000,000	--
	Long-Term Bioventing	10/15/2019	3,400	J	2,100,000	--	430,000	--	3,500,000	--	1,300,000	--	120,000,000	--
		10/31/2019	1,800	J	1,200,000	--	190,000	--	2,000,000	--	460,000	--	70,000,000	--
		11/5/2019	2,600	J	1,500,000	J	360,000	J	3,000,000	J	960,000	J	110,000,000	--
		1/13/2020	1,700	J	1,100,000	J	280,000	J	2,200,000	J	780,000	J	92,000,000	--
KAFB-106V1-217	Baseline	4/10/2019	4,500	--	1,700,000	--	460,000	--	4,200,000	--	1,800,000	--	160,000,000	--
	Post-Dry Respirometry	5/9/2019	3,000	J	1,600,000	--	360,000	--	3,400,000	J	1,400,000	--	170,000,000	--
	Post-Wet Respirometry	7/5/2019	4,400	J	1,600,000	--	470,000	J	3,200,000	J	1,800,000	J	170,000,000	--
	Long-Term Bioventing	10/15/2019	4,400	J	2,400,000	J	590,000	J	5,600,000	J	2,300,000	J	160,000,000	--
		10/31/2019	330	J	180,000	--	46,000	--	420,000	--	170,000	--	20,000,000	--
		11/5/2019	2,000	J	770,000	--	170,000	--	2,000,000	--	590,000	--	57,000,000	--
		1/13/2020	ND	U	1,200,000	--	350,000	--	2,800,000	--	1,400,000	--	140,000,000	--
KAFB-106V1-252	Baseline	4/10/2019	18,000	--	870,000	--	400,000	--	5,400,000	--	1,500,000	--	140,000,000	--
	Post-Dry Respirometry	5/9/2019	12,000	--	810,000	--	360,000	--	4,200,000	J	1,400,000	--	150,000,000	--
	Post-Wet Respirometry	7/5/2019	18,000	J	800,000	--	470,000	J	4,200,000	J	1,800,000	J	150,000,000	--
	Long-Term Bioventing	10/15/2019	22,000	--	1,400,000	--	600,000	--	7,500,000	--	2,400,000	--	150,000,000	--
		10/22/2019	21,000	--	1,300,000	--	450,000	--	6,900,000	--	1,700,000	--	160,000,000	--
		10/31/2019	10,000	--	880,000	--	160,000	--	3,400,000	--	500,000	--	96,000,000	--
		11/5/2019	24,000	--	1,300,000	--	440,000	--	6,500,000	--	1,500,000	--	140,000,000	--
		1/13/2020	18,000	--	1,200,000	--	330,000	--	5,300,000	--	1,100,000	--	100,000,000	--

Table 2-2
Summary of Hydrocarbon Analytical Results

Well ID	Sample Event	Sample Date	Analyte											
			1,2-Dibromoethane		Benzene		Ethylbenzene		Toluene		Xylenes, Total		TPH-GRO (C6-C10)	
			µg/m ³		µg/m ³		µg/m ³		µg/m ³		µg/m ³		µg/m ³	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
KAFB-106V1-263	Baseline	4/10/2019	23,000	--	920,000	--	410,000	--	6,400,000	--	1,400,000	--	160,000,000	--
	Post-Dry Respirometry	5/9/2019	15,000	--	840,000	--	320,000	--	4,700,000	J	1,100,000	--	160,000,000	--
	Post-Wet Respirometry	7/5/2019	24,000	J	780,000	J	460,000	J	5,500,000	J	1,500,000	J	150,000,000	--
	Long-Term Bioventing	10/15/2019	25,000	--	1,100,000	--	470,000	--	6,700,000	--	1,600,000	--	150,000,000	--
		10/22/2019	39,000	--	2,000,000	--	690,000	--	12,000,000	--	2,200,000	--	150,000,000	--
		10/31/2019	7,900	--	630,000	--	91,000	--	2,500,000	--	260,000	--	110,000,000	--
		11/5/2019	32,000	--	1,400,000	--	480,000	--	7,800,000	--	1,500,000	--	160,000,000	--
		1/13/2020	20,000	--	1,100,000	--	350,000	--	5,600,000	--	1,100,000	--	110,000,000	--
KAFB-106V2-102	Baseline	4/11/2019	20,000	J	2,100,000	J	280,000	J	5,100,000	--	890,000	J	370,000,000	--
	Post-Dry Respirometry	5/9/2019	15,000	--	1,800,000	--	330,000	--	4,400,000	J	1,000,000	--	210,000,000	--
	Post-Wet Respirometry	7/5/2019	24,000	J	1,800,000	--	440,000	J	4,500,000	J	1,400,000	J	200,000,000	--
	Long-Term Bioventing	10/15/2019	37,000	J	3,200,000	J	630,000	J	8,700,000	J	2,000,000	J	170,000,000	--
		10/22/2019	25,000	J	2,900,000	J	420,000	J	7,500,000	J	1,300,000	J	210,000,000	--
		10/31/2019	12,000	J	2,200,000	--	120,000	--	3,700,000	--	340,000	--	140,000,000	--
		11/5/2019	32,000	--	3,200,000	--	520,000	--	7,800,000	--	1,600,000	--	220,000,000	--
		1/13/2020	17,000	J	2,000,000	--	230,000	--	4,100,000	--	660,000	--	200,000,000	--
KAFB-106V2-117	Baseline	4/11/2019	9,700	--	1,800,000	--	390,000	--	3,300,000	--	1,200,000	--	180,000,000	--
	Post-Dry Respirometry	5/9/2019	9,900	J	2,100,000	--	350,000	--	3,900,000	J	1,600,000	--	210,000,000	--
	Post-Wet Respirometry	7/5/2019	17,000	J	2,300,000	J	430,000	J	5,200,000	J	1,600,000	J	220,000,000	--
	Long-Term Bioventing	10/15/2019	19,000	J	3,600,000	J	540,000	J	7,000,000	J	1,900,000	J	240,000,000	--
		10/22/2019	21,000	--	3,900,000	--	450,000	--	7,500,000	--	1,500,000	--	230,000,000	--
		10/31/2019	9,000	J	2,700,000	--	150,000	--	3,400,000	--	460,000	--	150,000,000	--
		11/5/2019	21,000	--	4,200,000	--	510,000	--	7,500,000	--	1,700,000	--	250,000,000	--
		1/13/2020	9,800	J	2,400,000	J	220,000	J	3,700,000	J	650,000	J	240,000,000	--
KAFB-106V2-160	Baseline	4/11/2019	2,500	J	550,000	--	150,000	--	1,200,000	--	500,000	--	43,000,000	--
	Post-Dry Respirometry	5/9/2019	1,900	J	630,000	--	170,000	--	1,300,000	--	720,000	--	52,000,000	--
	Post-Wet Respirometry	7/5/2019	1,600	J	660,000	J	120,000	J	990,000	J	500,000	J	76,000,000	--
	Long-Term Bioventing	10/15/2019	1,000	J	290,000	--	95,000	--	730,000	--	400,000	--	54,000,000	--
		10/22/2019	890	--	110,000	--	82,000	--	610,000	--	360,000	--	19,000,000	--
		10/31/2019	800	J	57,000	J	66,000	J	380,000	J	290,000	J	22,000,000	--
		11/5/2019	880	--	34,000	--	71,000	--	340,000	--	310,000	--	20,000,000	--
		1/13/2020	300	J	31,000	--	38,000	--	140,000	--	160,000	--	14,000,000	--
KAFB-106V2-217	Baseline	4/11/2019	6,000	--	1,500,000	--	230,000	--	2,800,000	--	690,000	--	140,000,000	--
	Post-Dry Respirometry	5/9/2019	4,800	J	1,600,000	--	300,000	--	3,000,000	J	900,000	--	140,000,000	--
	Post-Wet Respirometry	7/5/2019	7,300	J	1,400,000	--	340,000	J	2,600,000	J	1,000,000	J	140,000,000	--
	Long-Term Bioventing	10/15/2019	8,700	J	2,200,000	--	430,000	--	4,200,000	--	1,300,000	--	160,000,000	--
		10/22/2019	7,200	J	2,400,000	J	360,000	J	4,400,000	J	1,000,000	J	150,000,000	--
		10/31/2019	5,600	J	2,200,000	--	190,000	--	3,300,000	--	490,000	--	120,000,000	--
		11/5/2019	7,700	J	1,900,000	J	390,000	J	3,900,000	J	1,200,000	J	150,000,000	--
		1/13/2020	5,400	J	1,600,000	J	230,000	J	2,700,000	J	670,000	J	130,000,000	--

Table 2-2
Summary of Hydrocarbon Analytical Results

Well ID	Sample Event	Sample Date	Analyte											
			1,2-Dibromoethane		Benzene		Ethylbenzene		Toluene		Xylenes, Total		TPH-GRO (C6-C10)	
			µg/m ³		µg/m ³		µg/m ³		µg/m ³		µg/m ³		µg/m ³	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
KAFB-106V2-252	Baseline	4/11/2019	12,000	--	650,000	--	230,000	--	3,400,000	--	680,000	--	90,000,000	--
	Post-Dry Respirometry	5/9/2019	11,000	--	770,000	--	310,000	--	3,500,000	--	980,000	--	89,000,000	--
	Post-Wet Respirometry	7/5/2019	13,000	J	950,000	J	300,000	J	2,800,000	J	930,000	J	87,000,000	--
	Long-Term Bioventing	10/15/2019	13,000	J	980,000	--	320,000	--	4,000,000	--	1,000,000	--	98,000,000	--
		10/22/2019	15,000	--	1,100,000	--	320,000	--	4,400,000	--	990,000	--	88,000,000	--
		10/31/2019	10,000	J	760,000	J	140,000	J	2,900,000	J	400,000	J	74,000,000	--
		11/5/2019	18,000	J	940,000	J	390,000	J	4,200,000	J	1,200,000	J	94,000,000	--
		1/13/2020	8,400	J	330,000	J	150,000	J	2,600,000	J	440,000	J	66,000,000	--
KAFB-106V2-270	Baseline	4/11/2019	9,200	--	440,000	--	190,000	--	3,000,000	--	540,000	--	94,000,000	--
	Post-Dry Respirometry	5/9/2019	7,500	--	590,000	--	180,000	--	3,900,000	J	550,000	--	120,000,000	--
	Post-Wet Respirometry	7/5/2019	14,000	J	1,200,000	J	320,000	J	4,400,000	J	1,000,000	J	140,000,000	--
	Long-Term Bioventing	10/15/2019	14,000	J	980,000	--	290,000	--	4,700,000	--	960,000	--	130,000,000	--
		10/22/2019	20,000	J	1,500,000	J	390,000	J	7,200,000	J	1,200,000	J	110,000,000	--
		10/31/2019	12,000	--	1,200,000	--	210,000	--	4,500,000	--	600,000	--	86,000,000	--
		11/5/2019	14,000	--	980,000	--	280,000	--	4,400,000	--	870,000	--	110,000,000	--
		1/13/2020	16,000	J	260,000	J	310,000	J	5,600,000	J	990,000	J	75,000,000	--

Analytical data from wells 106V1-102, 106V1-113, 106V1-160, and 106V1-217 on 10-22-2019 was rejected based on a data usability assessment and evaluation of data comparability to previous and subsequent data collected for the same well and intervals and is not incued in this table.

µg/m³ = microgram per cubic meter

EDB = ethylene dibromide (1,2-dibromoethane)

GRO = gasoline range organics

ID = identification

TPH = total petroleum hydrocarbons

Val Qual = validation qualifiers

Val Quals based on independent data validation:

J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the limit of detection.

-- = Validation qualifier not assigned.

APPENDICES

LIST OF APPENDICES

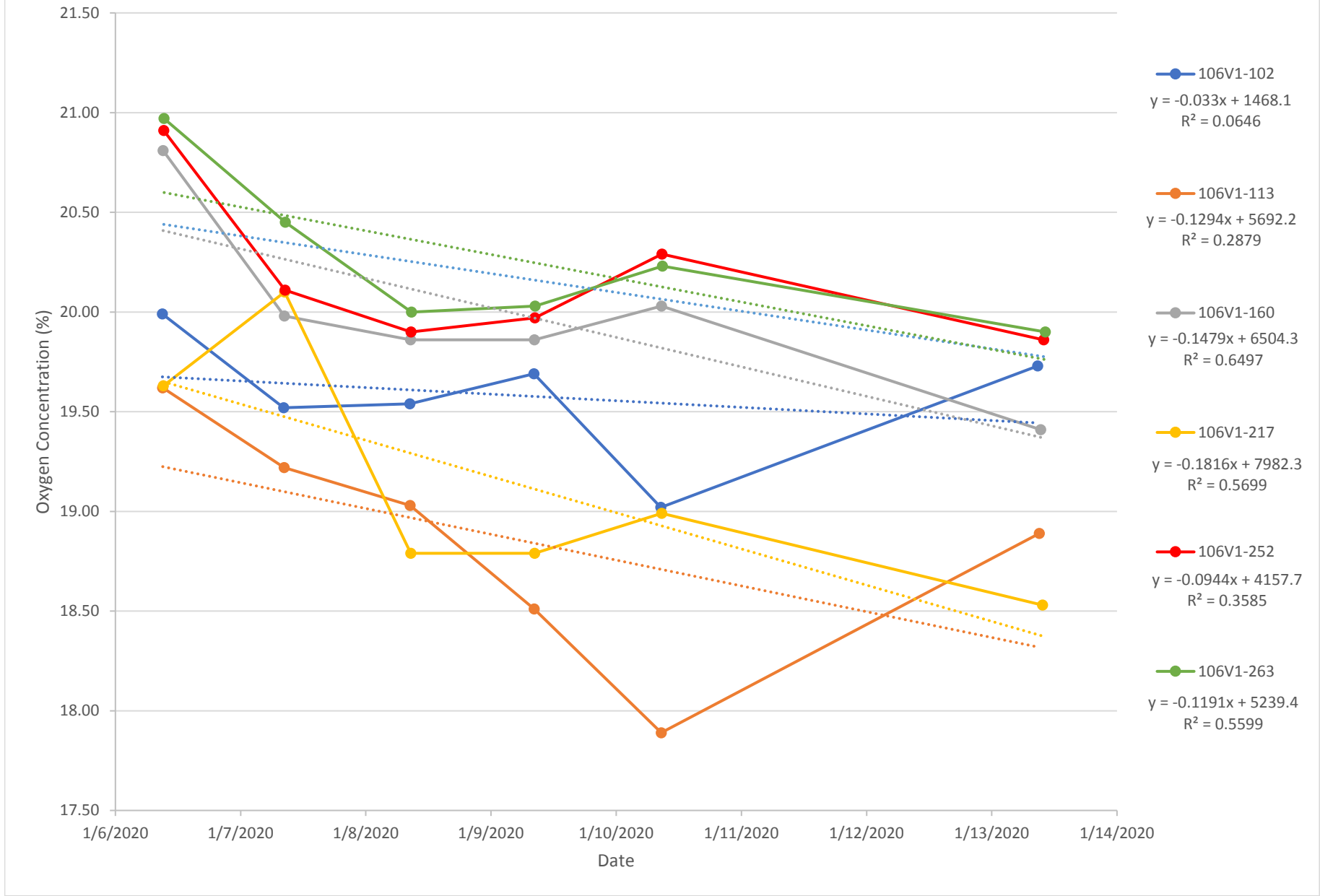
(Provided on CD)

- A Oxygen Utilization
- B Calculations
 - B-1 Biodegradation, Oxygen Demand Flow Rate, and Radius of Influence Calculations
 - B-2 Intrinsic Permeability Calculations
- C Laboratory Analytical Data

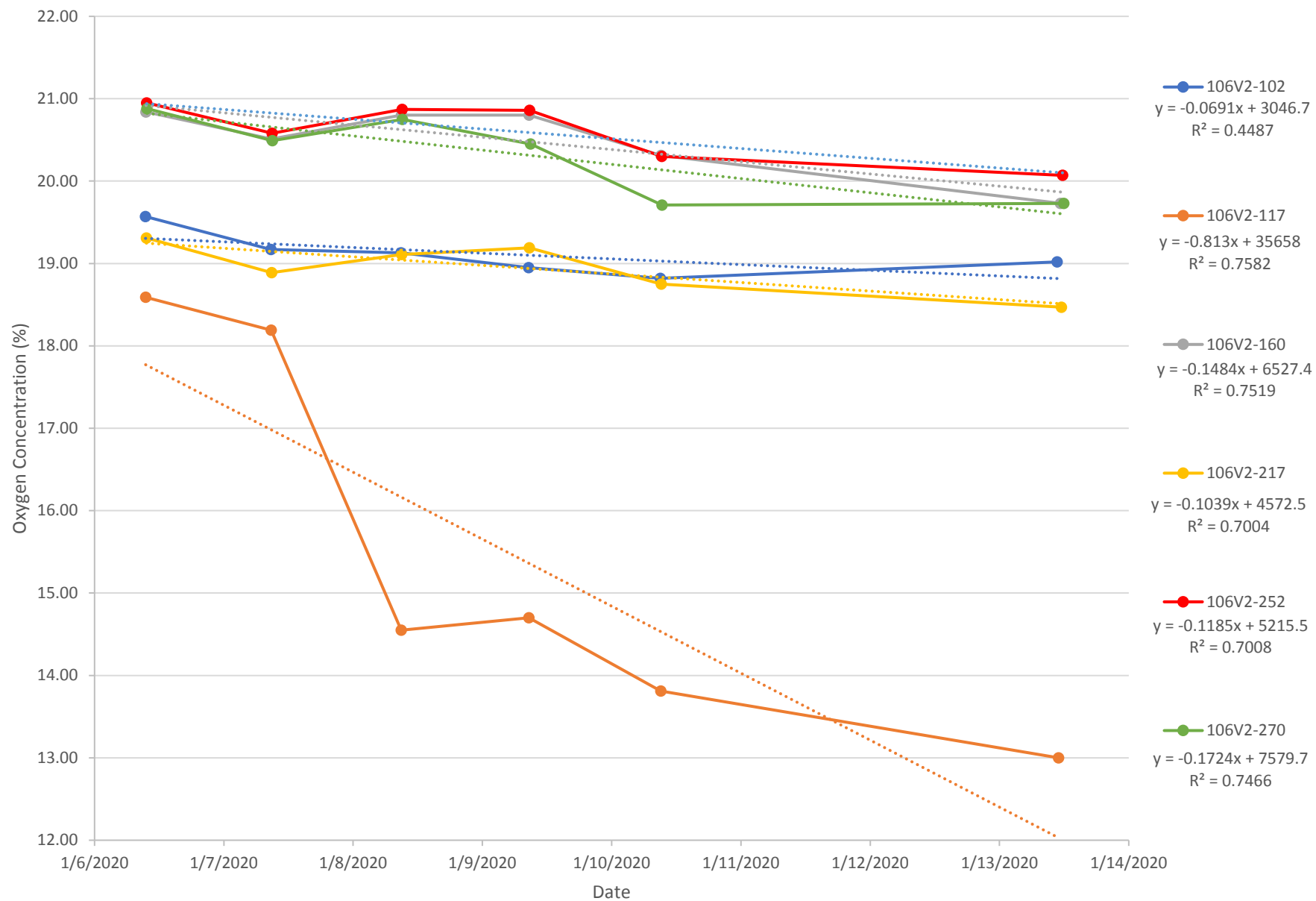
APPENDIX A

OXYGEN UTILIZATION

106V1 Oxygen Utilization



106V2 Oxygen Utilization



APPENDIX B

CALCULATIONS

APPENDIX B-1

**BIODEGRADATION, OXYGEN DEMAND FLOW RATE,
AND RADIUS OF INFLUENCE CALCULATIONS**

Calculation B-1-1 **Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and** **Oxygen Radius of Influence - 106V1-102**

Reference:

Leeson, Andrea and Robert Hinchey, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V1-102

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_i = Oxygen radius of influence (ft)

$$R_i = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.033	
k_0 =	Oxygen utilization rate (% per hour)	0.0014	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	20°C ABQ
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

k_B = **0.020** mg/kg-day Eq. 1

Q_T = **NA** ft³/min Eq. 2

R_i = **NA** ft Eq. 3

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-2

Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and Oxygen Radius of Influence -106V1-113

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V1-113

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_i = Oxygen radius of influence (ft)

$$R_i = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.13	
k_0 =	Oxygen utilization rate (% per hour)	0.0054	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	20°C ABQ
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

k_B = **0.077** mg/kg-day Eq. 1

Q_T = **NA** ft³/min Eq. 2

R_i = **NA** ft Eq. 3

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-3 **Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and** **Oxygen Radius of Influence - 106V1-160**

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V1-160

$$k_B = \text{biodegradation rate (mg/kg-day)} \quad \text{Page \&[Page] of \&[Pages]}$$

$$k_B = [-k_0 \theta_{\text{air}} \rho_{\text{O}_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

$$Q_T = \text{Total oxygen demand air flow rate (ft}^3/\text{min)}$$

$$Q_T = (k_0 \cdot V \cdot \theta_{\text{air}}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq.2}$$

$$R_I = \text{Oxygen radius of influence (ft)}$$

$$R_I = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{\text{air}})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.15	20°C ABQ
k_0 =	Oxygen utilization rate (% per hour)	0.0063	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

k_B =	0.089 mg/kg-day	Eq. 1
Q_T =	NA ft ³ /min	Eq.2
R_I =	NA ft	Eq. 3

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-4 **Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and** **Oxygen Radius of Influence - 106V1-217**

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V1-217

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_i = Oxygen radius of influence (ft)

$$R_i = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.18	20°C ABQ
k_0 =	Oxygen utilization rate (% per hour)	0.0075	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

$$k_B = \quad \quad \quad \mathbf{0.107} \text{ mg/kg-day} \quad \text{Eq. 1}$$

$$Q_T = \quad \mathbf{NA} \quad \quad \quad \text{ft}^3/\text{min} \quad \text{Eq. 2}$$

$$R_i = \quad \mathbf{NA} \quad \quad \quad \text{ft} \quad \text{Eq. 3}$$

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-5

Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and Oxygen Radius of Influence - 106V1-252

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V1-252

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_I = Oxygen radius of influence (ft)

$$R_I = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.09	20°C ABQ
k_0 =	Oxygen utilization rate (% per hour)	0.0038	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

$$k_B = \quad \quad \quad \mathbf{0.053} \text{ mg/kg-day} \quad \text{Eq. 1}$$

$$Q_T = \quad \mathbf{NA} \quad \quad \text{ft}^3/\text{min} \quad \text{Eq. 2}$$

$$R_I = \quad \mathbf{NA} \quad \quad \text{ft} \quad \text{Eq. 3}$$

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-6

Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and Oxygen Radius of Influence - 106V1-263

Reference:

Leeson, Andrea and Robert Hinchey, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V1-263

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_I = Oxygen radius of influence (ft)

$$R_I = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.12	
k_0 =	Oxygen utilization rate (% per hour)	0.0050	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	20°C ABQ
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

$$k_B = \quad \quad \quad \mathbf{0.071} \text{ mg/kg-day} \quad \text{Eq. 1}$$

$$Q_T = \quad \mathbf{NA} \quad \quad \text{ft}^3/\text{min} \quad \text{Eq. 2}$$

$$R_I = \quad \mathbf{NA} \quad \quad \text{ft} \quad \text{Eq. 3}$$

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-7

Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and Oxygen Radius of Influence - 106V2-102

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V2-102

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_i = Oxygen radius of influence (ft)

$$R_i = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.07	20°C ABQ
k_0 =	Oxygen utilization rate (% per hour)	0.0029	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

$$k_B = \quad \quad \quad \mathbf{0.041} \text{ mg/kg-day} \quad \text{Eq. 1}$$

$$Q_T = \quad \mathbf{NA} \quad \quad \text{ft}^3/\text{min} \quad \text{Eq. 2}$$

$$R_i = \quad \mathbf{NA} \quad \quad \text{ft} \quad \text{Eq. 3}$$

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-8

Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and Oxygen Radius of Influence - 106V2-117

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V2-117

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_i = Oxygen radius of influence (ft)

$$R_i = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.81	
k_0 =	Oxygen utilization rate (% per hour)	0.0338	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	20°C ABQ
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

$$k_B = \quad \quad \quad \mathbf{0.480} \text{ mg/kg-day} \quad \text{Eq. 1}$$

$$Q_T = \quad \mathbf{NA} \quad \quad \text{ft}^3/\text{min} \quad \text{Eq. 2}$$

$$R_i = \quad \mathbf{NA} \quad \quad \text{ft} \quad \text{Eq. 3}$$

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-9

Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and Oxygen Radius of Influence - 106V2-160

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V2-160

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_I = Oxygen radius of influence (ft)

$$R_I = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.15	20°C ABQ
k_0 =	Oxygen utilization rate (% per hour)	0.0063	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

$$k_B = \quad \quad \quad \mathbf{0.089} \text{ mg/kg-day} \quad \text{Eq. 1}$$

$$Q_T = \quad \mathbf{NA} \quad \quad \text{ft}^3/\text{min} \quad \text{Eq. 2}$$

$$R_I = \quad \mathbf{NA} \quad \quad \text{ft} \quad \text{Eq. 3}$$

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-10

Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and Oxygen Radius of Influence - 106V2-217

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V2-217

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_i = Oxygen radius of influence (ft)

$$R_i = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.1	20°C ABQ
k_0 =	Oxygen utilization rate (% per hour)	0.0042	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

$$k_B = \quad \quad \quad \mathbf{0.059} \text{ mg/kg-day} \quad \text{Eq. 1}$$

$$Q_T = \quad \mathbf{NA} \quad \quad \text{ft}^3/\text{min} \quad \text{Eq. 2}$$

$$R_i = \quad \mathbf{NA} \quad \quad \text{ft} \quad \text{Eq. 3}$$

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-11 **Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and** **Oxygen Radius of Influence - 106V2-252**

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V2-252

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_I = Oxygen radius of influence (ft)

$$R_I = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.12	20°C ABQ
k_0 =	Oxygen utilization rate (% per hour)	0.0050	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

$$k_B = \quad \quad \quad \mathbf{0.071} \text{ mg/kg-day} \quad \text{Eq. 1}$$

$$Q_T = \quad \mathbf{NA} \quad \quad \text{ft}^3/\text{min} \quad \text{Eq. 2}$$

$$R_I = \quad \mathbf{NA} \quad \quad \text{ft} \quad \text{Eq. 3}$$

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-12

Calculation of Biodegradation Rate, Oxygen Demand Flowrate, and Oxygen Radius of Influence - 106V2-270

Reference:

Leeson, Andrea and Robert Hinchee, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Biodegradation Rate, Air Flow Rate, and Oxygen Radius of Influence:

Test Well

106V2-270

k_B = biodegradation rate (mg/kg-day)

$$k_B = [-k_0 \theta_{air} \rho_{O_2} C(0.01)] / \rho_k \quad \text{Eq. 1}$$

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_I = Oxygen radius of influence (ft)

$$R_I = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.17	
k_0 =	Oxygen utilization rate (% per hour)	0.0071	
θ_{air} =	Air-filled porosity (fractional)	0.3	
ρ_{O_2} =	Density of oxygen in air (mg/L _{air})	1,104	20°C ABQ
ρ_k =	Soil bulk density (g/cm ³)	1.6	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)	NA	
Q_d =	Design Flow Rate (ft ³ /min) (per well)	NA	
Q_d =	Design Flow Rate (ft ³ /day) (per well)	NA	
h =	Aerated thickness (ft)	NA	

Calculations:

k_B = **0.101** mg/kg-day Eq. 1

Q_T = **NA** ft³/min Eq. 2

R_I = **NA** ft Eq. 3

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

Calculation B-1-13 **Calculation of Oxygen Demand Flowrate and** **Oxygen Radius of Influence for Air Injection Wells**

Reference:

Leeson, Andrea and Robert Hinchey, 1996. Principal and Practices of Bioventing Volume II: Bioventing Design. Battelle Memorial Institute. September 29.

Calculation of Air Flow Rate, and Oxygen Radius of Influence:

Q_T = Total oxygen demand air flow rate (ft³/min)

$$Q_T = (k_0 \cdot V \cdot \theta_{air}) / [(20.9\% - 5\%) 60 \text{ min/hr}] \quad \text{Eq. 2}$$

R_i = Oxygen radius of influence (ft)

$$R_i = [(Q_d \cdot (20.9\% - 5\%)) / (\pi \cdot h \cdot k_0 \theta_{air})]^{1/2} \quad \text{Eq. 3}$$

Input Data:

k_0 =	Oxygen utilization rate (% per day)	0.18	average of 106V1 and 106V2
k_0 =	Oxygen utilization rate (% per hour)	0.0075	
θ_{air} =	Air-filled porosity (fractional)	0.3	
C =	Mass ratio hydrocarbons to oxygen for mineralization (1:3.5)	0.286	
V =	Volume impacted soil (ft ³)		
Q_d =	Design Flow Rate (ft ³ /min) (per well)		
Q_d =	Design Flow Rate (ft ³ /day) (per well)		
h =	Aerated thickness (ft)		

Calculations:

Injection Well ID	SVMW-10-100	SVMW-10-150	SVMW-10-250	SVMW-11-100	SVMW-11-250	SVMW-11-260	SVEW-01-260	SVEW-02/03-160	SVEW-04/05-313
V =	121,660	146,300	158,620	126,280	112,420	346,500	400,400	446,600	385,000
Q_d =	2.5	2	2.8	3.3	2.5	3	12	15	10
Q_d =	3,600	2,880	4,032	4,752	3,600	4,320	17,280	21,600	14,400
h =	7.9	9.5	10.3	8.2	7.3	22.5	26	29	25
Eq. 2 Q_T (ft ³ /min)	0.287	0.345	0.374	0.298	0.265	0.817	0.944	1.053	0.908
Eq. 3 R_i (FT) =	207	169	192	233	215	134	250	264	232

k_0 was derived respiration testing.

Volume of impacted soil is the area of the impacted soil multiplied by the aerated thickness.

APPENDIX B-2

INTRINSIC PERMEABILITY CALCULATIONS

Calculation B-2-1

Calculation of Intrinsic Permeability - SVEW-01-260 Dry Respiration Test

Reference:

Johnson, et. al., 1990, A Practical Approach to the Design, Operation, and Monitoring of Insitu Venting Systems, Groundwater Monitoring Review, Spring, 1990.

Calculation of Intrinsic Permeability:

Test Well SVEW-01-260 1/13/2020 11:10 Data

k = intrinsic permeability (cm^2)

$$k = Q/H * u/3.14P_w * [1 - (P_{\text{atm}}/P_w)^2]/\ln(R_w/R_i)]^{-1} \quad \text{Eq. 1}$$

Input Data:

Q =	Discharge rate (cfm)	12.00	
H =	Length of exposed screen (ft)	15	
P_w =	Well Pressure (inches W.C.)	1.4	
R_w =	Well Radius (ft)	0.333	
R_i =	Radius of Influence (ft)	250	
P_{atm} =	Ambient atmospheric pressure (atm)	0.825	KAFB 5,350 ft msl

Calculations:

Q/H =	0.8000 ft^2/min =	12.39 cm^2/sec
P_{atm} =	0.825 atm * 1.013 x 10 ⁻⁶ gm/cm-s ² /atm	
or P_{atm} =	8.36E+05 gm/cm-s ²	
P_w =	$P_{\text{atm}} + [-P_w(\text{in H}_2\text{O})/(P_{\text{atm}} * 407.5 \text{ in H}_2\text{O/atm})]$	
or P_w =	0.821 atm	
or P_w =	0.821 atm * 1.013 x 10 ⁻⁶ gm/cm-s ² /atm	
or P_w =	8.32E+05 gm/cm-s ²	= well vacuum
u =	1.80E-04 gm/cm-s at 15 C	= dynamic viscosity of air

Solutions:

k =	5.6E-07 cm^2	Eq. 1
or k =	5.2E+01 Darcy's	(Darcy = 1.062 x 10 ⁻⁸ cm^2)

Calculation B-2-2

Calculation of Intrinsic Permeability - SVEW-02/03-160 Dry Respiration Test

Reference:

Johnson, et. al., 1990, A Practical Approach to the Design, Operation, and Monitoring of Insitu Venting Systems, Groundwater Monitoring Review, Spring, 1990.

Calculation of Intrinsic Permeability:

Test Well SVEW-01-260 1/13/2020 11:10 Data

k = intrinsic permeability (cm^2)

$$k = Q/H * u/3.14P_w * [1 - (P_{\text{atm}}/P_w)^2]/\ln(R_w/R_i)]^{-1} \quad \text{Eq. 1}$$

Input Data:

Q =	Discharge rate (cfm)	15.00	
H =	Length of exposed screen (ft)	15	
P_w =	Well Pressure (inches W.C.)	2.2	
R_w =	Well Radius (ft)	0.167	
R_i =	Radius of Influence (ft)	264	
P_{atm} =	Ambient atmospheric pressure (atm)	0.825	KAFB 5,350 ft msl

Calculations:

Q/H =	1.0000 ft^2/min =	15.48 cm^2/sec
P_{atm} =	0.825 atm * $1.013 \times 10^{-6} \text{ gm/cm-s}^2/\text{atm}$	
or P_{atm} =	8.36E+05 gm/cm-s^2	
P_w =	$P_{\text{atm}} + [-P_w(\text{in H}_2\text{O})/(P_{\text{atm}} * 407.5 \text{ in H}_2\text{O/atm})]$	
or P_w =	0.818 atm	
or P_w =	0.818 atm * $1.013 \times 10^{-6} \text{ gm/cm-s}^2/\text{atm}$	
or P_w =	8.29E+05 gm/cm-s^2	= well vacuum
u =	1.80E-04 gm/cm-s at 15 C	= dynamic viscosity of air

Solutions:

k =	4.9E-07 cm^2	Eq. 1
or k =	4.6E+01 Darcy's	(Darcy = $1.062 \times 10^{-8} \text{ cm}^2$)

Calculation B-2-3

Calculation of Intrinsic Permeability - SVEW-04/05-313 Dry Respiration Test

Reference:

Johnson, et. al., 1990, A Practical Approach to the Design, Operation, and Monitoring of Insitu Venting Systems, Groundwater Monitoring Review, Spring, 1990.

Calculation of Intrinsic Permeability:

Test Well SVEW-01-260 1/13/2020 11:10 Data

k = intrinsic permeability (cm^2)

$$k = Q/H * u/3.14P_w * [1 - (P_{\text{atm}}/P_w)^2]/\ln(R_w/R_i)]^{-1} \quad \text{Eq. 1}$$

Input Data:

Q =	Discharge rate (cfm)	10.00	
H =	Length of exposed screen (ft)	15	
P_w =	Well Pressure (inches W.C.)	1.3	
R_w =	Well Radius (ft)	0.167	
R_i =	Radius of Influence (ft)	232	
P_{atm} =	Ambient atmospheric pressure (atm)	0.825	KAFB 5,350 ft msl

Calculations:

Q/H =	0.6667 ft^2/min =	10.32 cm^2/sec
P_{atm} =	0.825 atm * 1.013 x 10 ⁻⁶ gm/cm-s ² /atm	
or P_{atm} =	8.36E+05 gm/cm-s ²	
P_w =	$P_{\text{atm}} + [-P_w(\text{in H}_2\text{O})/(P_{\text{atm}} * 407.5 \text{ in H}_2\text{O/atm})]$	
or P_w =	0.821 atm	
or P_w =	0.821 atm * 1.013 x 10 ⁻⁶ gm/cm-s ² /atm	
or P_w =	8.32E+05 gm/cm-s ²	= well vacuum
u =	1.80E-04 gm/cm-s at 15 C	= dynamic viscosity of air

Solutions:

k =	5.5E-07 cm^2	Eq. 1
or k =	5.1E+01 Darcy's	(Darcy = 1.062 x 10 ⁻⁸ cm^2)

APPENDIX C

LABORATORY ANALYTICAL DATA

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-102			KAFB-106V1-102			KAFB-106V1-102			KAFB-106V1-102		
		Field Sample ID:	KAFB-106V1 102.1			KAFB-106V1 102.1			KAFB-106V1 102.1			KAFB-106V1 102.1		
		Sample Date:	4/10/2019			5/9/2019			7/5/2019			10/15/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	3,100	ND	U	2,600	ND	U	3,800	ND	U	19,000
		1,1-Dichloroethane	ND	U	1,600	ND	U	1,400	ND	U	2,000	ND	U	10,000
		1,2,4-Trichlorobenzene	ND	U	9,900	ND	U	8,500	ND	U	12,000	ND	U	93,000
		1,2,4-Trimethylbenzene	54,000	--	2,000	170,000	--	1,700	110,000	J	2,400	66,000	--	12,000
		1,2-Dibromoethane	3,800	J	3,100	3,500	J	2,600	3,100	J	3,800	ND	U	19,000
		1,2-Dichlorobenzene	ND	U	2,400	ND	U	2,000	ND	U	2,900	ND	U	15,000
		1,3,5-Trimethylbenzene	19,000	--	2,000	48,000	--	1,700	34,000	J	2,400	25,000	--	12,000
		1,3-Butadiene	ND	U	890	ND	U	760	ND	U	1,100	ND	U	5,600
		1,4-Dioxane	ND	U	4,800	ND	U	4,100	ND	U	5,900	ND	U	45,000
		2-Butanone	780,000	J	4,000	770,000	J	3,400	710,000	J	4,800	250,000	--	37,000
		2-Hexanone	ND	U	5,500	4,800	J	4,700	ND	U	6,700	ND	U	51,000
		4-Methyl-2-Pentanone	ND	U	1,600	7,600	--	1,400	ND	U	2,000	ND	U	10,000
		Acetone	4,400,000	J	3,200	5,000,000	J	2,700	5,100,000	J	3,900	2,800,000	--	30,000
		Benzene	2,100,000	--	1,300	2,300,000	--	1,100	2,000,000	--	1,000	2,300,000	--	8,000
		Bromodichloromethane	ND	U	2,700	ND	U	2,300	ND	U	3,300	ND	U	17,000
		Bromoform	ND	U	4,200	ND	U	3,500	ND	U	5,100	ND	U	26,000
		Carbon Disulfide	ND	U	4,200	ND	U	3,600	ND	U	5,100	ND	U	39,000
		Carbon Tetrachloride	ND	U	2,500	ND	U	2,200	ND	U	3,100	ND	U	16,000
		Chloroethane	ND	U	3,500	ND	U	3,000	ND	U	4,300	ND	U	33,000
		Chloroform	ND	U	2,000	ND	U	1,700	ND	U	2,400	ND	U	12,000
		Chloromethane	ND	U	2,800	ND	U	2,400	ND	U	3,400	ND	U	26,000
		Cyclohexane	5,300,000	J	1,400	5,400,000	J	1,200	4,400,000	J	1,700	5,500,000	--	8,600
		Dibromochloromethane	ND	U	3,400	ND	U	2,900	ND	U	4,200	ND	U	21,000
		Dichlorodifluoromethane	ND	U	2,000	ND	U	1,700	ND	U	2,400	ND	U	12,000
		Ethanol	160,000	--	2,500	160,000	--	2,100	180,000	J	3,100	17,000	J	24,000
		Ethyl Acetate	ND	U	9,600	ND	U	8,200	ND	U	7,800	ND	U	60,000
		Ethylbenzene	170,000	--	1,700	280,000	--	1,500	190,000	J	2,100	180,000	--	11,000
		Hexane	8,500,000	J	1,400	8,800,000	J	1,200	5,400,000	J	1,700	8,700,000	--	8,900
		Isopropyl Alcohol	270,000	--	3,300	330,000	--	2,800	280,000	J	4,000	27,000	J	31,000
		m- & p-Xylenes	270,000	--	1,700	450,000	--	1,500	300,000	J	2,100	280,000	--	11,000
		Methylene Chloride	ND	U	4,600	ND	U	4,000	ND	U	5,700	9,400	J	44,000
		Naphthalene	ND	UJ	7,000	1,600	J	6,000	ND	U	5,700	ND	U	8,800
		n-Heptane	3,100,000	--	1,600	3,000,000	--	1,400	2,200,000	J	2,000	3,000,000	--	10,000
		o-Xylene	82,000	--	1,700	160,000	--	1,500	100,000	J	2,100	92,000	--	11,000
		Propylene (Propene)	42,000	--	2,300	35,000	--	2,000	26,000	J	2,800	ND	U	22,000
		Styrene	ND	U	1,700	ND	U	1,400	ND	U	2,100	ND	U	11,000
		Tetrachloroethene	ND	U	2,700	ND	U	2,300	ND	U	3,300	180,000	--	17,000
		Tetrahydrofuran	ND	U	1,200	ND	U	1,000	ND	U	1,400	ND	U	7,400
		Toluene	1,900,000	--	1,500	2,100,000	--	1,300	1,800,000	--	1,200	1,900,000	--	9,500
		Trichloroethene	ND	U	2,200	ND	U	1,800	ND	U	2,600	ND	U	14,000
		Trichlorofluoromethane	ND	U	2,200	ND	U	1,900	ND	U	2,800	ND	U	14,000
		Vinyl Chloride	ND	U	1,000	ND	U	870	ND	U	1,200	ND	U	6,400
		Xylenes, Total	350,000	--	2,900	610,000	--	2,500	400,000	J	2,400	370,000	--	18,000

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-102			KAFB-106V1-102			KAFB-106V1-102			KAFB-106V1-102		
			Field Sample ID:			KAFB-106V1 102.1			KAFB-106V1 102.1			KAFB-106V1 102.1			KAFB-106V1 102.1		
			Sample Date:			4/10/2019			5/9/2019			7/5/2019			10/15/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	120,000,000	--	440,000	120,000,000	--	190,000	110,000,000	--	180,000	130,000,000	--	160,000			
Fixed Gases	Method D1945 (%)	Butane	0.0089	--	0.00029	0.0056	--	0.00025	0.0042	--	2,400	0.0037	--	0.00022			
		Carbon Dioxide	12	--	0.013	9.5	--	0.011	7.1	--	0.01	7.2	--	0.0096			
		Carbon Monoxide	ND	U	0.013	ND	U	0.011	ND	U	0.01	ND	U	0.0096			
		Ethane	0.0039	--	0.00029	0.0031	--	0.00025	0.0022	--	2,400	0.0018	J	0.00022			
		Hydrogen	ND	U	0.017	ND	U	0.014	ND	U	0.013	ND	U	0.012			
		Methane	0.025	--	0.00013	0.02	--	0.00011	0.013	--	0.00011	0.0081	--	0.0001			
		Nitrogen (Ammonia As N)	85	--	0.18	80	--	0.15	79	--	0.15	79	--	0.14			
		Oxygen	1.4	--	0.048	8.8	--	0.042	12	--	0.04	12	--	0.037			
		Pentane	0.18	--	0.00029	0.12	--	0.00025	0.1	--	0.00024	0.1	--	0.00022			
		Propane	0.0017	J	0.00029	0.0015	J	0.00025	0.0012	J	0.00024	0.00097	J	0.00022			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-102			KAFB-106V1-102			KAFB-106V1-102			KAFB-106V1-102		
		Field Sample ID:	KAFB-106V1 102.1			KAFB-106V1 102.1			KAFB-106V1 102			KAFB-106V1-102		
		Sample Date:	10/22/2019			10/31/2019			11/5/2019			1/13/2020		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	R	47	ND	U	9,900	ND	U	2,300	ND	U	6,300
		1,1-Dichloroethane	ND	R	25	ND	U	5,200	ND	U	1,200	ND	U	3,300
		1,2,4-Trichlorobenzene	ND	R	230	ND	U	48,000	ND	U	11,000	ND	U	23,000
		1,2,4-Trimethylbenzene	9,800	R	30	14,000	--	6,300	77,000	J	1,500	32,000	J	4,000
		1,2-Dibromoethane	43	R	47	3,100	J	9,900	4,500	J	2,300	3,600	J	6,300
		1,2-Dichlorobenzene	ND	R	37	ND	U	7,800	ND	U	1,800	ND	U	5,000
		1,3,5-Trimethylbenzene	2,400	R	30	6,500	J	6,300	25,000	J	1,500	13,000	J	4,000
		1,3-Butadiene	ND	R	14	ND	U	2,800	ND	U	670	ND	U	1,800
		1,4-Dioxane	ND	R	110	ND	U	23,000	ND	U	5,400	ND	U	11,000
		2-Butanone	5,000	R	91	600,000	--	19,000	700,000	J	4,500	550,000	J	9,100
		2-Hexanone	ND	R	130	ND	U	26,000	ND	U	6,200	ND	U	13,000
		4-Methyl-2-Pentanone	ND	R	25	ND	U	5,300	ND	U	1,200	ND	U	3,400
		Acetone	27,000	R	73	4,700,000	--	15,000	4,600,000	J	3,600	4,900,000	J	7,300
		Benzene	12,000	R	20	2,200,000	--	4,100	2,300,000	J	970	2,300,000	J	2,600
		Bromodichloromethane	ND	R	41	ND	U	8,600	ND	U	2,000	ND	U	5,500
		Bromoform	ND	R	64	ND	U	13,000	ND	U	3,100	ND	U	8,500
		Carbon Disulfide	ND	R	96	ND	U	20,000	ND	U	4,700	ND	U	9,600
		Carbon Tetrachloride	ND	R	39	ND	U	8,100	ND	U	1,900	ND	U	5,200
		Chloroethane	ND	R	82	ND	U	17,000	ND	U	4,000	ND	U	8,200
		Chloroform	ND	R	30	ND	U	6,300	ND	U	1,500	ND	U	4,000
		Chloromethane	ND	R	64	ND	U	13,000	ND	U	3,100	ND	U	6,400
		Cyclohexane	28,000	R	21	5,400,000	--	4,400	5,700,000	J	1,000	5,300,000	J	2,800
		Dibromochloromethane	ND	R	53	ND	U	11,000	ND	U	2,600	ND	U	7,000
		Dichlorodifluoromethane	ND	R	30	ND	U	6,400	ND	U	1,500	ND	U	4,100
		Ethanol	2,600	R	58	20,000	--	12,000	120,000	J	2,800	70,000	J	5,800
		Ethyl Acetate	ND	R	150	ND	U	31,000	ND	U	7,300	ND	U	15,000
		Ethylbenzene	3,500	R	27	120,000	--	5,600	230,000	J	1,300	160,000	J	3,600
		Hexane	30,000	R	22	10,000,000	--	4,500	10,000,000	J	1,100	9,700,000	J	2,900
		Isopropyl Alcohol	4,100	R	76	36,000	--	16,000	240,000	J	3,700	160,000	J	7,600
		m- & p-Xylenes	6,500	R	27	160,000	--	5,600	340,000	J	1,300	250,000	J	3,600
		Methylene Chloride	ND	R	110	ND	U	22,000	ND	U	5,300	ND	U	11,000
		Naphthalene	720	R	22	ND	U	4,500	ND	U	1,000	ND	U	2,200
		n-Heptane	23,000	R	25	2,600,000	--	5,300	3,100,000	J	1,200	2,700,000	J	3,400
		o-Xylene	2,600	R	27	50,000	--	5,600	110,000	J	1,300	74,000	J	3,600
		Propylene (Propene)	ND	R	53	ND	U	11,000	9,100	J	2,600	ND	U	5,300
		Styrene	ND	R	26	ND	U	5,500	ND	U	1,300	ND	U	3,500
		Tetrachloroethene	ND	R	42	ND	U	8,800	ND	U	2,000	ND	U	5,600
		Tetrahydrofuran	ND	R	18	ND	U	3,800	ND	U	890	ND	U	2,400
		Toluene	21,000	R	23	1,600,000	--	4,900	2,100,000	J	1,100	1,800,000	J	3,100
		Trichloroethene	ND	R	33	ND	U	6,900	ND	U	1,600	ND	U	4,400
		Trichlorofluoromethane	ND	R	35	ND	U	7,200	ND	U	1,700	ND	U	4,600
		Vinyl Chloride	ND	R	16	ND	U	3,300	ND	U	770	ND	U	2,100
		Xylenes, Total	9,100	R	45	200,000	--	9,300	450,000	J	2,200	320,000	J	8,900

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-102			KAFB-106V1-102			KAFB-106V1-102			KAFB-106V1-102		
			Field Sample ID:			KAFB-106V1 102.1			KAFB-106V1 102.1			KAFB-106V1 102			KAFB-106V1-102		
			Sample Date:			10/22/2019			10/31/2019			11/5/2019			1/13/2020		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	1,100,000	R	2,100	120,000,000	--	180,000	130,000,000	--	160,000	130,000,000	--	340,000			
Fixed Gases	Method D1945 (%)	Butane	ND	R	0.00023	0.0035	--	0.00024	0.0035	--	0.00022	0.00081	J	0.00018			
		Carbon Dioxide	0.046	R	0.0099	2.4	--	0.01	2	--	0.0097	0.71	--	0.0099			
		Carbon Monoxide	ND	R	0.0099	ND	U	0.01	ND	U	0.0097	ND	U	0.0099			
		Ethane	ND	R	0.00023	0.00054	J	0.00024	0.00043	J	0.00022	ND	U	0.00018			
		Hydrogen	ND	R	0.013	ND	U	0.013	ND	U	0.012	ND	U	0.013			
		Methane	0.00019	R	0.0001	0.0019	--	0.00011	0.0014	--	0.0001	0.001	--	0.0001			
		Nitrogen (Ammonia As N)	80	R	0.14	78	--	0.14	77	--	0.14	79	--	0.14			
		Oxygen	20	R	0.038	18	--	0.04	19	--	0.037	19	--	0.038			
		Pentane	0.00013	R	0.00023	0.099	--	0.00024	0.1	--	0.00022	0.091	--	0.00018			
		Propane	ND	R	0.00023	0.0005	J	0.00024	0.00039	J	0.00022	ND	U	0.00018			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-113			KAFB-106V1-113			KAFB-106V1-113			KAFB-106V1-113		
		Field Sample ID:	KAFB-106V1 112.6			KAFB-106V1 112.6			KAFB-106V1 112.6			KAFB-106V1 112.6		
		Sample Date:	4/10/2019			5/9/2019			7/5/2019			10/15/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	2,600	ND	U	2,300	ND	U	3,400	ND	U	9,200
		1,1-Dichloroethane	ND	U	1,400	ND	U	1,200	ND	U	1,800	ND	U	4,900
		1,2,4-Trichlorobenzene	ND	U	8,300	ND	U	7,600	ND	U	11,000	ND	U	45,000
		1,2,4-Trimethylbenzene	58,000	--	1,600	94,000	--	1,500	110,000	J	2,200	86,000	J	5,900
		1,2-Dibromoethane	3,800	J	2,600	2,800	J	2,400	5,000	J	3,400	5,800	J	9,300
		1,2-Dichlorobenzene	ND	U	2,000	ND	U	1,800	ND	U	2,700	ND	U	7,200
		1,3,5-Trimethylbenzene	19,000	--	1,600	27,000	--	1,500	33,000	J	2,200	32,000	J	5,900
		1,3-Butadiene	ND	U	740	ND	U	680	ND	U	1,000	ND	U	2,700
		1,4-Dioxane	ND	U	4,000	ND	U	3,700	ND	U	5,400	ND	U	22,000
		2-Butanone	370,000	J	3,300	270,000	--	3,000	560,000	J	4,400	670,000	J	18,000
		2-Hexanone	ND	U	4,600	ND	U	4,200	ND	U	6,100	ND	U	25,000
		4-Methyl-2-Pentanone	ND	U	1,400	5,700	--	1,200	ND	U	1,800	ND	U	4,900
		Acetone	2,500,000	--	2,700	2,200,000	--	2,400	4,100,000	J	3,600	4,300,000	J	14,000
		Benzene	1,600,000	--	1,100	1,400,000	--	980	1,500,000	--	960	2,900,000	J	3,800
		Bromodichloromethane	ND	U	2,200	ND	U	2,000	ND	U	3,000	ND	U	8,100
		Bromoform	ND	U	3,500	ND	U	3,200	ND	U	4,600	ND	U	12,000
		Carbon Disulfide	ND	U	3,500	ND	U	3,200	1,200	J	4,700	ND	U	19,000
		Carbon Tetrachloride	ND	U	2,100	ND	U	1,900	ND	U	2,800	ND	U	7,600
		Chloroethane	ND	U	3,000	ND	U	2,700	ND	U	4,000	ND	U	16,000
		Chloroform	ND	U	1,600	ND	U	1,500	ND	U	2,200	ND	U	5,900
		Chloromethane	ND	U	2,300	ND	U	2,100	ND	U	3,100	ND	U	12,000
		Cyclohexane	4,300,000	J	1,200	3,300,000	--	1,000	4,600,000	J	1,500	7,200,000	J	4,200
		Dibromochloromethane	ND	U	2,900	ND	U	2,600	ND	U	3,800	ND	U	10,000
		Dichlorodifluoromethane	ND	U	1,700	ND	U	1,500	ND	U	2,200	ND	U	6,000
		Ethanol	140,000	--	2,100	80,000	--	1,900	160,000	J	2,800	77,000	J	11,000
		Ethyl Acetate	ND	U	8,100	ND	U	7,400	ND	U	7,200	ND	U	29,000
		Ethylbenzene	190,000	--	1,400	200,000	--	1,300	220,000	J	2,000	270,000	J	5,200
		Hexane	6,900,000	J	1,200	5,300,000	J	1,100	5,100,000	J	1,600	11,000,000	J	4,200
		Isopropyl Alcohol	120,000	--	2,800	100,000	--	2,500	190,000	J	3,700	140,000	J	15,000
		m- & p-Xylenes	320,000	--	1,400	310,000	--	1,300	340,000	J	2,000	430,000	J	5,200
		Methylene Chloride	ND	U	3,900	ND	U	3,500	ND	U	5,200	ND	U	21,000
		Naphthalene	980	J	5,900	3,100	J	5,300	ND	U	5,200	ND	U	4,200
		n-Heptane	2,900,000	--	1,400	2,200,000	--	1,200	2,700,000	J	1,800	4,300,000	J	4,900
		o-Xylene	95,000	--	1,400	100,000	--	1,300	120,000	J	2,000	130,000	J	5,200
		Propylene (Propene)	37,000	--	1,900	29,000	--	1,800	30,000	J	2,600	32,000	J	10,000
		Styrene	ND	U	1,400	ND	U	1,300	ND	U	1,900	ND	U	5,100
		Tetrachloroethene	ND	U	2,300	ND	U	2,100	ND	U	3,000	330,000	J	8,200
		Tetrahydrofuran	ND	U	990	ND	U	900	ND	U	1,300	ND	U	3,600
		Toluene	1,700,000	--	1,300	1,500,000	--	1,200	2,200,000	--	1,100	3,100,000	J	4,500
		Trichloroethene	ND	U	1,800	ND	U	1,600	ND	U	2,400	13,000	J	6,500
		Trichlorofluoromethane	ND	U	1,900	ND	U	1,700	ND	U	2,500	ND	U	6,800
		Vinyl Chloride	ND	U	860	ND	U	780	ND	U	1,200	ND	U	3,100
		Xylenes, Total	410,000	--	2,400	420,000	--	2,200	460,000	J	2,200	560,000	J	8,700

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-113			KAFB-106V1-113			KAFB-106V1-113			KAFB-106V1-113		
			Field Sample ID:			KAFB-106V1 112.6			KAFB-106V1 112.6			KAFB-106V1 112.6			KAFB-106V1 112.6		
			Sample Date:			4/10/2019			5/9/2019			7/5/2019			10/15/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	120,000,000	--	360,000	74,000,000	--	170,000	110,000,000	--	160,000	140,000,000	--	160,000			
Fixed Gases	Method D1945 (%)	Butane	0.011	--	0.00024	0.0067	--	0.00022	0.0064	--	2,200	0.005	--	0.00022			
		Carbon Dioxide	12	--	0.011	8.7	--	0.0098	8.6	--	0.0096	7.8	--	0.0096			
		Carbon Monoxide	ND	U	0.011	ND	U	0.0098	ND	U	0.0096	ND	U	0.0096			
		Ethane	0.004	--	0.00024	0.0027	--	0.00022	0.0026	--	2,200	0.0019	J	0.00022			
		Hydrogen	ND	U	0.014	ND	U	0.013	ND	U	0.012	ND	U	0.012			
		Methane	0.025	--	0.00011	0.017	--	0.0001	0.013	--	0.0001	0.0081	--	0.0001			
		Nitrogen (Ammonia As N)	85	--	0.15	81	--	0.14	80	--	0.14	78	--	0.14			
		Oxygen	1.2	--	0.04	8.9	--	0.038	9.3	--	0.037	12	--	0.037			
		Pentane	0.24	--	0.00024	0.15	--	0.00022	0.16	--	0.00022	0.14	--	0.00022			
		Propane	0.0018	J	0.00024	0.0012	J	0.00022	0.0013	J	0.00022	0.001	J	0.00022			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-113			KAFB-106V1-113			KAFB-106V1-113			KAFB-106V1-113		
		Field Sample ID:	KAFB-106V1 112.6			KAFB-106V1 112.6			KAFB-106V1-113			KAFB-106V1 113		
		Sample Date:	10/22/2019			10/31/2019			1/13/2020			11/5/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	R	51	ND	U	8,400	ND	U	16,000	ND	U	2,500
		1,1-Dichloroethane	ND	R	27	ND	U	4,400	ND	U	8,300	ND	U	1,300
		1,2,4-Trichlorobenzene	ND	R	250	ND	U	41,000	ND	U	57,000	ND	U	12,000
		1,2,4-Trimethylbenzene	1,900	R	33	16,000	--	5,400	42,000	--	10,000	72,000	--	1,600
		1,2-Dibromoethane	16	R	51	4,600	J	8,500	4,300	J	16,000	6,900	--	2,500
		1,2-Dichlorobenzene	ND	R	40	ND	U	6,600	ND	U	12,000	ND	U	1,900
		1,3,5-Trimethylbenzene	520	R	33	5,800	J	5,400	16,000	--	10,000	23,000	--	1,600
		1,3-Butadiene	ND	R	15	ND	U	2,400	ND	U	4,600	ND	U	720
		1,4-Dioxane	ND	R	120	ND	U	20,000	ND	U	28,000	ND	U	5,800
		2-Butanone	430	R	99	580,000	--	16,000	520,000	--	23,000	680,000	J	4,800
		2-Hexanone	ND	R	140	ND	U	22,000	ND	U	32,000	ND	U	6,600
		4-Methyl-2-Pentanone	ND	R	27	ND	U	4,500	ND	U	8,400	ND	U	1,300
		Acetone	1,600	R	79	4,100,000	--	13,000	3,600,000	--	18,000	4,000,000	J	3,800
		Benzene	1,900	R	21	2,300,000	--	3,500	1,900,000	--	6,600	2,500,000	--	1,000
		Bromodichloromethane	ND	R	45	ND	U	7,400	ND	U	14,000	ND	U	2,200
		Bromoform	ND	R	69	ND	U	11,000	ND	U	21,000	ND	U	3,300
		Carbon Disulfide	ND	R	100	ND	U	17,000	ND	U	24,000	ND	U	5,000
		Carbon Tetrachloride	ND	R	42	ND	U	6,900	ND	U	13,000	ND	U	2,000
		Chloroethane	ND	R	88	ND	U	14,000	ND	U	20,000	ND	U	4,300
		Chloroform	ND	R	33	ND	U	5,400	ND	U	10,000	ND	U	1,600
		Chloromethane	ND	R	69	ND	U	11,000	ND	U	16,000	ND	U	3,300
		Cyclohexane	5,100	R	23	5,400,000	--	3,800	4,500,000	--	7,100	6,000,000	J	1,100
		Dibromochloromethane	ND	R	57	ND	U	9,400	ND	U	18,000	ND	U	2,800
		Dichlorodifluoromethane	ND	R	33	ND	U	5,400	ND	U	10,000	ND	U	1,600
		Ethanol	140	R	63	51,000	--	10,000	120,000	--	14,000	150,000	--	3,000
		Ethyl Acetate	ND	R	160	ND	U	26,000	ND	U	37,000	ND	U	7,800
		Ethylbenzene	1,300	R	29	120,000	--	4,800	160,000	--	8,900	250,000	--	1,400
		Hexane	4,900	R	24	10,000,000	--	3,900	7,900,000	--	7,300	10,000,000	J	1,100
		Isopropyl Alcohol	150	R	82	97,000	--	14,000	180,000	--	19,000	230,000	--	4,000
		m- & p-Xylenes	2,300	R	29	160,000	--	4,800	250,000	--	8,900	370,000	--	1,400
		Methylene Chloride	ND	R	120	ND	U	19,000	ND	U	27,000	ND	U	5,600
		Naphthalene	180	R	23	ND	U	3,800	ND	U	5,400	ND	U	1,100
		n-Heptane	5,300	R	27	3,000,000	--	4,500	2,500,000	--	8,400	3,800,000	--	1,300
		o-Xylene	870	R	29	43,000	--	4,800	74,000	--	8,900	110,000	--	1,400
		Propylene (Propene)	ND	R	58	ND	U	9,500	ND	U	13,000	9,700	--	2,800
		Styrene	ND	R	28	ND	U	4,700	ND	U	8,800	ND	U	1,400
		Tetrachloroethene	ND	R	45	ND	U	7,500	ND	U	14,000	ND	U	2,200
		Tetrahydrofuran	ND	R	20	ND	U	3,200	ND	U	6,100	ND	U	960
		Toluene	5,400	R	25	1,900,000	--	4,100	1,800,000	--	7,800	2,700,000	--	1,200
		Trichloroethene	ND	R	36	ND	U	5,900	ND	U	11,000	ND	U	1,700
		Trichlorofluoromethane	ND	R	38	ND	U	6,200	ND	U	12,000	ND	U	1,800
		Vinyl Chloride	ND	R	17	ND	U	2,800	ND	U	5,300	ND	U	830
		Xylenes, Total	3,200	R	48	200,000	--	8,000	320,000	--	22,000	480,000	--	2,300

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-113			KAFB-106V1-113			KAFB-106V1-113			KAFB-106V1-113		
			Field Sample ID:			KAFB-106V1 112.6			KAFB-106V1 112.6			KAFB-106V1-113			KAFB-106V1 113		
			Sample Date:			10/22/2019			10/31/2019			1/13/2020			11/5/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	270,000	R	360	120,000,000	--	200,000	150,000,000	--	340,000	130,000,000	--	180,000			
Fixed Gases	Method D1945 (%)	Butane	ND	R	0.00024	0.0048	--	0.0002	0.0014	J	0.00018	0.0042	--	0.00024			
		Carbon Dioxide	0.044	R	0.011	3.5	--	0.0088	1.3	--	0.0099	3	--	0.01			
		Carbon Monoxide	ND	R	0.011	ND	U	0.0088	ND	U	0.0099	ND	U	0.01			
		Ethane	ND	R	0.00024	0.00068	J	0.0002	0.00019	J	0.00018	0.00059	J	0.00024			
		Hydrogen	ND	R	0.014	ND	U	0.011	ND	U	0.013	ND	U	0.013			
		Methane	0.00019	R	0.00011	0.0022	--	0.000092	0.00097	--	0.0001	0.0015	--	0.00011			
		Nitrogen (Ammonia As N)	80	R	0.15	77	--	0.12	78	--	0.14	77	--	0.14			
		Oxygen	20	R	0.041	18	--	0.034	19	--	0.038	18	--	0.04			
		Pentane	ND	R	0.00024	0.14	--	0.0002	0.12	--	0.00018	0.13	--	0.00024			
		Propane	ND	R	0.00024	0.00053	J	0.0002	0.000085	J	0.00018	0.00046	J	0.00024			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160		
		Field Sample ID:	KAFB-106V1 159.6			KAFB-106V1 159.6			KAFB-106V1 159.6 DUP			KAFB-106V1 159.6		
		Sample Date:	4/10/2019			5/9/2019			5/9/2019			7/5/2019		
		Sample Type:	REG			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	2,400	ND	U	2,400	ND	U	2,500	ND	U	3,600
		1,1-Dichloroethane	ND	U	1,200	ND	U	1,300	ND	U	1,300	ND	U	1,900
		1,2,4-Trichlorobenzene	ND	U	7,600	ND	U	7,900	ND	U	8,000	ND	U	11,000
		1,2,4-Trimethylbenzene	78,000	--	1,500	180,000	--	1,600	200,000	--	1,600	150,000	J	2,300
		1,2-Dibromoethane	2,800	J	2,400	2,600	J	2,400	2,700	J	2,500	2,700	J	3,600
		1,2-Dichlorobenzene	ND	U	1,800	ND	U	1,900	ND	U	1,900	ND	U	2,800
		1,3,5-Trimethylbenzene	28,000	--	1,500	53,000	--	1,600	60,000	--	1,600	51,000	J	2,300
		1,3-Butadiene	ND	U	680	ND	U	700	ND	U	720	ND	U	1,000
		1,4-Dioxane	ND	U	3,700	ND	U	3,800	ND	U	3,900	ND	U	5,600
		2-Butanone	170,000	--	3,000	150,000	--	3,100	160,000	--	3,200	140,000	J	4,600
		2-Hexanone	ND	U	4,200	5,700	J	4,300	7,300	J	4,400	ND	U	6,300
		4-Methyl-2-Pentanone	ND	U	1,300	6,400	--	1,300	5,600	--	1,300	ND	U	1,900
		Acetone	2,600,000	J	2,400	2,900,000	J	2,500	3,000,000	J	2,600	3,100,000	J	3,700
		Benzene	1,300,000	--	990	1,600,000	--	1,000	1,700,000	--	1,000	1,600,000	J	1,500
		Bromodichloromethane	ND	U	2,100	ND	U	2,100	ND	U	2,200	ND	U	3,100
		Bromoform	ND	U	3,200	ND	U	3,300	ND	U	3,300	ND	U	4,800
		Carbon Disulfide	ND	U	3,200	ND	U	3,300	ND	U	3,400	1,000	J	4,800
		Carbon Tetrachloride	ND	U	1,900	ND	U	2,000	ND	U	2,000	ND	U	2,900
		Chloroethane	ND	U	2,700	ND	U	2,800	ND	U	2,800	ND	U	4,100
		Chloroform	ND	U	1,500	ND	U	1,600	ND	U	1,600	ND	U	2,300
		Chloromethane	ND	U	2,100	ND	U	2,200	ND	U	2,200	ND	U	3,200
		Cyclohexane	3,800,000	J	1,100	4,400,000	J	1,100	4,600,000	J	1,100	4,200,000	J	1,600
		Dibromochloromethane	ND	U	2,600	ND	U	2,700	ND	U	2,800	ND	U	3,900
		Dichlorodifluoromethane	ND	U	1,500	ND	U	1,600	ND	U	1,600	ND	U	2,300
		Ethanol	110,000	--	1,900	93,000	--	2,000	98,000	--	2,000	97,000	J	2,900
		Ethyl Acetate	ND	U	7,400	ND	U	7,600	ND	U	7,800	ND	U	7,400
		Ethylbenzene	280,000	--	1,300	390,000	--	1,400	430,000	--	1,400	330,000	J	2,000
		Hexane	5,300,000	J	1,100	5,900,000	J	1,100	6,300,000	J	1,100	4,800,000	J	1,600
		Isopropyl Alcohol	390,000	--	2,500	400,000	--	2,600	420,000	--	2,600	350,000	J	3,800
		m- & p-Xylenes	620,000	--	1,300	880,000	--	1,400	960,000	--	1,400	690,000	J	2,000
		Methylene Chloride	ND	U	3,600	ND	U	3,700	ND	U	3,800	ND	U	5,400
		Naphthalene	ND	UJ	5,400	ND	UJ	5,600	ND	UJ	5,700	ND	U	5,400
		n-Heptane	3,600,000	--	1,300	4,300,000	--	1,300	4,700,000	J	1,300	3,500,000	J	1,900
		o-Xylene	180,000	--	1,300	280,000	--	1,400	320,000	--	1,400	230,000	J	2,000
		Propylene (Propene)	32,000	--	1,800	29,000	--	1,800	31,000	--	1,800	20,000	J	2,600
		Styrene	ND	U	1,300	ND	U	1,400	ND	U	1,400	ND	U	2,000
		Tetrachloroethene	ND	U	2,100	ND	U	2,200	ND	U	2,200	ND	U	3,100
		Tetrahydrofuran	ND	U	910	ND	U	940	ND	U	960	ND	U	1,400
		Toluene	2,200,000	--	1,200	2,800,000	--	1,200	3,100,000	--	1,200	1,800,000	J	1,700
		Trichloroethene	ND	U	1,700	ND	U	1,700	ND	U	1,700	ND	U	2,500
		Trichlorofluoromethane	ND	U	1,700	ND	U	1,800	ND	U	1,800	ND	U	2,600
		Vinyl Chloride	ND	U	790	ND	U	810	ND	U	830	ND	U	1,200
		Xylenes, Total	790,000	--	2,200	1,200,000	--	2,300	1,200,000	--	2,300	920,000	J	2,200

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160		
			Field Sample ID:			KAFB-106V1 159.6			KAFB-106V1 159.6			KAFB-106V1 159.6 DUP			KAFB-106V1 159.6		
			Sample Date:			4/10/2019			5/9/2019			5/9/2019			7/5/2019		
			Sample Type:			REG			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	110,000,000	--	340,000	130,000,000	--	170,000	130,000,000	--	180,000	130,000,000	--	210,000			
Fixed Gases	Method D1945 (%)	Butane	0.0069	--	0.00023	0.0068	--	0.00023	0.0068	--	0.00024	0.0064	--	2,300			
		Carbon Dioxide	12	--	0.0099	7.7	--	0.01	7.8	--	0.01	6.8	--	0.0099			
		Carbon Monoxide	ND	U	0.0099	ND	U	0.01	ND	U	0.01	ND	U	0.0099			
		Ethane	0.0029	--	0.00023	0.0015	J	0.00023	0.0015	J	0.00024	0.00093	J	2,300			
		Hydrogen	ND	U	0.013	ND	U	0.013	ND	U	0.013	ND	U	0.013			
		Methane	0.013	--	0.0001	0.0052	--	0.00011	0.0053	--	0.00011	0.0032	--	0.0001			
		Nitrogen (Ammonia As N)	85	--	0.14	78	--	0.14	78	--	0.15	79	--	0.14			
		Oxygen	1.2	--	0.037	12	--	0.039	12	--	0.04	12	--	0.038			
		Pentane	0.18	--	0.00023	0.18	--	0.00023	0.18	--	0.00024	0.18	--	0.00023			
		Propane	0.0014	J	0.00023	0.0011	J	0.00023	0.0011	J	0.00024	0.00073	J	0.00023			

Table C-1
Summary of Soil Gas Analytical Results

	Location ID:		KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160		
	Field Sample ID:		KAFB-106V1 159.6 DUP			KAFB-106V1 159.6			KAFB-106V1 159.6 DUP			KAFB-106V1 159.6		
	Sample Date:		7/5/2019			10/15/2019			10/15/2019			10/22/2019		
	Sample Type:		Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	3,600	ND	U	10,000	ND	U	10,000	ND	R	49
		1,1-Dichloroethane	ND	U	1,900	ND	U	5,400	ND	U	5,600	ND	R	26
		1,2,4-Trichlorobenzene	ND	U	12,000	ND	U	50,000	ND	U	51,000	ND	R	240
		1,2,4-Trimethylbenzene	160,000	J	2,300	170,000	--	6,600	130,000	--	6,800	3,900	R	31
		1,2-Dibromoethane	2,700	J	3,700	3,400	J	10,000	ND	U	11,000	ND	R	49
		1,2-Dichlorobenzene	ND	U	2,900	ND	U	8,000	ND	U	8,300	ND	R	38
		1,3,5-Trimethylbenzene	53,000	J	2,300	64,000	--	6,600	51,000	--	6,800	1,200	R	31
		1,3-Butadiene	ND	U	1,000	ND	U	3,000	ND	U	3,000	ND	R	14
		1,4-Dioxane	ND	U	5,700	ND	U	24,000	ND	U	25,000	ND	R	110
		2-Butanone	140,000	J	4,700	160,000	--	20,000	130,000	--	20,000	150	R	94
		2-Hexanone	ND	U	6,500	ND	U	27,000	ND	U	28,000	ND	R	130
		4-Methyl-2-Pentanone	ND	U	2,000	ND	U	5,500	ND	U	5,600	ND	R	26
		Acetone	3,100,000	J	3,800	3,100,000	--	16,000	2,900,000	--	16,000	1,600	R	76
		Benzene	1,600,000	J	1,500	2,100,000	--	4,300	2,000,000	--	4,400	1,900	R	20
		Bromodichloromethane	ND	U	3,200	ND	U	9,000	ND	U	9,200	ND	R	43
		Bromoform	ND	U	4,900	ND	U	14,000	ND	U	14,000	ND	R	66
		Carbon Disulfide	980	J	5,000	ND	U	21,000	ND	U	21,000	ND	R	99
		Carbon Tetrachloride	ND	U	3,000	ND	U	8,400	ND	U	8,700	ND	R	40
		Chloroethane	ND	U	4,200	ND	U	18,000	ND	U	18,000	ND	R	84
		Chloroform	ND	U	2,300	ND	U	6,500	ND	U	6,700	ND	R	31
		Chloromethane	ND	U	3,300	ND	U	14,000	ND	U	14,000	ND	R	66
		Cyclohexane	4,200,000	J	1,600	5,600,000	--	4,600	5,500,000	--	4,800	5,900	R	22
		Dibromochloromethane	ND	U	4,100	ND	U	11,000	ND	U	12,000	ND	R	54
		Dichlorodifluoromethane	ND	U	2,400	ND	U	6,600	ND	U	6,800	ND	R	31
		Ethanol	98,000	J	3,000	65,000	--	13,000	50,000	--	13,000	100	R	60
		Ethyl Acetate	ND	U	7,600	ND	U	32,000	ND	U	33,000	ND	R	150
		Ethylbenzene	330,000	J	2,100	430,000	--	5,800	420,000	--	6,000	3,000	R	28
		Hexane	4,800,000	J	1,700	7,300,000	--	4,700	7,200,000	--	4,900	4,600	R	22
		Isopropyl Alcohol	350,000	J	3,900	280,000	--	16,000	220,000	--	17,000	290	R	78
		m- & p-Xylenes	740,000	J	2,100	1,000,000	--	5,800	950,000	--	6,000	7,800	R	28
		Methylene Chloride	ND	U	5,500	ND	U	23,000	ND	U	24,000	ND	R	110
		Naphthalene	ND	U	5,600	ND	U	4,700	ND	U	4,800	180	R	22
		n-Heptane	3,500,000	J	2,000	5,600,000	--	5,500	5,400,000	--	5,600	9,600	R	26
		o-Xylene	240,000	J	2,100	320,000	--	5,800	280,000	--	6,000	2,800	R	28
		Propylene (Propene)	20,000	J	2,700	ND	U	12,000	ND	U	12,000	ND	R	55
		Styrene	ND	U	2,000	ND	U	5,700	ND	U	5,900	ND	R	27
		Tetrachloroethene	ND	U	3,200	99,000	--	9,100	97,000	--	9,400	ND	R	43
		Tetrahydrofuran	ND	U	1,400	ND	U	3,900	ND	U	4,100	ND	R	19
		Toluene	1,800,000	J	1,800	3,500,000	--	5,000	3,400,000	--	5,200	9,600	R	24
		Trichloroethene	ND	U	2,600	3,700	J	7,200	4,200	J	7,400	ND	R	34
		Trichlorofluoromethane	ND	U	2,700	ND	U	7,500	ND	U	7,800	ND	R	36
		Vinyl Chloride	ND	U	1,200	ND	U	3,400	ND	U	3,500	ND	R	16
		Xylenes, Total	980,000	J	2,300	1,300,000	--	9,700	1,200,000	--	10,000	11,000	R	46

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160		
			Field Sample ID:			KAFB-106V1 159.6 DUP			KAFB-106V1 159.6			KAFB-106V1 159.6 DUP		
			Sample Date:			7/5/2019			10/15/2019			10/15/2019		
			Sample Type:			Field Duplicate			REG			Field Duplicate		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	130,000,000	--	170,000	120,000,000	--	240,000	130,000,000	--	190,000	520,000	R	690
Fixed Gases	Method D1945 (%)	Butane	0.0064	--	2,300	0.0035	--	0.00024	0.0036	--	0.00025	ND	R	0.00023
		Carbon Dioxide	6.9	--	0.01	1.9	--	0.011	1.9	--	0.011	0.043	R	0.01
		Carbon Monoxide	ND	U	0.01	ND	U	0.011	ND	U	0.011	ND	R	0.01
		Ethane	0.00092	J	2,300	ND	U	0.00024	ND	U	0.00025	ND	R	0.00023
		Hydrogen	ND	U	0.013	ND	U	0.014	ND	U	0.014	ND	R	0.013
		Methane	0.0033	--	0.00011	0.00017	J	0.00011	0.00013	J	0.00012	0.00016	R	0.00011
		Nitrogen (Ammonia As N)	79	--	0.14	77	--	0.15	77	--	0.16	80	R	0.14
		Oxygen	12	--	0.039	19	--	0.041	19	--	0.043	20	R	0.039
		Pentane	0.18	--	0.00023	0.16	--	0.00024	0.17	--	0.00025	0.00006	R	0.00023
		Propane	0.00076	J	0.00023	0.00016	J	0.00024	0.00016	J	0.00025	ND	R	0.00023

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160		
		Field Sample ID:	KAFB-106V1 159.6 DUP			KAFB-106V1 159.6			KAFB-106V1 159.6 DUP			KAFB-106V1 160		
		Sample Date:	10/22/2019			10/31/2019			10/31/2019			11/5/2019		
		Sample Type:	Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	R	47	ND	U	2,100	ND	U	2,100	ND	U	2,200
		1,1-Dichloroethane	ND	R	25	ND	U	1,100	ND	U	1,100	ND	U	1,100
		1,2,4-Trichlorobenzene	ND	R	230	ND	U	10,000	ND	U	10,000	ND	U	10,000
		1,2,4-Trimethylbenzene	190	R	30	19,000	--	1,400	25,000	--	1,300	78,000	J	1,400
		1,2-Dibromoethane	ND	R	47	1,800	J	2,100	1,900	J	2,100	2,600	J	2,200
		1,2-Dichlorobenzene	ND	R	37	ND	U	1,600	ND	U	1,600	ND	U	1,700
		1,3,5-Trimethylbenzene	56	R	30	7,500	--	1,400	8,800	--	1,300	26,000	J	1,400
		1,3-Butadiene	ND	R	14	ND	U	610	ND	U	600	ND	U	630
		1,4-Dioxane	ND	R	110	ND	U	5,000	ND	U	4,900	ND	U	5,100
		2-Butanone	ND	R	91	91,000	--	4,100	99,000	--	4,000	120,000	J	4,200
		2-Hexanone	ND	R	130	4,400	J	5,600	3,900	J	5,600	ND	U	5,800
		4-Methyl-2-Pentanone	ND	R	25	3,700	--	1,100	5,000	--	1,100	ND	U	1,200
		Acetone	120	R	73	2,300,000	J	3,300	2,400,000	J	3,200	2,900,000	J	3,400
		Benzene	140	R	20	1,200,000	--	880	1,300,000	--	870	1,500,000	J	900
		Bromodichloromethane	ND	R	41	ND	U	1,800	ND	U	1,800	ND	U	1,900
		Bromoform	ND	R	64	ND	U	2,800	ND	U	2,800	ND	U	2,900
		Carbon Disulfide	ND	R	96	ND	U	4,300	ND	U	4,200	ND	U	4,400
		Carbon Tetrachloride	ND	R	39	ND	U	1,700	ND	U	1,700	ND	U	1,800
		Chloroethane	ND	R	82	ND	U	3,600	ND	U	3,600	ND	U	3,700
		Chloroform	ND	R	30	ND	U	1,300	ND	U	1,300	ND	U	1,400
		Chloromethane	ND	R	64	ND	U	2,800	ND	U	2,800	ND	U	2,900
		Cyclohexane	430	R	21	3,400,000	J	950	3,600,000	J	940	4,300,000	J	980
		Dibromochloromethane	ND	R	53	ND	U	2,400	ND	U	2,300	ND	U	2,400
		Dichlorodifluoromethane	ND	R	30	ND	U	1,400	ND	U	1,400	ND	U	1,400
		Ethanol	ND	R	58	33,000	--	2,600	35,000	--	2,600	88,000	J	2,700
		Ethyl Acetate	ND	R	150	ND	U	6,600	ND	U	6,600	ND	U	6,800
		Ethylbenzene	160	R	27	190,000	--	1,200	200,000	--	1,200	360,000	J	1,200
		Hexane	240	R	22	4,700,000	J	970	5,000,000	J	960	5,800,000	J	1,000
		Isopropyl Alcohol	25	R	76	120,000	--	3,400	140,000	--	3,400	340,000	J	3,500
		m- & p-Xylenes	330	R	27	360,000	--	1,200	400,000	--	1,200	740,000	J	1,200
		Methylene Chloride	ND	R	110	ND	U	4,800	ND	U	4,700	ND	U	4,900
		Naphthalene	38	R	22	ND	U	960	750	J	950	1,200	J	990
		n-Heptane	800	R	25	3,000,000	--	1,100	3,300,000	--	1,100	4,400,000	J	1,200
		o-Xylene	120	R	27	96,000	--	1,200	110,000	--	1,200	220,000	J	1,200
		Propylene (Propene)	ND	R	53	ND	U	2,400	ND	U	2,300	ND	U	2,400
		Styrene	ND	R	26	ND	U	1,200	ND	U	1,200	ND	U	1,200
		Tetrachloroethene	ND	R	42	ND	U	1,900	ND	U	1,800	ND	U	1,900
		Tetrahydrofuran	ND	R	18	ND	U	810	ND	U	800	ND	U	840
		Toluene	820	R	23	2,000,000	--	1,000	2,200,000	--	1,000	3,000,000	J	1,100
		Trichloroethene	ND	R	33	ND	U	1,500	ND	U	1,500	ND	U	1,500
		Trichlorofluoromethane	ND	R	35	ND	U	1,600	ND	U	1,500	ND	U	1,600
		Vinyl Chloride	ND	R	16	ND	U	700	ND	U	700	ND	U	720
		Xylenes, Total	450	R	45	460,000	--	2,000	510,000	--	2,000	960,000	J	2,000

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160		
			Field Sample ID:			KAFB-106V1 159.6 DUP			KAFB-106V1 159.6			KAFB-106V1 159.6 DUP		
			Sample Date:			10/22/2019			10/31/2019			10/31/2019		
			Sample Type:			Field Duplicate			REG			Field Duplicate		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	29,000	R	170	70,000,000	--	150,000	76,000,000	--	150,000	110,000,000	--	190,000
Fixed Gases	Method D1945 (%)	Butane	ND	R	0.00023	0.00054	J	0.0002	0.00056	J	0.0002	0.00048	J	0.00021
		Carbon Dioxide	0.042	R	0.0099	0.48	--	0.0088	0.48	--	0.0087	0.44	--	0.0091
		Carbon Monoxide	ND	R	0.0099	ND	U	0.0088	ND	U	0.0087	ND	U	0.0091
		Ethane	ND	R	0.00023	ND	U	0.0002	ND	U	0.0002	ND	U	0.00021
		Hydrogen	ND	R	0.013	ND	U	0.011	ND	U	0.011	ND	U	0.012
		Methane	0.00022	R	0.0001	0.00014	J	0.000092	0.00015	J	0.000091	0.00014	J	0.000094
		Nitrogen (Ammonia As N)	80	R	0.14	78	--	0.12	78	--	0.12	78	--	0.13
		Oxygen	20	R	0.038	20	--	0.034	20	--	0.034	20	--	0.035
		Pentane	ND	R	0.00023	0.11	--	0.0002	0.1	--	0.0002	0.11	--	0.00021
		Propane	ND	R	0.00023	ND	U	0.0002	ND	U	0.0002	ND	U	0.00021

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-217		
		Field Sample ID:	KAFB-106V1 160 DUP			KAFB-106V1-160			KAFB-106V1-160-DUP			KAFB-106V1 217.1		
		Sample Date:	11/5/2019			1/13/2020			1/13/2020			4/10/2019		
		Sample Type:	Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	2,100	ND	U	3,900	ND	U	7,200	ND	U	2,200
		1,1-Dichloroethane	ND	U	1,100	ND	U	2,000	ND	U	3,800	ND	U	1,200
		1,2,4-Trichlorobenzene	ND	U	10,000	ND	U	14,000	ND	U	26,000	ND	U	7,300
		1,2,4-Trimethylbenzene	74,000	J	1,300	46,000	J	2,500	40,000	--	4,600	98,000	--	1,400
		1,2-Dibromoethane	3,100	J	2,100	1,700	J	3,900	2,100	J	7,200	4,500	--	2,200
		1,2-Dichlorobenzene	ND	U	1,600	ND	U	3,000	ND	U	5,700	ND	U	1,800
		1,3,5-Trimethylbenzene	25,000	J	1,300	18,000	J	2,500	16,000	--	4,600	41,000	--	1,400
		1,3-Butadiene	ND	U	610	ND	U	1,100	ND	U	2,100	ND	U	650
		1,4-Dioxane	ND	U	4,900	ND	U	6,800	ND	U	13,000	ND	U	3,500
		2-Butanone	130,000	J	4,000	87,000	J	5,600	95,000	--	10,000	500,000	J	2,900
		2-Hexanone	ND	U	5,600	ND	U	7,700	ND	U	14,000	ND	U	4,000
		4-Methyl-2-Pentanone	ND	U	1,100	ND	U	2,100	ND	U	3,900	ND	U	1,200
		Acetone	2,900,000	J	3,300	2,500,000	J	4,500	2,800,000	--	8,400	4,900,000	J	2,300
		Benzene	1,500,000	J	880	1,100,000	J	1,600	1,100,000	--	3,000	1,700,000	--	940
		Bromodichloromethane	ND	U	1,800	ND	U	3,400	ND	U	6,300	ND	U	2,000
		Bromoform	ND	U	2,800	ND	U	5,200	ND	U	9,800	ND	U	3,000
		Carbon Disulfide	ND	U	4,300	ND	U	5,900	ND	U	11,000	ND	U	3,000
		Carbon Tetrachloride	ND	U	1,700	ND	U	3,200	ND	U	5,900	ND	U	1,800
		Chloroethane	ND	U	3,600	ND	U	5,000	ND	U	9,300	ND	U	2,600
		Chloroform	ND	U	1,300	ND	U	2,500	ND	U	4,600	ND	U	1,400
		Chloromethane	ND	U	2,800	ND	U	3,900	ND	U	7,300	ND	U	2,000
		Cyclohexane	4,300,000	J	940	3,000,000	J	1,700	3,300,000	--	3,200	5,800,000	J	1,000
		Dibromochloromethane	ND	U	2,300	ND	U	4,300	ND	U	8,000	ND	U	2,500
		Dichlorodifluoromethane	ND	U	1,400	ND	U	2,500	ND	U	4,700	ND	U	1,400
		Ethanol	87,000	J	2,600	69,000	J	3,600	58,000	--	6,700	ND	U	1,800
		Ethyl Acetate	ND	U	6,600	ND	U	9,100	ND	U	17,000	ND	U	7,100
		Ethylbenzene	380,000	J	1,200	280,000	J	2,200	240,000	--	4,100	460,000	--	1,300
		Hexane	5,700,000	J	970	3,700,000	J	1,800	4,100,000	--	3,300	7,200,000	J	1,000
		Isopropyl Alcohol	340,000	J	3,400	290,000	J	4,600	280,000	--	8,700	58,000	--	2,400
		m- & p-Xylenes	770,000	J	1,200	610,000	J	2,200	480,000	--	4,100	1,400,000	--	1,300
		Methylene Chloride	ND	U	4,800	ND	U	6,600	ND	U	12,000	ND	U	3,400
		Naphthalene	ND	U	960	ND	U	1,300	ND	U	2,500	ND	UJ	5,100
		n-Heptane	4,300,000	J	1,100	2,900,000	J	2,100	3,000,000	--	3,900	6,600,000	J	1,200
		o-Xylene	220,000	J	1,200	170,000	J	2,200	140,000	--	4,100	400,000	--	1,300
		Propylene (Propene)	ND	U	2,400	ND	U	3,200	ND	U	6,100	62,000	--	1,700
		Styrene	ND	U	1,200	ND	U	2,100	ND	U	4,000	ND	U	1,200
		Tetrachloroethene	ND	U	1,900	ND	U	3,400	ND	U	6,400	ND	U	2,000
		Tetrahydrofuran	ND	U	810	ND	U	1,500	ND	U	2,800	ND	U	870
		Toluene	2,900,000	J	1,000	2,200,000	J	1,900	2,100,000	--	3,600	4,200,000	--	2,200
		Trichloroethene	ND	U	1,500	ND	U	2,700	ND	U	5,100	ND	U	1,600
		Trichlorofluoromethane	ND	U	1,500	ND	U	2,800	ND	U	5,300	ND	U	1,600
		Vinyl Chloride	ND	U	700	ND	U	1,300	ND	U	2,400	ND	U	750
		Xylenes, Total	990,000	J	2,000	780,000	J	5,500	620,000	--	10,000	1,800,000	--	2,100

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-160			KAFB-106V1-217		
			Field Sample ID:			KAFB-106V1 160 DUP			KAFB-106V1-160			KAFB-106V1-160-DUP			KAFB-106V1 217.1		
			Sample Date:			11/5/2019			1/13/2020			1/13/2020			4/10/2019		
			Sample Type:			Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	110,000,000	--	190,000	92,000,000	--	290,000	100,000,000	--	150,000	160,000,000	--	400,000			
Fixed Gases	Method D1945 (%)	Butane	0.00046	J	0.0002	ND	U	0.00022	ND	U	0.0002	0.0025	--	0.00022			
		Carbon Dioxide	0.44	--	0.0088	0.52	--	0.012	0.51	--	0.011	12	--	0.0094			
		Carbon Monoxide	ND	U	0.0088	ND	U	0.012	ND	U	0.011	0.0054	J	0.0094			
		Ethane	ND	U	0.0002	ND	U	0.00022	ND	U	0.0002	0.0029	--	0.00022			
		Hydrogen	ND	U	0.011	ND	U	0.016	ND	U	0.015	ND	U	0.012			
		Methane	0.00013	J	0.000092	ND	U	0.00012	ND	U	0.00012	0.0056	--	9.8E-05			
		Nitrogen (Ammonia As N)	78	--	0.12	78	--	0.17	80	--	0.16	85	--	0.13			
		Oxygen	20	--	0.034	20	--	0.046	19	--	0.044	1.3	--	0.035			
		Pentane	0.11	--	0.0002	0.022	--	0.00022	0.023	--	0.0002	0.081	--	0.00022			
		Propane	ND	U	0.0002	ND	U	0.00022	ND	U	0.0002	0.0019	J	0.00022			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-217			KAFB-106V1-217			KAFB-106V1-217			KAFB-106V1-217		
		Field Sample ID:	KAFB-106V1 217.1			KAFB-106V1 217.1			KAFB-106V1 217.1			KAFB-106V1 217.1		
		Sample Date:	5/9/2019			7/5/2019			10/15/2019			10/22/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m ³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	4,900	ND	U	3,400	ND	U	9,200	ND	R	51
		1,1-Dichloroethane	ND	U	2,600	ND	U	1,800	ND	U	4,900	ND	R	27
		1,2,4-Trichlorobenzene	ND	U	16,000	ND	U	11,000	ND	U	45,000	ND	R	250
		1,2,4-Trimethylbenzene	77,000	--	3,100	160,000	J	2,200	140,000	J	5,900	420	R	33
		1,2-Dibromoethane	3,000	J	4,900	4,400	J	3,400	4,400	J	9,300	ND	R	51
		1,2-Dichlorobenzene	ND	U	3,800	ND	U	2,600	ND	U	7,200	ND	R	40
		1,3,5-Trimethylbenzene	33,000	--	3,100	64,000	J	2,200	66,000	J	5,900	140	R	33
		1,3-Butadiene	ND	U	1,400	ND	U	980	ND	U	2,700	ND	R	15
		1,4-Dioxane	ND	U	7,600	ND	U	5,300	ND	U	22,000	ND	R	120
		2-Butanone	400,000	--	6,200	500,000	J	4,300	490,000	J	18,000	ND	R	99
		2-Hexanone	9,500	J	8,700	ND	U	6,000	ND	U	25,000	ND	R	140
		4-Methyl-2-Pentanone	9,800	--	2,600	ND	U	1,800	9,100	J	4,900	ND	R	27
		Acetone	5,000,000	--	5,000	6,000,000	J	3,500	4,600,000	J	14,000	150	R	79
		Benzene	1,600,000	--	2,000	1,600,000	--	1,900	2,400,000	J	3,800	92	R	21
		Bromodichloromethane	ND	U	4,300	ND	U	3,000	ND	U	8,100	ND	R	45
		Bromoform	ND	U	6,600	ND	U	4,600	ND	U	12,000	ND	R	69
		Carbon Disulfide	ND	U	6,600	ND	U	4,600	ND	U	19,000	ND	R	100
		Carbon Tetrachloride	ND	U	4,000	ND	U	2,800	ND	U	7,600	ND	R	42
		Chloroethane	ND	U	5,600	ND	U	3,900	ND	U	16,000	ND	R	88
		Chloroform	ND	U	3,100	ND	U	2,200	ND	U	5,900	ND	R	33
		Chloromethane	ND	U	4,400	ND	U	3,000	ND	U	12,000	ND	R	69
		Cyclohexane	5,000,000	--	2,200	5,100,000	J	1,500	8,000,000	J	4,200	320	R	23
		Dibromochloromethane	ND	U	5,400	ND	U	3,800	ND	U	10,000	ND	R	57
		Dichlorodifluoromethane	ND	U	3,100	ND	U	2,200	ND	U	6,000	ND	R	33
		Ethanol	ND	U	4,000	ND	U	2,800	ND	U	11,000	ND	R	63
		Ethyl Acetate	ND	U	15,000	ND	U	7,100	ND	U	29,000	ND	R	160
		Ethylbenzene	360,000	--	2,800	470,000	J	1,900	590,000	J	5,200	170	R	29
		Hexane	6,400,000	--	2,200	5,000,000	J	1,600	9,700,000	J	4,200	210	R	24
		Isopropyl Alcohol	41,000	--	5,200	40,000	J	3,600	45,000	J	15,000	ND	R	82
		m- & p-Xylenes	1,100,000	--	2,800	1,400,000	J	1,900	1,800,000	J	5,200	610	R	29
		Methylene Chloride	ND	U	7,400	ND	U	5,100	ND	U	21,000	ND	R	120
		Naphthalene	ND	UJ	5,600	ND	U	5,100	ND	U	4,200	ND	R	23
		n-Heptane	5,600,000	--	2,600	5,200,000	J	1,800	8,600,000	J	4,900	460	R	27
		o-Xylene	320,000	--	2,800	430,000	J	1,900	520,000	J	5,200	230	R	29
		Propylene (Propene)	57,000	--	3,600	68,000	J	2,500	38,000	J	10,000	ND	R	58
		Styrene	ND	U	2,700	ND	U	1,900	ND	U	5,100	ND	R	28
		Tetrachloroethene	ND	U	4,300	ND	U	3,000	110,000	J	8,200	ND	R	45
		Tetrahydrofuran	ND	U	1,900	ND	U	1,300	ND	U	3,600	ND	R	20
		Toluene	3,400,000	J	2,400	3,200,000	J	2,200	5,600,000	J	4,500	510	R	25
		Trichloroethene	ND	U	3,400	ND	U	2,400	ND	U	6,500	ND	R	36
		Trichlorofluoromethane	ND	U	3,600	ND	U	2,500	ND	U	6,800	ND	R	38
		Vinyl Chloride	ND	U	1,600	ND	U	1,100	ND	U	3,100	ND	R	17
		Xylenes, Total	1,400,000	--	4,600	1,800,000	J	2,100	2,300,000	J	8,700	840	R	48

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-217			KAFB-106V1-217			KAFB-106V1-217			KAFB-106V1-217		
			Field Sample ID:			KAFB-106V1 217.1			KAFB-106V1 217.1			KAFB-106V1 217.1			KAFB-106V1 217.1		
			Sample Date:			5/9/2019			7/5/2019			10/15/2019			10/22/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	170,000,000	--	170,000	170,000,000	--	160,000	160,000,000	--	220,000	30,000	R	180			
Fixed Gases	Method D1945 (%)	Butane	0.0026	--	0.00023	0.0026	--	2,200	0.0023	--	0.00022	ND	R	0.00024			
		Carbon Dioxide	12	--	0.01	12	--	0.0094	5.3	--	0.0096	0.039	R	0.011			
		Carbon Monoxide	0.012	J	0.01	ND	U	0.0094	ND	U	0.0096	ND	R	0.011			
		Ethane	0.0032	--	0.00023	0.0028	--	2,200	0.00068	J	0.00022	ND	R	0.00024			
		Hydrogen	ND	U	0.013	ND	U	0.012	ND	U	0.012	ND	R	0.014			
		Methane	0.0054	--	0.00011	0.0046	--	9.8E-05	0.0015	--	0.0001	0.0002	R	0.00011			
		Nitrogen (Ammonia As N)	85	--	0.14	85	--	0.13	80	--	0.14	80	R	0.15			
		Oxygen	1.2	--	0.039	1.4	--	0.036	13	--	0.037	20	R	0.041			
		Pentane	0.087	--	0.00023	0.086	--	0.00022	0.072	--	0.00022	ND	R	0.00024			
		Propane	0.0022	--	0.00023	0.0022	--	0.00022	0.001	J	0.00022	ND	R	0.00024			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-217			KAFB-106V1-217			KAFB-106V1-217			KAFB-106V1-252		
		Field Sample ID:	KAFB-106V1 217.1			KAFB-106V1 217			KAFB-106V1-217			KAFB-106V1 252.1		
		Sample Date:	10/31/2019			11/5/2019			1/13/2020			4/10/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	830	ND	U	2,400	ND	U	17,000	ND	U	2,600
		1,1-Dichloroethane	ND	U	440	ND	U	1,200	ND	U	8,800	ND	U	1,400
		1,2,4-Trichlorobenzene	ND	U	4,000	ND	U	11,000	ND	U	60,000	ND	U	8,300
		1,2,4-Trimethylbenzene	13,000	--	540	38,000	--	1,500	8,600	J	11,000	50,000	--	1,600
		1,2-Dibromoethane	330	J	840	2,000	J	2,400	ND	U	17,000	18,000	--	2,600
		1,2-Dichlorobenzene	ND	U	650	ND	U	1,800	ND	U	13,000	ND	U	2,000
		1,3,5-Trimethylbenzene	4,700	--	540	12,000	--	1,500	2,900	J	11,000	22,000	--	1,600
		1,3-Butadiene	ND	U	240	ND	U	680	ND	U	4,800	ND	U	740
		1,4-Dioxane	ND	U	2,000	ND	U	5,600	ND	U	29,000	ND	U	4,000
		2-Butanone	27,000	--	1,600	150,000	--	4,600	290,000	--	24,000	280,000	--	3,300
		2-Hexanone	ND	U	2,200	ND	U	6,300	ND	U	33,000	ND	U	4,600
		4-Methyl-2-Pentanone	ND	U	450	ND	U	1,300	ND	U	8,900	ND	U	1,400
		Acetone	420,000	--	1,300	1,600,000	--	3,700	3,900,000	--	19,000	1,100,000	--	2,700
		Benzene	180,000	--	350	770,000	--	990	1,200,000	--	6,900	870,000	--	1,100
		Bromodichloromethane	ND	U	730	ND	U	2,100	ND	U	14,000	ND	U	2,200
		Bromoform	ND	U	1,100	ND	U	3,200	ND	U	22,000	ND	U	3,500
		Carbon Disulfide	ND	U	1,700	ND	U	4,800	ND	U	25,000	ND	U	3,500
		Carbon Tetrachloride	ND	U	680	ND	U	1,900	ND	U	14,000	ND	U	2,100
		Chloroethane	ND	U	1,400	ND	U	4,100	ND	U	21,000	ND	U	3,000
		Chloroform	ND	U	530	ND	U	1,500	ND	U	10,000	ND	U	1,600
		Chloromethane	ND	U	1,100	ND	U	3,200	ND	U	17,000	ND	U	2,300
		Cyclohexane	530,000	--	370	2,400,000	--	1,100	4,200,000	--	7,500	3,500,000	--	1,200
		Dibromochloromethane	ND	U	930	ND	U	2,600	ND	U	18,000	ND	U	2,900
		Dichlorodifluoromethane	ND	U	540	ND	U	1,500	ND	U	11,000	ND	U	1,700
		Ethanol	3,200	--	1,000	6,000	--	2,900	ND	U	15,000	2,400	J	2,100
		Ethyl Acetate	ND	U	2,600	ND	U	7,400	ND	U	39,000	ND	U	8,100
		Ethylbenzene	46,000	--	470	170,000	--	1,300	350,000	--	9,400	400,000	--	1,400
		Hexane	610,000	--	380	2,900,000	--	1,100	5,200,000	--	7,600	3,700,000	--	1,200
		Isopropyl Alcohol	11,000	--	1,300	ND	U	3,800	54,000	--	20,000	27,000	--	2,800
		m- & p-Xylenes	130,000	--	470	480,000	--	1,300	1,100,000	--	9,400	1,200,000	--	1,400
		Methylene Chloride	ND	U	1,900	ND	U	5,400	ND	U	28,000	ND	U	3,900
		Naphthalene	460	J	380	2,200	J	1,100	ND	U	5,700	ND	UJ	5,900
		n-Heptane	530,000	--	450	2,800,000	--	1,300	4,200,000	--	8,900	7,200,000	J	1,400
		o-Xylene	37,000	--	470	110,000	--	1,300	310,000	--	9,400	320,000	--	1,400
		Propylene (Propene)	ND	U	940	ND	U	2,600	ND	U	14,000	100,000	--	1,900
		Styrene	ND	U	460	ND	U	1,300	ND	U	9,200	ND	U	1,400
		Tetrachloroethene	ND	U	740	ND	U	2,100	ND	U	15,000	ND	U	2,300
		Tetrahydrofuran	ND	U	320	ND	U	910	ND	U	6,400	ND	U	990
		Toluene	420,000	--	410	2,000,000	--	1,200	2,800,000	--	8,200	5,400,000	--	2,500
		Trichloroethene	ND	U	580	ND	U	1,700	ND	U	12,000	ND	U	1,800
		Trichlorofluoromethane	ND	U	610	ND	U	1,700	ND	U	12,000	ND	U	1,900
		Vinyl Chloride	ND	U	280	ND	U	790	ND	U	5,500	ND	U	860
		Xylenes, Total	170,000	--	790	590,000	--	2,200	1,400,000	--	24,000	1,500,000	--	2,400

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-217			KAFB-106V1-217			KAFB-106V1-217			KAFB-106V1-252		
			Field Sample ID:			KAFB-106V1 217.1			KAFB-106V1 217			KAFB-106V1-217			KAFB-106V1 252.1		
			Sample Date:			10/31/2019			11/5/2019			1/13/2020			4/10/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	20,000,000	--	24,000	57,000,000	--	130,000	140,000,000	--	360,000	140,000,000	--	360,000			
Fixed Gases	Method D1945 (%)	Butane	0.000083	J	0.00024	0.00027	J	0.00023	0.00049	J	0.00019	0.0039	--	0.00024			
		Carbon Dioxide	0.37	--	0.01	0.88	--	0.0099	1.3	--	0.01	12	--	0.011			
		Carbon Monoxide	ND	U	0.01	ND	U	0.0099	ND	U	0.01	0.0081	J	0.011			
		Ethane	ND	U	0.00024	ND	U	0.00023	ND	U	0.00019	0.0058	--	0.00024			
		Hydrogen	ND	U	0.014	ND	U	0.013	ND	U	0.013	ND	U	0.014			
		Methane	0.00021	J	0.00011	0.00021	--	0.0001	0.00025	--	0.00011	0.007	--	0.00011			
		Nitrogen (Ammonia As N)	79	--	0.15	78	--	0.14	79	--	0.15	86	--	0.15			
		Oxygen	20	--	0.04	20	--	0.038	18	--	0.04	1.2	--	0.04			
		Pentane	0.0053	--	0.00024	0.022	--	0.00023	0.033	--	0.00019	0.051	--	0.00024			
		Propane	ND	U	0.00024	0.000091	J	0.00023	0.000068	J	0.00019	0.006	--	0.00024			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-252			KAFB-106V1-252			KAFB-106V1-252			KAFB-106V1-252		
		Field Sample ID:	KAFB-106V1 252.1			KAFB-106V1 252.1			KAFB-106V1 252.1			KAFB-106V1 252.1		
		Sample Date:	5/9/2019			7/5/2019			10/15/2019			10/22/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	5,200	ND	U	3,600	ND	U	9,500	ND	U	9,500
		1,1-Dichloroethane	ND	U	2,800	ND	U	1,900	ND	U	5,000	ND	U	5,000
		1,2,4-Trichlorobenzene	ND	U	17,000	ND	U	11,000	ND	U	46,000	ND	U	46,000
		1,2,4-Trimethylbenzene	58,000	--	3,400	120,000	J	2,300	110,000	--	6,100	43,000	--	6,100
		1,2-Dibromoethane	12,000	--	5,200	18,000	J	3,600	22,000	--	9,500	21,000	--	9,500
		1,2-Dichlorobenzene	ND	U	4,100	ND	U	2,800	ND	U	7,400	ND	U	7,400
		1,3,5-Trimethylbenzene	26,000	--	3,400	51,000	J	2,300	50,000	--	6,100	22,000	--	6,100
		1,3-Butadiene	ND	U	1,500	ND	U	1,000	ND	U	2,700	ND	U	2,700
		1,4-Dioxane	ND	U	8,200	ND	U	5,600	ND	U	22,000	ND	U	22,000
		2-Butanone	230,000	--	6,700	280,000	J	4,600	300,000	--	18,000	280,000	--	18,000
		2-Hexanone	28,000	--	9,300	ND	U	6,300	ND	U	25,000	ND	U	25,000
		4-Methyl-2-Pentanone	17,000	--	2,800	ND	U	1,900	ND	U	5,100	ND	U	5,100
		Acetone	1,000,000	--	5,400	1,300,000	J	3,700	1,400,000	--	15,000	1,200,000	--	15,000
		Benzene	810,000	--	2,200	800,000	--	2,000	1,400,000	--	3,900	1,300,000	--	3,900
		Bromodichloromethane	ND	U	4,600	ND	U	3,100	ND	U	8,300	ND	U	8,300
		Bromoform	ND	U	7,100	ND	U	4,800	ND	U	13,000	ND	U	13,000
		Carbon Disulfide	ND	U	7,100	ND	U	4,800	ND	U	19,000	ND	U	19,000
		Carbon Tetrachloride	ND	U	4,300	ND	U	2,900	ND	U	7,800	ND	U	7,800
		Chloroethane	ND	U	6,000	ND	U	4,100	ND	U	16,000	ND	UJ	16,000
		Chloroform	ND	U	3,300	ND	U	2,300	ND	U	6,000	ND	U	6,000
		Chloromethane	ND	U	4,700	ND	U	3,200	ND	U	13,000	ND	U	13,000
		Cyclohexane	3,000,000	--	2,400	3,400,000	J	1,600	4,900,000	--	4,200	4,600,000	--	4,200
		Dibromochloromethane	ND	U	5,800	ND	U	3,900	ND	U	10,000	ND	U	10,000
		Dichlorodifluoromethane	ND	U	3,400	ND	U	2,300	ND	U	6,100	ND	U	6,100
		Ethanol	3,900	J	4,300	4,600	J	2,900	5,100	J	12,000	ND	U	12,000
		Ethyl Acetate	ND	U	16,000	ND	U	7,400	ND	U	30,000	ND	U	30,000
		Ethylbenzene	360,000	--	3,000	470,000	J	2,000	600,000	--	5,400	450,000	--	5,400
		Hexane	3,300,000	--	2,400	3,800,000	J	1,600	5,000,000	--	4,400	4,600,000	--	4,400
		Isopropyl Alcohol	22,000	--	5,600	20,000	J	3,800	25,000	--	15,000	13,000	J	15,000
		m- & p-Xylenes	1,100,000	--	3,000	1,400,000	J	2,000	1,900,000	--	5,400	1,300,000	--	5,400
		Methylene Chloride	ND	U	7,900	ND	U	5,400	ND	U	21,000	ND	U	21,000
		Naphthalene	ND	UJ	6,000	ND	U	5,400	ND	U	4,300	ND	U	4,300
		n-Heptane	6,300,000	--	2,800	5,700,000	J	1,900	10,000,000	--	5,100	9,600,000	--	5,100
		o-Xylene	300,000	--	3,000	410,000	J	2,000	500,000	--	5,400	340,000	--	5,400
		Propylene (Propene)	85,000	--	3,900	69,000	J	2,600	ND	U	11,000	ND	U	11,000
		Styrene	ND	U	2,900	ND	U	2,000	ND	U	5,300	ND	U	5,300
		Tetrachloroethene	ND	U	4,600	ND	U	3,100	120,000	--	8,400	ND	U	8,400
		Tetrahydrofuran	ND	U	2,000	ND	U	1,400	ND	U	3,600	ND	UJ	3,600
		Toluene	4,200,000	J	2,600	4,200,000	J	2,300	7,500,000	--	4,600	6,900,000	--	4,600
		Trichloroethene	ND	U	3,700	ND	U	2,500	3,700	J	6,600	ND	U	6,600
		Trichlorofluoromethane	ND	U	3,800	ND	U	2,600	ND	U	6,900	ND	U	6,900
		Vinyl Chloride	ND	U	1,700	ND	U	1,200	ND	U	3,200	ND	U	3,200
		Xylenes, Total	1,400,000	--	5,000	1,800,000	J	2,200	2,400,000	--	8,900	1,700,000	--	8,900

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-252			KAFB-106V1-252			KAFB-106V1-252			KAFB-106V1-252		
			Field Sample ID:			KAFB-106V1 252.1			KAFB-106V1 252.1			KAFB-106V1 252.1			KAFB-106V1 252.1		
			Sample Date:			5/9/2019			7/5/2019			10/15/2019			10/22/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	150,000,000	--	190,000	150,000,000	--	170,000	150,000,000	--	220,000	160,000,000	--	270,000			
Fixed Gases	Method D1945 (%)	Butane	0.004	--	0.00025	0.0038	--	2,300	0.0028	--	0.00023	0.0011	J	0.00023			
		Carbon Dioxide	8.2	--	0.011	5.5	--	0.0099	0.43	--	0.0099	0.19	--	0.0099			
		Carbon Monoxide	ND	U	0.011	ND	U	0.0099	ND	U	0.0099	ND	U	0.0099			
		Ethane	0.0039	--	0.00025	0.0021	--	2,300	ND	U	0.00023	ND	U	0.00023			
		Hydrogen	ND	U	0.014	ND	U	0.013	ND	U	0.013	ND	U	0.013			
		Methane	0.0037	--	0.00011	0.0022	--	0.0001	0.0002	J	0.0001	0.00018	J	0.0001			
		Nitrogen (Ammonia As N)	80	--	0.15	80	--	0.14	79	--	0.14	78	--	0.14			
		Oxygen	10	--	0.042	13	--	0.038	19	--	0.038	20	--	0.038			
		Pentane	0.052	--	0.00025	0.053	--	0.00023	0.052	--	0.00023	0.052	--	0.00023			
		Propane	0.0056	--	0.00025	0.0038	--	0.00023	0.00035	J	0.00023	ND	U	0.00023			

Table C-1
Summary of Soil Gas Analytical Results

Location ID:			KAFB-106V1-252			KAFB-106V1-252			KAFB-106V1-252			KAFB-106V1-263		
Field Sample ID:			KAFB-106V1 252.1			KAFB-106V1 252			KAFB-106V1-252			KAFB-106V1 262.6		
Sample Date:			10/31/2019			11/5/2019			1/13/2020			4/10/2019		
Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	4,500	ND	U	5,100	ND	U	6,000	ND	U	2,400
		1,1-Dichloroethane	ND	U	2,400	ND	U	2,700	ND	U	3,200	ND	U	1,300
		1,2,4-Trichlorobenzene	ND	U	22,000	ND	U	25,000	ND	U	22,000	ND	U	7,900
		1,2,4-Trimethylbenzene	6,100	--	2,900	41,000	--	3,300	13,000	--	3,800	68,000	--	1,600
		1,2-Dibromoethane	10,000	--	4,500	24,000	--	5,100	18,000	--	6,000	23,000	--	2,400
		1,2-Dichlorobenzene	ND	U	3,500	ND	U	4,000	ND	U	4,700	ND	U	1,900
		1,3,5-Trimethylbenzene	3,400	J	2,900	19,000	--	3,300	7,800	--	3,800	27,000	--	1,600
		1,3-Butadiene	ND	U	1,300	ND	U	1,500	ND	U	1,700	ND	U	700
		1,4-Dioxane	ND	U	10,000	ND	U	12,000	ND	U	10,000	ND	U	3,800
		2-Butanone	230,000	--	8,600	400,000	--	9,800	320,000	--	8,700	510,000	J	3,100
		2-Hexanone	10,000	J	12,000	ND	U	14,000	ND	U	12,000	ND	U	4,300
		4-Methyl-2-Pentanone	13,000	--	2,400	ND	U	2,700	ND	U	3,200	ND	U	1,300
		Acetone	1,100,000	--	6,900	1,800,000	--	7,900	1,500,000	--	7,000	1,800,000	--	2,500
		Benzene	880,000	--	1,800	1,300,000	--	2,100	1,200,000	--	2,500	920,000	--	1,000
		Bromodichloromethane	ND	U	3,900	ND	U	4,500	ND	U	5,200	ND	U	2,100
		Bromoform	ND	U	6,000	ND	U	6,900	ND	U	8,100	ND	U	3,300
		Carbon Disulfide	ND	U	9,100	ND	U	10,000	ND	U	9,200	ND	U	3,300
		Carbon Tetrachloride	ND	U	3,700	ND	U	4,200	ND	U	4,900	ND	U	2,000
		Chloroethane	ND	U	7,700	ND	U	8,800	ND	U	7,800	ND	U	2,800
		Chloroform	ND	U	2,800	ND	U	3,200	ND	U	3,800	ND	U	1,600
		Chloromethane	ND	U	6,000	ND	U	6,900	ND	U	6,100	ND	U	2,200
		Cyclohexane	3,100,000	--	2,000	4,800,000	--	2,300	4,200,000	--	2,700	3,300,000	--	1,100
		Dibromochloromethane	ND	U	5,000	ND	U	5,700	ND	U	6,700	ND	U	2,700
		Dichlorodifluoromethane	ND	U	2,900	ND	U	3,300	ND	U	3,900	ND	U	1,600
		Ethanol	3,700	J	5,500	14,000	--	6,300	6,600	J	5,500	12,000	--	2,000
		Ethyl Acetate	ND	U	14,000	ND	U	16,000	ND	U	14,000	ND	U	7,600
		Ethylbenzene	160,000	--	2,500	440,000	--	2,900	330,000	--	3,400	410,000	--	1,400
		Hexane	3,900,000	--	2,000	5,600,000	--	2,300	4,000,000	--	2,800	3,100,000	--	1,100
		Isopropyl Alcohol	17,000	--	7,200	42,000	--	8,200	22,000	--	7,200	50,000	--	2,600
		m- & p-Xylenes	410,000	--	2,500	1,200,000	--	2,900	910,000	--	3,400	1,100,000	--	1,400
		Methylene Chloride	ND	U	10,000	ND	U	12,000	ND	U	10,000	ND	U	3,700
		Naphthalene	ND	U	2,000	ND	U	2,300	ND	U	2,000	ND	UJ	5,600
		n-Heptane	5,400,000	--	2,400	9,600,000	J	2,700	7,600,000	--	3,200	8,100,000	J	1,300
		o-Xylene	96,000	--	2,500	310,000	--	2,900	230,000	--	3,400	280,000	--	1,400
		Propylene (Propene)	ND	U	5,000	ND	U	5,700	ND	U	5,000	110,000	--	1,800
		Styrene	ND	U	2,500	ND	U	2,800	ND	U	3,300	ND	U	1,400
		Tetrachloroethene	ND	U	3,900	ND	U	4,500	ND	U	5,300	ND	U	2,200
		Tetrahydrofuran	ND	U	1,700	ND	U	2,000	ND	U	2,300	ND	U	940
		Toluene	3,400,000	--	2,200	6,500,000	--	2,500	5,300,000	--	3,000	6,400,000	--	4,000
		Trichloroethene	ND	U	3,100	ND	U	3,600	ND	U	4,200	ND	U	1,700
		Trichlorofluoromethane	ND	U	3,300	ND	U	3,700	ND	U	4,400	ND	U	1,800
		Vinyl Chloride	ND	U	1,500	ND	U	1,700	ND	U	2,000	ND	U	810
		Xylenes, Total	500,000	--	4,200	1,500,000	--	4,800	1,100,000	--	8,500	1,400,000	--	2,300

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-252			KAFB-106V1-252			KAFB-106V1-252			KAFB-106V1-263		
			Field Sample ID:			KAFB-106V1 252.1			KAFB-106V1 252			KAFB-106V1-252			KAFB-106V1 262.6		
			Sample Date:			10/31/2019			11/5/2019			1/13/2020			4/10/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	96,000,000	--	200,000	140,000,000	--	180,000	100,000,000	--	320,000	160,000,000	--	350,000			
Fixed Gases	Method D1945 (%)	Butane	0.00017	J	0.00021	0.000062	J	0.00024	ND	U	0.00017	0.0054	--	0.00023			
		Carbon Dioxide	0.2	--	0.0093	0.17	--	0.011	0.41	--	0.0094	11	--	0.01			
		Carbon Monoxide	ND	U	0.0093	ND	U	0.011	ND	U	0.0094	0.013	J	0.01			
		Ethane	ND	U	0.00021	ND	U	0.00024	ND	U	0.00017	0.0065	--	0.00023			
		Hydrogen	ND	U	0.012	ND	U	0.014	ND	U	0.012	ND	U	0.013			
		Methane	0.00018	J	0.000097	0.000094	J	0.00011	0.00034	--	0.000098	0.007	--	0.00011			
		Nitrogen (Ammonia As N)	79	--	0.13	78	--	0.15	78	--	0.13	88	--	0.14			
		Oxygen	20	--	0.036	20	--	0.041	20	--	0.036	1.4	--	0.038			
		Pentane	0.044	--	0.00021	0.038	--	0.00024	0.0017	J	0.00017	0.059	--	0.00023			
		Propane	ND	U	0.00021	ND	U	0.00024	ND	U	0.00017	0.0071	--	0.00023			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-263			KAFB-106V1-263			KAFB-106V1-263			KAFB-106V1-263		
		Field Sample ID:	KAFB-106V1 262.6			KAFB-106V1 262.6			KAFB-106V1 262.6			KAFB-106V1 262.6		
		Sample Date:	5/9/2019			7/5/2019			10/15/2019			10/22/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	5,000	ND	U	3,400	ND	U	9,200	ND	U	10,000
		1,1-Dichloroethane	ND	U	2,600	ND	U	1,800	ND	U	4,900	ND	U	5,600
		1,2,4-Trichlorobenzene	ND	U	16,000	ND	U	11,000	ND	U	45,000	ND	U	51,000
		1,2,4-Trimethylbenzene	52,000	--	3,200	110,000	J	2,200	110,000	--	5,900	80,000	--	6,800
		1,2-Dibromoethane	15,000	--	5,000	24,000	J	3,400	25,000	--	9,300	39,000	--	11,000
		1,2-Dichlorobenzene	ND	U	3,900	ND	U	2,700	ND	U	7,200	ND	U	8,300
		1,3,5-Trimethylbenzene	20,000	--	3,200	42,000	J	2,200	45,000	--	5,900	36,000	--	6,800
		1,3-Butadiene	ND	U	1,400	ND	U	1,000	ND	U	2,700	ND	U	3,000
		1,4-Dioxane	ND	U	7,800	ND	U	5,400	ND	U	22,000	ND	U	25,000
		2-Butanone	430,000	--	6,400	540,000	J	4,400	580,000	--	18,000	890,000	--	20,000
		2-Hexanone	31,000	--	8,900	ND	U	6,100	39,000	--	25,000	37,000	J	28,000
		4-Methyl-2-Pentanone	21,000	--	2,700	ND	U	1,800	ND	U	4,900	ND	U	5,600
		Acetone	1,800,000	--	5,200	2,200,000	J	3,600	2,100,000	--	14,000	3,200,000	--	16,000
		Benzene	840,000	--	2,100	780,000	J	1,900	1,100,000	--	3,800	2,000,000	--	4,400
		Bromodichloromethane	ND	U	4,400	ND	U	3,000	ND	U	8,100	ND	U	9,200
		Bromoform	ND	U	6,800	ND	U	4,600	ND	U	12,000	ND	U	14,000
		Carbon Disulfide	ND	U	6,800	ND	U	4,700	ND	U	19,000	ND	U	21,000
		Carbon Tetrachloride	ND	U	4,100	ND	U	2,800	ND	U	7,600	ND	U	8,700
		Chloroethane	ND	U	5,800	ND	U	4,000	ND	U	16,000	ND	UJ	18,000
		Chloroform	ND	U	3,200	ND	U	2,200	ND	U	5,900	ND	U	6,700
		Chloromethane	ND	U	4,500	ND	U	3,100	ND	U	12,000	ND	U	14,000
		Cyclohexane	2,900,000	--	2,200	3,400,000	J	1,500	4,100,000	--	4,200	6,600,000	--	4,800
		Dibromochloromethane	ND	U	5,600	ND	U	3,800	ND	U	10,000	ND	U	12,000
		Dichlorodifluoromethane	ND	U	3,200	ND	U	2,200	ND	U	6,000	ND	U	6,800
		Ethanol	12,000	--	4,100	16,000	J	2,800	20,000	--	11,000	14,000	J	13,000
		Ethyl Acetate	ND	U	16,000	ND	U	7,200	ND	U	29,000	ND	U	33,000
		Ethylbenzene	320,000	--	2,800	460,000	J	2,000	470,000	--	5,200	690,000	--	6,000
		Hexane	2,800,000	--	2,300	3,300,000	J	1,600	3,700,000	--	4,200	6,000,000	--	4,900
		Isopropyl Alcohol	48,000	--	5,400	51,000	J	3,700	56,000	--	15,000	55,000	--	17,000
		m- & p-Xylenes	860,000	--	2,800	1,200,000	J	2,000	1,300,000	--	5,200	1,800,000	--	6,000
		Methylene Chloride	ND	U	7,600	ND	U	5,200	8,300	J	21,000	ND	U	24,000
		Naphthalene	ND	UJ	5,700	ND	U	5,200	ND	U	4,200	ND	U	4,800
		n-Heptane	7,000,000	--	2,700	6,100,000	J	1,800	9,000,000	--	4,900	15,000,000	--	5,600
		o-Xylene	220,000	--	2,800	330,000	J	2,000	330,000	--	5,200	430,000	--	6,000
		Propylene (Propene)	88,000	--	3,800	72,000	J	2,600	22,000	--	10,000	ND	U	12,000
		Styrene	ND	U	2,800	ND	U	1,900	ND	U	5,100	ND	U	5,900
		Tetrachloroethene	ND	U	4,400	ND	U	3,000	34,000	--	8,200	ND	U	9,400
		Tetrahydrofuran	ND	U	1,900	ND	U	1,300	ND	U	3,600	ND	UJ	4,100
		Toluene	4,700,000	J	2,500	5,500,000	J	2,300	6,700,000	--	4,500	12,000,000	--	5,200
		Trichloroethene	ND	U	3,500	ND	U	2,400	ND	U	6,500	ND	U	7,400
		Trichlorofluoromethane	ND	U	3,700	ND	U	2,500	ND	U	6,800	ND	U	7,800
		Vinyl Chloride	ND	U	1,700	ND	U	1,200	ND	U	3,100	ND	U	3,500
		Xylenes, Total	1,100,000	--	4,700	1,500,000	J	2,200	1,600,000	--	8,700	2,200,000	--	10,000

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-263			KAFB-106V1-263			KAFB-106V1-263			KAFB-106V1-263		
			Field Sample ID:			KAFB-106V1 262.6			KAFB-106V1 262.6			KAFB-106V1 262.6			KAFB-106V1 262.6		
			Sample Date:			5/9/2019			7/5/2019			10/15/2019			10/22/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	160,000,000	--	180,000	150,000,000	--	160,000	150,000,000	--	160,000	150,000,000	--	240,000			
Fixed Gases	Method D1945 (%)	Butane	0.0058	--	0.00024	0.0046	--	2,200	0.0036	--	0.00022	0.0022	J	0.00025			
		Carbon Dioxide	8	--	0.01	5.4	--	0.0096	1.4	--	0.0096	0.39	--	0.011			
		Carbon Monoxide	0.011	J	0.01	ND	U	0.0096	ND	U	0.0096	ND	U	0.011			
		Ethane	0.0046	--	0.00024	0.0023	--	2,200	0.0002	J	0.00022	ND	U	0.00025			
		Hydrogen	ND	U	0.014	ND	U	0.012	ND	U	0.012	ND	U	0.014			
		Methane	0.0039	--	0.00011	0.0021	--	0.0001	0.0003	--	0.0001	0.00013	J	0.00012			
		Nitrogen (Ammonia As N)	80	--	0.15	80	--	0.14	79	--	0.14	78	--	0.16			
		Oxygen	10	--	0.04	13	--	0.037	18	--	0.037	20	--	0.043			
		Pentane	0.064	--	0.00024	0.059	--	0.00022	0.056	--	0.00022	0.06	--	0.00025			
		Propane	0.0066	--	0.00024	0.0042	--	0.00022	0.0011	J	0.00022	0.00015	J	0.00025			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V1-263			KAFB-106V1-263			KAFB-106V1-263			KAFB-106V2-102		
		Field Sample ID:	KAFB-106V1 262.6			KAFB-106V1 263			KAFB-106V1-263			KAFB-106V2 102.2		
		Sample Date:	10/31/2019			11/5/2019			1/13/2020			4/11/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	3,900	ND	U	4,900	ND	U	10,000	ND	U	2,200
		1,1-Dichloroethane	ND	U	2,100	ND	U	2,600	ND	U	5,400	ND	U	1,200
		1,2,4-Trichlorobenzene	ND	U	19,000	ND	U	24,000	ND	U	37,000	ND	U	7,200
		1,2,4-Trimethylbenzene	5,700	--	2,500	57,000	--	3,100	34,000	--	6,600	23,000	J	1,400
		1,2-Dibromoethane	7,900	--	3,900	32,000	--	4,900	20,000	--	10,000	20,000	J	2,200
		1,2-Dichlorobenzene	ND	U	3,100	ND	U	3,800	ND	U	8,000	ND	U	1,700
		1,3,5-Trimethylbenzene	2,800	J	2,500	25,000	--	3,100	16,000	--	6,600	12,000	J	1,400
		1,3-Butadiene	ND	U	1,100	ND	U	1,400	ND	U	3,000	ND	U	640
		1,4-Dioxane	ND	U	9,200	ND	U	12,000	ND	U	18,000	ND	U	3,500
		2-Butanone	340,000	--	7,500	680,000	J	9,400	540,000	--	15,000	610,000	J	2,900
		2-Hexanone	14,000	--	10,000	ND	U	13,000	ND	U	20,000	ND	U	4,000
		4-Methyl-2-Pentanone	12,000	--	2,100	ND	U	2,600	ND	U	5,500	ND	U	1,200
		Acetone	1,400,000	--	6,000	2,800,000	--	7,600	2,400,000	--	12,000	3,500,000	J	2,300
		Benzene	630,000	--	1,600	1,400,000	--	2,000	1,100,000	--	4,300	2,100,000	J	930
		Bromodichloromethane	ND	U	3,400	ND	U	4,300	ND	U	9,000	ND	U	1,900
		Bromoform	ND	U	5,300	ND	U	6,600	ND	U	14,000	ND	U	3,000
		Carbon Disulfide	ND	U	7,900	ND	U	9,900	ND	U	16,000	ND	U	3,000
		Carbon Tetrachloride	ND	U	3,200	ND	U	4,000	ND	U	8,400	ND	U	1,800
		Chloroethane	ND	U	6,700	ND	U	8,400	ND	U	13,000	ND	U	2,600
		Chloroform	ND	U	2,500	ND	U	3,100	ND	U	6,500	ND	U	1,400
		Chloromethane	ND	U	5,300	ND	U	6,600	ND	U	10,000	ND	U	2,000
		Cyclohexane	2,200,000	--	1,800	4,900,000	--	2,200	3,800,000	--	4,600	7,000,000	J	1,000
		Dibromochloromethane	ND	U	4,300	ND	U	5,400	ND	U	11,000	ND	U	2,500
		Dichlorodifluoromethane	ND	U	2,500	ND	U	3,200	ND	U	6,600	ND	U	1,400
		Ethanol	7,400	--	4,800	15,000	--	6,000	19,000	--	9,500	41,000	J	1,800
		Ethyl Acetate	ND	U	12,000	ND	U	15,000	ND	U	24,000	ND	U	7,000
		Ethylbenzene	91,000	--	2,200	480,000	--	2,800	350,000	--	5,800	280,000	J	1,300
		Hexane	2,400,000	--	1,800	5,200,000	--	2,200	3,800,000	--	4,700	8,300,000	J	1,000
		Isopropyl Alcohol	28,000	--	6,300	ND	U	7,800	50,000	--	12,000	260,000	J	2,400
		m- & p-Xylenes	210,000	--	2,200	1,200,000	--	2,800	910,000	--	5,800	710,000	J	1,300
		Methylene Chloride	ND	U	8,800	ND	U	11,000	ND	U	17,000	ND	U	3,400
		Naphthalene	ND	U	1,800	ND	U	2,200	ND	U	3,500	ND	UJ	5,100
		n-Heptane	3,900,000	--	2,100	11,000,000	J	2,600	7,300,000	--	5,500	7,200,000	J	1,200
		o-Xylene	48,000	--	2,200	300,000	--	2,800	230,000	--	5,800	180,000	J	1,300
		Propylene (Propene)	ND	U	4,400	ND	U	5,500	ND	U	8,600	33,000	J	1,700
		Styrene	ND	U	2,200	ND	U	2,700	ND	U	5,700	ND	U	1,200
		Tetrachloroethene	ND	U	3,400	ND	U	4,300	ND	U	9,100	ND	U	2,000
		Tetrahydrofuran	ND	U	1,500	ND	U	1,900	ND	U	4,000	ND	U	860
		Toluene	2,500,000	--	1,900	7,800,000	--	2,400	5,600,000	--	5,000	5,100,000	--	2,200
		Trichloroethene	ND	U	2,700	ND	U	3,400	ND	U	7,200	ND	U	1,600
		Trichlorofluoromethane	ND	U	2,900	ND	U	3,600	ND	U	7,500	ND	U	1,600
		Vinyl Chloride	ND	U	1,300	ND	U	1,600	ND	U	3,400	ND	U	740
		Xylenes, Total	260,000	--	3,700	1,500,000	--	4,600	1,100,000	--	14,000	890,000	J	2,100

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V1-263			KAFB-106V1-263			KAFB-106V1-263			KAFB-106V2-102		
			Field Sample ID:			KAFB-106V1 262.6			KAFB-106V1 263			KAFB-106V1-263			KAFB-106V2 102.2		
			Sample Date:			10/31/2019			11/5/2019			1/13/2020			4/11/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	110,000,000	--	220,000	160,000,000	--	170,000	110,000,000	--	330,000	370,000,000	--	320,000			
Fixed Gases	Method D1945 (%)	Butane	0.00064	J	0.00037	0.00031	J	0.00023	0.00053	J	0.00017	0.0095	--	0.00021			
		Carbon Dioxide	0.24	--	0.016	0.2	--	0.01	0.34	--	0.0096	13	--	0.0093			
		Carbon Monoxide	ND	U	0.016	ND	U	0.01	ND	U	0.0096	ND	U	0.0093			
		Ethane	ND	U	0.00037	ND	U	0.00023	0.0002	J	0.00017	0.0029	--	0.00021			
		Hydrogen	ND	U	0.021	ND	U	0.013	ND	U	0.012	ND	U	0.012			
		Methane	ND	U	0.00017	0.00012	J	0.00011	0.00028	--	0.0001	0.021	--	9.7E-05			
		Nitrogen (Ammonia As N)	78	--	0.23	78	--	0.14	79	--	0.14	84	--	0.13			
		Oxygen	20	--	0.063	20	--	0.039	20	--	0.037	1.2	--	0.036			
		Pentane	0.052	--	0.00037	0.05	--	0.00023	0.0058	--	0.00017	0.21	--	0.00021			
		Propane	ND	U	0.00037	ND	U	0.00023	0.0003	J	0.00017	0.0015	J	0.00021			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-102			KAFB-106V2-102			KAFB-106V2-102			KAFB-106V2-102		
		Field Sample ID:	KAFB-106V2 102.2			KAFB-106V2 102.2			KAFB-106V2 102.2			KAFB-106V2 102.2		
		Sample Date:	5/9/2019			7/5/2019			10/15/2019			10/22/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	4,900	ND	U	3,800	ND	U	12,000	ND	U	7,000
		1,1-Dichloroethane	ND	U	2,600	ND	U	2,000	ND	U	6,100	ND	U	3,700
		1,2,4-Trichlorobenzene	ND	U	16,000	ND	U	12,000	ND	U	56,000	ND	U	34,000
		1,2,4-Trimethylbenzene	64,000	--	3,200	150,000	J	2,400	170,000	J	7,400	54,000	J	4,500
		1,2-Dibromoethane	15,000	--	5,000	24,000	J	3,800	37,000	J	12,000	25,000	J	7,000
		1,2-Dichlorobenzene	ND	U	3,900	ND	U	2,900	ND	U	9,000	ND	U	5,500
		1,3,5-Trimethylbenzene	29,000	--	3,200	57,000	J	2,400	68,000	J	7,400	27,000	J	4,500
		1,3-Butadiene	ND	U	1,400	ND	U	1,100	ND	U	3,300	ND	U	2,000
		1,4-Dioxane	ND	U	7,700	ND	U	5,900	ND	U	27,000	ND	U	16,000
		2-Butanone	630,000	--	6,300	880,000	J	4,800	1,200,000	J	22,000	930,000	J	13,000
		2-Hexanone	16,000	J	8,800	ND	U	6,700	ND	U	31,000	ND	U	19,000
		4-Methyl-2-Pentanone	26,000	--	2,600	ND	U	2,000	32,000	J	6,200	ND	U	3,700
		Acetone	4,200,000	--	5,100	5,900,000	J	3,900	6,400,000	J	18,000	5,400,000	J	11,000
		Benzene	1,800,000	--	2,100	1,800,000	--	2,100	3,200,000	J	4,800	2,900,000	J	2,900
		Bromodichloromethane	ND	U	4,300	ND	U	3,300	ND	U	10,000	ND	U	6,100
		Bromoform	ND	U	6,700	ND	U	5,100	ND	U	16,000	ND	U	9,400
		Carbon Disulfide	ND	U	6,700	ND	U	5,100	ND	U	23,000	ND	U	14,000
		Carbon Tetrachloride	ND	U	4,000	ND	U	3,100	ND	U	9,500	ND	U	5,800
		Chloroethane	ND	U	5,700	ND	U	4,300	ND	U	20,000	ND	UJ	12,000
		Chloroform	ND	U	3,100	ND	U	2,400	ND	U	7,400	ND	U	4,500
		Chloromethane	ND	U	4,400	ND	U	3,400	ND	U	16,000	ND	U	9,400
		Cyclohexane	6,000,000	--	2,200	6,100,000	J	1,700	10,000,000	J	5,200	8,800,000	J	3,100
		Dibromochloromethane	ND	U	5,500	ND	U	4,200	ND	U	13,000	ND	U	7,800
		Dichlorodifluoromethane	ND	U	3,200	ND	U	2,400	ND	U	7,400	ND	U	4,500
		Ethanol	49,000	--	4,000	67,000	J	3,100	62,000	J	14,000	27,000	J	8,600
		Ethyl Acetate	ND	U	15,000	ND	U	7,800	ND	U	36,000	ND	U	22,000
		Ethylbenzene	330,000	--	2,800	440,000	J	2,100	630,000	J	6,500	420,000	J	4,000
		Hexane	6,700,000	--	2,300	5,600,000	J	1,700	10,000,000	J	5,300	9,300,000	J	3,200
		Isopropyl Alcohol	300,000	--	5,300	340,000	J	4,000	400,000	J	18,000	240,000	J	11,000
		m- & p-Xylenes	820,000	--	2,800	1,100,000	J	2,100	1,600,000	J	6,500	1,000,000	J	4,000
		Methylene Chloride	ND	U	7,500	ND	U	5,700	ND	U	26,000	ND	U	16,000
		Naphthalene	ND	UJ	5,700	ND	U	5,700	ND	U	5,300	ND	U	3,200
		n-Heptane	6,600,000	--	2,600	6,200,000	J	2,000	12,000,000	J	6,200	9,900,000	J	3,700
		o-Xylene	230,000	--	2,800	330,000	J	2,100	450,000	J	6,500	270,000	J	4,000
		Propylene (Propene)	20,000	--	3,700	27,000	J	2,800	30,000	J	13,000	26,000	J	7,900
		Styrene	ND	U	2,700	ND	U	2,100	ND	U	6,400	ND	U	3,900
		Tetrachloroethene	ND	U	4,400	ND	U	3,300	83,000	J	10,000	ND	U	6,200
		Tetrahydrofuran	ND	U	1,900	ND	U	1,400	ND	U	4,400	ND	UJ	2,700
		Toluene	4,400,000	J	2,400	4,500,000	J	2,400	8,700,000	J	5,700	7,500,000	J	3,400
		Trichloroethene	ND	U	3,500	ND	U	2,600	4,300	J	8,100	ND	U	4,900
		Trichlorofluoromethane	ND	U	3,600	ND	U	2,800	ND	U	8,500	ND	U	5,100
		Vinyl Chloride	ND	U	1,600	ND	U	1,200	ND	U	3,800	ND	U	2,300
		Xylenes, Total	1,000,000	--	4,700	1,400,000	J	2,400	2,000,000	J	11,000	1,300,000	J	6,600

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-102			KAFB-106V2-102			KAFB-106V2-102			KAFB-106V2-102		
			Field Sample ID:			KAFB-106V2 102.2			KAFB-106V2 102.2			KAFB-106V2 102.2			KAFB-106V2 102.2		
			Sample Date:			5/9/2019			7/5/2019			10/15/2019			10/22/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	210,000,000	--	180,000	200,000,000	--	180,000	170,000,000	--	200,000	210,000,000	--	400,000			
Fixed Gases	Method D1945 (%)	Butane	0.0056	--	0.00024	0.004	--	2,400	0.0035	--	0.00028	0.0034	--	0.00027			
		Carbon Dioxide	11	--	0.01	11	--	0.01	10	--	0.012	6.5	--	0.012			
		Carbon Monoxide	ND	U	0.01	ND	U	0.01	ND	U	0.012	ND	U	0.012			
		Ethane	0.0022	--	0.00024	0.0024	--	2,400	0.0021	J	0.00028	0.0013	J	0.00027			
		Hydrogen	ND	U	0.013	ND	U	0.013	ND	U	0.016	ND	U	0.015			
		Methane	0.018	--	0.00011	0.021	--	0.00011	0.015	--	0.00012	0.007	--	0.00012			
		Nitrogen (Ammonia As N)	82	--	0.14	82	--	0.15	81	--	0.17	78	--	0.16			
		Oxygen	4.3	--	0.04	4.6	--	0.04	5.9	--	0.046	13	--	0.045			
		Pentane	0.15	--	0.00024	0.096	--	0.00024	0.099	--	0.00028	0.082	--	0.00027			
		Propane	0.0012	J	0.00024	0.0014	J	0.00024	0.0011	J	0.00028	0.001	J	0.00027			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-102			KAFB-106V2-102			KAFB-106V2-102			KAFB-106V2-117		
		Field Sample ID:	KAFB-106V2 102.2			KAFB-106V2 102			KAFB-106V2-102			KAFB-106V2 117.1		
		Sample Date:	10/31/2019			11/5/2019			1/13/2020			4/11/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	8,900	ND	U	9,600	ND	U	15,000	ND	U	2,200
		1,1-Dichloroethane	ND	U	4,700	ND	U	5,100	ND	U	7,900	ND	U	1,200
		1,2,4-Trichlorobenzene	ND	U	43,000	ND	U	47,000	ND	U	54,000	ND	U	7,200
		1,2,4-Trimethylbenzene	6,900	J	5,700	79,000	--	6,200	25,000	--	9,600	6,500	--	1,400
		1,2-Dibromoethane	12,000	J	8,900	32,000	--	9,700	17,000	J	15,000	9,700	--	2,200
		1,2-Dichlorobenzene	ND	U	7,000	ND	U	7,600	ND	U	12,000	ND	U	1,700
		1,3,5-Trimethylbenzene	3,300	J	5,700	36,000	--	6,200	ND	U	9,600	3,900	--	1,400
		1,3-Butadiene	ND	U	2,600	ND	U	2,800	ND	U	4,300	ND	U	640
		1,4-Dioxane	ND	U	21,000	ND	U	23,000	ND	U	26,000	ND	U	3,500
		2-Butanone	810,000	--	17,000	1,200,000	J	18,000	790,000	--	22,000	270,000	--	2,800
		2-Hexanone	ND	U	24,000	ND	U	26,000	ND	U	30,000	ND	U	4,000
		4-Methyl-2-Pentanone	18,000	--	4,700	ND	U	5,200	ND	U	8,000	ND	U	1,200
		Acetone	5,400,000	--	14,000	8,100,000	--	15,000	5,400,000	--	17,000	1,500,000	--	2,300
		Benzene	2,200,000	--	3,700	3,200,000	--	4,000	2,000,000	--	6,300	1,800,000	--	920
		Bromodichloromethane	ND	U	7,800	ND	U	8,400	ND	U	13,000	ND	U	1,900
		Bromoform	ND	U	12,000	ND	U	13,000	ND	U	20,000	ND	U	3,000
		Carbon Disulfide	ND	U	18,000	ND	U	20,000	ND	U	23,000	ND	U	3,000
		Carbon Tetrachloride	ND	U	7,300	ND	U	7,900	ND	U	12,000	ND	U	1,800
		Chloroethane	ND	U	15,000	ND	U	17,000	ND	U	19,000	ND	U	2,500
		Chloroform	ND	U	5,600	ND	U	6,200	ND	U	9,600	ND	U	1,400
		Chloromethane	ND	U	12,000	ND	U	13,000	ND	U	15,000	ND	U	2,000
		Cyclohexane	6,600,000	--	4,000	10,000,000	--	4,300	6,100,000	--	6,700	5,600,000	J	1,000
		Dibromochloromethane	ND	U	9,900	ND	U	11,000	ND	U	17,000	ND	U	2,500
		Dichlorodifluoromethane	ND	U	5,700	ND	U	6,200	ND	U	9,700	ND	U	1,400
		Ethanol	24,000	--	11,000	80,000	--	12,000	55,000	--	14,000	11,000	--	1,800
		Ethyl Acetate	ND	U	28,000	ND	U	30,000	ND	U	35,000	ND	U	7,000
		Ethylbenzene	120,000	--	5,000	520,000	--	5,500	230,000	--	8,500	390,000	--	1,200
		Hexane	8,600,000	--	4,100	13,000,000	--	4,400	7,600,000	--	6,900	7,100,000	J	1,000
		Isopropyl Alcohol	220,000	--	14,000	510,000	--	15,000	320,000	--	18,000	65,000	--	2,400
		m- & p-Xylenes	270,000	--	5,000	1,300,000	--	5,500	520,000	--	8,500	970,000	--	1,200
		Methylene Chloride	ND	U	20,000	ND	U	22,000	ND	U	26,000	ND	U	3,400
		Naphthalene	ND	U	4,000	ND	U	4,400	ND	U	5,100	ND	UJ	5,000
		n-Heptane	5,800,000	--	4,700	11,000,000	--	5,200	5,500,000	--	8,000	5,100,000	J	1,200
		o-Xylene	65,000	--	5,000	340,000	--	5,500	130,000	--	8,500	230,000	--	1,200
		Propylene (Propene)	20,000	--	10,000	18,000	--	11,000	ND	U	13,000	30,000	--	1,700
		Styrene	ND	U	4,900	ND	U	5,400	ND	U	8,300	ND	U	1,200
		Tetrachloroethene	ND	U	7,800	ND	U	8,500	ND	U	13,000	ND	U	2,000
		Tetrahydrofuran	ND	U	3,400	ND	U	3,700	ND	U	5,800	ND	U	850
		Toluene	3,700,000	--	4,400	7,800,000	--	4,700	4,100,000	--	7,400	3,300,000	--	1,100
		Trichloroethene	ND	U	6,200	ND	U	6,800	ND	U	10,000	ND	U	1,600
		Trichlorofluoromethane	ND	U	6,500	ND	U	7,100	ND	U	11,000	ND	U	1,600
		Vinyl Chloride	ND	U	3,000	ND	U	3,200	ND	U	5,000	ND	U	740
		Xylenes, Total	340,000	--	8,400	1,600,000	--	9,100	660,000	--	21,000	1,200,000	--	2,100

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-102			KAFB-106V2-102			KAFB-106V2-102			KAFB-106V2-117		
			Field Sample ID:			KAFB-106V2 102.2			KAFB-106V2 102			KAFB-106V2-102			KAFB-106V2 117.1		
			Sample Date:			10/31/2019			11/5/2019			1/13/2020			4/11/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	140,000,000	--	250,000	220,000,000	--	170,000	200,000,000	--	320,000	180,000,000	--	320,000			
Fixed Gases	Method D1945 (%)	Butane	0.0034	--	0.00021	0.0035	--	0.00023	0.0022	--	0.00017	0.0093	--	0.00021			
		Carbon Dioxide	4	--	0.0093	3.4	--	0.01	1.5	--	0.0094	13	--	0.0093			
		Carbon Monoxide	ND	U	0.0093	ND	U	0.01	ND	U	0.0094	ND	U	0.0093			
		Ethane	0.00074	J	0.00021	0.00059	J	0.00023	0.00018	J	0.00017	0.0028	--	0.00021			
		Hydrogen	ND	U	0.012	ND	U	0.013	ND	U	0.012	ND	U	0.012			
		Methane	0.0039	--	0.000096	0.0036	--	0.0001	0.0012	--	0.000098	0.02	--	9.6E-05			
		Nitrogen (Ammonia As N)	77	--	0.13	77	--	0.14	78	--	0.13	84	--	0.13			
		Oxygen	17	--	0.036	17	--	0.039	19	--	0.036	1.3	--	0.036			
		Pentane	0.083	--	0.00021	0.088	--	0.00023	0.094	--	0.00017	0.21	--	0.00021			
		Propane	0.00085	J	0.00021	0.00077	J	0.00023	0.00021	J	0.00017	0.0014	J	0.00021			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117		
		Field Sample ID:	KAFB-106V2 117.1 DUP			KAFB-106V2 117.1			KAFB-106V2 117.1 DUP			KAFB-106V2 117.1		
		Sample Date:	4/11/2019			5/9/2019			5/9/2019			7/5/2019		
		Sample Type:	Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	2,200	ND	U	9,200	ND	U	8,200	ND	U	3,600
		1,1-Dichloroethane	ND	U	1,200	ND	U	4,800	ND	U	4,300	ND	U	1,900
		1,2,4-Trichlorobenzene	ND	U	7,200	ND	U	30,000	ND	U	26,000	ND	U	11,000
		1,2,4-Trimethylbenzene	5,600	--	1,400	140,000	--	5,900	130,000	--	5,300	240,000	J	2,300
		1,2-Dibromoethane	8,800	--	2,200	9,900	J	9,200	8,900	J	8,200	17,000	J	3,600
		1,2-Dichlorobenzene	ND	U	1,800	ND	U	7,200	ND	U	6,400	ND	U	2,800
		1,3,5-Trimethylbenzene	3,400	--	1,400	60,000	--	5,900	61,000	--	5,300	90,000	J	2,300
		1,3-Butadiene	ND	U	650	ND	U	2,600	ND	U	2,400	ND	U	1,000
		1,4-Dioxane	ND	U	3,500	ND	U	14,000	ND	U	13,000	ND	U	5,600
		2-Butanone	260,000	--	2,900	350,000	--	12,000	340,000	--	10,000	710,000	J	4,600
		2-Hexanone	ND	U	4,000	ND	U	16,000	ND	U	15,000	ND	U	6,300
		4-Methyl-2-Pentanone	ND	U	1,200	14,000	--	4,900	15,000	--	4,400	ND	U	1,900
		Acetone	1,400,000	--	2,300	2,200,000	--	9,500	2,100,000	--	8,500	4,000,000	J	3,700
		Benzene	1,700,000	--	930	2,100,000	--	3,800	2,000,000	--	3,400	2,300,000	J	2,000
		Bromodichloromethane	ND	U	2,000	ND	U	8,000	ND	U	7,200	ND	U	3,100
		Bromoform	ND	U	3,000	ND	U	12,000	ND	U	11,000	ND	U	4,800
		Carbon Disulfide	ND	U	3,000	ND	U	12,000	ND	U	11,000	1,700	J	4,800
		Carbon Tetrachloride	ND	U	1,800	ND	U	7,600	ND	U	6,700	ND	U	2,900
		Chloroethane	ND	U	2,600	ND	U	10,000	ND	U	9,400	ND	U	4,100
		Chloroform	ND	U	1,400	ND	U	5,800	ND	U	5,200	ND	U	2,300
		Chloromethane	ND	U	2,000	ND	U	8,300	ND	U	7,400	ND	U	3,200
		Cyclohexane	5,400,000	J	1,000	6,100,000	--	4,100	6,100,000	--	3,700	6,000,000	J	1,600
		Dibromochloromethane	ND	U	2,500	ND	U	10,000	ND	U	9,100	ND	U	3,900
		Dichlorodifluoromethane	ND	U	1,400	ND	U	5,900	ND	U	5,300	ND	U	2,300
		Ethanol	9,600	--	1,800	11,000	J	7,500	11,000	J	6,700	8,200	J	2,900
		Ethyl Acetate	ND	U	7,000	ND	U	29,000	ND	U	26,000	ND	U	7,400
		Ethylbenzene	330,000	--	1,300	350,000	--	5,200	320,000	--	4,600	430,000	J	2,000
		Hexane	7,000,000	J	1,000	7,700,000	--	4,200	7,700,000	--	3,800	5,500,000	J	1,600
		Isopropyl Alcohol	62,000	--	2,400	75,000	--	9,800	70,000	--	8,800	90,000	J	3,800
		m- & p-Xylenes	870,000	--	1,300	1,200,000	--	5,200	1,000,000	--	4,600	1,200,000	J	2,000
		Methylene Chloride	ND	U	3,400	ND	U	14,000	ND	U	12,000	ND	U	5,400
		Naphthalene	ND	UJ	5,100	ND	UJ	6,300	ND	UJ	5,600	ND	U	5,400
		n-Heptane	4,900,000	J	1,200	5,900,000	--	4,900	5,700,000	--	4,400	6,000,000	J	1,900
		o-Xylene	210,000	--	1,300	390,000	--	5,200	340,000	--	4,600	380,000	J	2,000
		Propylene (Propene)	32,000	--	1,700	21,000	--	6,900	20,000	--	6,100	29,000	J	2,600
		Styrene	ND	U	1,200	ND	U	5,100	ND	U	4,600	ND	U	2,000
		Tetrachloroethene	ND	U	2,000	ND	U	8,100	ND	U	7,300	ND	U	3,100
		Tetrahydrofuran	ND	U	860	ND	U	3,500	ND	U	3,200	ND	U	1,400
		Toluene	3,000,000	--	1,100	3,900,000	J	4,500	3,800,000	J	4,000	5,200,000	J	2,300
		Trichloroethene	ND	U	1,600	ND	U	6,400	ND	U	5,800	ND	U	2,500
		Trichlorofluoromethane	ND	U	1,600	ND	U	6,700	ND	U	6,000	ND	U	2,600
		Vinyl Chloride	ND	U	750	ND	U	3,100	ND	U	2,700	ND	U	1,200
		Xylenes, Total	1,100,000	--	2,100	1,600,000	--	8,700	1,400,000	--	7,800	1,600,000	J	2,200

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117		
			Field Sample ID:			KAFB-106V2 117.1 DUP			KAFB-106V2 117.1			KAFB-106V2 117.1 DUP			KAFB-106V2 117.1		
			Sample Date:			4/11/2019			5/9/2019			5/9/2019			7/5/2019		
			Sample Type:			Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	170,000,000	--	320,000	210,000,000	--	200,000	210,000,000	--	180,000	220,000,000	--	280,000			
Fixed Gases	Method D1945 (%)	Butane	0.0091	--	0.00021	0.0069	--	0.00026	0.0067	--	0.00024	0.0062	--	2,300			
		Carbon Dioxide	13	--	0.0094	9.7	--	0.012	9.6	--	0.01	11	--	0.0099			
		Carbon Monoxide	ND	U	0.0094	ND	U	0.012	ND	U	0.01	ND	U	0.0099			
		Ethane	0.0028	--	0.00021	0.0021	J	0.00026	0.002	J	0.00024	0.0026	--	2,300			
		Hydrogen	ND	U	0.012	ND	U	0.015	ND	U	0.013	ND	U	0.013			
		Methane	0.02	--	9.8E-05	0.017	--	0.00012	0.016	--	0.00011	0.021	--	0.0001			
		Nitrogen (Ammonia As N)	83	--	0.13	83	--	0.16	83	--	0.14	82	--	0.14			
		Oxygen	1.2	--	0.036	5.1	--	0.044	5.1	--	0.04	4.2	--	0.038			
		Pentane	0.22	--	0.00021	0.21	--	0.00026	0.2	--	0.00024	0.2	--	0.00023			
		Propane	0.0014	J	0.00021	0.0011	J	0.00026	0.0011	J	0.00024	0.0016	J	0.00023			

Table C-1
Summary of Soil Gas Analytical Results

Parameter	Location ID:		KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117		
	Field Sample ID:		KAFB-106V2 117.1 DUP			KAFB-106V2 117.1			KAFB-106V2 117.1 DUP			KAFB-106V2 117.1		
	Sample Date:		7/5/2019			10/15/2019			10/15/2019			10/22/2019		
	Sample Type:		Field Duplicate			REG			Field Duplicate			REG		
	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	3,600	ND	U	8,800	ND	U	9,000	ND	U	11,000
		1,1-Dichloroethane	ND	U	1,900	ND	U	4,600	ND	U	4,800	ND	U	5,600
		1,2,4-Trichlorobenzene	ND	U	11,000	ND	U	42,000	ND	U	44,000	ND	U	51,000
		1,2,4-Trimethylbenzene	240,000	J	2,300	150,000	J	5,600	160,000	J	5,800	69,000	--	6,800
		1,2-Dibromoethane	16,000	J	3,600	19,000	J	8,800	19,000	J	9,000	21,000	--	11,000
		1,2-Dichlorobenzene	ND	U	2,800	ND	U	6,900	ND	U	7,100	ND	U	8,300
		1,3,5-Trimethylbenzene	86,000	J	2,300	60,000	J	5,600	66,000	J	5,800	33,000	--	6,800
		1,3-Butadiene	ND	U	1,000	ND	U	2,500	ND	U	2,600	ND	U	3,100
		1,4-Dioxane	ND	U	5,600	ND	U	21,000	ND	U	21,000	ND	U	25,000
		2-Butanone	730,000	J	4,600	800,000	J	17,000	780,000	J	17,000	880,000	--	20,000
		2-Hexanone	ND	U	6,300	ND	U	23,000	ND	U	24,000	ND	U	28,000
		4-Methyl-2-Pentanone	ND	U	1,900	10,000	J	4,700	18,000	J	4,800	ND	U	5,700
		Acetone	4,100,000	J	3,700	3,800,000	J	14,000	3,700,000	J	14,000	4,200,000	--	16,000
		Benzene	2,200,000	--	2,000	3,600,000	J	3,700	3,700,000	J	3,800	3,900,000	--	4,400
		Bromodichloromethane	ND	U	3,100	ND	U	7,700	ND	U	7,900	ND	U	9,300
		Bromoform	ND	U	4,800	ND	U	12,000	ND	U	12,000	ND	U	14,000
		Carbon Disulfide	1,700	J	4,800	ND	U	18,000	ND	U	18,000	ND	U	22,000
		Carbon Tetrachloride	ND	U	2,900	ND	U	7,200	ND	U	7,400	ND	U	8,700
		Chloroethane	ND	U	4,100	ND	U	15,000	ND	U	16,000	ND	UJ	18,000
		Chloroform	ND	U	2,300	ND	U	5,600	ND	U	5,700	ND	U	6,800
		Chloromethane	ND	U	3,200	ND	U	12,000	ND	U	12,000	ND	U	14,000
		Cyclohexane	6,000,000	J	1,600	9,900,000	J	3,900	10,000,000	J	4,000	11,000,000	--	4,800
		Dibromochloromethane	ND	U	3,900	ND	U	9,800	ND	U	10,000	ND	U	12,000
		Dichlorodifluoromethane	ND	U	2,300	ND	U	5,700	ND	U	5,800	ND	U	6,800
		Ethanol	8,900	J	2,900	3,400	J	11,000	ND	U	11,000	ND	U	13,000
		Ethyl Acetate	ND	U	7,400	ND	U	28,000	ND	U	28,000	ND	U	33,000
		Ethylbenzene	440,000	J	2,000	540,000	J	5,000	530,000	J	5,100	450,000	--	6,000
		Hexane	5,900,000	J	1,600	12,000,000	J	4,000	12,000,000	J	4,100	12,000,000	--	4,900
		Isopropyl Alcohol	95,000	J	3,800	61,000	J	14,000	51,000	J	14,000	72,000	--	17,000
		m- & p-Xylenes	1,200,000	J	2,000	1,500,000	J	5,000	1,400,000	J	5,100	1,200,000	--	6,000
		Methylene Chloride	ND	U	5,400	ND	U	20,000	ND	U	20,000	ND	U	24,000
		Naphthalene	ND	U	5,400	ND	U	4,000	ND	U	4,100	ND	U	4,800
		n-Heptane	6,200,000	J	1,900	9,800,000	J	4,700	9,900,000	J	4,800	11,000,000	--	5,700
		o-Xylene	370,000	J	2,000	410,000	J	5,000	400,000	J	5,100	320,000	--	6,000
		Propylene (Propene)	29,000	J	2,600	29,000	J	9,900	26,000	J	10,000	30,000	--	12,000
		Styrene	ND	U	2,000	ND	U	4,900	ND	U	5,000	ND	U	5,900
		Tetrachloroethene	ND	U	3,100	64,000	J	7,800	38,000	J	8,000	ND	U	9,400
		Tetrahydrofuran	ND	U	1,400	ND	U	3,400	ND	U	3,500	ND	UJ	4,100
		Toluene	4,200,000	J	2,300	7,000,000	J	4,300	7,100,000	J	4,400	7,500,000	--	5,200
		Trichloroethene	ND	U	2,500	ND	U	6,200	ND	U	6,300	ND	U	7,400
		Trichlorofluoromethane	ND	U	2,600	ND	U	6,400	ND	U	6,600	ND	U	7,800
		Vinyl Chloride	ND	U	1,200	ND	U	2,900	ND	U	3,000	ND	U	3,500
		Xylenes, Total	1,500,000	J	2,200	1,900,000	J	8,300	1,800,000	J	8,500	1,500,000	--	10,000

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117		
			Field Sample ID:			KAFB-106V2 117.1 DUP			KAFB-106V2 117.1			KAFB-106V2 117.1 DUP			KAFB-106V2 117.1		
			Sample Date:			7/5/2019			10/15/2019			10/15/2019			10/22/2019		
			Sample Type:			Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	210,000,000	--	28,000	240,000,000	--	310,000	260,000,000	--	320,000	230,000,000	--	450,000			
Fixed Gases	Method D1945 (%)	Butane	0.006	--	2,300	0.006	--	0.00021	0.0062	--	0.00022	0.0046	--	0.0003			
		Carbon Dioxide	11	--	0.0099	11	--	0.0092	11	--	0.0094	7.9	--	0.013			
		Carbon Monoxide	ND	U	0.0099	ND	U	0.0092	ND	U	0.0094	ND	U	0.013			
		Ethane	0.0025	--	2,300	0.0024	--	0.00021	0.0025	--	0.00022	0.0016	J	0.0003			
		Hydrogen	ND	U	0.013	ND	U	0.012	ND	U	0.012	ND	U	0.017			
		Methane	0.02	--	0.0001	0.017	--	0.000096	0.018	--	0.000098	0.0087	--	0.00014			
		Nitrogen (Ammonia As N)	82	--	0.14	81	--	0.13	81	--	0.13	78	--	0.19			
		Oxygen	4.3	--	0.038	4.8	--	0.035	4.9	--	0.036	11	--	0.051			
		Pentane	0.18	--	0.00023	0.2	--	0.00021	0.23	--	0.00022	0.15	--	0.0003			
		Propane	0.0015	J	0.00023	0.0015	J	0.00021	0.0015	J	0.00022	0.0012	J	0.0003			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117		
		Field Sample ID:	KAFB-106V2 117.1 DUP			KAFB-106V2 117.1			KAFB-106V2 117.1 DUP			KAFB-106V2 117		
		Sample Date:	10/22/2019			10/31/2019			10/31/2019			11/5/2019		
		Sample Type:	Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	11,000	ND	U	8,700	ND	U	8,800	ND	U	11,000
		1,1-Dichloroethane	ND	U	5,600	ND	U	4,600	ND	U	4,600	ND	U	5,700
		1,2,4-Trichlorobenzene	ND	U	51,000	ND	U	42,000	ND	U	42,000	ND	U	52,000
		1,2,4-Trimethylbenzene	59,000	--	6,800	12,000	--	5,600	12,000	--	5,600	72,000	--	6,900
		1,2-Dibromoethane	19,000	--	11,000	9,000	J	8,800	11,000	J	8,800	21,000	--	11,000
		1,2-Dichlorobenzene	ND	U	8,300	ND	U	6,800	ND	U	6,900	ND	U	8,500
		1,3,5-Trimethylbenzene	29,000	--	6,800	6,400	J	5,600	7,000	J	5,600	36,000	--	6,900
		1,3-Butadiene	ND	U	3,100	ND	U	2,500	ND	U	2,500	ND	U	3,100
		1,4-Dioxane	ND	U	25,000	ND	U	20,000	ND	U	21,000	ND	U	25,000
		2-Butanone	820,000	--	20,000	720,000	--	17,000	960,000	--	17,000	780,000	--	21,000
		2-Hexanone	ND	U	28,000	ND	U	23,000	ND	U	23,000	ND	U	29,000
		4-Methyl-2-Pentanone	ND	U	5,700	13,000	--	4,700	16,000	--	4,700	ND	U	5,800
		Acetone	4,200,000	--	16,000	4,200,000	--	14,000	5,800,000	--	14,000	5,000,000	--	17,000
		Benzene	3,900,000	--	4,400	2,700,000	--	3,600	3,400,000	--	3,700	4,200,000	--	4,500
		Bromodichloromethane	ND	U	9,300	ND	U	7,600	ND	U	7,700	ND	U	9,400
		Bromoform	ND	U	14,000	ND	U	12,000	ND	U	12,000	ND	U	14,000
		Carbon Disulfide	ND	U	22,000	ND	U	18,000	ND	U	18,000	ND	U	22,000
		Carbon Tetrachloride	ND	U	8,700	ND	U	7,200	ND	U	7,200	ND	U	8,900
		Chloroethane	ND	UJ	18,000	ND	U	15,000	ND	U	15,000	ND	U	19,000
		Chloroform	ND	U	6,800	ND	U	5,600	ND	U	5,600	ND	U	6,900
		Chloromethane	ND	U	14,000	ND	U	12,000	ND	U	12,000	ND	U	14,000
		Cyclohexane	11,000,000	--	4,800	7,600,000	--	3,900	9,500,000	--	3,900	12,000,000	--	4,800
		Dibromochloromethane	ND	U	12,000	ND	U	9,700	ND	U	9,800	ND	U	12,000
		Dichlorodifluoromethane	ND	U	6,800	ND	U	5,600	ND	U	5,700	ND	U	7,000
		Ethanol	ND	U	13,000	6,100	J	11,000	8,900	J	11,000	ND	U	13,000
		Ethyl Acetate	ND	U	33,000	ND	U	27,000	ND	U	28,000	ND	U	34,000
		Ethylbenzene	450,000	--	6,000	150,000	--	4,900	170,000	--	5,000	510,000	--	6,100
		Hexane	13,000,000	--	4,900	11,000,000	--	4,000	14,000,000	J	4,000	17,000,000	J	5,000
		Isopropyl Alcohol	49,000	--	17,000	77,000	--	14,000	100,000	--	14,000	ND	U	17,000
		m- & p-Xylenes	1,200,000	--	6,000	360,000	--	5,000	410,000	--	5,000	1,300,000	--	6,100
		Methylene Chloride	ND	U	24,000	ND	U	20,000	ND	U	20,000	ND	U	24,000
		Naphthalene	ND	U	4,800	ND	U	4,000	ND	U	4,000	ND	U	4,900
		n-Heptane	11,000,000	--	5,700	5,500,000	--	4,700	6,700,000	--	4,700	12,000,000	--	5,800
		o-Xylene	310,000	--	6,000	91,000	--	5,000	100,000	--	5,000	360,000	--	6,100
		Propylene (Propene)	30,000	--	12,000	25,000	--	9,800	32,000	--	9,900	26,000	--	12,000
		Styrene	ND	U	5,900	ND	U	4,800	ND	U	4,900	ND	U	6,000
		Tetrachloroethene	ND	U	9,400	ND	U	7,700	ND	U	7,800	ND	U	9,600
		Tetrahydrofuran	ND	UJ	4,100	ND	U	3,400	ND	U	3,400	ND	U	4,200
		Toluene	7,600,000	--	5,200	3,400,000	--	4,300	4,200,000	--	4,300	7,500,000	--	5,300
		Trichloroethene	ND	U	7,400	ND	U	6,100	ND	U	6,200	ND	U	7,600
		Trichlorofluoromethane	ND	U	7,800	ND	U	6,400	ND	U	6,400	ND	U	7,900
		Vinyl Chloride	ND	U	3,500	ND	U	2,900	ND	U	2,900	ND	U	3,600
		Xylenes, Total	1,500,000	--	10,000	460,000	--	8,200	510,000	--	8,300	1,700,000	--	10,000

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117		
			Field Sample ID:			KAFB-106V2 117.1 DUP			KAFB-106V2 117.1			KAFB-106V2 117.1 DUP			KAFB-106V2 117		
			Sample Date:			10/22/2019			10/31/2019			10/31/2019			11/5/2019		
			Sample Type:			Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	220,000,000	--	300,000	150,000,000	--	310,000	150,000,000	--	310,000	250,000,000	--	240,000			
Fixed Gases	Method D1945 (%)	Butane	0.0047	--	0.0003	0.0045	--	0.00021	0.0046	--	0.00021	0.005	--	0.00026			
		Carbon Dioxide	7.8	--	0.013	5.4	--	0.0091	5.3	--	0.0092	5.3	--	0.011			
		Carbon Monoxide	ND	U	0.013	ND	U	0.0091	ND	U	0.0092	ND	U	0.011			
		Ethane	0.0017	J	0.0003	0.00099	J	0.00021	0.001	J	0.00021	0.00095	J	0.00026			
		Hydrogen	ND	U	0.017	ND	U	0.012	ND	U	0.012	ND	U	0.014			
		Methane	0.009	--	0.00014	0.0052	--	0.000095	0.0052	--	0.000096	0.0052	--	0.00012			
		Nitrogen (Ammonia As N)	78	--	0.19	77	--	0.13	78	--	0.13	77	--	0.16			
		Oxygen	11	--	0.051	15	--	0.035	15	--	0.035	15	--	0.044			
		Pentane	0.16	--	0.0003	0.14	--	0.00021	0.14	--	0.00021	0.16	--	0.00026			
		Propane	0.0012	J	0.0003	0.0011	J	0.00021	0.0011	J	0.00021	0.0011	J	0.00026			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-160		
		Field Sample ID:	KAFB-106V2 117 DUP			KAFB-106V2-117			KAFB-106V2-117-DUP			KAFB-106V2 159.9		
		Sample Date:	11/5/2019			1/13/2020			1/13/2020			4/11/2019		
		Sample Type:	Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	11,000	ND	U	5,400	ND	U	17,000	ND	U	2,400
		1,1-Dichloroethane	ND	U	5,900	ND	U	2,900	ND	U	8,800	ND	U	1,300
		1,2,4-Trichlorobenzene	ND	U	54,000	ND	U	20,000	ND	U	60,000	ND	U	7,700
		1,2,4-Trimethylbenzene	95,000	--	7,200	14,000	J	3,500	22,000	--	11,000	74,000	--	1,500
		1,2-Dibromoethane	24,000	--	11,000	9,800	J	5,400	12,000	J	17,000	2,500	J	2,400
		1,2-Dichlorobenzene	ND	U	8,800	ND	U	4,200	ND	U	13,000	ND	U	1,900
		1,3,5-Trimethylbenzene	44,000	--	7,200	6,500	J	3,500	8,900	J	11,000	26,000	--	1,500
		1,3-Butadiene	ND	U	3,200	ND	U	1,600	ND	U	4,800	ND	U	690
		1,4-Dioxane	ND	U	26,000	ND	U	9,600	ND	U	29,000	ND	U	3,700
		2-Butanone	1,000,000	--	22,000	440,000	J	7,800	480,000	--	24,000	44,000	--	3,100
		2-Hexanone	ND	U	30,000	ND	U	11,000	ND	U	33,000	ND	U	4,300
		4-Methyl-2-Pentanone	ND	U	6,000	ND	U	2,900	ND	U	8,900	ND	U	1,300
		Acetone	6,000,000	--	17,000	3,400,000	J	6,300	3,800,000	--	19,000	650,000	--	2,500
		Benzene	4,400,000	--	4,700	2,400,000	J	2,300	2,500,000	--	6,900	550,000	--	1,000
		Bromodichloromethane	ND	U	9,800	ND	U	4,700	ND	U	14,000	ND	U	2,100
		Bromoform	ND	U	15,000	ND	U	7,300	ND	U	22,000	ND	U	3,200
		Carbon Disulfide	ND	U	23,000	1,800	J	8,300	ND	U	25,000	ND	U	3,200
		Carbon Tetrachloride	ND	U	9,200	ND	U	4,400	ND	U	14,000	ND	U	2,000
		Chloroethane	ND	U	19,000	ND	U	7,000	ND	U	21,000	ND	U	2,700
		Chloroform	ND	U	7,100	ND	U	3,400	ND	U	10,000	ND	U	1,500
		Chloromethane	ND	U	15,000	ND	U	5,500	ND	U	17,000	ND	U	2,100
		Cyclohexane	13,000,000	--	5,000	6,600,000	J	2,400	6,800,000	--	7,500	1,600,000	--	1,100
		Dibromochloromethane	ND	U	12,000	ND	U	6,000	ND	U	18,000	ND	U	2,600
		Dichlorodifluoromethane	ND	U	7,200	ND	U	3,500	ND	U	11,000	ND	U	1,500
		Ethanol	ND	U	14,000	ND	U	5,000	ND	U	15,000	2,900	J	2,000
		Ethyl Acetate	ND	U	35,000	ND	U	13,000	ND	U	39,000	ND	U	7,500
		Ethylbenzene	560,000	--	6,400	220,000	J	3,100	270,000	--	9,400	150,000	--	1,400
		Hexane	18,000,000	J	5,200	10,000,000	J	2,500	10,000,000	--	7,600	2,100,000	--	1,100
		Isopropyl Alcohol	ND	U	18,000	46,000	J	6,500	50,000	--	20,000	10,000	--	2,600
		m- & p-Xylenes	1,500,000	--	6,400	520,000	J	3,100	690,000	--	9,400	380,000	--	1,400
		Methylene Chloride	ND	U	25,000	ND	U	9,200	ND	U	28,000	ND	U	3,600
		Naphthalene	ND	U	5,100	ND	U	1,800	ND	U	5,700	1,300	J	5,400
		n-Heptane	12,000,000	--	6,000	5,200,000	J	2,900	5,300,000	--	8,900	1,800,000	--	1,300
		o-Xylene	400,000	--	6,400	120,000	J	3,100	170,000	--	9,400	120,000	--	1,400
		Propylene (Propene)	29,000	--	12,000	24,000	J	4,600	24,000	--	14,000	29,000	--	1,800
		Styrene	ND	U	6,200	ND	U	3,000	ND	U	9,200	ND	U	1,300
		Tetrachloroethene	ND	U	9,900	ND	U	4,800	ND	U	15,000	ND	U	2,100
		Tetrahydrofuran	ND	U	4,300	ND	U	2,100	ND	U	6,400	ND	U	920
		Toluene	7,900,000	--	5,500	3,700,000	J	2,700	4,000,000	--	8,200	1,200,000	--	1,200
		Trichloroethene	ND	U	7,900	ND	U	3,800	ND	U	12,000	ND	U	1,700
		Trichlorofluoromethane	ND	U	8,200	ND	U	4,000	ND	U	12,000	ND	U	1,800
		Vinyl Chloride	ND	U	3,700	ND	U	1,800	ND	U	5,500	ND	U	800
		Xylenes, Total	1,900,000	--	10,000	650,000	J	7,700	870,000	--	24,000	500,000	--	2,200

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-117			KAFB-106V2-160		
			Field Sample ID:			KAFB-106V2 117 DUP			KAFB-106V2-117			KAFB-106V2-117-DUP			KAFB-106V2 159.9		
			Sample Date:			11/5/2019			1/13/2020			1/13/2020			4/11/2019		
			Sample Type:			Field Duplicate			REG			Field Duplicate			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	260,000,000	--	250,000	240,000,000	--	350,000	220,000,000	--	360,000	43,000,000	--	220,000			
Fixed Gases	Method D1945 (%)	Butane	0.0051	--	0.00027	0.0078	--	0.00018	0.008	--	0.00019	0.0035	--	0.00023			
		Carbon Dioxide	5.3	--	0.012	6.8	--	0.01	6.4	--	0.01	12	--	0.0099			
		Carbon Monoxide	ND	U	0.012	ND	U	0.01	ND	U	0.01	ND	U	0.0099			
		Ethane	0.00095	J	0.00027	0.0013	J	0.00018	0.0012	J	0.00019	0.0023	--	0.00023			
		Hydrogen	ND	U	0.015	0.003	J	0.013	0.0042	J	0.013	ND	U	0.013			
		Methane	0.0053	--	0.00012	0.0048	--	0.00011	0.0046	--	0.00011	0.0088	--	0.0001			
		Nitrogen (Ammonia As N)	76	--	0.16	77	--	0.14	77	--	0.15	86	--	0.14			
		Oxygen	16	--	0.045	14	--	0.039	14	--	0.04	1.6	--	0.038			
		Pentane	0.17	--	0.00027	0.23	--	0.00018	0.24	--	0.00019	0.085	--	0.00023			
		Propane	0.0011	J	0.00027	0.0014	J	0.00018	0.0013	J	0.00019	0.00096	J	0.00023			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-160			KAFB-106V2-160			KAFB-106V2-160			KAFB-106V2-160		
		Field Sample ID:	KAFB-106V2 159.9			KAFB-106V2 159.9			KAFB-106V2 159.9			KAFB-106V2 159.9		
		Sample Date:	5/9/2019			7/5/2019			10/15/2019			10/22/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	2,500	ND	U	3,600	ND	U	920	ND	U	450
		1,1-Dichloroethane	ND	U	1,300	ND	U	1,900	ND	U	490	ND	U	240
		1,2,4-Trichlorobenzene	ND	U	8,000	ND	U	12,000	ND	U	4,500	ND	U	2,200
		1,2,4-Trimethylbenzene	210,000	--	1,600	150,000	J	2,300	150,000	--	590	140,000	--	290
		1,2-Dibromoethane	1,900	J	2,500	1,600	J	3,700	1,000	J	930	890	--	450
		1,2-Dichlorobenzene	ND	U	1,900	ND	U	2,900	ND	U	720	ND	U	350
		1,3,5-Trimethylbenzene	61,000	--	1,600	54,000	J	2,300	49,000	--	590	44,000	--	290
		1,3-Butadiene	ND	U	720	ND	U	1,000	ND	U	270	ND	U	130
		1,4-Dioxane	ND	U	3,900	ND	U	5,700	ND	U	2,200	ND	U	1,000
		2-Butanone	14,000	--	3,200	5,200	J	4,700	3,900	--	1,800	810	J	870
		2-Hexanone	ND	U	4,400	ND	U	6,500	ND	U	2,500	ND	U	1,200
		4-Methyl-2-Pentanone	3,800	--	1,300	ND	U	2,000	2,200	--	490	ND	U	240
		Acetone	420,000	--	2,600	180,000	J	3,800	220,000	--	1,400	170,000	--	700
		Benzene	630,000	--	1,000	660,000	J	1,500	290,000	--	380	110,000	--	190
		Bromodichloromethane	ND	U	2,200	ND	U	3,200	ND	U	810	ND	U	390
		Bromoform	ND	U	3,300	ND	U	4,900	ND	U	1,200	ND	U	610
		Carbon Disulfide	ND	U	3,400	ND	U	5,000	ND	U	1,900	ND	U	920
		Carbon Tetrachloride	ND	U	2,000	ND	U	3,000	ND	U	760	ND	U	370
		Chloroethane	ND	U	2,800	ND	U	4,200	ND	U	1,600	ND	U	780
		Chloroform	ND	U	1,600	ND	U	2,300	ND	U	590	ND	U	290
		Chloromethane	ND	U	2,200	ND	U	3,300	ND	U	1,200	ND	U	610
		Cyclohexane	1,700,000	--	1,100	1,700,000	J	1,600	890,000	--	420	390,000	--	200
		Dibromochloromethane	ND	U	2,800	ND	U	4,100	ND	U	1,000	ND	U	500
		Dichlorodifluoromethane	ND	U	1,600	ND	U	2,400	ND	U	600	ND	U	290
		Ethanol	ND	U	2,000	ND	U	3,000	520	J	1,100	ND	U	550
		Ethyl Acetate	ND	U	7,800	ND	U	7,600	ND	U	2,900	ND	U	1,400
		Ethylbenzene	170,000	--	1,400	120,000	J	2,100	95,000	--	520	82,000	--	260
		Hexane	2,300,000	--	1,100	2,500,000	J	1,700	540,000	--	420	170,000	--	210
		Isopropyl Alcohol	5,700	--	2,600	2,100	J	3,900	3,800	--	1,500	780	J	720
		m- & p-Xylenes	520,000	--	1,400	360,000	J	2,100	290,000	--	520	260,000	--	260
		Methylene Chloride	ND	U	3,800	ND	U	5,500	510	J	2,100	ND	U	1,000
		Naphthalene	ND	UJ	5,700	ND	U	5,600	3,200	J	420	2,900	--	200
		n-Heptane	1,800,000	--	1,300	1,400,000	J	2,000	1,100,000	--	490	590,000	--	240
		o-Xylene	190,000	--	1,400	130,000	J	2,100	110,000	--	520	98,000	--	260
		Propylene (Propene)	8,300	--	1,800	5,400	J	2,700	ND	U	1,000	ND	U	500
		Styrene	ND	U	1,400	ND	U	2,000	ND	U	510	ND	U	250
		Tetrachloroethene	ND	U	2,200	ND	U	3,200	ND	U	820	ND	U	400
		Tetrahydrofuran	ND	U	960	ND	U	1,400	1,100	--	360	ND	U	170
		Toluene	1,300,000	--	1,200	990,000	J	1,800	730,000	--	450	610,000	--	220
		Trichloroethene	ND	U	1,700	ND	U	2,600	ND	U	650	ND	U	320
		Trichlorofluoromethane	ND	U	1,800	ND	U	2,700	ND	U	680	ND	U	330
		Vinyl Chloride	ND	U	830	ND	U	1,200	ND	U	310	ND	U	150
		Xylenes, Total	720,000	--	2,300	500,000	J	2,300	400,000	--	870	360,000	--	420

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-160			KAFB-106V2-160			KAFB-106V2-160			KAFB-106V2-160		
			Field Sample ID:			KAFB-106V2 159.9			KAFB-106V2 159.9			KAFB-106V2 159.9			KAFB-106V2 159.9		
			Sample Date:			5/9/2019			7/5/2019			10/15/2019			10/22/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	52,000,000	--	180,000	76,000,000	--	69,000	54,000,000	--	66,000	19,000,000	--	32,000			
Fixed Gases	Method D1945 (%)	Butane	0.0023	--	0.00024	0.0014	J	2,300	ND	U	0.00022	ND	U	0.00022			
		Carbon Dioxide	3.9	--	0.01	4.1	--	0.01	0.16	--	0.0096	0.13	--	0.0094			
		Carbon Monoxide	ND	U	0.01	ND	U	0.01	ND	U	0.0096	ND	U	0.0094			
		Ethane	0.00046	J	0.00024	0.00039	J	2,300	ND	U	0.00022	ND	U	0.00022			
		Hydrogen	ND	U	0.013	ND	U	0.013	ND	U	0.012	ND	U	0.012			
		Methane	0.002	--	0.00011	0.0025	--	0.00011	0.000069	J	0.0001	ND	U	0.000098			
		Nitrogen (Ammonia As N)	81	--	0.14	82	--	0.14	79	--	0.14	79	--	0.13			
		Oxygen	14	--	0.04	13	--	0.039	20	--	0.037	20	--	0.036			
		Pentane	0.083	--	0.00024	0.064	--	0.00023	0.0025	--	0.00022	0.00046	J	0.00022			
		Propane	0.00029	J	0.00024	0.0002	J	0.00023	ND	U	0.00022	ND	U	0.00022			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-160			KAFB-106V2-160			KAFB-106V2-160			KAFB-106V2-217		
		Field Sample ID:	KAFB-106V2 159.9			KAFB-106V2 160			KAFB-106V2-160			KAFB-106V2 217.1		
		Sample Date:	10/31/2019			11/5/2019			1/13/2020			4/11/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	420	ND	U	470	ND	U	600	ND	U	2,500
		1,1-Dichloroethane	ND	U	220	ND	U	250	ND	U	320	ND	U	1,300
		1,2,4-Trichlorobenzene	ND	U	2,000	ND	U	2,300	ND	U	2,200	ND	U	8,000
		1,2,4-Trimethylbenzene	73,000	J	270	160,000	--	300	78,000	--	380	45,000	--	1,600
		1,2-Dibromoethane	800	J	420	880	--	470	300	J	600	6,000	--	2,500
		1,2-Dichlorobenzene	ND	U	330	ND	U	370	ND	U	470	ND	U	1,900
		1,3,5-Trimethylbenzene	26,000	J	270	46,000	--	300	24,000	--	380	17,000	--	1,600
		1,3-Butadiene	ND	U	120	ND	U	140	ND	U	170	ND	U	720
		1,4-Dioxane	ND	U	990	ND	U	1,100	ND	U	1,000	ND	U	3,900
		2-Butanone	3,900	J	810	1,000	J	900	950	J	870	360,000	J	3,200
		2-Hexanone	ND	U	1,100	ND	U	1,200	ND	U	1,200	ND	U	4,400
		4-Methyl-2-Pentanone	1,200	J	220	ND	U	250	ND	U	320	ND	U	1,300
		Acetone	150,000	J	650	72,000	--	730	21,000	--	700	4,400,000	J	2,600
		Benzene	57,000	J	180	34,000	--	200	31,000	--	250	1,500,000	--	1,000
		Bromodichloromethane	ND	U	370	ND	U	410	ND	U	520	ND	U	2,200
		Bromoform	ND	U	570	ND	U	630	ND	U	810	ND	U	3,300
		Carbon Disulfide	190	J	850	ND	U	950	ND	U	920	ND	U	3,400
		Carbon Tetrachloride	ND	U	340	ND	U	380	ND	U	490	ND	U	2,000
		Chloroethane	ND	U	720	ND	U	810	ND	U	780	ND	U	2,800
		Chloroform	ND	U	270	ND	U	300	ND	U	380	ND	U	1,600
		Chloromethane	ND	U	570	ND	U	630	ND	U	610	ND	U	2,200
		Cyclohexane	200,000	J	190	140,000	--	210	100,000	--	270	4,800,000	J	1,100
		Dibromochloromethane	ND	U	470	ND	U	520	ND	U	670	ND	U	2,800
		Dichlorodifluoromethane	ND	U	270	ND	U	300	ND	U	390	ND	U	1,600
		Ethanol	1,600	J	520	490	J	580	560	J	550	7,200	--	2,000
		Ethyl Acetate	ND	U	1,300	ND	U	1,500	ND	U	1,400	ND	U	7,800
		Ethylbenzene	66,000	J	240	71,000	--	260	38,000	--	340	230,000	--	1,400
		Hexane	100,000	J	190	74,000	--	220	73,000	--	280	6,300,000	J	1,100
		Isopropyl Alcohol	9,400	J	670	2,000	--	750	1,700	--	720	400,000	--	2,600
		m- & p-Xylenes	210,000	J	240	220,000	--	260	120,000	--	340	550,000	--	1,400
		Methylene Chloride	ND	U	950	ND	U	1,100	ND	U	1,000	ND	U	3,800
		Naphthalene	ND	U	190	4,100	--	210	1,200	J	200	ND	UJ	5,700
		n-Heptane	360,000	J	220	290,000	--	250	140,000	--	320	4,700,000	J	1,300
		o-Xylene	82,000	J	240	90,000	--	260	48,000	--	340	140,000	--	1,400
		Propylene (Propene)	ND	U	470	ND	U	530	ND	U	500	42,000	--	1,800
		Styrene	ND	U	230	ND	U	260	ND	U	330	ND	U	1,400
		Tetrachloroethene	ND	U	370	ND	U	420	ND	U	530	ND	U	2,200
		Tetrahydrofuran	ND	U	160	ND	U	180	ND	U	230	ND	U	960
		Toluene	380,000	J	210	340,000	--	230	140,000	--	300	2,800,000	--	1,200
		Trichloroethene	ND	U	300	ND	U	330	ND	U	420	ND	U	1,700
		Trichlorofluoromethane	ND	U	310	ND	U	340	ND	U	440	ND	U	1,800
		Vinyl Chloride	ND	U	140	ND	U	160	ND	U	200	ND	U	830
		Xylenes, Total	290,000	J	400	310,000	--	440	160,000	--	850	690,000	--	2,300

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-160			KAFB-106V2-160			KAFB-106V2-160			KAFB-106V2-217		
		Field Sample ID:	KAFB-106V2 159.9			KAFB-106V2 160			KAFB-106V2-160			KAFB-106V2 217.1		
		Sample Date:	10/31/2019			11/5/2019			1/13/2020			4/11/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	22,000,000	--	30,000	20,000,000	--	33,000	14,000,000	--	13,000	140,000,000	--	230,000
Fixed Gases	Method D1945 (%)	Butane	ND	U	0.0002	ND	U	0.00022	ND	U	0.00017	0.0018	J	0.00024
		Carbon Dioxide	0.17	--	0.0088	0.15	--	0.0098	0.51	--	0.0094	12	--	0.01
		Carbon Monoxide	ND	U	0.0088	ND	U	0.0098	ND	U	0.0094	ND	U	0.01
		Ethane	ND	U	0.0002	ND	U	0.00022	ND	U	0.00017	0.0021	J	0.00024
		Hydrogen	ND	U	0.011	ND	U	0.013	ND	U	0.012	ND	U	0.013
		Methane	0.00013	J	0.000092	ND	U	0.0001	ND	U	0.000098	0.005	--	0.00011
		Nitrogen (Ammonia As N)	80	--	0.12	80	--	0.14	79	--	0.13	85	--	0.14
		Oxygen	20	--	0.034	20	--	0.038	20	--	0.036	1.4	--	0.04
		Pentane	0.0004	J	0.0002	0.00025	J	0.00022	0.00024	J	0.00017	0.063	--	0.00024
		Propane	ND	U	0.0002	ND	U	0.00022	ND	U	0.00017	0.0014	J	0.00024

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-217			KAFB-106V2-217			KAFB-106V2-217			KAFB-106V2-217		
		Field Sample ID:	KAFB-106V2 217.1			KAFB-106V2 217.1			KAFB-106V2 217.1			KAFB-106V2 217.1		
		Sample Date:	5/9/2019			7/5/2019			10/15/2019			10/22/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	4,800	ND	U	3,800	ND	U	9,500	ND	U	3,600
		1,1-Dichloroethane	ND	U	2,500	ND	U	2,000	ND	U	5,000	ND	U	1,900
		1,2,4-Trichlorobenzene	ND	U	15,000	ND	U	12,000	ND	U	46,000	ND	U	18,000
		1,2,4-Trimethylbenzene	120,000	--	3,100	160,000	J	2,400	160,000	--	6,100	68,000	J	2,300
		1,2-Dibromoethane	4,800	J	4,800	7,300	J	3,800	8,700	J	9,500	7,200	J	3,700
		1,2-Dichlorobenzene	ND	U	3,800	ND	U	2,900	ND	U	7,400	ND	U	2,900
		1,3,5-Trimethylbenzene	39,000	--	3,100	57,000	J	2,400	63,000	--	6,100	31,000	J	2,300
		1,3-Butadiene	ND	U	1,400	ND	U	1,100	ND	U	2,700	ND	U	1,000
		1,4-Dioxane	ND	U	7,500	ND	U	5,900	ND	U	22,000	ND	U	8,600
		2-Butanone	320,000	--	6,100	370,000	J	4,800	280,000	--	18,000	190,000	J	7,000
		2-Hexanone	9,400	J	8,500	ND	U	6,700	ND	U	25,000	ND	U	9,800
		4-Methyl-2-Pentanone	7,400	--	2,600	ND	U	2,000	ND	U	5,100	ND	U	2,000
		Acetone	4,700,000	--	4,900	5,900,000	J	3,900	4,800,000	--	15,000	4,500,000	J	5,700
		Benzene	1,600,000	--	2,000	1,400,000	--	1,700	2,200,000	--	3,900	2,400,000	J	1,500
		Bromodichloromethane	ND	U	4,200	ND	U	3,300	ND	U	8,300	ND	U	3,200
		Bromoform	ND	U	6,400	ND	U	5,100	ND	U	13,000	ND	U	4,900
		Carbon Disulfide	ND	U	6,500	ND	U	5,100	ND	U	19,000	ND	U	7,400
		Carbon Tetrachloride	ND	U	3,900	ND	U	3,100	ND	U	7,800	ND	U	3,000
		Chloroethane	ND	U	5,500	ND	U	4,300	ND	U	16,000	ND	UJ	6,300
		Chloroform	ND	U	3,000	ND	U	2,400	ND	U	6,000	ND	U	2,300
		Chloromethane	ND	U	4,300	ND	U	3,400	ND	U	13,000	ND	U	4,900
		Cyclohexane	4,500,000	--	2,100	4,900,000	J	1,700	6,200,000	--	4,200	6,800,000	J	1,600
		Dibromochloromethane	ND	U	5,300	ND	U	4,200	ND	U	10,000	ND	U	4,100
		Dichlorodifluoromethane	ND	U	3,100	ND	U	2,400	ND	U	6,100	ND	U	2,400
		Ethanol	4,900	J	3,900	ND	U	3,100	ND	U	12,000	ND	U	4,500
		Ethyl Acetate	ND	U	15,000	ND	U	7,800	ND	U	30,000	ND	U	11,000
		Ethylbenzene	300,000	--	2,700	340,000	J	2,100	430,000	--	5,400	360,000	J	2,100
		Hexane	5,800,000	--	2,200	5,100,000	J	1,700	7,600,000	--	4,400	8,200,000	J	1,700
		Isopropyl Alcohol	400,000	--	5,100	300,000	J	4,000	110,000	--	15,000	32,000	J	5,900
		m- & p-Xylenes	690,000	--	2,700	800,000	J	2,100	1,000,000	--	5,400	840,000	J	2,100
		Methylene Chloride	ND	U	7,200	ND	U	5,700	ND	U	21,000	ND	U	8,300
		Naphthalene	1,000	J	5,400	ND	U	5,700	ND	U	4,300	ND	U	1,700
		n-Heptane	4,700,000	--	2,600	4,500,000	J	2,000	6,400,000	--	5,100	6,800,000	J	2,000
		o-Xylene	200,000	--	2,700	240,000	J	2,100	300,000	--	5,400	230,000	J	2,100
		Propylene (Propene)	39,000	--	3,600	42,000	J	2,800	44,000	--	11,000	37,000	J	4,100
		Styrene	ND	U	2,600	ND	U	2,100	ND	U	5,300	ND	U	2,000
		Tetrachloroethene	ND	U	4,200	ND	U	3,300	63,000	--	8,400	ND	U	3,200
		Tetrahydrofuran	ND	U	1,800	ND	U	1,400	ND	U	3,600	ND	UJ	1,400
		Toluene	3,000,000	J	2,400	2,600,000	J	2,000	4,200,000	--	4,600	4,400,000	J	1,800
		Trichloroethene	ND	U	3,400	ND	U	2,600	ND	U	6,600	ND	U	2,600
		Trichlorofluoromethane	ND	U	3,500	ND	U	2,800	ND	U	6,900	ND	U	2,700
		Vinyl Chloride	ND	U	1,600	ND	U	1,200	ND	U	3,200	ND	U	1,200
		Xylenes, Total	900,000	--	4,500	1,000,000	J	2,400	1,300,000	--	8,900	1,000,000	J	3,400

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-217			KAFB-106V2-217			KAFB-106V2-217			KAFB-106V2-217		
			Field Sample ID:			KAFB-106V2 217.1			KAFB-106V2 217.1			KAFB-106V2 217.1			KAFB-106V2 217.1		
			Sample Date:			5/9/2019			7/5/2019			10/15/2019			10/22/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	140,000,000	--	170,000	140,000,000	--	220,000	160,000,000	--	220,000	150,000,000	--	310,000			
Fixed Gases	Method D1945 (%)	Butane	0.0019	J	0.00023	0.0021	J	2,400	0.002	J	0.00023	0.0018	J	0.00021			
		Carbon Dioxide	12	--	0.01	12	--	0.01	10	--	0.0099	6.5	--	0.0092			
		Carbon Monoxide	ND	U	0.01	ND	U	0.01	ND	U	0.0099	ND	U	0.0092			
		Ethane	0.0021	--	0.00023	0.002	J	2,400	0.0014	J	0.00023	0.00077	J	0.00021			
		Hydrogen	ND	U	0.013	ND	U	0.013	ND	U	0.013	ND	U	0.012			
		Methane	0.0046	--	0.0001	0.0044	--	0.00011	0.0026	--	0.0001	0.0014	--	0.000096			
		Nitrogen (Ammonia As N)	84	--	0.14	84	--	0.15	80	--	0.14	79	--	0.13			
		Oxygen	2.5	--	0.038	2.4	--	0.04	7.6	--	0.038	13	--	0.035			
		Pentane	0.06	--	0.00023	0.066	--	0.00024	0.065	--	0.00023	0.064	--	0.00021			
		Propane	0.0014	J	0.00023	0.0015	J	0.00024	0.0014	J	0.00023	0.0011	J	0.00021			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-217			KAFB-106V2-217			KAFB-106V2-217			KAFB-106V2-252		
		Field Sample ID:	KAFB-106V2 217.1			KAFB-106V2 217			KAFB-106V2-217			KAFB-106V2 252.2		
		Sample Date:	10/31/2019			11/5/2019			1/13/2020			4/11/2019		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	8,700	ND	U	2,900	ND	U	3,200	ND	U	2,300
		1,1-Dichloroethane	ND	U	4,600	ND	U	1,500	ND	U	1,700	ND	U	1,200
		1,2,4-Trichlorobenzene	ND	U	42,000	ND	U	14,000	ND	U	11,000	ND	U	7,500
		1,2,4-Trimethylbenzene	27,000	--	5,600	130,000	J	1,800	41,000	J	2,000	65,000	--	1,500
		1,2-Dibromoethane	5,600	J	8,800	7,700	J	2,900	5,400	J	3,200	12,000	--	2,300
		1,2-Dichlorobenzene	ND	U	6,800	ND	U	2,300	ND	U	2,500	ND	U	1,800
		1,3,5-Trimethylbenzene	12,000	--	5,600	44,000	J	1,800	17,000	J	2,000	21,000	--	1,500
		1,3-Butadiene	ND	U	2,500	ND	U	840	ND	U	910	ND	U	670
		1,4-Dioxane	ND	U	20,000	ND	U	6,800	ND	U	5,600	ND	U	3,600
		2-Butanone	240,000	--	17,000	250,000	J	5,600	140,000	J	4,600	340,000	J	3,000
		2-Hexanone	ND	U	23,000	ND	U	7,700	ND	U	6,300	ND	U	4,100
		4-Methyl-2-Pentanone	ND	U	4,700	ND	U	1,500	ND	U	1,700	ND	U	1,200
		Acetone	5,900,000	--	14,000	5,200,000	J	4,500	4,400,000	J	3,700	2,300,000	--	2,400
		Benzene	2,200,000	--	3,600	1,900,000	J	1,200	1,600,000	J	1,300	650,000	--	970
		Bromodichloromethane	ND	U	7,600	ND	U	2,500	ND	U	2,800	ND	U	2,000
		Bromoform	ND	U	12,000	ND	U	3,900	ND	U	4,200	ND	U	3,100
		Carbon Disulfide	ND	U	18,000	ND	U	5,900	ND	U	4,800	ND	U	3,100
		Carbon Tetrachloride	ND	U	7,200	ND	U	2,400	ND	U	2,600	ND	U	1,900
		Chloroethane	ND	U	15,000	ND	U	5,000	ND	U	4,100	ND	U	2,700
		Chloroform	ND	U	5,600	ND	U	1,800	ND	U	2,000	ND	U	1,500
		Chloromethane	ND	U	12,000	ND	U	3,900	ND	U	3,200	ND	U	2,100
		Cyclohexane	6,600,000	--	3,900	5,900,000	J	1,300	4,600,000	J	1,400	2,600,000	--	1,000
		Dibromochloromethane	ND	U	9,700	ND	U	3,200	ND	U	3,500	ND	U	2,600
		Dichlorodifluoromethane	ND	U	5,600	ND	U	1,900	ND	U	2,000	ND	U	1,500
		Ethanol	ND	U	11,000	ND	U	3,600	ND	U	2,900	13,000	--	1,900
		Ethyl Acetate	ND	U	27,000	ND	U	9,100	ND	U	7,400	ND	U	7,300
		Ethylbenzene	190,000	--	4,900	390,000	J	1,600	230,000	J	1,800	230,000	--	1,300
		Hexane	10,000,000	--	4,000	8,300,000	J	1,300	6,600,000	J	1,400	1,700,000	--	1,100
		Isopropyl Alcohol	52,000	--	14,000	150,000	J	4,600	110,000	J	3,800	130,000	--	2,500
		m- & p-Xylenes	390,000	--	5,000	930,000	J	1,600	520,000	J	1,800	540,000	--	1,300
		Methylene Chloride	ND	U	20,000	ND	U	6,600	ND	U	5,400	ND	U	3,500
		Naphthalene	ND	U	4,000	1,800	J	1,300	ND	U	1,100	890	J	5,300
		n-Heptane	5,700,000	--	4,700	5,800,000	J	1,500	4,100,000	J	1,700	4,700,000	J	1,200
		o-Xylene	96,000	--	5,000	270,000	J	1,600	150,000	J	1,800	140,000	--	1,300
		Propylene (Propene)	31,000	--	9,800	15,000	J	3,200	ND	U	2,600	37,000	--	1,700
		Styrene	ND	U	4,800	ND	U	1,600	ND	U	1,800	ND	U	1,300
		Tetrachloroethene	ND	U	7,700	ND	U	2,600	ND	U	2,800	ND	U	2,000
		Tetrahydrofuran	ND	U	3,400	ND	U	1,100	ND	U	1,200	ND	U	890
		Toluene	3,300,000	--	4,300	3,900,000	J	1,400	2,700,000	J	1,600	3,400,000	--	1,100
		Trichloroethene	ND	U	6,100	ND	U	2,000	ND	U	2,200	ND	U	1,600
		Trichlorofluoromethane	ND	U	6,400	ND	U	2,100	ND	U	2,300	ND	U	1,700
		Vinyl Chloride	ND	U	2,900	ND	U	970	ND	U	1,000	ND	U	770
		Xylenes, Total	490,000	--	8,200	1,200,000	J	2,700	670,000	J	4,500	680,000	--	2,200

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-217			KAFB-106V2-217			KAFB-106V2-217			KAFB-106V2-252		
			Field Sample ID:			KAFB-106V2 217.1			KAFB-106V2 217			KAFB-106V2-217			KAFB-106V2 252.2		
			Sample Date:			10/31/2019			11/5/2019			1/13/2020			4/11/2019		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	120,000,000	--	250,000	150,000,000	--	200,000	130,000,000	--	340,000	90,000,000	--	330,000			
Fixed Gases	Method D1945 (%)	Butane	0.0017	J	0.00021	0.0015	J	0.00028	0.00045	J	0.00018	0.0018	J	0.00022			
		Carbon Dioxide	3.8	--	0.0091	2.6	--	0.012	1.2	--	0.0099	7.6	--	0.0097			
		Carbon Monoxide	ND	U	0.0091	ND	U	0.012	ND	U	0.0099	ND	U	0.0097			
		Ethane	0.00037	J	0.00021	0.0002	J	0.00028	ND	U	0.00018	0.0021	--	0.00022			
		Hydrogen	ND	U	0.012	ND	U	0.016	ND	U	0.013	ND	U	0.012			
		Methane	0.0007	--	0.000095	0.00036	--	0.00012	0.00011	J	0.0001	0.0032	--	0.0001			
		Nitrogen (Ammonia As N)	78	--	0.13	78	--	0.17	79	--	0.14	84	--	0.14			
		Oxygen	16	--	0.035	18	--	0.046	18	--	0.038	7.9	--	0.037			
		Pentane	0.063	--	0.00021	0.064	--	0.00028	0.054	--	0.00018	0.027	--	0.00022			
		Propane	0.0007	J	0.00021	0.00046	J	0.00028	ND	U	0.00018	0.002	J	0.00022			

Table C-1
Summary of Soil Gas Analytical Results

Parameter	Location ID:		KAFB-106V2-252			KAFB-106V2-252			KAFB-106V2-252			KAFB-106V2-252		
	Field Sample ID:		KAFB-106V2 252.2 DUP			KAFB-106V2 252.2			KAFB-106V2 252.2			KAFB-106V2 252.2		
	Sample Date:		4/11/2019			5/9/2019			7/5/2019			10/15/2019		
	Sample Type:		Field Duplicate			REG			REG			REG		
	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	2,300	ND	U	2,400	ND	U	5,500	ND	U	9,700
		1,1-Dichloroethane	ND	U	1,200	ND	U	1,300	ND	U	2,900	ND	U	5,100
		1,2,4-Trichlorobenzene	ND	U	7,400	ND	U	7,900	ND	U	18,000	ND	U	47,000
		1,2,4-Trimethylbenzene	73,000	--	1,500	170,000	--	1,600	150,000	J	3,500	130,000	--	6,200
		1,2-Dibromoethane	14,000	--	2,300	11,000	--	2,400	13,000	J	5,500	13,000	J	9,800
		1,2-Dichlorobenzene	ND	U	1,800	ND	U	1,900	ND	U	4,300	ND	U	7,600
		1,3,5-Trimethylbenzene	24,000	--	1,500	47,000	--	1,600	54,000	J	3,500	48,000	--	6,200
		1,3-Butadiene	ND	U	660	ND	U	700	ND	U	1,600	ND	U	2,800
		1,4-Dioxane	ND	U	3,600	ND	U	3,800	ND	U	8,600	ND	U	23,000
		2-Butanone	340,000	J	2,900	290,000	--	3,100	320,000	J	7,100	290,000	--	19,000
		2-Hexanone	ND	U	4,100	12,000	--	4,300	ND	U	9,800	ND	U	26,000
		4-Methyl-2-Pentanone	ND	U	1,200	11,000	--	1,300	ND	U	2,900	ND	U	5,200
		Acetone	2,300,000	--	2,400	2,500,000	--	2,500	3,100,000	J	5,700	2,500,000	--	15,000
		Benzene	660,000	--	960	770,000	--	1,000	950,000	J	2,300	980,000	--	4,100
		Bromodichloromethane	ND	U	2,000	ND	U	2,100	ND	U	4,800	ND	U	8,500
		Bromoform	ND	U	3,100	ND	U	3,300	ND	U	7,400	ND	U	13,000
		Carbon Disulfide	ND	U	3,100	ND	U	3,300	ND	U	7,500	ND	U	20,000
		Carbon Tetrachloride	ND	U	1,900	ND	U	2,000	ND	U	4,500	ND	U	8,000
		Chloroethane	ND	U	2,600	ND	U	2,800	ND	U	6,300	ND	U	17,000
		Chloroform	ND	U	1,500	ND	U	1,600	ND	U	3,500	ND	U	6,200
		Chloromethane	ND	U	2,100	ND	U	2,200	ND	U	5,000	ND	U	13,000
		Cyclohexane	2,500,000	--	1,000	2,500,000	--	1,100	2,900,000	J	2,500	3,100,000	--	4,400
		Dibromochloromethane	ND	U	2,600	ND	U	2,700	ND	U	6,100	ND	U	11,000
		Dichlorodifluoromethane	ND	U	1,500	ND	U	1,600	ND	U	3,600	ND	U	6,300
		Ethanol	12,000	--	1,900	6,100	--	2,000	5,700	J	4,500	ND	U	12,000
		Ethyl Acetate	ND	U	7,200	ND	U	7,600	ND	U	12,000	ND	U	30,000
		Ethylbenzene	270,000	--	1,300	310,000	--	1,400	300,000	J	3,100	320,000	--	5,500
		Hexane	1,600,000	--	1,000	2,100,000	--	1,100	2,800,000	J	2,500	2,800,000	--	4,500
		Isopropyl Alcohol	130,000	--	2,400	130,000	--	2,600	120,000	J	5,900	59,000	--	16,000
		m- & p-Xylenes	640,000	--	1,300	750,000	--	1,400	710,000	J	3,100	770,000	--	5,500
		Methylene Chloride	ND	U	3,500	ND	U	3,700	ND	U	8,300	7,000	J	22,000
		Naphthalene	1,300	J	5,200	ND	UJ	5,600	ND	U	8,400	ND	U	4,400
		n-Heptane	4,900,000	J	1,200	3,900,000	--	1,300	4,100,000	J	3,000	4,600,000	--	5,200
		o-Xylene	170,000	--	1,300	230,000	--	1,400	210,000	J	3,100	210,000	--	5,500
		Propylene (Propene)	37,000	--	1,700	40,000	--	1,800	29,000	J	4,100	ND	U	11,000
		Styrene	ND	U	1,300	ND	U	1,400	ND	U	3,100	ND	U	5,400
		Tetrachloroethene	ND	U	2,000	ND	U	2,200	ND	U	4,900	77,000	--	8,600
		Tetrahydrofuran	ND	U	880	ND	U	940	ND	U	2,100	ND	U	3,800
		Toluene	3,600,000	--	1,100	3,500,000	--	1,200	2,800,000	J	2,700	4,000,000	--	4,800
		Trichloroethene	ND	U	1,600	ND	U	1,700	ND	U	3,900	ND	U	6,800
		Trichlorofluoromethane	ND	U	1,700	ND	U	1,800	ND	U	4,000	ND	U	7,100
		Vinyl Chloride	ND	U	770	ND	U	810	ND	U	1,800	ND	U	3,200
		Xylenes, Total	810,000	--	2,200	980,000	--	2,300	930,000	J	3,500	1,000,000	--	9,200

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-252			KAFB-106V2-252			KAFB-106V2-252			KAFB-106V2-252		
			Field Sample ID:			KAFB-106V2 252.2 DUP			KAFB-106V2 252.2			KAFB-106V2 252.2			KAFB-106V2 252.2		
			Sample Date:			4/11/2019			5/9/2019			7/5/2019			10/15/2019		
			Sample Type:			Field Duplicate			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	90,000,000	--	330,000	89,000,000	--	170,000	87,000,000	--	180,000	98,000,000	--	140,000			
Fixed Gases	Method D1945 (%)	Butane	0.0018	J	0.00022	0.0021	--	0.00023	0.0018	J	2,400	0.00057	J	0.00023			
		Carbon Dioxide	7.5	--	0.0096	5	--	0.01	2.9	--	0.011	0.11	--	0.01			
		Carbon Monoxide	ND	U	0.0096	ND	U	0.01	ND	U	0.011	ND	U	0.01			
		Ethane	0.002	--	0.00022	0.0015	J	0.00023	0.00072	J	2,400	ND	U	0.00023			
		Hydrogen	ND	U	0.012	ND	U	0.013	ND	U	0.014	ND	U	0.013			
		Methane	0.0032	--	0.0001	0.0021	--	0.00011	0.0012	--	0.00011	ND	U	0.00011			
		Nitrogen (Ammonia As N)	84	--	0.14	81	--	0.14	81	--	0.15	79	--	0.14			
		Oxygen	8	--	0.037	13	--	0.039	15	--	0.041	20	--	0.039			
		Pentane	0.028	--	0.00022	0.037	--	0.00023	0.04	--	0.00024	0.037	--	0.00023			
		Propane	0.002	J	0.00022	0.0022	--	0.00023	0.0013	J	0.00024	ND	U	0.00023			

Table C-1
Summary of Soil Gas Analytical Results

		Location ID:	KAFB-106V2-252			KAFB-106V2-252			KAFB-106V2-252			KAFB-106V2-252		
		Field Sample ID:	KAFB-106V2 252.2			KAFB-106V2 252.2			KAFB-106V2 252			KAFB-106V2-252		
		Sample Date:	10/22/2019			10/31/2019			11/5/2019			1/13/2020		
		Sample Type:	REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	4,400	ND	U	3,100	ND	U	2,600	ND	U	3,000
		1,1-Dichloroethane	ND	U	2,300	ND	U	1,700	ND	U	1,400	ND	U	1,600
		1,2,4-Trichlorobenzene	ND	U	21,000	ND	U	15,000	ND	U	13,000	ND	U	11,000
		1,2,4-Trimethylbenzene	110,000	--	2,800	25,000	J	2,000	150,000	J	1,700	34,000	J	2,000
		1,2-Dibromoethane	15,000	--	4,400	10,000	J	3,200	18,000	J	2,600	8,400	J	3,100
		1,2-Dichlorobenzene	ND	U	3,400	ND	U	2,500	ND	U	2,000	ND	U	2,400
		1,3,5-Trimethylbenzene	39,000	--	2,800	10,000	J	2,000	49,000	J	1,700	13,000	J	2,000
		1,3-Butadiene	ND	U	1,300	ND	U	910	ND	U	760	ND	U	880
		1,4-Dioxane	ND	U	10,000	ND	U	7,400	ND	U	6,200	ND	U	5,400
		2-Butanone	350,000	--	8,400	290,000	J	6,100	370,000	J	5,000	180,000	J	4,400
		2-Hexanone	ND	U	12,000	8,600	J	8,400	ND	U	7,000	ND	U	6,100
		4-Methyl-2-Pentanone	ND	U	2,300	13,000	J	1,700	ND	U	1,400	ND	U	1,600
		Acetone	2,800,000	--	6,800	2,400,000	J	4,900	3,000,000	J	4,100	2,000,000	J	3,500
		Benzene	1,100,000	--	1,800	760,000	J	1,300	940,000	J	1,100	330,000	J	1,300
		Bromodichloromethane	ND	U	3,800	ND	U	2,800	ND	U	2,300	ND	U	2,700
		Bromoform	ND	U	5,900	ND	U	4,200	ND	U	3,500	ND	U	4,100
		Carbon Disulfide	ND	U	8,900	ND	U	6,400	ND	U	5,300	ND	U	4,600
		Carbon Tetrachloride	ND	U	3,600	ND	U	2,600	ND	U	2,200	ND	U	2,500
		Chloroethane	ND	UJ	7,600	ND	U	5,400	ND	U	4,500	ND	U	3,900
		Chloroform	ND	U	2,800	ND	U	2,000	ND	U	1,700	ND	U	1,900
		Chloromethane	ND	U	5,900	ND	U	4,200	ND	U	3,500	ND	U	3,100
		Cyclohexane	3,500,000	--	2,000	2,600,000	J	1,400	3,100,000	J	1,200	1,500,000	J	1,400
		Dibromochloromethane	ND	U	4,900	ND	U	3,500	ND	U	2,900	ND	U	3,400
		Dichlorodifluoromethane	ND	U	2,800	ND	U	2,000	ND	U	1,700	ND	U	2,000
		Ethanol	ND	U	5,400	1,600	J	3,900	2,900	J	3,200	1,600	J	2,800
		Ethyl Acetate	ND	U	14,000	ND	U	9,900	ND	U	8,200	ND	U	7,200
		Ethylbenzene	320,000	--	2,500	140,000	J	1,800	390,000	J	1,500	150,000	J	1,700
		Hexane	3,100,000	--	2,000	2,600,000	J	1,400	3,000,000	J	1,200	570,000	J	1,400
		Isopropyl Alcohol	67,000	--	7,000	64,000	J	5,000	120,000	J	4,200	110,000	J	3,700
		m- & p-Xylenes	780,000	--	2,500	320,000	J	1,800	930,000	J	1,500	350,000	J	1,700
		Methylene Chloride	ND	U	10,000	ND	U	7,100	ND	U	5,900	ND	U	5,200
		Naphthalene	ND	U	2,000	ND	U	1,400	4,200	J	1,200	ND	U	1,000
		n-Heptane	5,100,000	--	2,300	3,500,000	J	1,700	4,700,000	J	1,400	3,000,000	J	1,600
		o-Xylene	210,000	--	2,500	78,000	J	1,800	270,000	J	1,500	91,000	J	1,700
		Propylene (Propene)	ND	U	4,900	ND	U	3,500	ND	U	2,900	ND	U	2,600
		Styrene	ND	U	2,400	ND	U	1,800	ND	U	1,400	ND	U	1,700
		Tetrachloroethene	ND	U	3,900	ND	U	2,800	ND	U	2,300	ND	U	2,700
		Tetrahydrofuran	ND	UJ	1,700	ND	U	1,200	ND	U	1,000	ND	U	1,200
		Toluene	4,400,000	--	2,200	2,900,000	J	1,500	4,200,000	J	1,300	2,600,000	J	1,500
		Trichloroethene	ND	U	3,100	ND	U	2,200	ND	U	1,800	ND	U	2,100
		Trichlorofluoromethane	ND	U	3,200	ND	U	2,300	ND	U	1,900	ND	U	2,200
		Vinyl Chloride	ND	U	1,500	ND	U	1,000	ND	U	870	ND	U	1,000
		Xylenes, Total	990,000	--	4,100	400,000	J	3,000	1,200,000	J	2,500	440,000	J	4,300

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-252			KAFB-106V2-252			KAFB-106V2-252			KAFB-106V2-252		
			Field Sample ID:			KAFB-106V2 252.2			KAFB-106V2 252.2			KAFB-106V2 252			KAFB-106V2-252		
			Sample Date:			10/22/2019			10/31/2019			11/5/2019			1/13/2020		
			Sample Type:			REG			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	88,000,000	--	210,000	74,000,000	--	150,000	94,000,000	--	120,000	66,000,000	--	230,000			
Fixed Gases	Method D1945 (%)	Butane	0.000039	J	0.00021	ND	U	0.0003	ND	U	0.00025	ND	U	0.00017			
		Carbon Dioxide	0.11	--	0.0092	0.099	--	0.013	0.1	--	0.011	0.21	--	0.0096			
		Carbon Monoxide	ND	U	0.0092	ND	U	0.013	ND	U	0.011	ND	U	0.0096			
		Ethane	ND	U	0.00021	ND	U	0.0003	ND	U	0.00025	ND	U	0.00017			
		Hydrogen	ND	U	0.012	ND	U	0.017	ND	U	0.014	ND	U	0.012			
		Methane	ND	U	0.000096	0.000098	J	0.00014	ND	U	0.00011	ND	U	0.0001			
		Nitrogen (Ammonia As N)	79	--	0.13	79	--	0.18	79	--	0.16	79	--	0.13			
		Oxygen	20	--	0.035	20	--	0.051	20	--	0.042	20	--	0.037			
		Pentane	0.025	--	0.00021	0.012	--	0.0003	0.0061	--	0.00025	ND	U	0.00017			
		Propane	ND	U	0.00021	ND	U	0.0003	ND	U	0.00025	ND	U	0.00017			

Table C-1
Summary of Soil Gas Analytical Results

	Location ID:			KAFB-106V2-270			KAFB-106V2-270			KAFB-106V2-270		
	Field Sample ID:			KAFB-106V2 269.5			KAFB-106V2 269.5			KAFB-106V2 269.5		
	Sample Date:			4/11/2019			5/9/2019			7/5/2019		
	Sample Type:			REG			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	
VOCs	Method TO-15 (µg/m³)	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	U	2,300	ND	U	4,500	ND	U	8,900	
		1,1-Dichloroethane	ND	U	1,200	ND	U	2,400	4,200	J	4,700	
		1,2,4-Trichlorobenzene	ND	U	7,600	ND	U	14,000	ND	U	29,000	
		1,2,4-Trimethylbenzene	48,000	--	1,500	100,000	--	2,900	240,000	J	5,700	
		1,2-Dibromoethane	9,200	--	2,400	7,500	U	4,500	14,000	J	8,900	
		1,2-Dichlorobenzene	ND	U	1,800	ND	U	3,500	ND	U	7,000	
		1,3,5-Trimethylbenzene	17,000	--	1,500	33,000	--	2,900	86,000	J	5,700	
		1,3-Butadiene	ND	U	680	ND	U	1,300	ND	U	2,600	
		1,4-Dioxane	ND	U	3,700	ND	U	7,100	ND	U	14,000	
		2-Butanone	340,000	J	3,000	390,000	--	5,800	630,000	J	11,000	
		2-Hexanone	ND	U	4,200	11,000	J	8,000	ND	U	16,000	
		4-Methyl-2-Pentanone	ND	U	1,200	17,000	--	2,400	ND	U	4,800	
		Acetone	1,800,000	--	2,400	2,400,000	--	4,600	4,300,000	J	9,200	
		Benzene	440,000	--	980	590,000	--	1,900	1,200,000	J	3,700	
		Bromodichloromethane	ND	U	2,000	ND	U	3,900	ND	U	7,800	
		Bromoform	ND	U	3,200	ND	U	6,100	ND	U	12,000	
		Carbon Disulfide	ND	U	3,200	ND	U	6,100	ND	U	12,000	
		Carbon Tetrachloride	ND	U	1,900	ND	U	3,700	1,100	J	7,300	
		Chloroethane	ND	U	2,700	ND	U	5,200	ND	U	10,000	
		Chloroform	ND	U	1,500	ND	U	2,900	ND	U	5,700	
		Chloromethane	ND	U	2,100	ND	U	4,000	ND	U	8,000	
		Cyclohexane	2,000,000	--	1,000	2,500,000	--	2,000	4,000,000	J	4,000	
		Dibromochloromethane	ND	U	2,600	ND	U	5,000	ND	U	9,900	
		Dichlorodifluoromethane	ND	U	1,500	ND	U	2,900	ND	U	5,700	
		Ethanol	10,000	--	1,900	11,000	--	3,700	11,000	J	7,300	
		Ethyl Acetate	ND	U	7,400	ND	U	14,000	ND	U	18,000	
		Ethylbenzene	190,000	--	1,300	180,000	--	2,600	320,000	J	5,000	
		Hexane	1,200,000	--	1,100	1,200,000	--	2,100	2,600,000	J	4,100	
		Isopropyl Alcohol	78,000	--	2,500	100,000	--	4,800	120,000	J	9,500	
		m- & p-Xylenes	440,000	--	1,300	430,000	--	2,600	810,000	J	5,000	
		Methylene Chloride	ND	U	3,500	ND	U	6,800	ND	U	13,000	
		Naphthalene	ND	UJ	5,300	970	J	5,100	ND	U	14,000	
		n-Heptane	4,200,000	--	1,200	5,800,000	--	2,400	7,500,000	J	4,800	
		o-Xylene	100,000	--	1,300	120,000	--	2,600	250,000	J	5,000	
		Propylene (Propene)	33,000	--	1,800	30,000	--	3,400	43,000	J	6,700	
		Styrene	ND	U	1,300	ND	U	2,500	ND	U	4,900	
		Tetrachloroethene	ND	U	2,100	ND	U	4,000	20,000	J	7,900	
		Tetrahydrofuran	ND	U	900	ND	U	1,700	ND	U	3,400	
		Toluene	3,000,000	--	1,200	3,900,000	J	2,200	4,400,000	J	4,400	
		Trichloroethene	ND	U	1,600	ND	U	3,200	800,000	J	6,200	
		Trichlorofluoromethane	ND	U	1,700	ND	U	3,300	ND	U	6,500	
		Vinyl Chloride	ND	U	780	ND	U	1,500	ND	U	3,000	
		Xylenes, Total	540,000	--	2,200	550,000	--	4,200	1,000,000	J	5,600	

Table C-1
Summary of Soil Gas Analytical Results

			Location ID:			KAFB-106V2-270			KAFB-106V2-270		
			Field Sample ID:			KAFB-106V2 269.5			KAFB-106V2 269.5		
			Sample Date:			4/11/2019			5/9/2019		
			Sample Type:			REG			REG		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
TPH	Method TO-03 (µg/m³)	TPH-GRO (C6-C10)	94,000,000	--	220,000	120,000,000	--	160,000	140,000,000	--	170,000
Fixed Gases	Method D1945 (%)	Butane	0.0017	J	0.00022	0.002	--	0.00022	0.0028	--	2,300
		Carbon Dioxide	6.8	--	0.0098	5.8	--	0.0094	4.7	--	0.0099
		Carbon Monoxide	ND	U	0.0098	ND	U	0.0094	ND	U	0.0099
		Ethane	0.0017	J	0.00022	0.0017	J	0.00022	0.0011	J	2,300
		Hydrogen	ND	U	0.013	ND	U	0.012	ND	U	0.013
		Methane	0.0026	--	0.0001	0.0023	--	9.8E-05	0.0014	--	0.0001
		Nitrogen (Ammonia As N)	83	--	0.14	81	--	0.13	80	--	0.14
		Oxygen	9.6	--	0.038	12	--	0.036	14	--	0.038
		Pentane	0.024	--	0.00022	0.029	--	0.00022	0.046	--	0.00023
		Propane	0.0018	J	0.00022	0.0021	--	0.00022	0.0021	--	0.00023

Table C-1
Summary of Soil Gas Analytical Results

% = percentage
µg/m³ = microgram per cubic meter
mg/m³ = milligram per cubic meter
GRO = gasoline range organics
ID = identification
KAFB = Kirtland Air Force Base
LOD = limit of detection
ND = not detected
REG = normal field sample
TPH = total petroleum hydrocarbon
Val Qual = validation qualifier
VOC = volatile organic compound
Shading = detected concentrations above the detection limit
Val Quals based on independent data validation
J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.
R = Qualifier denotes the data was rejected based on a data usability assessment and evaluation of data comparability to previous and subsequent data collected for the same well and interval
U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the limit of detection.
-- = Validation qualifier not assigned.

DATE: 12-9-19

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report – Non-Construction

4. WORK PERFORMED (Continued)

DATE: 12-9-18

[illegible]

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

above _____
Name J. Messenger

Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 12-16-19

5064
5065
5066

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

ROLE: Team #1 - deployment

DATE: 12-10-19

WEATHER: 48-50 °F; clear sky

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
<u>Carlos Montoya</u>	EA - Site Manager/Supervisor
<u>Pete Ferrari</u>	EA - Site Health and Safety Office
<u>J. Messenger / G. Begaye</u>	EA - Team #1

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☒	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

-	<u>Met @ field office</u>
-	<u>WL probe GeoTech (SN: 0001) used</u>
-	<u>Deployed @ wells: KAFB-106201; KAFB-106202; KAFB-106203; KAFB-106245; KAFB-106240; KAFB-106243; KAFB-106224; KAFB-106223; KAFB-106222; KAFB-106241; KAFB-106216; KAFB-106217; KAFB-106218</u>

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

<u>0734</u>	<u>LtA field office - 0758 Arrived @ KAFB-106201 cluster</u>
<u>0820</u>	<u>deployed @ KAFB-106202 - 0840 deployed @ KAFB-106203</u>
<u>0900</u>	<u>deployed @ KAFB-106201 - 0903 left KAFB-106201 cluster</u>
<u>0908</u>	<u>Arrived @ KAFB-106245 - 0935 deployed @ KAFB-106245</u>
<u>0939</u>	<u>left KAFB-106245 - 0950 Arrived @ KAFB-106240</u>

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

4. WORK PERFORMED (Continued)	
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DATE: 12-10-19

[illegible]

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name _____

Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials:

Reviewed date: 12-16-19

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #1 - deployment

DATE: 12-11-19

WEATHER: 50°F; clear sky

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
<u>Carlos Montoya</u>	EA - Site Manager/Supervisor
<u>Pete Ferrari</u>	EA - Site Health and Safety Office
<u>J. Messenger / G. Begaye</u>	EA - Team #1
<u>Jm</u>	

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☒	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

- Met @ field office
- WL meter GeoTech - 0001 used
- deployed @ wells: KAFB-106247, KAFB-106049, KAFB-106051, KAFB-106050, KAFB-106207, KAFB-106208, KAFB-106209, KAFB-106206, KAFB-106205, KAFB-106204, KAFB-106244, KAFB-106005, KAFB-106009
<u>Jm</u>

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0721	left field office - 0727 Arrived @ KAFB-106247
0755	deployed @ KAFB-106247 - left KAFB-106247
0806	Arrived @ KAFB-106049 cluster - left KAFB-106049 cluster - JM
0825	deployed @ KAFB-106049 - 0840 deployed @ KAFB-106051
0850	deployed @ KAFB-106050 - 0854 left KAFB-106049 cluster

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 12-11-19

0859 Arrived @ KAFB-106207 cluster - 0918 Deployed @ KAFB-106207
0930 Deployed @ KAFB-106208 - 0942 Deployed @ KAFB-106209
0946 Left KAFB-106207 cluster - 0950 Arrived @ KAFB-106204 cluster
1005 Deployed @ KAFB-106206 - 1020 Deployed @ KAFB-106205
1035 Deployed @ KAFB-106204 - 1038 Left KAFB-106204 cluster
1045 Arrived @ KAFB-106244 - 1105 Deployed @ KAFB-106244
1107 Left KAFB-106244 - 1122 Arrived @ KAFB-106009
1150 Deployed @ KAFB-106009 - 1155 Left KAFB-106009
1157 Arrived @ KAFB-106005 - 1215 Deployed @ KAFB-106005
1216 Left KAFB-106005 - 1218 Arrived @ field office
cleaned out truck - EOD

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name

J Messenger

Signature

[Signature]

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by:

C. Montoya

Initials:

CM

Reviewed date:

12-16-19

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #1 - deployment

DATE: 12-12-19

WEATHER: 50°F; clear sky

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
<u>Carlos Montoya</u>	EA - Site Manager/Supervisor
<u>Pete Ferrari</u>	EA - Site Health and Safety Office
<u>J. Messenger / G. Begaye</u>	EA - Team #1

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☐	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☒

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

-	<u>Met @ field office</u>
-	<u>GeoTech - SN 0001 WL reel used</u>
-	<u>Deployed @ wells: KAFB-106041, KAFB-10653</u>
	<u>KAFB-10657, KAFB-10655, KAFB-10651, KAFB-106153</u>
	<u>KAFB-10659, KAFB-106151, KAFB-106152</u>

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

<u>0734</u>	<u>Left field office</u>
<u>0743</u>	<u>Arrived @ KAFB-106041 - 0815 deployed @ KAFB-106041</u>
<u>0818</u>	<u>Left KAFB-106041 - 0827 Arrived @ field office</u>
<u>0840</u>	<u>Left field office - 0843 Arrived @ KAFB-10653</u>
<u>0910</u>	<u>deployed @ KAFB-10653 - 0913 left KAFB-10653</u>

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 12-16-19

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 12-12-19

0957 0923 Arrived @ KAFB-10657 - 0945 deployed @ KAFB-10657
 Left KAFB-10657 - 0959 Arrived @ KAFB-10655
 1010 Deployed @ KAFB-10655 - 1020 Left KAFB-10655
 1040 Arrived @ KAFB-10651 - 1105 deployed @ KAFB-10651
 1107 Left KAFB-10651 - 1108 Arrived @ KAFB-106149
 - deployed @ KAFB-106149 - on 1122 left KAFB-106149
 1122 Arrived @ KAFB-106153 - 1140 deployed @ KAFB-106153
 1145 Left KAFB-106153 - 1147 Arrived @ KAFB-10659
 1215 Deployed @ KAFB-10659 - 1218 Left KAFB-10659
 1218 Arrived @ KAFB-106151 - 1240 deployed @ KAFB-106151
 1243 Left KAFB-106151 - 1244 Arrived @ KAFB-106152
 1305 Deployed @ KAFB-106152 - 1307 Left KAFB-106152
 1309 Arrived @ field office - cleaned out truck - EOD

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name

J. Messenger

Signature

[Signature]

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by:

C. Monahan

Initials:

CM

Reviewed date:

12-16-19

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

ROLE: Team #1 - deployment

DATE: 12-13-19

WEATHER: 52-54°F; clear sky

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
<u>Carlos Montoya</u>	EA - Site Manager/Supervisor
<u>Pete Ferrari</u>	EA - Site Health and Safety Office
<u>J. Messenger / G. Begay</u>	EA - Team #1

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 ☐	YSI Professional Plus 15K101396 ☐	YSI Professional Plus 15L100541 ☐
Wh0003	Wh0001	Wh0002
MiniRAE 3000 592-915778 ☐	MiniRAE 3000 592-915790 ☐	MiniRAE 3000 592-915579 ☒
Wh0005	Wh0004	Wh0006
Hach 2100Q 15100C045034 ☐	Hach 2100Q 15100C044633 ☐	Hach 2100Q 15100C045025 ☐
Wh0008	Wh0009	Wh0007
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☒

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

-	<u>met @ field office</u>
-	<u>bailed + deployed @ KAFB-106149</u>
-	<u>JM</u>

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

<u>0722</u>	<u>left field office - 0734 arrived @ Home Depot for twine</u>
<u>0740</u>	<u>left HOME DEPOT - 0803 Arrived @ KAFB-106149</u>
<u>0840</u>	<u>bailed KAFB-106149 - no visible NAPL; deployed WL meter</u>
	<u>measured 0.03' NAPL - redeployed bailed</u>
<u>1000</u>	<u>deployed @ KAFB-106149 NAPL to ≤ 0.01 ft</u>

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

4. WORK PERFORMED (Continued)

DATE: 12-13-19

1007 Left KAFB - 106149

1012 Arrived @ field office

cleaned out truck

waste management

EOD

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications above.

Name

J. Messenger

Signature

[Signature]

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials:

CM

Reviewed date: 12-16-19

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

ROLE: Team #1 - deployment

DATE: 12-16-19

WEATHER: mid 40s; clear sky

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
<u>Carlos Montoya</u>	EA - Site Manager/Supervisor
<u>Pete Ferrari</u>	EA - Site Health and Safety Office
<u>J. Messenger / G. Begaye</u>	EA - Team #1

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 ☐	YSI Professional Plus 15K101398 ☐	YSI Professional Plus 15L100541 ☐
Wh0003	Wh0001	Wh0002
MiniRAE 3000 592-915778 ☐	MiniRAE 3000 592-915790 ☐	MiniRAE 3000 592-915579 ☒
Wh0005	Wh0004	Wh0006
Hach 2100Q 15100C045034 ☐	Hach 2100Q 15100C044633 ☐	Hach 2100Q 15100C045025 ☐
Wh0008	Wh0009	Wh0007
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☒

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

<u>met @ field office</u>
<u>deployed @ wells: KAFB-106S4</u>
<u>KAFB-106S2</u>
<u>KAFB-106S8</u>

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

<u>0745</u>	<u>left field office</u>
<u>0747</u>	<u>Arrived @ KAFB-106S4</u>
<u>0810</u>	<u>deployed @ KAFB-106S4</u>
<u>0813</u>	<u>left KAFB-106S4</u>
<u>0815</u>	<u>Arrived @ KAFB-106S2</u>

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 12-16-19

4. WORK PERFORMED (Continued)	
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97	98
99	100

0835	Deployed @ KAFB-106S2
0838	left KAFB-106S2
0843	Arrived @ KAFB-106S8
0905	deployed @ KAFB-106S8
0908	left KAFB-106S8
0914	Arrived @ KAFB in field office cleaned out truck

ΣΟΤ

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name

Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials:

Reviewed date: 12-16-19

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

ROLE: Team 1

DATE: 1-6-19 NP 1-6-2020

WEATHER: High in the 40°F's, sunny, windy

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
<u>Carlos Montoya</u>	<u>EA - Site Manager/Supervisor</u>
<u>Pete Ferrari</u>	<u>EA - Site Health and Safety Office</u>
<u>Nicole Peterson</u>	<u>EA</u>
<u>Dylan Schmelk</u>	<u>EA</u>

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101398 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☒	MiniRAE 3000 592-915790 Wh0004	☐	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☐	Hach 2100Q 15100C045025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☐	Solinst Water Level Meter 253056	☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

<u>Sampled Wells: KAFB-106247, KAFB-10654, KAFB-10652</u>	
<u>KAFB-10656, KAFB-10632, KAFB-10633, KAFB-10634 CM</u>	

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

<u>0806</u>	<u>Leave BTNP GWTS field trailer for KAFB-106247</u>
<u>0812</u>	<u>Arrive at KAFB-106247</u>
<u>0854</u>	<u>Took samples at KAFB-106247</u>
<u>0918</u>	<u>Leaving KAFB-106247 for KAFB-10654</u>
<u>0924</u>	<u>Arrive at KAFB-10654</u>

Team 1

[illegible]

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Nicole Peters
Signature

DQGR Page 2 of 2

Reviewed date: 1-8-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

ROLE: Team #1

DATE: 1-7-2020

WEATHER: Sunny and ~30°F with light breeze

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferarri	EA - Site Health and Safety Office
Dylan Schmeelk	Geologist
Joshua Livingston	Engineer

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101398 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☒	MiniRAE 3000 592-915790 Wh0004	☐	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☐	Hach 2100Q 15100C045025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☐	Solinst Water Level Meter 253056	☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

Sampled wells: KAFB-106216, KAFB-106217, KAFB-106218
KAFB-106223, and KAFB-106224 CM

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0740	Leave field trailer for KAFB-106218 cluster
0750	Arrive at KAFB-106218 cluster
0812	KAFB-106217 sampled
0835	Sampled KAFB-106218
0903	Sampled KAFB-106216

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-7-2020

0917	Leave KAFB-106218 cluster for KAFB-106223 cluster
0919	Arrive at KAFB-106223 cluster
0938	Sampled KAFB-106223
1002	Sampled KAFB-106224
1021	Leave KAFB-106223 cluster for Field trailer
1032	Arrive at field trailer

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schneelk
Name

[Signature]
Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-8-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #1

DATE: 1-8-2020

WEATHER: Clear, light breeze, as warm as 40°F

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrarri	EA - Site Health and Safety Office
Dylan Schmeelk	Geologist
Galveston Begaye	EA Tech

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101398 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☒	MiniRAE 3000 592-915790 Wh0004	☐	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☐	Hach 2100Q 15100C045025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☐	Solinst Water Level Meter 253056	☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

Sampled Wells: KAFB-106009, KAFB-106049, KAFB-106050 ^{cm}
KAFB-106051 ^{cm}

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0744	Leave field trailers for KAFB-106009 cluster
0747	Arrive at KAFB-106009 cluster
0811	Sampled KAFB-106009
0845	Leave KAFB-106009 for KAFB-106051 cluster
0852	Arrive at KAFB-106051 cluster

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-9-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 1-8-2020

4. WORK PERFORMED (Continued)

0911	Sampled KAFB-106049
0935	Sampled KAFB-106051
0955	Sampled KAFB-106050
1015	Leave KAFB-106051 cluster for KAFB-106245 to
1025	collect samples from team #2 X field office

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schuehlk
Name


Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-9-2020

**Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction**

ROLE: Team #1

DATE: 1-9-2020

WEATHER: Overcast, breezy with high of ~50°

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrara	EA - Site Health and Safety Office
Dylan Schmeelk	Geologist
Galveston Begaye	Tech

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101398 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☒	MiniRAE 3000 592-915790 Wh0004	☐	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☒	Hach 2100Q 15100C045025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☒	Solinst Water Level Meter 253056	☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

0846	Take ER201-01
1143	Sampled KAFB-106010
1417	Sampled KAFB-106076

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

1002	Leave field trailer for KAFB-106010
1015	Arrive at KAFB-106010
1251	Leave KAFB-106010 for KAFB-106076
1305	Arrive at KAFB-106076
1515	Leave KAFB-106076 for field trailer

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-10-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-9-2020

1520 Arrive at field trailer

✓

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schmeelk

Name



Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by:

C. Montoya

Initials:

CM

Reviewed date:

1-10-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team 1 Hazy Portable

DATE: 1-13-2020

WEATHER: 43° + Clear

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrari	EA - Site Health and Safety Office
Dylan Schneek	Geo I
Kyhan Robinson	Geo I

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☒	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☒	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☐
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☒	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☒

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

1060	Left Yard
1065	Refueled off-base
1050	Began Bailing LNAPL from KAFB-106059
1126	Concluded Bailing
1240	Sampled KAFB-106059 for CSIA

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

1000	Left Yard
1015	Arrived KAFB-106059
1240	Sampled KAFB-106059
1330	
1352	Left KAFB-106059

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-13-2020

1354 Arrived 90 Day Yard to Drop IDW -
KAFB-106059-201
1407 left 90 Day Yard
1410 Arrived Yard

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Kylan Robinson
Name

Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-15-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #1

DATE: 1-14-2020

WEATHER: High of 59°F, mostly sunny, light SE breeze

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferarri	EA - Site Health and Safety Office
Dylan Schneelk	Geologist
Kylian Robinson	Geologist

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101396 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☒	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☐
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☒	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☒	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

Equipment: YSI SN#: 18L100378	
0911	Sampled ER201-03 using pump SN: 1807B-699
1150	Sampled KAFB-106012R
1435	Sampled KAFB-106060 for Microbials

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0938	Leave field trailer to refuel off base.
0942	Arrive at offbase refueling area just outside
0958	Truman gate.
0946	Drive to KAFB-106060
1004	Arrive at KAFB-106060

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 1-14-2020^{cm}

4. WORK PERFORMED (Continued)	
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1008	Leave KAFB-106060 for KAFB-106012R
1009	Arrive at KAFB-106012R
1318	Leave KAFB-106012R for KAFB-106060
1318	Arrive at KAFB-106060
1455	Leave KAFB-106060 for field trailer
1500	Arrive at KAFB-106 field trailer

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schneelk
Name

Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by:

Initials:

Reviewed date:

1-15-2024

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

ROLE: Team #1

DATE: 1-15-2020

WEATHER: High of 57°F, mostly sunny with some clouds

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferarri	EA - Site Health and Safety Office
Dylan Schueelk	Geologist
Kylan Robinson	Geologist

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☒	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☐
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☒	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☒	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

Equipment	YSI SN: 18L100378
0935	Sampled KAFB-106013
1125	Sampled KAFB-106098
1330	Sampled KAFB-106097

4. WORK PERFORMED (indicate location, time, and description of work performed by prime and/or subcontractors)

0752	Leave field trailer for KAFB-106013 cluster gas station
0803	Arrive at gas station
0812	leave gas station for KAFB-106013 cluster
0822	Arrive at KAFB-106013 cluster

[illegible]


Signature

Reviewed date: 1-20-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #1

DATE: 1-16-2020

WEATHER: windy 10-31 mph from East, High of 38°F and overcast/snowing

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferarri	EA - Site Health and Safety Office
Dylan Schmeelk	Geologist
Kylian Robinson	Geologist

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101398 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☒	MiniRAE 3000 592-915790 Wh0004	☐	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☒	Hach 2100Q 15100C045025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☒	Solinst Water Level Meter 253056	☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

Equipment: YSI SN - 18L100378

0920 Sample KAFB-106004

1111 Sampled KAFB-106100

1250 Sampled KAFB-106099

~~1350~~

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0800 Leave field trailer for KAFB-106100 cluster

0812 Arrive at KAFB-106100 cluster

1350 Leave KAFB-106100 cluster for field trailer

1406 Arrive at field trailer

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 1-16-2020

[illegible]

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schneelk
Name


Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: LM

Reviewed date: 1-20-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

ROLE: Team #1

DATE: 1-17-2020

WEATHER: Mostly Cloudy and cold with high of 45°F

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Kylian R. Pete Ferrarri	EA - Site Health and Safety Office
Dylan Schmeelk	Geologist
Kylian Robinson	Geologist

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101398 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☒	MiniRAE 3000 592-915790 Wh0004	☐	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☒	Hach 2100Q 15100C045025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☒	Solinst Water Level Meter 253056	☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

Equipment: YSI SN: 18L100378	
Pump SN: 1807B-699	
0915	Sampled KAFB-106101
1111	Sampled KAFB-106102
1250	Sampled KAFB-106003

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0738	Leave field trailer to go off base and refuel equip
0748	Arrive at refueling area off base
0757	Leave refueling area for KAFB-106003 cluster
0806	Arrive at KAFB-106101 cluster 003 cluster
08438	Leave KAFB-106101 cluster 106003 cluster for field trailer

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 1-17-2020

4. WORK PERFORMED (Continued)

1441 Arrive at field trailer

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications above.

Name

Dylan Schneelk

Signature



EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by:

C. Montoya

Initials:

CM

Reviewed date:

1-22-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #1

DATE: 1-20-2020

WEATHER: Clear and warm, with highs in the low 50's

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferarri	EA - Site Health and Safety Office
Dylan Schuelek	Geologist
Kylian Robinson	Geologist

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101398 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☒	MiniRAE 3000 592-915790 Wh0004	☐	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☐	Hach 2100Q 15100C045025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☒	Solinst Water Level Meter 253056	

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

Gauged GWM network can

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)	
4720	...

0728	Leave field trailer for KAFB-106044 cluster
0736	Arrive at KAFB-106044 cluster
0756	Leave KAFB-106044 cluster for Starbucks
0810	Starbucks on Gibson - Arrival
0828 0835	Leave Starbucks for KAFB-106207 207 cluster

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

DATE: 1-20-2020

4. WORK PERFORMED (Continued)

0820	Arrive at KAFB-106207 cluster
0843	Leave KAFB-106207 cluster for KAFB-106236
0845	Arrive at KAFB-106236
0907	Leave KAFB-106236 for KAFB-106235
0911	Arrive at KAFB-106235
0931	Leave KAFB-106235 for KAFB-106 Family Dollar
0933	Arrive at Family Dollar to buy 9V battery
0936	Leave Family Dollar for gas station
0937	Arrive at gas station (Velencia & Gibson) to buy 9V battery
0940	Leave gas station for KAFB-106207 cluster
0945	Arrive at KAFB-106207 cluster
1004	Leave KAFB-106207 cluster for KAFB-106224 cluster
1007	Arrive at KAFB-106224 cluster
1029	Leave KAFB-106224 cluster for KAFB-106204 cluster
1030	Arrive at KAFB-106204 cluster
1052	Leave KAFB-106204 cluster for KAFB-106227 cluster
1057	Arrive at KAFB-106227 cluster
1117	Leave KAFB-106227 cluster for KAFB-106043 cluster
1118	Arrive at KAFB-106043 cluster
1141	Leave KAFB-106043 cluster for KAFB-106028
1146	Arrive at KAFB-106028
1148	Leave KAFB-106028 for Starbucks
1154	Arrive at Starbucks
1157	Leave Starbucks for 220 KAFB-106220 cluster
1202	Arrive at KAFB-106220 cluster
1224	Leave KAFB-106220 cluster for KAFB-106201 cluster
1235	Arrive at KAFB-106201 cluster to find KAFB-106003 not running

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name Dylan Schneelk

Signature 

EA Engineering, Science and Technology Inc., PBC

Reviewed by: C. Maruya DQCR Page 2 of 2 ^{3cm}
Initials: CM

Reviewed date: 1-22-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-20-2020

1238 Leave KAFB-106201 cluster for field trailer
1250 Arrive at field trailer

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schuelk

Name



Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by:

C. Montoya

Initials:

cm

Reviewed date:

1-22-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #1

DATE: 1-21-2020

WEATHER: Raining with a high of 42°F

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Fesarri	EA - Site Health and Safety Office
Dylan Schueelke	Geologist
Kytian Robinson	Geologist

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101396 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☒	MiniRAE 3000 592-915790 Wh0004	☐	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☐	Hach 2100Q 15100C045025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☒	Solinst Water Level Meter 253056	☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

1336	KAFB-106229 skipped because of puddle covering vault lid.
	Changed GWM Network on

4. WORK PERFORMED (indicate location, time, and description of work performed by prime and/or subcontractors)

0733	Leave field trailer for Dunkin Donuts
0736	Arrive at Dunkin Donuts
0750	Leave Dunkin Donuts for KAFB-106201 cluster
0800	Arrive at KAFB-106201 cluster
0823	Leave KAFB-106201 cluster for field trailer

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-22-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

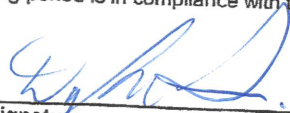
4. WORK PERFORMED (Continued)

DATE: 1-21-2020

0831	Arrive at field trailer
0833	Leave field trailer for KAFB-106105 cluster
0841	Arrive at KAFB-106105 cluster
0910	Leave KAFB-106105 cluster for KAFB-106031 cluster
0919	Arrive at KAFB-106031 cluster
0939	Leave KAFB-106031 cluster for KAFB-106032 cluster
0942	Arrive at KAFB-106032 cluster
1009	Leave KAFB-106032 cluster for KAFB-106242
1013	Arrive at KAFB-106242 cluster
1030	Leave KAFB-106242 for Starbucks
1034	Arrive at Starbucks
1038	Leave Starbucks for KAFB-106230 cluster
1044	Arrive at KAFB-106230 cluster
1105	Leave KAFB-106230 cluster for KAFB-106052
1107	Arrive at KAFB-106052 cluster
1130	Leave KAFB-106052 cluster for KAFB-106049 cluster
1133	Arrive at KAFB-106049 cluster
1155	Leave KAFB-106049 cluster for KAFB-106025
1157	Arrive at KAFB-106025
1210	Leave KAFB-106025 for KAFB-106230 cluster
1213	Arrive at KAFB-106230 cluster
1233	Leave KAFB-106230 cluster for KAFB-106058 cluster
1238	Arrive at KAFB-106058 cluster
1306	Leave KAFB-106058 cluster for KAFB-106091 cluster
1309	Arrive at KAFB-106091 cluster
1339	Leave KAFB-106091 cluster for KAFB-106022
1340	Arrive at KAFB-106022

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schuelke
Name


Signature

EA Engineering, Science and Technology Inc., PBC

Reviewed by: C. M. Hays

DQCR Page 2 of 23 cm
Initials: CM

Reviewed date: 1-21-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-21-2020

1353 Leave KAFB-106022 for field trailer
1402 Arrive at field trailer

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schneck
Name


Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2 ^{cm}

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-22-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #1

DATE: 1-22-2020

WEATHER: Wind NNW 15-26 mph, partly cloudy with high of 47°F

[illegible]

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferarri	EA - Site Health and Safety Office
Dylan Schuelek	Geologist
Kylian Robinson	Geologist

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101398 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☐	MiniRAE 3000 592-915790 Wh0004	☒	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☐	Hach 2100Q 15100C046025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☒	Solinst Water Level Meter 253056	☒
3. DAILY SUMMARY (include QC samples collected during day)					

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)				
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Gauged Wells

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)	
0735	Leave B...

Time	Location, time, and description of work performed by prime and/or subcontractors
0735	Leave field trailer for KAFB-106015
0741	Arrive at KAFB-106015
0751	Leave KAFB-106015 for KAFB Starbucks
0755	Arrive at Starbucks
0805	Leave Starbucks for KAFB-106213 cluster

Reviewed by: E. Montoya

Initials: CM

Reviewed date: 1-28-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-22-2020

0808	Arrive at KAFB-106213 cluster
0833	Leave KAFB-106213 cluster for KAFB-106037 cluster
0834	Arrive at KAFB-106037 cluster
0911	Leave KAFB-106037 cluster for KAFB-106229
0912	Arrive at KAFB-106229
0924	Leave KAFB-106229 for KAFB-106090
0926	Arrive at KAFB-106090 cluster
1005	Leave KAFB-106090 cluster for KAFB-106023 cluster
1007	Leave KAFB-106023 cluster for KAFB-106 x
1030	Leave KAFB-106023 cluster for KAFB-106070 cluster
1040	Arrive at KAFB-106070 cluster
1105	Leave KAFB-106070 cluster for KAFB-106085 cluster
1107	Arrive at KAFB-106085 cluster
1128	Leave KAFB-106085 cluster for field trailer
1142	Arrive at field trailer
1203	Leave KAFB-106 x field trailer for KAFB-106076
1208	Arrive at KAFB-106076
1219	Leave KAFB-106076 for KAFB-106150
1219	Arrive at KAFB-106150
	Leave KAFB-106150 for KAFB-106 x
1227	Left BFF for PPE Cartridge - One broke (field trailer)
1233	Arrive at field trailer
1233	Leave field trailer for KAFB-106150
1239	Arrive at KAFB-106150
1331	Leave KAFB-106150 for KAFB-106154
1333	1333 Arrive at KAFB-106154
1346	Leave KAFB-106154 for KAFB-106076

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schueeltz

Name



Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 3

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-28-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)	
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DATE: 1-22-2020

134	Arrive at KAFB-106076
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1405	Leave KAFB-106076	for field trailer
1409	K-106076	

1409	Arrive at field trailer
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1426	Leave field trailer for 90-day yard
1428	Arrive at 90-day yard

1428	Arrive at 90-day ward
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1438	Leave 90-day yard for field trailer
1440	Arrive at Pickett

1440	Arrive at field trailer
------	-------------------------

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Dylan Schuele
Name

Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2 *CM*

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-28-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team 2 DATE: 1-6-2020

WEATHER: 34° + Clear, Wind ~4 MPH N

1. ONSITE PERSONNEL (including subcontractors and government employees)	
Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrarini	EA - Site Health and Safety Office /Tech.
Kyllian Robinson	Geologist I

2. OPERATING EQUIPMENT		
Team #1	Team #2	Spare
YSI Professional Plus 15K101398 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☐	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)	
0835	Sampled KAFB-106235-501, 106235-472, 106235-438
0915	(last sample at cluster 235)
1055	Found cluster KAFB-106029, 030, 031 inadequately sectioned off from traffic; called SWS for adjustment
	- Sampled KAFB-106231, 232
	- Sampled KAFB-106242
	- Sampled KAFB-106029, 030, 031
	- Sampled KAFB-106243

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)	
0758	Left Yard
0805	Arrived Valero for fuel / Left 0810
0815	Arrived KAFB-106235 cluster
0835	Sampled KAFB-106235-501
0900	Sampled KAFB-106235-472

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)					

DATE: 1-6-2020

0915	Sampled KAFB-106235-438
0935	Left KAFB-106235 cluster
0940	Arrived KAFB-106231, 232
1005	Sampled KAFB-106231
1035	Sampled KAFB-106232
1050	Left cluster KAFB-106231, 232
1100	Arrived KAFB-106242
1120	Sampled KAFB-106242
1135	Left KAFB- 10624 ^{PR} 106242
1140	Arrived cluster KAFB-106029, 030, 031
1200	Sampled KAFB-106029
1220	Sampled KAFB-106030
1240	Sampled KAFB-106031
1305	Left KAFB-106029, 030, 031
1310	Arrived KAFB-106243
1325	Sampled KAFB-106243
1335	Left KAFB-106243
1350	Arrived Rand

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name Kylian Robinson

Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-8-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team 2

DATE: 1-7-2020

WEATHER: 29° + Clear no wind @ start

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
<u>C. Montoya</u>	EA - Site Manager/Supervisor
<u>P. Ferrar</u>	EA - Site Health and Safety Office / Tech
<u>K. Robinson</u>	Geologist T

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101396 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☐	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

<u>0755</u>	<u>Safety Briefing with IPS Officer Beachem</u>
	<u>Sgt C. Beachem</u>
<u>0845</u>	<u>Thanked S/O Beachem + let him know we were done</u>
	<u>sampled wells: KAFB-106230, KAFB-106236, KAFB-106222,</u>
	<u>KAFB-106224, KAFB-106240, KAFB-106201, KAFB-106202, KAFB-106203</u>

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

<u>0740</u>	<u>Left Yard</u>
<u>0750</u>	<u>Arrived KAFB-106230</u>
<u>0815</u>	<u>Sampled KAFB-106230</u>
<u>0845</u>	<u>Left KAFB-106230</u>
<u>0855</u>	<u>Returned Yard / Left 0900</u>

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-8-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)		DATE: 1-7-2020
0910	Arrived KAFB-106236	
0925	Sampled KAFB-106236-436	
0940	Sampled KAFB-106236-470	
0955	Sampled KAFB-106236-499	
1007	left KAFB-106236 cluster	
1010	Arrived KAFB-106222	
1030	Sampled KAFB-106222	
1040	left KAFB-106244	
1050	Arrived KAFB-106244	
1100	Sampled KAFB-106244	
1115	left KAFB-106244	
1120	Arrived KAFB-106240	
1150	Sampled KAFB-106240	
1205	left KAFB-106240	
1220	Arrived Cluster KAFB-106201, 202, 203	
1240	Sampled KAFB-106202	
1300	Sampled KAFB-106201	
1325	Sampled KAFB-106203	
1340	left KAFB-106203	
1350	Bought ice at X-change	
1355	Arrived Yard	

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications above.

Name K. Robinson

Signature [Signature]

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Morley

Initials: cm

Reviewed date: 1-8-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team 2

DATE: 1-8-2020

WEATHER: 33° + Clear no wind

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete ferrari	EA - Site Health and Safety Office / Tech Tech
Kylan Robinson	Geologist I

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101396 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☐	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

	Sampled KAFB-106241, KAFB-106245,
	KAFB-106005, KAFB-106204,
	KAFB-106205, KAFB-106206,
	KAFB-106207, KAFB-106208,
	KAFB-106209

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0745	Left Yard
0755	Arrive at KAFB-106241
0905	Leave KAFB-106241
0915	Arrive at Field office yard
0920	Head to KAFB-106245

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 1-8-2020

4. WORK PERFORMED (Continued)	
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97	98
99	100

0930	Arrive at KAFB-106245
1020	Leave KAFB-106245
1030	Arrive at KAFB-106005 / Sampled 1050
1123	Depart KAFB-106005
1140	Buy ice at EXCHANGE on Gibson
1155	Arrive at KAFB-106207
1240	Depart KAFB-106207
1230	Set up on KAFB-106208
1240	Depart KAFB-106208
1245	Set up on KAFB-106209
1310	Depart KAFB-106209
1315	Arrive at KAFB-106206
1340	Depart KAFB-106206
1345	Arrive at KAFB-106206 KAFB-106205
1405	Depart from KAFB-106205
1408	Arrive at KAFB-106204
1428	Depart from KAFB-106204
1440	Arrive at field office

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Pete Ferraro
Name

Signature _____

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Mataya

Initials: CM

Reviewed date: 1-9-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

ROLE: Team 2

DATE: 1-9-2020

WEATHER: 46° + Clear Wind 4 MPH

1. ONSITE PERSONNEL (including subcontractors and government employees)

[illegible]

2. OPERATING EQUIPMENT

Team #1		Team #2		Spare	
YSI Professional Plus 15K101398 Wh0003	☐	YSI Professional Plus 15K101396 Wh0001	☐	YSI Professional Plus 15L100541 Wh0002	☐
MiniRAE 3000 592-915778 Wh0005	☐	MiniRAE 3000 592-915790 Wh0004	☒	MiniRAE 3000 592-915579 Wh0006	☐
Hach 2100Q 15100C045034 Wh0008	☐	Hach 2100Q 15100C044633 Wh0009	☐	Hach 2100Q 15100C045025 Wh0007	☐
Solinst Water Level Meter 253054	☐	Solinst Water Level Meter 253053	☐	Solinst Water Level Meter 253056	☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

0850	Reading 300-350 ppm 4' off ground directly above KAFB-100149. 100 ppm slightly to the side FFM PPE indicated.
------	---

Sampled: KAFB-106149, KAFB-106153, KAFB-106151
KAFB-106152, KAFB-106159, KAFB-106151, KAFB-
106153, KAFB-106157, KAFB-106155, KAFB-106041

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)					

0835	Left Field Office / Grate Removal @ 6WTS
0850	Arrived KAFB 106149 / 0900 Return to Yard for PPE
0915	Arrived KAFB 106149 w/PPE FFM
0950	Sampled KAFB-106149
1025	Left KAFB-106149

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-15-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-9-2020

1035	Arrived at KAFB-106153
1045	Sampled KAFB-106153
1105	Left KAFB-106153
1110	Arrive KAFB-106151
1125	Sample KAFB-106151
1145	Left KAFB-106151
1155	Arrive KAFB-106152
1210	Left Sampled KAFB-106152
1225	Left KAFB-106152
1227	Arrived KAFB-10659
1240	Sampled KAFB-10659
1305	Left KAFB-10659
1310	Arrived KAFB-10651
1320	Sampled KAFB-10651
1340	Left KAFB-10651
1345	Arrived KAFB-10653
1355	Sampled KAFB-10653
1400	Left KAFB-10653
1410	Arrived field office to Drop Samples
1425	Arrived KAFB-10657
1440	Sampled KAFB-10657
1455	Left KAFB-10657
1500	Arrived KAFB-10655
1510	Sampled KAFB-10655
1530	Left KAFB-10655
1540	Arrived KAFB-106041
1555	1545 Sampled KAFB-106041

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications above.

K. Robinson

Name

[Signature]
Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-15-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-9-2020

1555	Left KAFB-106041	
1605	Arrived Yard	
CM		

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge and belief, the work was performed in accordance with the contract documents and the applicable laws and regulations.

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

K. Robinson
Name

Signature _____

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-15-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team 2 O+M

DATE: 01-13-2020

WEATHER: 45°F clear

1. ONSITE PERSONNEL (including subcontractors and government employees)	
Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrari	EA - Site Health and Safety Office
Galveston Begaye	TECH III

2. OPERATING EQUIPMENT		
Team #1	Team #2	Spare
YSI Professional Plus 15K101396 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☐	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)	
	Wells inspected O+M
	KAFB-106006, KAFB-106247-50, KAFB-106007, KAFB-106001,
	KAFB-106027, KAFB-106044, KAFB-106045, KAFB-106016,
	KAFB-3411, KAFB-106059, KAFB-106008, KAFB-106063,
	KAFB-106064, KAFB-106003, KAFB-106101, KAFB-106102,
	KAFB-106002, KAFB-10602R, KAFB-106005,
	KAFB-106081, KAFB-106079, KAFB-106080, KAFB-106062,
	KAFB-106014, KAFB-106011,

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)	
0928	left trailer yard to KAFB-106006
0935	Arrived at KAFB-106006
0944	left KAFB-106006 to KAFB-106247-50
0946	Arrived at KAFB-106247-50
0951	left KAFB-106247-50 to KAFB-106007

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 01-13-2020

4. WORK PERFORMED (Continued)

0952	Arrived at KAFB-106007
0958	Left KAFB-106007 to KAFB-106078
1001	Arrived at KAFB-106078
1002	Left KAFB-106078 to KAFB-106001
1007	Arrived at KAFB-106001
1012	Left KAFB-106001 to KAFB-106027 ^{GB} trailer
1026	Arrived at trailer for bailer & reel for team #1
1034	Left trailer to team #1 at BFF EA trailer
1037	Arrived at team #1 at BFF EA trailer
1038	Left team #1 to KAFB-106027 cluster
1041	Arrived at KAFB-106027 cluster
1046	Left KAFB-106027 to KAFB-106044
1047	Arrived at KAFB-106044
1051	Left KAFB-106044 to KAFB-106045
1052	Arrived at KAFB-106045
1056	Left KAFB-106045 to KAFB-106016
1058	Arrived at KAFB-106016
1108	Left KAFB-106016 to KAFB- 1060 ^{GB} 3411
1110	Arrived at KAFB-3411
1122	Left KAFB-3411 to KAFB-106059
1130	Arrived at KAFB-106059
1138	Left KAFB-106059 to KAFB-106008
1140	Arrived at KAFB-106008
1145	Left KAFB-106008 to trailer for lunch
1148	Arrived at trailer for lunch
1216	Left trailer to gas station
1223	Arrived at Gas Station Valero

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Gabrielson Beguza
 Name


 Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-15-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)		DATE: 01-13-2020
1231	Left gas station Valero to KAFB-106063	
1244	Arrived at KAFB-106063	
1256	Left KAFB-106063 to team #1 at BFF trailer	
1300	Arrived at BFF trailer team #1	
1323	Left KAFB BFF trailer team #1 to KAFB-106064	
1326	Arrived at KAFB-106064	
1331	Left KAFB-106064 to KAFB-106003	
1337	Arrived at KAFB-106003	
1343	Left KAFB-106003 to KAFB-106101	
1344	Arrived at KAFB-106101	
1346	Left KAFB-106101 to KAFB-106102	
1347	Arrived at KAFB-106102	
1352	Left KAFB-106102 to KAFB-106002	
1354	Arrived at KAFB-106002	
1358	Left KAFB-106002 to KAFB-106012R	
1401	Arrived at KAFB-106012R	
1404	Left KAFB-106012R to KAFB-106005	
1408	Arrived at KAFB-106005	
1412	Left KAFB-106005 to KAFB-106081	
1416	Arrived at KAFB-106081	
1420	Left KAFB-106081 to KAFB-106079	
1421	Arrived at KAFB-106079	
1425	Left KAFB-106079 to KAFB-106080	
1426	Arrived at KAFB-106080	
1429	Left KAFB-106080 to KAFB-106062	
1433	Arrived at KAFB-106062	
1438	Left KAFB-106062 to KAFB-106014	

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge and belief, the information furnished herein is true and correct.	

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Gabriel Beguza
 Name

[Signature]
 Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-15-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 01-13-2020

1446	Arrived at KAFB-106014
1449	Left KAFB-106014 to KAFB-106011
1451	Arrived at KAFB-106011
1453	Left KAFB-106011 to trailer
1458	Arrived at trailer end of day

END OF
DAY
GB

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Gabriel Beque

Name

Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-15-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team 2 O+M

DATE: 01-14-2020

WEATHER:

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrari	EA - Site Health and Safety Office
Galveston Begaye	TECH III

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 ☐	YSI Professional Plus 15K101396 ☐	YSI Professional Plus 15L100541 ☐
Wh0003	Wh0001	Wh0002
MiniRAE 3000 592-915778 ☐	MiniRAE 3000 592-915790 ☐	MiniRAE 3000 592-915579 ☒
Wh0005	Wh0004	Wh0006
Hach 2100Q 15100C045034 ☐	Hach 2100Q 15100C044633 ☐	Hach 2100Q 15100C045025 ☐
Wh0008	Wh0009	Wh0007
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the the public and governmental employees, and problems encountered and remedies applied)

	O+M inspected:
	KAFB-106015, KAFB-106010, KAFB-106028,
	KAFB-106201, KAFB-106202, KAFB-106203, KAFB-106009
	KAFB-106S4, KAFB-106245, KAFB-106046, KAFB-106047,
	KAFB-106048, KAFB-106S2, KAFB-106060, KAFB-106061,
	KAFB-106156, KAFB-106024, KAFB-106076, KAFB-106077,
	KAFB-106078, KAFB-106148, KAFB-106150, KAFB-106154,
	KAFB-106155, KAFB-106S8,

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0830	left trailer to KAFB-106015
0837	Arrived at KAFB-106015
0842	left KAFB-106015 to KAFB-106010
0850	Arrived at KAFB-106010
0857	left KAFB-106010 to KAFB-106028

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 01-14-2020

4. WORK PERFORMED (Continued)	
0900	Arrived at KAFB-106028
0909	Left KAFB-106028 to trailer
0922	Arrived at trailer
1005	Left trailer to KAFB-106201 cluster
1015	Arrived at KAFB-106201 cluster
1028	Left KAFB-106201 to KAFB-106202
1029	Arrived at KAFB-106202
1032	Left KAFB-106202 to KAFB-106203
1033	Arrived at KAFB-106203
1038	Left KAFB-106203 to KAFB-106009
1047	Arrived at KAFB-106009
1056	Left KAFB-106009 to KAFB-10654
1057	Arrived at KAFB-10654
1105	Left KAFB-10654 to KAFB-106245
1107	Arrived at KAFB-106245
1112	Left KAFB-106245 to KAFB-106046 cluster
1116	Arrived at KAFB-106046 cluster
1127	Left KAFB-106046 cluster to KAFB-106047
1128	Arrived at KAFB-106047
1134	Left KAFB-106047 to KAFB-106048
1135	Arrived at KAFB-106048
1153	Left KAFB-106048 to KAFB-106 ^{GFB} trailer
1157	Arrived at trailer
1218	Left trailer to KAFB-10652
1223	Arrived at KAFB-10652
1228	Left KAFB-10652 to KAFB-106060
1230	Arrived at KAFB-106060

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name Galveston Beyene

Signature 

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-15-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 01-14-2020

4. WORK PERFORMED (Continued)	
1236	Left KAFB-106060 to KAFB-106061
1237	Arrived at KAFB-106061
1244	Left KAFB-106156 to KAFB-106061
1247	Arrived at KAFB-106156
1255	Left KAFB-106156 to KAFB-106024
1303	Arrived at KAFB-106024
1310	Left KAFB-106024 to KAFB-106076
1314	Arrived at KAFB-106076
1321	Left KAFB-106076 to KAFB-106077
1322	Arrived at KAFB-106077
1326	Left KAFB-106077 to KAFB-106078
1327	Arrived at KAFB-106078
1334	Left KAFB-106078 to KAFB-106148
1336	Arrived at KAFB-106148
1350	Left KAFB-106148 to KAFB-106150
1353	Arrived at KAFB-106150
1404	Left KAFB-106050 to KAFB-106154
1407	Arrived at KAFB-106154
1413	Left KAFB-106154 to KAFB-106155
1415	Arrived at KAFB-106155
1423	Left KAFB-106155 to KAFB-10658
1425	Arrived at KAFB-10658
1429	Left KAFB-10658 to trailer
	Arrived at trailer END OF DAY
OB	

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Galveston Begay
Name


Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-15-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #2 - O&M

DATE: 1-15-2020

WEATHER: mid 50s (°F); mostly clear

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrari	EA - Site Health and Safety Office
J. Messenger / G. Beyaze	EA - Team #2

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☐	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

-	met @ field office
-	O&M performed on (35) wells

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0744	Left field office - 0753 Arrived @ KAFB-106013 cluster
0809	Left KAFB-106013 cluster - 0812 Arrived @ KAFB-10657
0818	Left KAFB-10657 - 0819 Arrived @ KAFB-10655 - 0832 left KAFB-10655
0835	Arrived @ KAFB-106019 - 0837 left KAFB-106019 - 0839 Arrived @ KAFB-106017
0844	Left KAFB-106017 - 0846 Arrived @ KAFB-106038 cluster - 0850 left KAFB-106038 cluster

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report – Non-Construction

DATE: 1-15-2020

[illegible]

0856	Arrived @ KAFB-106032 cluster - 0932	Left KAFB-106032 cluster
0938	Arrived @ KAFB-106231 cluster - 1006	Left KAFB-106231 cluster
1010	Arrived @ KAFB-106029 cluster - 1055	Left KAFB-106029 cluster
1057	Arrived @ KAFB-106021 - 1148	Left KAFB-106021
1151	Arrived @ KAFB-106236 nest - 1203	Left KAFB-106236 cluster nest
1204	Arrived @ KAFB-106235 nest - 1221	Left KAFB-106235 nest
1227	Arrived @ KAFB-106025 - 1228	Left KAFB-106025
1235	Arrived @ KAFB-106084 - 1241	Left KAFB-106084
1245	Arrived @ KAFB-106004 cluster - 1254	Left KAFB-106004 cluster
1255	Arrived @ KAFB- 1060240 - 106240 -	
1300	Left KAFB-106240 - 1304	Arrived @ KAFB-106022
1313	Left KAFB-106022 - 1322	Arrived @ field office
cleaned out truck + prepped for shipping		

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge and belief, the information furnished by me is true and correct.

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications above.

Name _____

Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CA

Reviewed date: 1-20-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring – 62599DM01
Daily Quality Control Report – Non-Construction

ROLE: Team #2 - O&M

DATE: 1-16-2020

WEATHER: 38-40°F - 80% chance of rain/snow & windy

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
<u>Carlos Montoya</u>	EA - Site Manager/Supervisor
<u>Pete Ferrari</u>	EA - Site Health and Safety Office
<u>J. Messenger / G. Beyaye</u>	EA - Team #2

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☒	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

-	<u>met @ field office - discuss weather conditions for the day</u>
-	<u>O&M on 22 wells</u>

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

<u>0737</u>	<u>left field office - 0744 Arrived @ VA property to do O&M on all wells</u>
<u>0815</u>	<u>left VA property; wells checked - 0818 Arrived @ KAFB-106065 cluster</u>
<u>0828</u>	<u>left KAFB-106065 cluster - 0829 Arrived @ KAFB-106069 cluster</u>
<u>0842</u>	<u>left KAFB-106069 cluster - 0847 Arrived @ church property</u>
<u>0920</u>	<u>left church property - 0921 Arrived @ KAFB-106088 cluster</u>

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

DATE: 1-16-2020

4. WORK PERFORMED (Continued)	
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0946	left KAFB - 106088 cluster
0956	Arrived @ field office ——— EOD

5. **CONTRACTOR'S VERIFICATION:** I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name

J. Messenger

Signature

Signature _____

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-20-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #2 - O&M

DATE: 1-17-2020

WEATHER: 48-50 °F; 15-25 mph wind; overcast

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrari	EA - Site Health and Safety Office
J. Messenger / G. Begaye	EA - Team #2

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101396 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☐	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

-	Met @ field office
-	O&M conducted on 33 wells

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0738	left field office - 0745 Arrived @ KAFB-106103 cluster
0800	left KAFB-106103 cluster - 0802 Arrived @ KAFB-106071 cluster
0816	left KAFB-106071 cluster - 0817 Arrived @ KAFB-106085 cluster
0857	left KAFB-106085 cluster - 0901 Arrived @ KAFB-106094 cluster
0913	left KAFB-106094 cluster - 0916 Arrived @ KAFB-106244 cluster

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-17-2020

0927 Left KAFB-106244 - 0932 Arrived @ KAFB-106041 cluster
0948 Left KAFB-106041 cluster - 0950 Arrived @ KAFB-106054 cluster
1000 Left KAFB-106054 cluster - 1004 Arrived @ KAFB-106057 cluster
1018 Left KAFB-106057 cluster - 1021 Arrived @ KAFB-106219 cluster
1037 Left KAFB-106219 cluster - 1040 Arrived @ KAFB-106106 cluster
1051 Left KAFB-106106 cluster - 1053 Arrived @ KAFB-106091 cluster
1114 Left KAFB-106091 cluster - 1125 Arrived @ field office - son

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name J. Messenger

Signature John Messenger

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by: C. Montoya

Initials: COM

Reviewed date: 1-20-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #2 - Gauging

DATE: 1-20-2020

WEATHER: 48-50°F; thin high clouds - mostly sunny

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
<u>Carlos Montoya</u>	EA - Site Manager/Supervisor
<u>Pete Ferrari</u>	EA - Site Health and Safety Office
<u>J. Messenger / G. Beyayo</u>	EA - Team #2

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 ☐	YSI Professional Plus 15K101396 ☐	YSI Professional Plus 15L100541 ☐
Wh0003	Wh0001	Wh0002
MiniRAE 3000 592-915778 ☐	MiniRAE 3000 592-915790 ☐	MiniRAE 3000 592-915579 ☒
Wh0005	Wh0004	Wh0006
Hach 2100Q 15100C045034 ☐	Hach 2100Q 15100C044633 ☐	Hach 2100Q 15100C045025 ☐
Wh0008	Wh0009	Wh0007
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☒

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

-	<u>met @ field office</u>
-	<u>Used Geotech WL meter SN# 0001</u>
-	<u>Gauged GWM wells (30) dm (31 wells)</u>

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

<u>0710</u>	<u>left field office - 0745 Arrived @ KAFB-106045 cluster to calibrate</u>
	<u>WL meters + gauge - 0827 left KAFB-106045 cluster</u>
<u>0828</u>	<u>Arrived @ KAFB-3411 cluster - 0856 left KAFB-1063411 cluster</u>
<u>0900</u>	<u>Arrived @ KAFB-10659 cluster - 0945 left KAFB-10659 cluster</u>
<u>0948</u>	<u>Arrived @ field office - 0950 Left field office</u>

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-20-2020

0954	Entered BFF to gauge ^{JM} all wells within - 1048 left BFF
1049	Entered APTM yard - 1100 left APTM yard
1100	Arrived @ KAFB-106048 cluster - 1125 left KAFB-106048 cluster
1127	Arrived @ field office - 1154 left field office
1212	Arrived @ KAFB-106004 cluster - 1250 left KAFB-106004 cluster
1253- 0853	Arrived @ KAFB-106082 cluster - 1326 left KAFB-106082 cluster
1333	Arrived @ VAWEST Emp. parking lot to gauge all wells
1406	Left VA WEST Emp. parking lot
1415	Arrived @ field office

EOD

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name J. Messenger

Signature [Signature]

EA Engineering, Science and Technology Inc., PBC

Reviewed by: C. Montoya

DQCR Page 2 of 2
Initials: CM

Reviewed date: 1-28-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team 2 Ganging

DATE: 01-21-2020

WEATHER:

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrari	EA - Site Health and Safety Office
Gabrielon Begaye	TECH III
	

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 ☐	YSI Professional Plus 15K101396 ☐	YSI Professional Plus 15L100541 ☐
Wh0003	Wh0001	Wh0002
MiniRAE 3000 592-915778 ☐	MiniRAE 3000 592-915790 ☐	MiniRAE 3000 592-915579 ☒
Wh0005	Wh0004	Wh0006
Hach 2100Q 15100C045034 ☐	Hach 2100Q 15100C044633 ☐	Hach 2100Q 15100C045025 ☐
Wh0008	Wh0009	Wh0007
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☐

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

	Water level Meter SN# 0001
	Wells ganged = KAFB-106002, KAFB-106003,
	KAFB-106009, KAFB-106011, KAFB-106012R,
	KAFB-106013, KAFB-106014, KAFB-106017,
	KAFB-106019, KAFB-106067, KAFB-106068, KAFB-106069,
	KAFB-106077, KAFB-106078, KAFB-106081, KAFB-106094,
	KAFB-106095, KAFB-106096, KAFB-106097,
	KAFB-106098, KAFB-106101, KAFB-106102, KAFB-106211
	KAFB-106240,
	

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0840	Left trailer to KAFB-106002 to KAFB-106003
0855	Leave KAFB-106003 to 002
0857	Arrive at KAFB-106002
0910	Leave KAFB-106002
0912	Arrive at KAFB-106012R

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-28-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 01-21-2020

0921	Leave KAFB-106012R
0923	Arrive at KAFB-106009
0932	Leave KAFB-106012R
0936	Arrive at KAFB-106081
0945	Leave KAFB-106081
0947	Arrive at KAFB-106014
0955	Leave KAFB-106014
1001	Arrive KAFB-106011
1011	Leave KAFB-106011
1015	Arrive at KAFB-106101
1024	Finish KAFB-106101
1025	Begin KAFB-106102
1031	Leave KAFB-106102
1035	Arrive at KAFB-106
1046	Finish KAFB-106077
1048	Begin KAFB-106078
1056	Leave KAFB-106078
1100GB 1115	Arrive at trailer
1115	Left trailer
1125	Arrived at KAFB-106094
1141	Finish KAFB-106094
1172	Begin KAFB-106096
1149	Finish KAFB-106096
1150	Begin KAFB-106095
1157	Finish KAFB-106095
1158	Arrive at KAFB-106067
1210	Finish KAFB-106067

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Galveston Begue

Name



Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 24 cm

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-28-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report - Non-Construction

DATE:

1-21-2020

4. WORK PERFORMED (Continued)

1211	Begin KAFB-106068
1218	Finish KAFB-106068
1219	Begin KAFB-106069
1226	Finish KAFB-106069
1233	Arrive at KAFB-106211
1305	Finish KAFB-106211
1306	Start KAFB-106017
1314	Finish KAFB-106017, Heading
—	to Valero for fuel
1325	Finish gathering fuel
1338	Arrive at KAFB-106013
1346	Finish KAFB-106013
1347	Begin KAFB-106097
1357	Finish KAFB-106097
1359	Begin KAFB-106098
1402	Finish KAFB-106098
1404	Begin KAFB-106240
1415	Finish KAFB-106240
1417	Arrive at KAFB-106019
1428	Finish KAFB-106019
1440	Arrive at KAFB-106038
1446	Finish KAFB-106038
1447	Begin KAFB-106039
1453	Finish KAFB-106039
1454	Begin KAFB-106040
1500	Finish KAFB-106040
1510	Arrive at KAFB-106046 475.71

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name Calvin Begaye

Signature [Signature]

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2 4cm

Reviewed by: C. Montoya

Initials: CM

Reviewed date: 1-28-20

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 01-21-2020

1525 Arrived at trailer (EA) END OF DAY

[Handwritten signature]

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Gabriel Bejar
Name

[Handwritten signature]
Signature

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2 *CM*

Reviewed by: *C. Montoya*

Initials: *CM*

Reviewed date: 1-28-2020

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

ROLE: Team #2 - gauging

DATE: 1-22-2020

WEATHER: mid-high 40s (°F) mostly cloudy + breezy

1. ONSITE PERSONNEL (including subcontractors and government employees)

Name	Organization
Carlos Montoya	EA - Site Manager/Supervisor
Pete Ferrari	EA - Site Health and Safety Office
J. Messenger / G. Begaye	EA - Team #2

2. OPERATING EQUIPMENT

Team #1	Team #2	Spare
YSI Professional Plus 15K101398 Wh0003 ☐	YSI Professional Plus 15K101396 Wh0001 ☐	YSI Professional Plus 15L100541 Wh0002 ☐
MiniRAE 3000 592-915778 Wh0005 ☒	MiniRAE 3000 592-915790 Wh0004 ☐	MiniRAE 3000 592-915579 Wh0006 ☒
Hach 2100Q 15100C045034 Wh0008 ☐	Hach 2100Q 15100C044633 Wh0009 ☐	Hach 2100Q 15100C045025 Wh0007 ☐
Solinst Water Level Meter 253054 ☐	Solinst Water Level Meter 253053 ☐	Solinst Water Level Meter 253056 ☒

3. DAILY SUMMARY (include QC samples collected, deviations from planning documents, conversations with the public and governmental employees, and problems encountered and remedies applied)

—	met @ field office
—	GeoTech SN#0001
—	Gauged 22 wells

4. WORK PERFORMED (Indicate location, time, and description of work performed by prime and/or subcontractors)

0729	Left field office — 0731 Arrived @ KAFB-106245
0738	Left KAFB-106245 — 0742 Arrived @ KAFB-10654
0750	Left KAFB-10654 — 0750 Arrived @ KAFB-106005
0805	Left KAFB-106005 — 0811 Arrived @ KAFB-106065 cluster
0839	Left KAFB-106065 cluster — 0840 Arrived @ KAFB-10655 cluster

Kirtland AFB Bulk Fuels Facility GWTS Expansion/Monitoring -- 62599DM01
Daily Quality Control Report -- Non-Construction

4. WORK PERFORMED (Continued)

DATE: 1-22-2020

0856	Left KAFB-10655 cluster - 0908 Arrived @ KAFB-10653
0918	Left KAFB-10653 - 0920 Arrived @ KAFB-106008 cluster
0934	Left KAFB-106008 cluster - 0935 Entered BFF
1048	Left BFF - Arrived @ KAFB-106152 - 1058 Left KAFB-106152
1059	Arrived @ KAFB-106081 cluster - 1114 Left KAFB-106081 cluster
1117	Arrived @ field office EOD

5. CONTRACTOR'S VERIFICATION: I certify that to the best of my knowledge the above report is complete and correct. All equipment used, and work performed during this reporting period is in compliance with the contract plans and specifications noted above.

Name

J. Messenger

Signature

[Signature]

EA Engineering, Science and Technology Inc., PBC

DQCR Page 2 of 2

Reviewed by:

C. Montoya

Initials:

CM

Reviewed date:

1-28-2020



Well Gauging Form Team 2

Total Wells 85

2020

Project: Kirtland AFB BFF ST-106/SS-111

Quarter : 1

Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point
	Depth to NAPL	DTW							
KAFB-106063	NA	NA						APTIM Yard	TOPC
KAFB-106064	NA	NA						APTIM Yard	TOPC
KAFB-106076 253056	469.51	469.52	1-22-2020	0.0 3.1	467.84	467.88	DS		TWV
KAFB-106079 253056	—	474.28	1-22-2020	0.0	—	472.55	Jm/GB		TOPC
KAFB-106080 253056	—	472.90	1-22-2020	0.0	—	471.14	Jm/GB		TOPC
KAFB-106148-484 253056	—	468.62	1-22-2020 + 20-2020 Jm	0.0	—	467.11	Jm/GB		TWV
KAFB-106149-484 253056	—	470.60	1-22-2020	17.7	—	469.08	Jm/GB		TWV
KAFB-106150-484 253056	468.85	468.89	1-22-2020	21.9	467.36	467.47	DS		TWV
KAFB-106151-484 253056	—	470.47	1-20-2020	0.0	—	469.03	Jm/GB		TWV
KAFB-106152-484 253056	—	472.26	1-22-2020	0.0	—	470.63	Jm/GB		TWV
KAFB-106153-484 253056	—	473.68	1-22-2020	4.1	—	472.07	Jm/GB		TWV
KAFB-106154-484 253056	471.80	471.96	1-22-2020	35.6	477.7	470.27	DS		TWV
KAFB-106155-484 253056	—	472.22	1-22-2020	0.0	—	470.64	Jm/GB		TWV
KAFB-106247-450 SN#0001 clean	—	476.26	1-20-2020	0.0	—	474.93	Jm/GB		TOPC
KAFB-106156-484 253056	—	465.56	1-20-2020	0.0	464.19 Jm	464.19	Jm/GB		
KAFB-106S1-447 253056	—	469.56	1-22-2020	0.0	—	468.01	Jm/GB		TWV
KAFB-106S2-451 253056	—	476.86	1-22-2020	0.0	—	475.22	Jm/GB		TOPC
KAFB-106S3-449 253056	—	476.00	1-22-2020	Jm 0.0 4.8	—	474.31	Jm/GB		TOPC
KAFB-106S5-446 253056	—	468.10	1-22-2020	0.0	—	466.30	Jm/GB		TWV
KAFB-106S7-451 253056	—	473.53	1-22-2020	0.0	—	471.78	Jm/GB		TWV
KAFB-106S8-451 253056	—	475.88	1-22-2020	0.0	—	474.30	Jm/GB		TOPC



		Well Gauging Form Team 2						Total Wells 85	2020
		Project: Kirtland AFB BFF ST-106/SS-111							Quarter : 1
Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point
	Depth to NAPL	DTW							
KAFB-106001 SN#0001	—	469.17	1-20-2020	0.0	—	468.06	Jm/GB		TWV
KAFB-106002 SN#0001	—	466.22	1-21-2020	0.0	—	464.75 464.75	GB/ PF		TWV
KAFB-106003 SN#0001	—	464.14	1-21-2020	0.0	—	462.89	GB/ PF		TWV
KAFB-106004 SN#0001	—	469.71	1-20-2020	0.0	—	468.49	Jm/GB	EA Barricade	TOPC
KAFB-106007 SN#0001	—	474.04	1-20-2020	0.0	—	472.94	Jm/GB		TOPC
KAFB-106009 SN#0001	—	472.91	1-21-2020	0.0	—	471.32	GB/ PF		TWV
KAFB-106011 SN#0001	—	477.64	1-21-2020	0.0	—	476.13	GB/ PF		TOPC
KAFB-106012R SN#0001	—	469.43	1-21-2020	0.0	—	467.91	GB/ PF		TOPC
KAFB-106013 SN#0001	—	474.96	1-21-2020	0.0	—	473.31	GB/ PF	Call VA Police	TOPC
KAFB-106014 SN#0001	—	474.62	1-21-2020	0.3	473.17 GB	473.17	GB/ PF		TOPC
KAFB-106016 SN#0001	—	466.57	1-20-2020	0.0	—	465.60	Jm/GB		TOPC
KAFB-106017 SN#0001	—	467.53	1-21-2020	0.0	—	465.69	GB/ PF		TOPC
KAFB-106018 SN#0001	—	460.99	1-20-2020	0.0	—	459.51	Jm/GB		TOPC
KAFB-106019 SN#0001	—	479.50	1-21-2020	0.0	—	477 477.73	GB/ PF		TOPC
KAFB-106020 SN#0001	—	465.30	1-20-2020	0.0	—	463.89	Jm/GB	Call VA Police	TWV
KAFB-106024 SN#0001	—	467.87	1-20-2020	0.0	—	466.73	Jm/GB		TWV
KAFB-106027 SN#0001	—	472.87	1-20-2020	0.0	—	471.89	Jm/GB		TOPC
KAFB-106038 SN#0001	—	476.50	1-21-2020	0.0	—	474.60	GB/ PF		TOPC
KAFB-106039 SN#0001	—	476.29	1-21-2020	0.0	—	474.38	GB/ PF		TOPC
KAFB-106040 SN#0001	—	475.20	1-21-2020	0.0	—	473.28	GB/ PF		TOPC
KAFB-106044 SN#0001	—	473.01	1-20-2020	0.0	—	472.04	Jm/GB		TOPC



Well Gauging Form Team 2

Total Wells 85

2020

Project: Kirtland AFB BFF ST-106/SS-111

Quarter : 1

Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point
	Depth to NAPL	DTW							
KAFB-106045 SN#0001	—	472.72	1-20-2020	0.0	—	471.73	Jm/GB		TOPC
KAFB-106046 SN#0001 475.71	—	477.41	1-20-2020	0.0	—	467.15 ^{GB}	Jm/GB	EA Barricade	TWV
KAFB-106047 SN#0001	—	477.51	1-20-2020	0.0	—	476.22	Jm/GB	EA Barricade	TWV
KAFB-106048 SN#0001	—	477.23	1-20-2020	0.0	—	475.96	Jm/GB	EA Barricade	TWV
KAFB-106060 SN#0001	—	469.82	1-20-2020	0.0	—	468.62	Jm/GB		TWV
KAFB-106061 SN#0001	—	469.78	1-20-2020	0.0	—	468.60	Jm/GB		TWV
KAFB-106062 SN#0001	—	475.67	1-20-2020	0.0	—	474.39	Jm/GB	APTIM Yard	TOPC
KAFB-106065 SN#0001	—	473.34	1-22-2020	0.0	—	471.70	Jm/GB	USS Bullhead	TWV
KAFB-106066 SN#0001	—	473.56	1-22-2020	0.0	—	471.83	Jm/GB	USS Bullhead	TWV
KAFB-106067 SN#0001	—	472.31	1-21-2020	0.0	—	470.68	GB/PR		TWV
KAFB-106068 SN#0001	—	472.12	1-21-2020	0.0	—	470.38	GB/PR		TWV
KAFB-106069 SN#0001	—	471.92	1-21-2020	0.0	—	470.28	GB/PR		TWV
KAFB-106073 SN#0001	—	464.22	1-20-2020	0.0	—	462.76	Jm/GB	Call VA Police	TWV
KAFB-106074 SN#0001	—	464.97	1-20-2020	0.0	—	463.48	Jm/GB	Call VA Police	TWV
KAFB-106075 SN#0001	—	464.91	1-20-2020	0.0	—	463.48	Jm/GB	Call VA Police	TWV
KAFB-106077 SN#0001	—	470.60	1-21-2020	0.0	—	469.16	GB/PR		TWV
KAFB-106078 SN#0001	—	469.76	1-21-2020	0.0	—	468.30	GB/PR		TWV
KAFB-106081 SN#0001	—	474.05	1-21-2020	0.0	—	472.45	GB/PR		TOPC
KAFB-106082 SN#0001	—	460.14	1-20-2020	0.0	—	458.69	Jm/GB	Call VA Police	TWV
KAFB-106083 SN#0001	—	459.83	1-20-2020	0.0	—	458.36	Jm/GB	Call VA Police	TWV
KAFB-106084 SN#0001	—	462.60	1-20-2020	0.0	—	461.07	Jm/GB	Call VA Police	TWV



EA®		Well Gauging Form Team 2					Total Wells 85		2020	
		Project: Kirtland AFB BFF ST-106/SS-111							Quarter : 1	
Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point	
	Depth to NAPL	DTW								
KAFB-106094 SN#0001	—	469.50	1-21-2020	0.0	—	467.89	GB/PP		TWV	
KAFB-106095 SN#0001	—	469.07	1-21-2020	0.0	—	467.44	GB/PP		TWV	
KAFB-106096 SN#0001	—	469.67	1-21-2020	0.0	—	468.08	GB/PP		TWV	
KAFB-106097 SN#0001	—	471.92	1-21-2020	0.0	—	470.24	GB/PP	Call VA Police	TWV	
KAFB-106098 SN#0001	—	472.01	1-21-2020	0.0	—	470.32	GB/PP	Call VA Police	TWV	
KAFB-106099 SN#0001	—	466.68	1-20-2020	0.0	—	465.46	Jm/GB	EA Barricade	TWV	
KAFB-106100 SN#0001	—	466.69	1-20-2020	0.0	—	465.48	Jm/GB	EA Barricade	TWV	
KAFB-106101 SN#0001	—	464.31	1-21-2020	0.0	—	462.97	GB/PP		TOPC	
KAFB-106102 SN#0001	—	464.42	1-21-2020	0.0	—	463.11	GB/PP		TOPC	
KAFB-106211 SN#0001	NA	NA	1-21-2020	0.0	—	465.57	GB/PP		TOPC	
KAFB-106240 SN#0001	—	471.99	1-21-2020	0.0	—	470.29	GB/PP		TWV	
KAFB-106244 SN#0001	—	467.65	1-20-2020	0.0	—	466.22	Jm/GB		TWV	
KAFB-106245 SN#0001	—	485.83	1-22-2020	0.0	—	484.19	Jm/GB		TOPC	
KAFB-3411 SN#0001	—	467.75	1-20-2020	0.0	—	466.67	Jm/GB		TOPC	
KAFB-106S4-446 SN#0001	—	470.88	1-22-2020	0.0	—	469.21	Jm/GB		TOPC	
KAFB-106005 253056	—	471.20	1-22-2020	0.0	—	469.40	Jm/GB		TOPC	
KAFB-106006 253056	—	475.89	1-22-2020	0.0	—	474.28	Jm/GB		TOPC	
KAFB-106008 253056	—	476.20	1-22-2020	0.0	—	474.50	Jm/GB		TOPC	
KAFB-106010 253056	—	467.85	1-22-2020	0.0	—	466.02	Jm/GB		TWV	
KAFB-106028 253056	—	473.46	1-22-2020	0.0	—	471.68	Jm/GB	USS Bullhead	TWV	
KAFB-106059 253056	—	472.18	1-20-2020	0.0	470.94	471.10	Jm/GB		TWV	



			Well Gauging Form Team 2			Total Wells 85			2020
			Project: <u>Kirtland AFB BFF ST-106/SS-111</u>						Quarter : 1
Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point
	Depth to NAPL	DTW							
KAFB-106S9-447 253056	—	470.57	1-20-2020	0.0	—	469.30	Jm/GB		TWV



Project: Kirtland AFB BFF ST-106/SS-111

Well Gauging Form Team 1

Total Wells 82

2020

Quarter : 1

~~026 444.66~~
 All wells gauged with 253053

Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point
	Depth to NAPL	DTW							
KAFB-106015	—	467.48	1-22-2020	0.0	—	465.04	DS		TOPC
KAFB-106021	—	439.09	1-21-2020	0.0	44 —	436.96	DS	Barricades by SWSS	TWV
KAFB-106022	—	443.26	1-21-2020	0.0	—	440.79	DS		TWV
KAFB-106023	—	453.71	1-22-2020	0.0	—	451.51	DS		TWV
KAFB-106025	—	441.84	1-21-2020	0.0	DS —	439.56	DS		TWV
KAFB-106026	—	446.95	1-21-2020	0.0	—	444.66 446.76	KL		TWV
KAFB-106029	—	435.28	1-21-2020	0.0	—	433.10	DS	Barricades by SWSS	TWV
KAFB-106030	—	435.40	1-21-2020	0.0	—	433.20	DS	Barricades by SWSS	TWV
KAFB-106031	—	435.44	1-21-2020	0.0	—	433.24	DS	Barricades by SWSS	TWV
KAFB-106032	—	441.58	1-21-2020	0.0/0.1	—	439.88	DS	Gibson Med. Ctr.	TWV
KAFB-106033	—	441.72	1-21-2020	0.0	—	440.03	DS	Gibson Med. Ctr.	TWV
KAFB-106034	—	442.57	1-21-2020	0.0	—	440.88	DS	Gibson Med. Ctr.	TWV
KAFB-106035	—	447.18	1-22-2020	0.0	—	444.77	DS	Church	TWV
KAFB-106036	—	447.63	1-22-2020	0.0	—	445.22	DS	Church	TWV
KAFB-106037	—	448.26	1-22-2020	0.0	—	445.87	DS	Church	TWV
KAFB-106041	—	448.80	1-20-2020	0.0	—	446.85	KL		TWV
KAFB-106042	—	448.55	1-20-2020	0.0	—	446.61	DS		TWV
KAFB-106043	—	448.78	1-20-2020	0.0	—	446.84	DS		TWV
KAFB-106049	—	440.23	1-21-2020 1-20-2020	0.0	—	438.08	KL		TWV
KAFB-106050	—	439.61	1-21-2020	0.0	—	437.50	DS		TWV



Project: Kirtland AFB BFF ST-106/SS-111

Well Gauging Form Team 1

Total Wells 82

2020

Quarter : 1

436.99

All wells gauged with 253053

Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point
	Depth to NAPL	DTW							
KAFB-106051	—	439.92	1-21-2020	0.0	—	437.80	DS		TWV
KAFB-106052	—	443.32	1-21-2020	0.0	—	441.15	DS		TWV
KAFB-106053	—	443.25	1-21-2020	0.0	—	441.06	KR		TWV
KAFB-106054	—	442.83	1-21-2020	0.0	—	440.66	DS		TWV
KAFB-106055	—	449.88	1-21-2020	0.0	—	447.53	DS		TWV
KAFB-106057	—	450.26	1-21-2020	0.0	—	447.89	DS		TWV
KAFB-106058	—	450.79	1-21-2020	0.0	—	448.44	DS		TWV
KAFB-106070	—	443.60	1-22-2020	0.0	—	441.44	DS		TWV
KAFB-106071	—	445.82	1-22-2020	0.0	—	443.68	KR		TWV
KAFB-106072	—	444.12	1-22-2020	0.0	—	441.98	DS		TWV
KAFB-106085	—	441.95	1-22-2020	0.0	—	439.86	DS		TWV
KAFB-106086	—	442.34	1-22-2020	0.0	—	440.25	DS		TWV
KAFB-106087	—	441.53	1-22-2020	0.0	—	439.42	DS		TWV
KAFB-106088	—	449.37	1-22-2020	0.0	—	447.18	DS		TWV
KAFB-106089	—	449.05	1-22-2020	0.0	—	446.89	DS		TWV
KAFB-106090	—	447.89	1-22-2020	0.0	—	445.68	DS		TWV
KAFB-106091	—	439.95	1-21-2020	0.0	—	436.79	DS		TWV
KAFB-106092	—	440.33	1-21-2020	0.0	—	436.90	KR		TWV
KAFB-106093	—	439.70	1-21-2020	0.0	—	436.99	DS		TWV



All wells gauged with 253053

Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point
	Depth to NAPL	DTW							
KAFB-106103	—	453.96	1-22-2020	0.0	—	451.74	DS		TWV
KAFB-106104	—	453.39	1-22-2020	0.0	—	451.21	DS		TWV
KAFB-106105	—	446.59	1-21-2020	0.0	—	444.41	DS		TWV
KAFB-106106	—	446.46	1-21-2020	0.0	—	444.28	DS		TWV
KAFB-106107	—	446.71	1-21-2020	0.0	—	444.52	DS		TWV
KAFB-106201	—	482.33	1-21-2020	0.0	—	479.31	DS		TOPC
KAFB-106202	—	482.88	1-21-2020	0.0	—	480.37	DS		TOPC
KAFB-106203	—	482.69	1-21-2020	0.0	—	480.77	KR		TOPC
KAFB-106204	—	457.12	1-20-2020	0.0	—	454.85	DS		TWV
KAFB-106205	—	457.49	1-20-2020	0.0	—	455.21	KR		TWV
KAFB-106206	—	457.64	1-20-2020	0.0	—	455.33	KR		TWV
KAFB-106207	—	468.23	1-20-2020	0.0	—	465.41	KR		TWV
KAFB-106208	—	467.92	1-20-2020	0.0	—	465.11	DS		TWV
KAFB-106209	—	467.28	1-20-2020	0.0	—	464.47	KR		TWV
KAFB-106212	—	447.81	1-22-2020	0.0	—	445.43	DS	Church	TWV
KAFB-106213	—	450.56	1-22-2020	0.0	—	448.24	DS	Church	TWV
KAFB-106214	—	450.68	1-22-2020	0.0	—	448.28	DS	Church	TWV
KAFB-106215	—	450.89	1-22-2020	0.0	—	448.51	DS	Church	TWV
KAFB-106216	—	458.91	1-20-2020	0.0	—	456.91	DS		TWV



Project: Kirtland AFB BFF ST-106/SS-111

Well Gauging Form Team 1

Total Wells 82

2020

Quarter : 1

All wells gauged with 253053

Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point
	Depth to NAPL	DTW							
KAFB-106217	—	458.81	1-26-2020	0.0	—	456.81	KR		TWV
KAFB-106218	—	458.94	1-26-2020	0.0	—	456.95	KR		TWV
KAFB-106219	—	465.30	1-20-2020	0.0	—	462.77	DS	Barricades by SWSS	TWV
KAFB-106220	—	465.24	1-20-2020	0.0	—	462.74	KR	Barricades by SWSS	TWV
KAFB-106221	—	465.01	1-20-2020	0.0	—	462.53	DS	Barricades by SWSS	TWV
KAFB-106222	—	457.94	1-20-2020	0.0	—	455.74	KR		TWV
KAFB-106223	—	458.62	1-20-2020	0.0	—	456.46	DS		TWV
KAFB-106224	—	459.76	1-20-2020	0.0	—	457.60	KR		TWV
KAFB-106225	—	451.33	1-20-2020	0.0	—	449.32	DS		TWV
KAFB-106226	—	451.96	1-20-2020	0.0	—	449.94	DS		TWV
KAFB-106227	—	452.71	1-20-2020	0.0	—	450.69	DS		TWV
KAFB-106229	—	440.17	1-22-2020	0.0	—	436.71	KR		TWV
KAFB-106230	—	443.03	1-21-2020	0.0	—	446.76	DS		TWV
KAFB-106231	—	451.80	1-21-2020	0.0	—	449.17	KR	Barricades by SWSS	TWV
KAFB-106232	—	451.33	1-21-2020	0.8/0.0	—	448.69	DS	Barricades by SWSS	TWV
KAFB-106235-438	—	440.33	1-20-2020	0.0	—	438.44	KR		TWV
KAFB-106235-472	—	440.31	1-20-2020	0.0	—	438.44	DS		TWV
KAFB-106235-501	—	440.35	1-20-2020	0.0	—	438.46	KR		TWV
KAFB-106236-436	—	440.09	1-20-2020	0.0	—	438.15	KR		TWV
KAFB-106236-472	—	440.06	1-20-2020	0.0	—	438.13	DS		TWV

Project: Kirtland AFB BFF ST-106/SS-111

All wells gauged with 253053

Quarter : 1

Well ID	Previous DTW 2019 Q4 (ft MRP)		Date	PID (ppm)	Depth to NAPL (ft MRP)	DTW (ft MRP)	Initials	Contact	Reference Point
	Depth to NAPL	DTW							
KAFB-106236-499	—	440.10	1-26-2020	0.0	—	438.185 DS	KR		TWV
KAFB-106241	—	449.50	1-21-2020	0.0	—	447.15	DS		TWV
KAFB-106242	—	440.96	1-21-2020	0.0	—	438.88	DS		TWV
KAFB-106243	—	445.63	1-22-2020	0.0	—	443.46	DS		TWV

	Interface Probe			Difference Between:		
Well ID	253053	253056	0001	253053 and 253056	253053 and 0001	253056 and 0001
KAFB-106027	471.84	471.8	471.89	0.04	-0.05	-0.09
KAFB-106044	471.97	471.95	472.04	0.02	-0.07	-0.09
KAFB-106045	471.63	471.66	471.73	-0.03	-0.1	-0.07
Average Difference				0.01	-0.07	-0.08

Table E-2-1
Gauging Calibration Corrections, Q1 2020

Well Location ID	Reference Elevation Interval (ft AMSL)	Date of Measurement	Depth to LNAPL (ft MRP)	Depth to Water (ft MRP)	Water Level Interface Probe Used (Serial Number)	Correction Applied (ft)	Corrected Depth to LNAPL (ft MRP)	Corrected Depth to Water (ft MRP)
KAFB-106001 ^a	4857/4838	1/20/2020	—	468.06	0001	0.08	—	467.98
KAFB-106002	4857	1/21/2020	—	464.75	0001	0.08	—	464.67
KAFB-106003	4857	1/21/2020	—	462.89	0001	0.08	—	462.81
KAFB-106004	4857	1/20/2020	—	468.49	0001	0.08	—	468.41
KAFB-106005	4857	1/22/2020	—	469.4	253056	0.00	—	469.40
KAFB-106006	4857	1/22/2020	—	474.28	253056	0.00	—	474.28
KAFB-106007	4857	1/20/2020	—	472.94	0001	0.08	—	472.86
KAFB-106008	4857	1/22/2020	—	474.5	253056	0.00	—	474.50
KAFB-106009	4857	1/21/2020	—	471.32	0001	0.08	—	471.24
KAFB-106010	4857	1/22/2020	—	466.02	253056	0.00	—	466.02
KAFB-106011	4857	1/21/2020	—	476.13	0001	0.08	—	476.05
KAFB-106012R	4857	1/21/2020	—	467.91	0001	0.08	—	467.83
KAFB-106013	4857	1/21/2020	—	473.31	0001	0.08	—	473.23
KAFB-106014	4857	1/21/2020	—	473.17	0001	0.08	—	473.09
KAFB-106015 ^a	4857/4838	1/22/2020	—	465.04	253053	0.00	—	465.04
KAFB-106016	4857	1/20/2020	—	465.6	0001	0.08	—	465.52
KAFB-106017 ^a	4857/4838	1/21/2020	—	465.69	0001	0.08	—	465.61
KAFB-106018 ^a	4857/4838	1/20/2020	—	459.51	0001	0.08	—	459.43
KAFB-106019 ^a	4857/4838	1/21/2020	—	477.73	0001	0.08	—	477.65
KAFB-106020	4857	1/20/2020	—	463.89	0001	0.08	—	463.81
KAFB-106021 ^a	4857/4838	1/21/2020	—	436.96	253053	0.00	—	436.96
KAFB-106022 ^a	4857/4838	1/21/2020	—	440.79	253053	0.00	—	440.79
KAFB-106023	4857	1/22/2020	—	451.51	253053	0.00	—	451.51
KAFB-106024	4857	1/20/2020	—	466.73	0001	0.08	—	466.65
KAFB-106025 ^a	4857/4838	1/21/2020	—	439.56	253053	0.00	—	439.56
KAFB-106026	4857	1/21/2020	—	444.66	253053	0.00	—	444.66
KAFB-106027	4857	1/20/2020	—	471.89	0001	0.08	—	471.81
KAFB-106028	4857	1/22/2020	—	471.68	253056	0.00	—	471.68
KAFB-106029	4857	1/21/2020	—	433.1	253053	0.00	—	433.10
KAFB-106030	4838	1/21/2020	—	433.2	253053	0.00	—	433.20
KAFB-106031	4814	1/21/2020	—	433.24	253053	0.00	—	433.24
KAFB-106032	4857	1/21/2020	—	439.88	253053	0.00	—	439.88
KAFB-106033	4838	1/21/2020	—	440.03	253053	0.00	—	440.03
KAFB-106034	4814	1/21/2020	—	440.88	253053	0.00	—	440.88
KAFB-106035	4857	1/22/2020	—	444.77	253053	0.00	—	444.77
KAFB-106036	4838	1/22/2020	—	445.22	253053	0.00	—	445.22
KAFB-106037	4838	1/22/2020	—	445.87	253053	0.00	—	445.87
KAFB-106038	4857	1/21/2020	—	474.6	0001	0.08	—	474.52
KAFB-106039	4838	1/21/2020	—	474.38	0001	0.08	—	474.30
KAFB-106040	4814	1/21/2020	—	473.28	0001	0.08	—	473.20
KAFB-106041	4857	1/20/2020	—	446.85	253053	0.00	—	446.85
KAFB-106042	4857	1/20/2020	—	446.61	253053	0.00	—	446.61
KAFB-106043	4814	1/20/2020	—	446.84	253053	0.00	—	446.84
KAFB-106044	4838	1/20/2020	—	472.04	0001	0.08	—	471.96
KAFB-106045	4814	1/20/2020	—	471.73	0001	0.08	—	471.65
KAFB-106046	4857	1/20/2020	—	475.71	0001	0.08	—	475.63
KAFB-106047	4838	1/20/2020	—	476.22	0001	0.08	—	476.14
KAFB-106048	4814	1/20/2020	—	475.96	0001	0.08	—	475.88
KAFB-106049	4857	1/21/2020	—	438.08	253053	0.00	—	438.08
KAFB-106050	4838	1/21/2020	—	437.5	253053	0.00	—	437.50
KAFB-106051	4814	1/21/2020	—	437.8	253053	0.00	—	437.80
KAFB-106052	4857	1/21/2020	—	441.15	253053	0.00	—	441.15
KAFB-106053	4838	1/21/2020	—	441.06	253053	0.00	—	441.06
KAFB-106054	4814	1/21/2020	—	440.66	253053	0.00	—	440.66
KAFB-106055	4857	1/21/2020	—	447.53	253053	0.00	—	447.53
KAFB-106057	4838	1/21/2020	—	447.89	253053	0.00	—	447.89
KAFB-106058	4814	1/21/2020	—	448.44	253053	0.00	—	448.44
KAFB-106059	4857	1/20/2020	470.94	471.1	253056	0.00	470.94	471.10
KAFB-106060	4838	1/20/2020	—	468.62	0001	0.08	—	468.54
KAFB-106061	4814	1/20/2020	—	468.6	0001	0.08	—	468.52
KAFB-106062	4814	1/20/2020	—	474.39	0001	0.08	—	474.31
KAFB-106063 ^b	4838	NA	NA	NA	NA	NA	NA	NA
KAFB-106064 ^b	4857	NA	NA	NA	NA	NA	NA	NA
KAFB-106065	4838	1/22/2020	—	471.83	0001	0.08	—	471.75
KAFB-106066	4814	1/22/2020	—	471.83	0001	0.08	—	471.75
KAFB-106067	4857	1/21/2020	—	470.68	0001	0.08	—	470.60
KAFB-106068	4814	1/21/2020	—	470.38	0001	0.08	—	470.30
KAFB-106069	4838	1/21/2020	—	470.28	0001	0.08	—	470.20
KAFB-106070	4857	1/22/2020	—	441.44	253053	0.00	—	441.44
KAFB-106071	4814	1/22/2020	—	443.68	253053	0.00	—	443.68
KAFB-106072	4838	1/22/2020	—	441.98	253053	0.00	—	441.98
KAFB-106073	4838	1/20/2020	—	462.76	0001	0.08	—	462.68
KAFB-106074	4814	1/20/2020	—	463.48	0001	0.08	—	463.40
KAFB-106075	4857	1/20/2020	—	463.48	0001	0.08	—	463.40
KAFB-106076	4857	1/22/2020	467.84	467.88	253056	0.00	467.84	467.88
KAFB-106077	4838	1/21/2020	—	469.16	0001	0.08	—	469.08
KAFB-106078	4814	1/21/2020	—	468.3	0001	0.08	—	468.22
KAFB-106079	4857	1/22/2020	—	472.55	253056	0.00	—	472.55
KAFB-106080	4838	1/22/2020	—	471.14	253056	0.00	—	471.14
KAFB-106081	4814	1/21/2020	—	472.45	0001	0.08	—	472.37
KAFB-106082	4857	1/20/2020	—	458.69	0001	0.08	—	458.61

Table E-2-1
Gauging Calibration Corrections, Q1 2020

Well Location ID	Reference Elevation Interval (ft AMSL)	Date of Measurement	Depth to LNAPL (ft MRP)	Depth to Water (ft MRP)	Water Level Interface Probe Used (Serial Number)	Correction Applied (ft)	Corrected Depth to LNAPL (ft MRP)	Corrected Depth to Water (ft MRP)
KAFB-106083	4838	1/20/2020	—	458.36	0001	0.08	—	458.28
KAFB-106084	4814	1/20/2020	—	461.07	0001	0.08	—	460.99
KAFB-106085	4857	1/22/2020	—	439.86	253053	0.00	—	439.86
KAFB-106086	4838	1/22/2020	—	440.25	253053	0.00	—	440.25
KAFB-106087	4814	1/22/2020	—	439.42	253053	0.00	—	439.42
KAFB-106088	4857	1/22/2020	—	447.18	253053	0.00	—	447.18
KAFB-106089	4838	1/22/2020	—	446.89	253053	0.00	—	446.89
KAFB-106090	4814	1/22/2020	—	445.68	253053	0.00	—	445.68
KAFB-106091	4857	1/21/2020	—	436.79	253053	0.00	—	436.79
KAFB-106092	4838	1/21/2020	—	436.9	253053	0.00	—	436.90
KAFB-106093	4814	1/21/2020	—	436.99	253053	0.00	—	436.99
KAFB-106094	4857	1/21/2020	—	467.89	0001	0.08	—	467.81
KAFB-106095	4838	1/21/2020	—	467.44	0001	0.08	—	467.36
KAFB-106096	4814	1/21/2020	—	468.08	0001	0.08	—	468.00
KAFB-106097	4838	1/21/2020	—	470.24	0001	0.08	—	470.16
KAFB-106098	4814	1/21/2020	—	470.32	0001	0.08	—	470.24
KAFB-106099	4838	1/20/2020	—	465.46	0001	0.08	—	465.38
KAFB-106100	4814	1/20/2020	—	465.48	0001	0.08	—	465.40
KAFB-106101	4838	1/21/2020	—	462.97	0001	0.08	—	462.89
KAFB-106102	4814	1/21/2020	—	463.11	0001	0.08	—	463.03
KAFB-106103	4838	1/22/2020	—	451.74	253053	0.00	—	451.74
KAFB-106104	4814	1/22/2020	—	451.21	253053	0.00	—	451.21
KAFB-106105	4838	1/21/2020	—	444.41	253053	0.00	—	444.41
KAFB-106106	4857	1/21/2020	—	444.28	253053	0.00	—	444.28
KAFB-106107	4814	1/21/2020	—	444.52	253053	0.00	—	444.52
KAFB-106148-484 ^c	4857	1/22/2020	—	467.11	253056	0.00	—	467.11
KAFB-106149-484 ^c	4857	1/22/2020	—	469.08	253056	0.00	—	469.08
KAFB-106150-484 ^c	4857	1/22/2020	467.36	467.47	253056	0.00	467.36	467.47
KAFB-106151-484 ^c	4857	1/20/2020	—	469.03	253056	0.00	—	469.03
KAFB-106152-484 ^c	4857	1/22/2020	—	470.63	253056	0.00	—	470.63
KAFB-106153-484 ^c	4857	1/22/2020	—	472.07	253056	0.00	—	472.07
KAFB-106154-484 ^c	4857	1/22/2020	—	470.27	253056	0.00	—	470.27
KAFB-106155-484 ^c	4857	1/22/2020	—	470.64	253056	0.00	—	470.64
KAFB-106156-484 ^c	4857	1/20/2020	—	464.19	253056	0.00	—	464.19
KAFB-106201	4857	1/21/2020	—	479.31	253053	0.00	—	479.31
KAFB-106202	4838	1/21/2020	—	480.37	253053	0.00	—	480.37
KAFB-106203	4814	1/21/2020	—	480.77	253053	0.00	—	480.77
KAFB-106204	4857	1/20/2020	—	454.85	253053	0.00	—	454.85
KAFB-106205	4838	1/20/2020	—	455.21	253053	0.00	—	455.21
KAFB-106206	4814	1/20/2020	—	455.33	253053	0.00	—	455.33
KAFB-106207	4857	1/20/2020	—	465.41	253053	0.00	—	465.41
KAFB-106208	4838	1/20/2020	—	465.11	253053	0.00	—	465.11
KAFB-106209	4814	1/20/2020	—	464.47	253053	0.00	—	464.47
KAFB-106211 ^c	4857	1/21/2020	—	465.57	0001	0.08	—	465.49
KAFB-106212	4814	1/22/2020	—	445.43	253053	0.00	—	445.43
KAFB-106213	4857	1/22/2020	—	448.24	253053	0.00	—	448.24
KAFB-106214	4838	1/22/2020	—	448.28	253053	0.00	—	448.28
KAFB-106215	4814	1/22/2020	—	448.51	253053	0.00	—	448.51
KAFB-106216	4857	1/20/2020	—	456.91	253053	0.00	—	456.91
KAFB-106217	4838	1/20/2020	—	456.81	253053	0.00	—	456.81
KAFB-106218	4814	1/20/2020	—	456.95	253053	0.00	—	456.95
KAFB-106219	4857	1/20/2020	—	462.77	253053	0.00	—	462.77
KAFB-106220	4838	1/20/2020	—	462.74	253053	0.00	—	462.74
KAFB-106221	4814	1/20/2020	—	462.53	253053	0.00	—	462.53
KAFB-106222	4857	1/20/2020	—	455.74	253053	0.00	—	455.74
KAFB-106223	4838	1/20/2020	—	456.46	253053	0.00	—	456.46
KAFB-106224	4814	1/20/2020	—	457.6	253053	0.00	—	457.60
KAFB-106225	4857	1/20/2020	—	449.32	253053	0.00	—	449.32
KAFB-106226	4838	1/20/2020	—	449.94	253053	0.00	—	449.94
KAFB-106227	4814	1/20/2020	—	450.69	253053	0.00	—	450.69
KAFB-106229 ^{a,c}	4857/4838	1/22/2020	—	436.71	253053	0.00	—	436.71
KAFB-106230	4814	1/21/2020	—	446.76	253053	0.00	—	446.76
KAFB-106231	4857	1/21/2020	—	449.17	253053	0.00	—	449.17
KAFB-106232	4814	1/21/2020	—	448.69	253053	0.00	—	448.69
KAFB-106235-438	4857	1/20/2020	—	438.48	253053	0.00	—	438.48
KAFB-106235-472	4838	1/20/2020	—	438.44	253053	0.00	—	438.44
KAFB-106235-501	4814	1/20/2020	—	438.46	253053	0.00	—	438.46
KAFB-106236-436	4857	1/20/2020	—	438.15	253053	0.00	—	438.15
KAFB-106236-470	4838	1/20/2020	—	438.13	253053	0.00	—	438.13
KAFB-106236-499	4814	1/20/2020	—	438.15	253053	0.00	—	438.15
KAFB-106240-449	4857	1/21/2020	—	470.29	0001	0.08	—	470.21
KAFB-106241-428	4857	1/21/2020	—	447.15	253053	0.00	—	447.15
KAFB-106242-418	4857	1/21/2020	—	438.88	253053	0.00	—	438.88
KAFB-106243-425	4857	1/22/2020	—	443.46	253053	0.00	—	443.46
KAFB-106244-445	4857	1/20/2020	—	466.22	0001	0.08	—	466.14
KAFB-106245-460	4857	1/22/2020	—	484.19	0001	0.08	—	484.11
KAFB-106247-450	4857	1/20/2020	—	474.93	0001	0.08	—	474.85
KAFB-106S1-447	4857	1/22/2020	—	468.01	253056	0.00	—	468.01
KAFB-106S2-451	4857	1/22/2020	—	475.22	253056	0.00	—	475.22
KAFB-106S3-449	4857	1/22/2020	—	474.31	253056	0.00	—	474.31
KAFB-106S4-446	4857	1/22/2020	—	469.21	0001	0.08	—	469.13
KAFB-106S5-446	4857	1/22/2020	—	466.3	253056	0.00	—	466.30

Table E-2-1
Gauging Calibration Corrections, Q1 2020

Well Location ID	Reference Elevation Interval (ft AMSL)	Date of Measurement	Depth to LNAPL (ft MRP)	Depth to Water (ft MRP)	Water Level Interface Probe Used (Serial Number)	Correction Applied (ft)	Corrected Depth to LNAPL (ft MRP)	Corrected Depth to Water (ft MRP)
KAFB-106S7-451	4857	1/22/2020	—	471.78	253056	0.00	—	471.78
KAFB-106S8-451	4857	1/22/2020	—	474.3	253056	0.00	—	474.30
KAFB-106S9-447	4857	1/20/2020	—	469.3	253056	0.00	—	469.30
KAFB-3411	4857	1/20/2020	—	466.67	0001	0.08	—	466.59

^a Well used in analyses for both REI 4857 and 4838.
^b Well was not gauged due to presence of monitoring equipment.
^c Well not permanently designated in REI listed.
AMSL = above mean sea level
ft = foot/feet
ID = identification
LNAPL = light non-aqueous phase liquid
MRP = measurement reference point
REI = reference elevation interval
— = LNAPL not detected



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S1-447

Deployment

Year: 2020

Quarter: 1

Sample ID: GWS1-447-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 469.56 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 22.56 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 489.99 ft MRP

Top of Screen: 447.00 ft MRP

Bottom of Screen: 487.00 ft MRP

Deployment Team: Jim GB

Date Deployed: 12-12-19

Time Deployed: 1105

PID: MiniRAE 3000 Serial No: WHT0006

Water Level Meter: Solinst 500 ft Serial No: WHT0012

PID Reading: 0.0 ppm

Depth to Water: 468.80'

Measure Water Level

DMS Tether and Reel ID match Well ID? Jim

Initial to confirm that ID
check was completed

Notes: _____

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler Number:	Top of Sampler Depth (MRP)
1	447.70
2	450.30
3	452.90
4	455.50
5	458.10
6	460.70
7	463.30
8	465.90
9	468.50
10	471.10
11	473.70
12	476.30
13	478.90
14	481.50

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by: C. Montoya

Review Date: 12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S1-447

Sampling

Year: 2020

Quarter: 1

Sample ID: GWS1-447-201

Date Sampled: 1-9-2020

Time Sampled: 1320

Sampling Team: # 2

PID Reading: 0.7

DMS Tether and Reel ID match Well ID?

PT

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one										
1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W140006

IDW will be taken to: 90-day Hazardous Waste Area

Notes:

Sample ID: GWS1-447-201

Duplicate ID: GWS1-447-601
(if applicable)

COC#: COC-S1-447-201

Reviewed by: C. Montoya

Review Date: 1-15-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S2-451

Deployment

Year: 2020

Quarter: 1

Sample ID: GWS2-451-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 476.86 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 22.63 ***** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 496.90 ft MRP

Top of Screen: 454.23 ft MRP

Bottom of Screen: 494.23 ft MRP

Deployment Team: jm GB

Date Deployed: 12-16-19

Time Deployed: 0835

PID:

MiniRAE 3000

Serial No:

W110006

Water Level Meter:

Solinst 500 ft

Serial No:

W110012

PID Reading: 0.0

ppm

Depth to Water: 475.93

Measure Water Level

DMS Tether and Reel ID match Well ID? jm

Initial to confirm that ID
check was completed

Notes: _____

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number: Top of Sampler
Depth (MRP)

1 454.93

2 457.53

3 460.13

4 462.73

5 465.33

6 467.93

7 470.53

8 473.13

9 475.73

10 478.33

11 480.93

12 483.53

13 486.13

14 488.73

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by: C. Monkey

Review Date: 12-16-19



Passive Diffusion Water Sampling Data Sheet

Year: 2020

Well Location ID:

KAFB-106S2-451

Sampling

Quarter: 1

Sample ID: GWS2-451-201

Date Sampled:

01/06/2020

Time Sampled:

1058

Sampling Team:

D. Schmeelk, N. Peterson

PID Reading:

0.0

DMS Tether and Reel ID match Well ID?

X

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

1

EDB

Choose only one

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐☐

2

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐☐

3

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐☐

4

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐☐

5

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐☐

6

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: 90-day Hazardous Waste Area

Notes:

Sample ID:

GWS2-451-201

Duplicate ID:
(if applicable)

GWS2-451-601

COC#:

COC-S2-451-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S3-449

Deployment

Year: 2020

Quarter: 1

Sample ID: GWS3-449-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 476.00 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 23.82 **** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 494.42 ft MRP

Top of Screen: 452.18 ft MRP

Bottom of Screen: 492.18 ft MRP

Deployment Team:

Date Deployed:

12-12-19

Time Deployed:

0910

PID:

MiniRAE 3000

Serial No:

WTH0006

Water Level Meter:

Solinst 500 ft

Serial No:

~~WTH0006~~ 253056 WTH0012

PID Reading:

0.0

ppm

Depth to Water:

475.22

Measure Water Level

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number:

Top of Sampler
Depth (MRP)

1 452.88

2 455.48

3 458.08

4 460.68

5 463.28

6 465.88

7 468.48

8 471.08

9 473.68

10 476.28

11 478.88

12 481.48

13 484.08

14 486.68

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S3-449

Sampling

Year: 2020

Quarter: 1

Sample ID: GWS3-449-201

Date Sampled: 1-9-2020 Time Sampled: 1355 Sampling Team: H 2

PID Reading: 45 DMS Tether and Reel ID match Well ID? PF Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

Choose only one										
1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

6mm

PID:

MiniRAE 3000

Serial No:

W H0006

IDW will be taken to: **90-day Hazardous Waste Area**

Notes:

Sample ID: GWS3-449-201

Duplicate ID:
(if applicable) GWS3-449-601

COC#: COC-S3-449-201

Reviewed by: C. Montan

Review Date: 1-15-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S4-446

Deployment

Year: 2020

Quarter: 1

Sample ID: GWS4-446-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 470.88 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 21.65 **** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 491.73 ft MRP

Top of Screen: 449.23 ft MRP

Bottom of Screen: 489.23 ft MRP

Deployment Team:

Date Deployed:

12-16-19

Time Deployed:

0810

PID:

MiniRAE 3000

Serial No:

WTH006

Water Level Meter:

Solinst 500 ft

Serial No:

WTH012

PID Reading:

0.0

ppm

Depth to Water:

469.91'

Measure Water Level

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number:

Top of Sampler
Depth (MRP)

1 449.93

2 452.53

3 455.13

4 457.73

5 460.33

6 462.93

7 465.53

8 468.13

9 470.73

10 473.33

11 475.93

12 478.53

13 481.13

14 483.73

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S4-446

Sampling

Year: 2020

Quarter: 1

Sample ID: GWS4-446-201

Date Sampled: 01/06/2020

Time Sampled: 0945

Sampling Team: D. Schneelk, N. Peterson

PID Reading: 0.0

DMS Tether and Reel ID match Well ID?

NP

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

		Choose only one								
1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

Sample ID: GWS4-446-201

Duplicate ID: (if applicable) GWS4-446-601

COC#: COC-S4-446-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S5-446

Deployment

Year: 2020

Quarter: 1

Sample ID: GWS5-446-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 468.10 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 22.02 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 488.32 ft MRP

Top of Screen: 446.08 ft MRP

Bottom of Screen: 486.08 ft MRP

Deployment Team:

Date Deployed:

12-12-19

Time Deployed:

1010

PID:

MiniRAE 3000

Serial No:

WH0006

Water Level Meter:

Solinst 500 ft

Serial No:

WH0012

PID Reading:

0.0

ppm

Depth to Water:

467.21

Measure Water Level

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler Number: Top of Sampler Depth (MRP)

1	446.78
2	449.38
3	451.98
4	454.58
5	457.18
6	459.78
7	462.38
8	464.98
9	467.58
10	470.18
11	472.78
12	475.38
13	477.98
14	480.58

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S5-446

Sampling

Year: 2020

Quarter: 1

Sample ID: GWS5-446-201

Date Sampled: 1-9-2020 Time Sampled: 1510 Sampling Team: JF 2

PID Reading: 75.5 DMS Tether and Reel ID match Well ID? PF Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

Choose only one										
1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **90-day Hazardous Waste Area**

Notes:

Sample ID: GWS5-446-201

Duplicate ID:
(if applicable) GWS5-446-601

COC#: COC-S5-446-201

Reviewed by: C. Montoya

Review Date: 1-15-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S7-451

Deployment

Year: 2020

Quarter: 1

Sample ID: GWS7-451-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 473.53 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 22.53 ******** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 492.60 ft MRP

Top of Screen: 451.00 ft MRP

Bottom of Screen: 491.00 ft MRP

Deployment Team:

Date Deployed:

12-12-19

Time Deployed:

0945

PID:

MiniRAE 3000

Serial No:

WH0006

Water Level Meter:

Solinst 500 ft

Serial No:

WH0012

PID Reading:

0.0

ppm

Depth to Water:

472.70

Measure Water Level

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler Number:

Top of Sampler Depth (MRP)

1 451.70

2 454.30

3 456.90

4 459.50

5 462.10

6 464.70

7 467.30

8 469.90

9 472.50

10 475.10

11 477.70

12 480.30

13 482.90

14 485.50

Depths highlighted blue represent submerged samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S7-451

Sampling

Year: 2020

Quarter: 1

Sample ID: GWS7-451-201

Date Sampled: 1-9-2020 Time Sampled: 1440 Sampling Team: #2

PID Reading: 67.5 DMS Tether and Reel ID match Well ID? FF Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

Choose only one											
↑ DMS failures ↑ no water recovery from 1+3	1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
	2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
	3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
	4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
	5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
	6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: 90-day Hazardous Waste Area

Notes:

Sample ID: GWS7-451-201

Duplicate ID:
(if applicable) GWS7-451-601

COC#: COC-S7-451-201

Reviewed by: C. Mody

Review Date: 1-15-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S8-451

Deployment

Year: 2020

Quarter: 1

Sample ID: GWS8-451-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 475.88 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 21.66 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 491.97 ft MRP

Top of Screen: 454.22 ft MRP

Bottom of Screen: 494.22 ft MRP

Deployment Team: Jm GB

Date Deployed: 12-16-19

Time Deployed: 0905

PID: MiniRAE 3000 Serial No: WHT0006

Water Level Meter: Solinst 500 ft Serial No: WHT0012

PID Reading: 0.0 ppm

Depth to Water: 475.02

Measure Water Level

DMS Tether and Reel ID match Well ID? Jm

Initial to confirm that ID
check was completed

Notes: _____

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number: Top of Sampler
Depth (MRP)

1 454.92

2 457.52

3 460.12

4 462.72

5 465.32

6 467.92

7 470.52

8 473.12

9 475.72

10 478.32

11 480.92

12 483.52

13 486.12

14 488.72

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by: C. Montoya

Review Date: 12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S8-451

Sampling

Year: 2020

Quarter: 1

Sample ID: GWS8-451-201

Date Sampled:

01/06/2020

Time Sampled:

1206

Sampling Team:

D. Schmeelk, N. Peterson

PID Reading:

0.0

DMS Tether and Reel ID match Well ID?

DS

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup?

MS/MSD?

1

EDB

Choose only one

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

2

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

3

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

4

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

5

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

6

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: 90-day Hazardous Waste Area

Notes:

Sample ID:

GWS8-451-201

Duplicate ID:
(if applicable)

GWS8-451-601

COC#:

COC-S8-451-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S9-447

Deployment

Year: 2020

Quarter: 1

Sample ID: GWS9-447-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 470.57 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 23.45 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 489.49 ft MRP

Top of Screen: 447.12 ft MRP

Bottom of Screen: 487.12 ft MRP

Deployment Team:

JM GB

Date Deployed:

12-12-19

Time Deployed:

1215

PID:

MiniRAE 3000

Serial No:

W4H0006

Water Level Meter:

Solinst 500 ft

Serial No:

W4H0012

PID Reading:

0.0

ppm

Depth to Water:

469.74

Measure Water Level

DMS Tether and Reel ID match Well ID?

JM

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler Number: Top of Sampler Depth (MRP)

1 447.82

2 450.42

3 453.02

4 455.62

5 458.22

6 460.82

7 463.42

8 466.02

9 468.62

10 471.22

11 473.82

12 476.42

13 479.02

14 481.62

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106S9-447

Sampling

Year: 2020

Quarter: 1

Sample ID: GWS9-447-201

Date Sampled: 1-9-2020 Time Sampled: 1240 Sampling Team: #2

PID Reading: 0.7 DMS Tether and Reel ID match Well ID? pg Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one										
1	<u>EDB</u>	<u>VOCs</u>	<u>BTEX (N)</u>	<u>Metals (Dissolved)</u>	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐ CSIA
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐ 6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **90-day Hazardous Waste Area**

Notes:

Sample ID: GWS9-447-201

Duplicate ID:
(if applicable) GWS9-447-601

COC#: COC-S9-447-201

Reviewed by: C. Montoya

Review Date: 1-15-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 1-17-2020

Well ID: KAFB-106003
Samplers: D. Schuelke, K. Robinson
Crew Signature: [Signature]

Well Information

Well was NOT HAZARDOUS

SCREEN SUBMERGED on 9/30/2019 (previous gauging date)

Barricade/Notification: ☐

Measurement Reference Point (MRP): Top of Protective Casing

IDW will be taken to: GWTS/Pending Disposal Area

IDW Label: Green Non-hazardous

Well Depth: 506.00 ft MRP

Top of Screen: 479.00 ft MRP

Bottom of Screen: 504.00 ft MRP

Reference Elevation Interval: 4857

Protective Casing/Vault: Intact Damaged Well Locked/Security Bolt Present: Yes No
Well ID Marked: Yes No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes No

LNAPL Thickness: ~~462~~ ft

LNAPL NOT observed during last gauging event: 9/30/2019

Previous Depth to water: 464.14 ft MRP

Depth to Water (DTW): 462.85 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.: 1807B-699

Non-Dedicated Pump Depth: 481.0 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature

YSI Professional Plus

Serial No:

18L100378

PID:

MiniRAE 3000

Serial No:

WH0005

Water Level Meter:

Solinst 500 ft

Serial No:

WH0012

Turbidity Meter:

Hach 2100Q

Serial No:

WH0009

Sample Information

Sample ID: GW003-201

Sampling Method: Low-flow

Duplicate ID: (if applicable)

GW003-601

Sampling Medium: Water

COC#:

COC-003-201

Reviewed by: C. Montoya Initials: CM Review Date: 1-12-2020

Groundwater Purge and Sampling Log

Year:	2020
Quarter:	1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111

Well ID:

KAFB-106003

Purge Information and Field Parameter

Date: 1-17-2020

Purge Start Time: 1214 Purge Rate: 0.800 L/min X 0.265 = 0.212 gal/min

Description of first water purged: Clear and odorless

Drawdown Limit: 14.86 ft (based on previous water level)

[illegible]

Sample Time: 1250 Sample Date: 1-17-2020

Purge End Time: 1252 6mm

Bubbles in the vials?: ☐ Yes ☒ No Where? _____ Amount _____ Size _____

Sampled by: D. Schmeelk

Sampler Signature:

IDW Management

Drum No.	Estimated volume per IDW drum (gal)
1	14
2	
Total	

IDW will be taken to:

**GWTS/Pending
Disposal Area**

IDW Label:

Green Non-hazardous

Comments:

Reviewed by: C. Montoya Initials: CM Review Date: 1-12-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 1-16-2020

Well ID: KAFB-106004
Samplers: D. Schuelek, K. Robinson
Crew Signature: [Signatures]

Well Information

Well was NOT HAZARDOUS
SCREEN SUBMERGED on 10/1/2019 (previous gauging date)
Barricade/Notification: ☒
Measurement Reference Point (MRP): Top of Protective Casing
IDW will be taken to: GWTS/Pending Disposal Area
Well Depth: 512.74 ft MRP
Top of Screen: 486.74 ft MRP
Bottom of Screen: 511.74 ft MRP
Reference Elevation Interval: 4857
IDW Label: Green Non-hazardous

Protective Casing/Vault: ☒ Intact ☐ Damaged
Well Locked/Security Bolt Present: ☒ Yes ☐ No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes ☒ No ☐ LNAPL Thickness: _____ ft
LNAPL NOT observed during last gauging event: 10/1/2019

Previous Depth to water: 469.71 ft MRP
Depth to Water (DTW): 468.59 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.: 1807B-699

Non-Dedicated Pump Depth: 488.75 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature: YSI Professional Plus Serial No: 18L100378
PID: MiniRAE 3000 Serial No: WH0005
Water Level Meter: Solinst 500 ft Serial No: WH0012
Turbidity Meter: Hach 2100Q Serial No: WH0009

Sample Information

Sample ID: GW004-201 Sampling Method: Low-flow
Duplicate ID: (if applicable) GW004-601 Sampling Medium: Water
COC#: COC-004-201

Reviewed by: C. Montoya Initials: CM Review Date: 1-20-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111

Well ID:

KAFB-106004

Purge Information and Field Parameter

Date: 1-16-2020

Purge Start Time: 0848 Purge Rate: 0.840 L/min X 0.265 = 0.2226 gal/min

Description of first water purged: Clear and odorless

Drawdown Limit: 17.03 ft (based on previous water level)

Time	DTW (ft)	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Stabilization Requirements	-----	If >10, ±10%	±10%	-----	±10%	±10%	±0.5	-----
Historical Data:	469.71	2.72	19.7	-----	7.62	548.2	7.78	-7.5
0855	468.57	0.57	11.7	94.9	10.20	431.2	7.89	412.1
0900	468.57	0.22	12.5	82.3	8.69	432.3	7.92	406.6
0905	468.57	0.23	13.2	72.6	7.59	432.3	7.93	404.2
0910	468.55	1.38	13.4	70.6	7.35	430.3	7.94	404.6
0915	468.55	2.42	13.4	69.0	7.17	428.4	7.93	403.8

Sample Time: 0920 Sample Date: 1-16-2020

Purge End Time: 0924 6mm

Bubbles in the vials?: ☒ Yes ☐ No Where? one RTEX VOA Amount 1 Size <1mm

Sampled by: D. Schmeelk Sampler Signature:

IDW Management

Drum No. Estimated volume per IDW drum (gal)

1	14
2	
Total	

IDW will be taken to:

GWTS/Pending Disposal Area

IDW Label:

Green Non-hazardous

Comments:

Reviewed by: C. Montoya Initials: CM Review Date: 1-20-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106005

Deployment

Year: 2020

Quarter: 1

Sample ID: GW005-201

Well Information

Screen Interval Length (ft): 25

Previous Depth to Water (MRP): 471.20 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -10.67

Well Depth: 508.87 ft MRP

Top of Screen: 481.87 ft MRP

Bottom of Screen: 506.87 ft MRP

Deployment Team: jm GB

Date Deployed: 12-11-19

Time Deployed: 1215

PID:

MiniRAE 3000

Serial No:

WH0006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading: 0.0

ppm

Depth to Water:

DMS Tether and Reel ID match Well ID? jm

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

**Duplicate sample required. Please
deploy extra DMS as needed**

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number:

Top of Sampler
Depth (MRP)

1	482.57
2	485.17
3	487.77
4	490.37
5	492.97
6	495.57
7	498.17
8	500.77
9	503.37

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by: C. Montoya

Review Date: 12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106005

Sampling

Year: 2020

Quarter: 1

Sample ID: GW005-201

Date Sampled: 1-8-2020

Time Sampled: 1050

Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0

DMS Tether and Reel ID match Well ID?

KR

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one										
1	<u>EDB</u>	<u>VOCs</u>	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☒	☒
2	EDB	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☒	☒
3	EDB	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☒	☒
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☒	☒
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☒	☒
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☒	☒

6mm

Duplicate sample required.

PID: 0.0

MiniRAE 3000

Serial No: 124006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW005-201

Duplicate ID: GW005-601
(if applicable)

COC#: COC-005-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106009

Deployment

Year: 2020

Quarter: 1

Sample ID: GW009-201

Well Information

Screen Interval Length (ft): 25

Previous Depth to Water (MRP): 472.91 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -10.78

Well Depth: 511.19 ft MRP

Top of Screen: 483.69 ft MRP

Bottom of Screen: 508.69 ft MRP

Deployment Team: Jm GB

Date Deployed: 12-11-19 Time Deployed: 1150

PID: MiniRAE 3000 Serial No: W H0006

Water Level Meter: Solinst 500 ft Serial No: N/A

PID Reading: 0.0 ppm

Depth to Water: —

DMS Tether and Reel ID match Well ID?

Jm
Initial to confirm that ID
check was completed

Notes: _____

QC sample notes.
(If blank, no QC samples required):

**Duplicate sample required. Please
deploy extra DMS as needed**

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number: Top of Sampler
Depth (MRP)

1	484.39
2	486.99
3	489.59
4	492.19
5	494.79
6	497.39
7	499.99
8	502.59

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by: C. Montoya

Review Date: 12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106009

Sampling

Year: 2020

Quarter: 1

Sample ID: GW009-201

Date Sampled: 1-8-2020

Time Sampled: 0811

Sampling Team: D. Schneelk, G. Begaye

PID Reading: 00

DMS Tether and Reel ID match Well ID?



Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

		Choose only one								
		VOCs		Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	EDB		BTEX (N)							
2	EDB		BTEX (N)							
3	EDB		BTEX (N)							
4	EDB		BTEX (N)							
5	EDB		BTEX (N)							
6	EDB		BTEX (N)							

Duplicate sample required.

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

Sample ID: GW009-201

Duplicate ID:
(if applicable) GW009-601

COC#: COC-009-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 1-14-2020

Well ID: KAFB-106012R
Samplers: D. Schneef, K. Robinson
Crew Signature: [Signature]

Well Information

Well was NOT HAZARDOUS

SCREEN NOT SUBMERGED on 9/30/2019 (previous gauging date)

Barricade/Notification: ☐

Measurement Reference Point (MRP): Top of Protective Casing

IDW will be taken to: GWTS/Pending Disposal Area

IDW Label: Green Non-hazardous

Well Depth: 502.91 ft MRP
Top of Screen: 468.49 ft MRP
Bottom of Screen: 497.74 ft MRP
Reference Elevation Interval: 4857

Protective Casing/Vault: Intact Damaged Well Locked/Security Bolt Present: Yes No
Well ID Marked: Yes No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes No

LNAPL Thickness: — ft

LNAPL NOT observed during last gauging event: 9/30/2019

Previous Depth to water: 469.43 ft MRP

Depth to Water (DTW): 468.05 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.: SN 1807B-699

Non-Dedicated Pump Depth: 495.75 KR ft MRP 470.5

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature YSI Professional Plus Serial No: 18L100378

PID: MiniRAE 3000 Serial No: WH0005

Water Level Meter: Solinst 500 ft Serial No: ~~WH0000~~ WH0012

Turbidity Meter: Hach 2100Q Serial No: WH0009

Sample Information

Sample ID: GW012R-201 Sampling Method: Low-flow

Duplicate ID: (if applicable) GW012R-601 Sampling Medium: Water

COC#: COC-012R-201

Reviewed by: Initials: Review Date:



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111

Well ID:

KAFB-106012R

Purge Information and Field Parameter

Date: 1-14-2020

Purge Start Time: 1058 Purge Rate: 0.760 L/min X 0.265 = 0.2014 gal/min

Description of first water purged: Clear & odorless

Drawdown Limit: 7.08 ft (based on previous water level)

Time	DTW (ft)	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Stabilization Requirements	-----	If >10, ±10%	±10%	-----	±10%	±10%	±0.5	-----
Historical Data:	469.43	10.1	20.4	-----	8.16	1974	7.36	146
1105	468.05	31.4	16.7	72.0	7.00	1368	7.33	315.6
1110	468.05	24.4	16.7	71.0	6.88	1437	7.37	319.0
1115	468.05	15.5	16.6	70.0	6.76	1517	7.35	324.8
1120	468.04	15.3	16.7	70.2	6.84	1542	7.37	326.7
1125	468.05	13.4	17.0	70.0	6.73	1564	7.39	328.4
1130	468.03	11.2	17.1	70.5	6.76	1580	7.36	330.0
1135	468.04	8.71	17.0	69.5	6.66	1591	7.35	332.5
1140	468.03	7.47	17.0	69.3	6.65	1590	7.34	333.5
1145	468.04	7.14	17.0	67.9	6.60	1586	7.34	334.5

Sample Time: 1151 Sample Date: 1-14-2020

Purge End Time: 1208 6mm

Bubbles in the vials?: ☐ Yes ☒ No Where? Amount Size

Sampled by: Dylan Schneelk Sampler Signature:

IDW Management

Drum No. Estimated volume per IDW drum (gal)

1	20
2	
Total	

IDW will be taken to:

GWTS/Pending Disposal Area

IDW Label:

Green Non-hazardous

Comments:

Reviewed by: C. Montoya Initials: Cm Review Date: 1-15-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 1-15-2020

Well ID: KAFB-106013
Samplers: Dylan Schmeelk, K Robinson
Crew Signature: [Signature]

Well Information

Well was NOT HAZARDOUS
SCREEN SUBMERGED on 10/1/2019 (previous gauging date)
Barricade/Notification: ☒
Measurement Reference Point (MRP): Top of Protective Casing
Reference Elevation Interval: 4857
IDW will be taken to: GWTS/Pending Disposal Area
IDW Label: Green Non-hazardous

Protective Casing/Vault: ☒ Intact ☐ Damaged
Well Locked/Security Bolt Present: ☒ Yes ☐ No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes ☒ No ☐ LNAPL Thickness: _____ ft
LNAPL NOT observed during last gauging event: 10/1/2019

Previous Depth to water: 474.96 ft MRP
Depth to Water (DTW): 473.58 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.: 1807B-699

Non-Dedicated Pump Depth: 491.6 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature: YSI Professional Plus Serial No: 18L100378

PID: MiniRAE 3000 Serial No: WH0005

Water Level Meter: Solinst 500 ft Serial No: WH0012

Turbidity Meter: Hach 2100Q Serial No: WH0009

Sample Information

Sample ID: GW013-201 Sampling Method: Low-flow

Duplicate ID: (if applicable) GW013-601 Sampling Medium: Water

COC#: COC-013-201

Reviewed by: C. Manby Initials: CM Review Date: 1-20-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111

Well ID:

KAFB-106013

Purge Information and Field Parameter

Date: 1-15-2020

Purge Start Time: 0854 Purge Rate: 0.880 L/min X 0.265 = 0.2332 gal/min

Description of first water purged: Clear and odorless

Drawdown Limit: 14.69 ft (based on previous water level)

Time	DTW (ft)	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Stabilization Requirements	-----	If >10, ±10%	±10%	-----	±10%	±10%	±0.5	-----
Historical Data:	474.96	2.64	19.8	-----	1.08	419.1	7.19	65.7
0855	473.57	108	11.7	99.7	10.46	445.1	7.19	400.0
X 1000 0900	473.55	21.7	14.3	70.5	7.13	478.4	7.75	384.9
X 1005 0905	473.56	16.7	16.1	33.6	3.22	480.5	7.84	375.0
X 1010 0910	473.55	10.9 10.9	16.6	24.0	2.33	482.2	7.82	370.5
X 1015 0915	473.55	7.10	16.7	21.5	2.09	482.9	7.80	368.4
0920	473.54	5.35	16.7	20.1	1.95	483.4	7.83	365.0
0925	473.55	3.99	16.8	19.2	1.87	483.3	7.84	362.0
0930	473.53	2.72	16.7	19.0	1.82	483.2	7.82	360.2

Sample Time: 0935 Sample Date: 1-15-2020

Purge End Time: 0936 6mm

Bubbles in the vials?: ☐ Yes ☒ No Where? Amount Size

Sampled by: D. Schuelke Sampler Signature: [Signature]

IDW Management

Drum No. Estimated volume per
IDW drum (gal)

1

15

2

Total

IDW will be taken to:

GWTS/Pending
Disposal Area

IDW Label:

Green Non-
hazardous

Comments:

Reviewed by: C. Montoya Initials: CM Review Date: 1-20-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106029

Deployment

Year: 2020

Quarter: 1

Sample ID: GW029-201

Well Information

Screen Interval Length (ft): 20

Previous Depth to Water (MRP): 435.28 (Gauged on 10/2/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -15.52

Well Depth: 475.80 ft MRP

Top of Screen: 450.80 ft MRP

Bottom of Screen: 470.80 ft MRP

Deployment Team:

JM GB

Date Deployed:

12-9-19

Time Deployed:

1245

PID:

MiniRAE 3000

Serial No:

W40806

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

JM
Initial to confirm that ID
check was completed

QC sample notes.
(If blank, no QC samples required):

Duplicate sample required. Please
deploy extra DMS as needed

Analyte(s):

- EDB

Sampler
Number:

Top of Sampler
Depth (MRP)

1	451.50
2	454.10
3 JM	456.70
4 JM	459.30
5 JM	461.90
6	464.50
7	467.10

Notes:

Reviewed by:

C. Montoya

Review Date:

12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106029

Sampling

Year: 2020

Quarter: 1

Sample ID: GW029-201

Date Sampled: 1-6-2020 Time Sampled: 1200 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? 142 Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

		Choose only one								
		VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	<u>EDB</u>								☒	☐
2	EDB								☐	☐
3	EDB								☐	☐
4	EDB								☐	☐
5	EDB								☐	☐
6	EDB								☐	☐

6mm

Duplicate sample required.

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Duplicate Sample Taken

Sample ID: GW029-201

Duplicate ID: GW029-601
(if applicable)

COC#: COC-029-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106030

Deployment

Year: 2020

Quarter: 1

Sample ID: GW030-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 435.40 (Gauged on 10/2/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -34.10

Well Depth: 489.90 ft MRP

Top of Screen: 469.50 ft MRP

Bottom of Screen: 484.50 ft MRP

Deployment Team:

Date Deployed:

12-9-19

Time Deployed:

1235

PID:

MiniRAE 3000

Serial No:

W10006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

MS/MSD required. Please deploy
extra DMS as needed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	470.20
2	472.80
3	475.40
4	478.00
5	480.60

Reviewed by:

C. Montoya

Review Date:

12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106030

Sampling

Year: 2020

Quarter: 1

Sample ID: GW030-201

Date Sampled: 1-6-2020 Time Sampled: 1220 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KCR Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☒
2	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☒
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

MS/MSD required.

PID:

MiniRAE 3000

Serial No:

W40004

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW030-201

Duplicate ID:
(if applicable) GW030-601

COC#: COC-030-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106031

Deployment

Year: 2020

Quarter: 1

Sample ID: GW031-201

Well Information

Screen Interval Length (ft): 14

Previous Depth to Water (MRP): 435.44 (Gauged on 10/2/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -60.36

Well Depth: 514.90 ft MRP

Top of Screen: 495.80 ft MRP

Bottom of Screen: 509.50 ft MRP

Deployment Team:

JM GB

Date Deployed:

12-9-19

Time Deployed:

1210

PID:

MiniRAE 3000

Serial No:

W40006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

JM
Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	496.50
2	499.10
3	501.70
4	504.30
5	506.90

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106031

Sampling

Year: 2020

Quarter: 1

Sample ID: GW031-201

Date Sampled: 1-6-2020 Time Sampled: 1250 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID: MiniRAE 3000 Serial No: WH0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes: _____

Sample ID: GW031-201

Duplicate ID: GW031-601
(if applicable)

COC#: COC-031-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106032

Deployment

Year: 2020

Quarter: 1

Sample ID: GW032-201

Well Information

Screen Interval Length (ft): 20

Previous Depth to Water (MRP): 441.58 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -14.42

Well Depth: 480.50 ft MRP

Top of Screen: 456.00 ft MRP

Bottom of Screen: 476.00 ft MRP

Deployment Team: jm BG

Date Deployed: 12-9-19

Time Deployed: 1125

PID: MiniRAE 3000

Serial No: W40006

Water Level Meter: Solinst 500 ft

Serial No: N/A

PID Reading: 0.0 ppm

Depth to Water: N/A

DMS Tether and Reel ID match Well ID? jm

Initial to confirm that ID
check was completed

Notes:

Sampler
Number: Top of Sampler
Depth (MRP)

1	456.70
2	459.30
3	461.90
4	464.50
5	467.10
6	469.70
7	472.30

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by: C. Montoya

Review Date: 12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Year: 2020

Well Location ID:

KAFB-106032

Sampling

Quarter: 1

Sample ID: GW032-201

Date Sampled:

01/06/2020

Time Sampled:

1305

Sampling Team:

D. Schmeelk, N. Peterson

PID Reading:

0.0

DMS Tether and Reel ID match Well ID?

☒

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

Sample ID:

GW032-201

Duplicate ID:
(if applicable)

GW032-601

COC#:

COC-032-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106033

Deployment

Year: 2020

Quarter: 1

Sample ID: GW033-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 441.72 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -35.28

Well Depth: 496.60 ft MRP

Top of Screen: 477.00 ft MRP

Bottom of Screen: 492.00 ft MRP

Deployment Team:

Date Deployed:

12-9-19

Time Deployed:

1135

PID:

MiniRAE 3000

Serial No:

WH0006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	477.70
2	480.30
3	482.90
4	485.50
5	488.10

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

12-23-19 C. Montoya

Review Date:

12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Year: 2020

Well Location ID:

KAFB-106033

Sampling

Quarter: 1

Sample ID: GW033-201

Date Sampled:

01/06/2020

Time Sampled:

1348

Sampling Team:

D. Schmeek, N. Peterson

PID Reading:

0.0

DMS Tether and Reel ID match Well ID?



Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

Sample ID: GW033-201

Duplicate ID: (if applicable) GW033-601

COC#: COC-033-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106034

Deployment

Year: 2020

Quarter: 1

Sample ID: GW034-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 442.57 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -59.43

Well Depth: 522.00 ft MRP

Top of Screen: 502.00 ft MRP

Bottom of Screen: 517.00 ft MRP

Deployment Team: Jim GB

Date Deployed: 12-9-19

Time Deployed: 1145

PID: MiniRAE 3000

Serial No: WH0006

Water Level Meter: Solinst 500 ft

Serial No: N/A

PID Reading: 0.0 ppm

Depth to Water: -

DMS Tether and Reel ID match Well ID? Jim

Initial to confirm that ID
check was completed

Notes: _____

Sampler
Number: Top of Sampler
Depth (MRP)

1	502.70
2	505.30
3	507.90
4	510.50
5	513.10

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by: C. Montoya

Review Date: 12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106034

Sampling

Year: 2020

Quarter: 1

Sample ID: GW034-201

Date Sampled:

01/06/2020

Time Sampled:

1327

Sampling Team:

D. Schmeelk, N. Peterson

PID Reading:

0.0

DMS Tether and Reel ID match Well ID?

DS

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

Sample ID:

GW034-201

Duplicate ID:
(if applicable)

GW034-601

COC#:

COC-034-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106041

Deployment

Year: 2020

Quarter: 1

Sample ID: GW041-201

Well Information

Screen Interval Length (ft): 20

Previous Depth to Water (MRP): 448.80 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -0.20 **** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 473.80 ft MRP

Top of Screen: 449.00 ft MRP

Bottom of Screen: 469.00 ft MRP

Deployment Team: JM GB

Date Deployed: 12-12-19

Time Deployed: 0815

PID: MiniRAE 3000 Serial No:

Water Level Meter: Solinst 500 ft Serial No: 6T-0001

PID Reading: 0.0 ppm

Depth to Water: 447.66

Measure Water Level

DMS Tether and Reel ID match Well ID? JM

Initial to confirm that ID
check was completed

Notes:

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler Number: Top of Sampler Depth (MRP)

1	449.70
2	452.30
3	454.90
4	457.50
5	460.10
6	462.70
7	465.30

Reviewed by: C. Montoya

Review Date: 12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106041

Sampling

Year: 2020

Quarter: 1

Sample ID: GW041-201

Date Sampled: 1-9-2020 Time Sampled: 1545 Sampling Team: #2

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? 1F Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W H0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW041-201

Duplicate ID:
(if applicable) GW041-601

COC#: COC-041-201

Reviewed by: C. Montoya

Review Date: 1-15-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106049

Deployment

Year: 2020

Quarter: 1

Sample ID: GW049-201

Well Information

Screen Interval Length (ft): 20

Previous Depth to Water (MRP): 440.23 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -16.57

Well Depth: 480.70 ft MRP

Top of Screen: 456.80 ft MRP

Bottom of Screen: 476.80 ft MRP

Deployment Team:

Date Deployed:

Time Deployed:

PID:

MiniRAE 3000

Serial No:

Water Level Meter:

Solinst 500 ft

Serial No:

PID Reading:

Depth to Water:

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	457.50
2	460.10
3	462.70
4	465.30
5	467.90
6	470.50
7	473.10

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

Review Date:

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106049

Sampling

Year: 2020

Quarter: 1

Sample ID: GW049-201

Date Sampled: 1-8-2020

Time Sampled: 0911

Sampling Team: D. Schmeelk, G. Begaye

PID Reading: 0.0

DMS Tether and Reel ID match Well ID?

Yes

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WA0005

IDW will be taken to: Pending Analysis Yard

Notes:

Sample ID: GW049-201

Duplicate ID: (if applicable) GW049-601

COC#: COC-049-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106050

Deployment

Year: 2020

Quarter: 1

Sample ID: GW050-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 439.61 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -34.79

Well Depth: 494.80 ft MRP

Top of Screen: 474.40 ft MRP

Bottom of Screen: 489.40 ft MRP

Deployment Team:

JM GB

Date Deployed:

12-11-19

Time Deployed:

0850

PID:

MiniRAE 3000

Serial No:

W10006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

JM

Initial to confirm that ID
check was completed

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

MS/MSD required. Please deploy
extra DMS as needed

Sampler
Number:

Top of Sampler
Depth (MRP)

1	475.10
2	477.70
3	480.30
4	482.90
5	485.50

Notes:

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106050

Sampling

Year: 2020

Quarter: 1

Sample ID: GW050-201

Date Sampled: 1-8-2020

Time Sampled: 0955

Sampling Team: D. Schneelk, G. Begaye

PID Reading: 0.0

DMS Tether and Reel ID match Well ID?



Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

Choose only one

1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W10005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

One VOA has a single bubble < 1mm in diameter

Sample ID:

GW050-201

Duplicate ID:
(if applicable)

GW050-601

COC#:

COC-050-201

Reviewed by:

C. Montoya

Review Date:

1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106051

Deployment

Year: 2020

Quarter: 1

Sample ID: GW051-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 439.92 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -60.88

Well Depth: 521.20 ft MRP

Top of Screen: 500.80 ft MRP

Bottom of Screen: 515.80 ft MRP

Deployment Team:

Date Deployed:

12-11-19

Time Deployed:

0840

PID:

MiniRAE 3000

Serial No:

W40006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	501.50
2	504.10
3	506.70
4	509.30
5	511.90

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106051

Sampling

Year: 2020

Quarter: 1

Sample ID: GW051-201

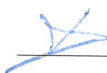
Date Sampled: 1-8-2020

Time Sampled: 0935

Sampling Team: D. Schuele, G. Begaye

PID Reading: 0.0

DMS Tether and Reel ID match Well ID?



Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40005

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW051-201

Duplicate ID:
(if applicable) GW051-601

COC#: COC-051-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 1-15-2020

Well ID: KAFB-106097
Samplers: Dylan Schwegelk, Kylian Robinson
Crew: [Signature]
Signature: [Signature]

Well Information

Well was NOT HAZARDOUS

SCREEN SUBMERGED on 10/1/2019 (previous gauging date)

Barricade/Notification: ☒

Measurement Reference Point (MRP): Top of Well Vault

IDW will be taken to: GWTS/Pending Disposal Area

IDW Label: Green Non-hazardous

Well Depth: 526.04 ft MRP
Top of Screen: 506.04 ft MRP
Bottom of Screen: 521.04 ft MRP
Reference Elevation Interval: 4838

Protective Casing/Vault: ☒ Intact ☐ Damaged Well Locked/Security Bolt Present: ☒ Yes ☐ No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes ☒ No

LNAPL Thickness: _____ ft

LNAPL NOT observed during last gauging event: 10/1/2019

Previous Depth to water: 471.92 ft MRP

Depth to Water (DTW): 470.42 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.: 1807B-699

Non-Dedicated Pump Depth: 508.0 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature

YSI Professional Plus

Serial No:

18L100378

PID:

MiniRAE 3000

Serial No:

WH0005

Water Level Meter:

Solinst 500 ft

Serial No:

WH0012

Turbidity Meter:

Hach 2100Q

Serial No:

WH0009

Sample Information

Sample ID: GW097-201

Sampling Method: Low-flow

Duplicate ID: (if applicable)

GW097-601

Sampling Medium: Water

COC#:

COC-097-201

Reviewed by: C. Montoya Initials: CM Review Date: 1-20-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 1-15-2020

Well ID: KAFB-106098
Samplers: D. Schuegel, K. Robinson
Crew: [Signature]
Signature: [Signature]

Well Information

Well was NOT HAZARDOUS

SCREEN SUBMERGED on 10/1/2019 (previous gauging date)

Barricade/Notification: ☒

Measurement Reference Point (MRP): Top of Well Vault

IDW will be taken to: GWTS/Pending Disposal Area

IDW Label: Green Non-hazardous

Well Depth: 551.12 ft MRP
Top of Screen: 531.02 ft MRP
Bottom of Screen: 546.02 ft MRP
Reference Elevation Interval: 4814

Protective Casing/Vault: ☒ Intact ☐ Damaged Well Locked/Security Bolt Present: ☒ Yes ☐ No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes ☒ No

LNAPL Thickness: - ft

LNAPL NOT observed during last gauging event: 10/1/2019

Previous Depth to water: 472.01 ft MRP

Depth to Water (DTW): 470.59 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.:

1807B-699

Non-Dedicated Pump Depth: 533.0 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature

YSI Professional Plus

Serial No: 18L100378

PID:

MiniRAE 3000

Serial No: WH0005

Water Level Meter:

Solinst 500 ft

Serial No: WH0012

Turbidity Meter:

Hach 2100Q

Serial No: WH0009

Sample Information

Sample ID: GW098-201

Sampling Method: Low-flow

Duplicate ID: (if applicable)

GW098-601

Sampling Medium: Water

COC#:

COC-098-201

Reviewed by: C. Montoya Initials: CM Review Date: 1-20-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 1-16-2020

Well ID: KAFB-106099
Samplers: D. Schuelek, K. Robinson
Crew: [Signature]
Signature: [Signature]

Well Information

Well was NOT HAZARDOUS

SCREEN SUBMERGED on 10/1/2019 (previous gauging date)

Barricade/Notification: ☒

Measurement Reference Point (MRP): Top of Well Vault

IDW will be taken to: GWTS/Pending Disposal Area

IDW Label: Green Non-hazardous

Well Depth: 521.00 ft MRP
Top of Screen: 501.00 ft MRP
Bottom of Screen: 516.00 ft MRP
Reference Elevation Interval: 4838

Protective Casing/Vault: ☒ Intact ☐ Damaged
Well Locked/Security Bolt Present: ☒ Yes ☐ No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes ☒ No

LNAPL Thickness: _____ ft

LNAPL NOT observed during last gauging event: 10/1/2019

Previous Depth to water: 466.68 ft MRP

Depth to Water (DTW): 465.49 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.:

1807B-699

Non-Dedicated Pump Depth:

503.0

ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature

YSI Professional Plus

Serial No:

18L100378

PID:

MiniRAE 3000

Serial No:

WH0005

Water Level Meter:

Solinst 500 ft

Serial No:

WH0012

Turbidity Meter:

Hach 2100Q

Serial No:

WH0009

Sample Information

Sample ID: GW099-201

Sampling Method: Low-flow

Duplicate ID: (if applicable)

GW099-601

Sampling Medium: Water

COC#:

COC-099-201

Reviewed by:

C. Monks

Initials:

CM

Review Date:

1-20-20

Groundwater Purge and Sampling Log

Year:	2020
Quarter:	1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111

Well ID:

KAFB-106099

Purge Information and Field Parameter

Date: 1-16-2020

Purge Start Time: 1222 Purge Rate: 0.960 L/min X 0.265 = 0.2544 gal/min

Description of first water purged: Clear and odorless

Drawdown Limit: 34.32 ft (based on previous water level)

[illegible]

Sample Time: 1250 Sample Date: 1-16-2020

Purge End Time: 1255 6mm

Bubbles in the vials?: ☐ Yes ☒ No Where? Amount Size

Sampled by: Dylan Schneelk Sampler Signature: [Signature]

IDW Management

Drum No.	Estimated volume per IDW drum (gal)
1	14
2	
Total	

IDW will be taken to:

IDW Label:

GWTS/Pending Disposal Area

Green Non-hazardous

Comments:

Reviewed by: C. Montoya Initials: CM Review Date: 1-20-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 1-16-2020

Well ID: KAFB-106100
Samplers: D. Schmeelk, K. Robinson
Crew Signature: [Signatures]

Well Information

Well was NOT HAZARDOUS

SCREEN SUBMERGED on 10/1/2019 (previous gauging date)

Barricade/Notification: ☒

Measurement Reference Point (MRP): Top of Well Vault

IDW will be taken to: GWTS/Pending Disposal Area

IDW Label: Green Non-hazardous

Well Depth: 546.00 ft MRP

Top of Screen: 526.00 ft MRP

Bottom of Screen: 541.00 ft MRP

Reference Elevation Interval: 4814

Protective Casing/Vault: ☒ Intact ☐ Damaged Well Locked/Security Bolt Present: ☒ Yes ☐ No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes ☒ No

LNAPL Thickness: _____ ft

LNAPL NOT observed during last gauging event: 10/1/2019

Previous Depth to water: 466.69 ft MRP

Depth to Water (DTW): 465.58 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.:

1807B-699

Non-Dedicated Pump Depth: 528.0 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature

YSI Professional Plus

Serial No:

18L100378

PID:

MiniRAE 3000

Serial No:

WH0005

Water Level Meter:

Solinst 500 ft

Serial No:

WH0012

Turbidity Meter:

Hach 2100Q

Serial No:

WH0009

Sample Information

Sample ID: GW100-201

Sampling Method: Low-flow

Duplicate ID: (if applicable)

GW100-601

Sampling Medium: Water

COC#:

COC-100-201

Reviewed by: C. Montoya Initials: CM Review Date: 1-16-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111

Well ID:

KAFB-106100

Purge Information and Field Parameter

Date: 1-16-2020

Purge Start Time: 1031 Purge Rate: 0.840 L/min X 0.265 = 0.226 gal/min

Description of first water purged: Clear and odorless

Drawdown Limit: 59.31 ft (based on previous water level)

Time	DTW (ft)	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Stabilization Requirements	-----	If >10, ±10%	±10%	-----	±10%	±10%	±0.5	-----
Historical Data:	466.69	3.52	16.7	-----	5.6	425.3	7.89	68.3
1040	465.55	0.85	12.9	89.4	8.50	375.3	7.95	300.8
1045	465.54	0.77	14.0	32.8	3.37	378.1	8.01	297.7
1050	465.56	0.80	14.0	26.2	2.63	379.2	7.97	296.4
1055	465.55	0.78	13.9	24.0	2.46	377.5	8.00	295.6
1100	465.55	0.67	14.3	23.3	2.36	378.5	8.01	292.7
1105	465.	0.82	14.4	22.6	2.31	378.7	8.01	292.3

Sample Time: 1111 Sample Date: 1-16-2020

Purge End Time: 1113 6mm

Bubbles in the vials?: ☐ Yes ☒ No Where? Amount Size

Sampled by: D. Schmeelk Sampler Signature: [Signature]

IDW Management

Drum No. Estimated volume per IDW drum (gal)

1	15
2	
Total	

IDW will be taken to:

GWTS/Pending Disposal Area

IDW Label:

Green Non-hazardous

Comments:

Reviewed by: C. Montoya Initials: CM Review Date: 1-20-2020



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 1-17-2020

Well ID: KAFB-106101
Samplers: D. Schwegel, K. Robinson
Crew: [Signature]
Signature: [Signature]

Well Information

Well was NOT HAZARDOUS

SCREEN SUBMERGED on 9/30/2019 (previous gauging date)

Barricade/Notification: ☐

Measurement Reference Point (MRP): Top of Protective Casing

IDW will be taken to: GWTS/Pending Disposal Area

Well Depth: 518.01 ft MRP

Top of Screen: 498.81 ft MRP

Bottom of Screen: 514.11 ft MRP

Reference Elevation Interval: 4838

IDW Label: Green Non-hazardous

Protective Casing/Vault: Intact Damaged Well Locked/Security Bolt Present: Yes No
Well ID Marked: Yes No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes No

LNAPL Thickness: _____ ft

LNAPL NOT observed
during last gauging
event: 9/30/2019

Previous Depth to water: 464.31 ft MRP

Depth to Water (DTW): 463.00 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.:

1807B-699

Non-Dedicated Pump Depth: 501.0 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP,
DO, Temperature

YSI Professional Plus

Serial No:

18L100378

PID:

MiniRAE 3000

Serial No:

WH0005

Water Level Meter:

Solinst 500 ft

Serial No:

WH0012

Turbidity Meter:

Hach 2100Q

Serial No:

WH0009

Sample Information

Sample ID: GW101-201

Sampling Method: Low-flow

Duplicate ID:
(if applicable)

GW101-601

Sampling Medium: Water

COC#:

COC-101-201

Reviewed by: C. Montoya

Initials: CM

Review Date: 1-22-2020

Groundwater Purge and Sampling Log

Year:	2020
Quarter:	1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111

Well ID:

KAFB-106101

Purge Information and Field Parameter

Date: 1-17-2020

Purge Start Time: 0840 Purge Rate: 0.966 L/min X 0.265 = 0.2544 gal/min

Description of first water purged: Clear and odorless

Drawdown Limit: 34.50 ft (based on previous water level)

[illegible]

Sample Time: 0915 Sample Date: 1-17-2020

Purge End Time: 0916 6mm

Bubbles in the vials?: ☐ Yes ☒ No Where? _____ Amount _____ Size _____

Sampled by: _____ Sampler Signature: _____

IDW Management

Drum No.	Estimated volume per IDW drum (gal)
1	~15g
2	
Total	

IDW will be taken to:

IDW Label:

**GWTS/Pending
Disposal Area**

Green Non-hazardous

Comments:

Reviewed by: C. Montoya Initials: CM Review Date: 1-22-20



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111

Well ID: KAFB-106102

Project No: 62599DM01

Samplers: D. Schmeeltz, K. Robinson

Date: 1-17-2020

Crew

Signature: [Signature]

Well Information

Well was NOT HAZARDOUS

Well Depth: 543.08 ft MRP

SCREEN SUBMERGED on 9/30/2019 (previous gauging date)

Top of Screen: 523.98 ft MRP

Barricade/Notification: ☐

Bottom of Screen: 537.68 ft MRP

Measurement Reference Point (MRP): Top of Protective Casing

Reference Elevation Interval: 4814

IDW will be taken to: Pending Analysis Yard

IDW Label: White Pending Analysis

Protective Casing/Vault: Intact Damaged Well Locked/Security Bolt Present: Well ID Marked: Yes No

Photoionization Measurements at Wellhead: 0.0 ppm

Yes No
lock shackle bent

LNAPL Present (circle one)? Yes No

LNAPL Thickness: _____ ft

LNAPL NOT observed
during last gauging
event: 9/30/2019

Previous Depth to water: 464.42 ft MRP

Depth to Water (DTW): 463.13 ft MRP

Pump Information

Non-Dedicated Pump

Bennett Pump Serial No.:

1807B-699

Non-Dedicated Pump Depth: 526.0 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP,
DO, Temperature

YSI Professional Plus

Serial No:

18L100378

PID:

MiniRAE 3000

Serial No:

WH0005

Water Level Meter:

Solinst 500 ft

Serial No:

WH0012

Turbidity Meter:

Hach 2100Q

Serial No:

WH0009

Sample Information

Sample ID: GW102-201

Sampling Method: Low-flow

Duplicate ID:
(if applicable)

GW102-601

Sampling Medium: Water

COC#:

COC-102-201

Reviewed by: C. Montoya

Initials: CM

Review Date: 1-22-20



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 1 (Jan-Mar)

Project: Kirtland AFB BFF ST-106/SS-111

Well ID:

KAFB-106102

Purge Information and Field Parameter

Date: 1-17-2020

Purge Start Time: 1021 Purge Rate: 0.920 L/min X 0.265 = 0.2438 gal/min

Description of first water purged: Clear, no odor

Drawdown Limit: 59.56 ft (based on previous water level)

Time	DTW (ft)	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Stabilization Requirements	-----	If >10, ±10%	±10%	-----	±10%	±10%	±0.5	-----
Historical Data:	464.42	0.92	19.3	-----	4.51	355.3	7.88	142
1025	463.13	0.94	13.6	110.2	10.55	382.7	7.91	432.2
1030	463.10	0.46	16.5	51.0	5.00	392.5	7.97	422.4
1035	463.10	0.45	16.6	39.7	3.85	393.7	7.99	419.1
1040	463.10	0.48	16.6	31.1	3.03	394.6	7.99	415.6
1045	463.10	0.40	16.9	27.2	2.62	395.5	7.99	412.4
1050	463.10	0.32	17.0	25.3	2.43	395.4	7.99	409.3
1055	463.10	0.34	17.2	24.0	2.31	396.1	7.99	406.9
1100	463.10	0.31	17.1	22.7	2.19	397.1	8.00	404.3
1105	463.08	0.38	17.1	22.0	2.13	396.7	8.00	401.9

Sample Time: 1112 Sample Date: 1-17-2020

Purge End Time: 1112 6mm

Bubbles in the vials?: ☐ Yes ☒ No Where? Amount Size

Sampled by: D. Schmeelke Sampler Signature:

IDW Management

Drum No. Estimated volume per IDW drum (gal)

1

18

2

Total

IDW will be taken to:

Pending Analysis
Yard

IDW Label:

White Pending
Analysis

Comments:

Reviewed by: C. Montoya Initials: CM Review Date: 1-22-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106149-484

Deployment

Year: 2020

Quarter: 1

Sample ID: GW149-484-201

Well Information

Screen Interval Length (ft): 130

Previous Depth to Water (MRP): 470.60 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 116.60 **** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 484.00 ft MRP

Top of Screen: 354.00 ft MRP

Bottom of Screen: 484.00 ft MRP

Deployment Team: JM GB

Date Deployed: 12-13-19

Time Deployed: 1000

PID:

MiniRAE 3000

Serial No:

WHT006

Water Level Meter:

Solinst 500 ft

Serial No:

WHT012

PID Reading: 469.71 ppm

Depth to Water: 469.72 water

Measure Water Level

DMS Tether and Reel ID match Well ID?

JM
Initial to confirm that ID
check was completed

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler Number:	Top of Sampler Depth (MRP)
10	453.80
11	456.40
12	459.00
13	461.60
14	464.20
15	466.80
16	469.40
17	472.00
18	474.60
19	477.20
20	479.80

Notes:

Surveyed by High Mesa January 2018

Reviewed by: C. Monroya

Review Date: 12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106149-484

Sampling

Year: 2020

Quarter: 1

Sample ID: GW149-484-201

Date Sampled: 1-9-2020 Time Sampled: 0950 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 100 DMS Tether and Reel ID match Well ID? 1CR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one										
		VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	EDB PF									Failed
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		LSIA
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		Failed
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: 90-day Hazardous Waste Area

Notes:

Sample ID: GW149-484-201

Duplicate ID:
(if applicable) GW149-484-601

COC#: COC-149-484-201

Reviewed by: C. Montoya

Review Date: 1-15-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106151-484

Deployment

Year: 2020

Quarter: 1

Sample ID: GW151-484-201

Well Information

Screen Interval Length (ft): 129

Previous Depth to Water (MRP): 470.47 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 115.28 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 484.19 ft MRP

Top of Screen: 355.19 ft MRP

Bottom of Screen: 484.19 ft MRP

Deployment Team: jm GB

Date Deployed: 12-12-19

Time Deployed: 1240

PID: MiniRAE 3000 Serial No: WH0006

Water Level Meter: Solinst 500 ft Serial No: WH0012

PID Reading: 0.0 ppm

Depth to Water: 469.62

Measure Water Level

DMS Tether and Reel ID match Well ID? jm

Initial to confirm that ID
check was completed

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler Number:	Top of Sampler Depth (MRP)
10	453.99
11	456.59
12	459.19
13	461.79
14	464.39
15	466.99
16	469.59
17	472.19
18	474.79
19	477.39
20	479.99

Notes: _____

Surveyed by High Mesa January 2018

Reviewed by: C. Montoya

Review Date: 12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106151-484

Sampling

Year: 2020

Quarter: 1

Sample ID: GW151-484-201

Date Sampled:

1-9-2020

Time Sampled:

1125

Sampling Team:

#2

PID Reading:

4.3 Breathing zone

DMS Tether and Reel ID match Well ID?

PF

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☐	☐	
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	<u>Alkalinity</u>	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☐	<u>PF</u>
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐	
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐	
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐	
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐	6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **90-day Hazardous Waste Area**

Notes:

Sample ID:

GW151-484-201

Duplicate ID:
(if applicable)

GW151-484-601

COC#:

COC-151-484-201

Reviewed by:

C. Montoya

Review Date:

1-15-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106152-484

Deployment

Year: 2020

Quarter: 1

Sample ID: GW152-484-201

Well Information

Screen Interval Length (ft): 129

Previous Depth to Water (MRP): 472.26 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 116.98 **** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 484.28 ft MRP

Top of Screen: 355.28 ft MRP

Bottom of Screen: 484.28 ft MRP

Deployment Team:

Date Deployed:

12-12-19

Time Deployed:

1305

PID:

MiniRAE 3000

Serial No:

WH0006

Water Level Meter:

Solinst 500 ft

Serial No:

WH0012

PID Reading:

0.0

ppm

Depth to Water:

471.36

Measure Water Level

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number:

Top of Sampler
Depth (MRP)

10 454.08

11 456.68

12 459.28

13 461.88

14 464.48

15 467.08

16 469.68

17 472.28

18 474.88

19 477.48

20 480.08

Notes:

Surveyed by High Mesa January 2018

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106152-484

Sampling

Year: 2020

Quarter: 1

Sample ID: GW152-484-201

Date Sampled: 1-9-2020

Time Sampled: 1210

Sampling Team: #2

PID Reading: 29.3

DMS Tether and Reel ID match Well ID?

PL

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	<u>Alkalinity</u>	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0006

IDW will be taken to: **90-day Hazardous Waste Area**

Notes:

Sample ID: GW152-484-201

Duplicate ID: GW152-484-601
(if applicable)

COC#: COC-152-484-201

Reviewed by: C. Montoya

Review Date: 1-15-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106153-484

Deployment

Year: 2020

Quarter: 1

Sample ID: GW153-484-201

Well Information

Screen Interval Length (ft): 129

Previous Depth to Water (MRP): 473.68 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 118.39 ***** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 484.29 ft MRP

Top of Screen: 355.29 ft MRP

Bottom of Screen: 484.29 ft MRP

Deployment Team:

Jm GB

Date Deployed:

12-12-19

Time Deployed:

1140

PID:

MiniRAE 3000

Serial No:

WTH0006

Water Level Meter:

Solinst 500 ft

Serial No:

WTH0012

PID Reading:

8.0

ppm

Depth to Water:

472.80

Measure Water Level

DMS Tether and Reel ID match Well ID?

Jm

Initial to confirm that ID
check was completed

Notes:

Surveyed by High Mesa January 2018

Reviewed by:

C. Montoya

Review Date:

12-16-19

Sampler Number:	Top of Sampler Depth (MRP)
10	454.09
11	456.69
12	459.29
13	461.89
14	464.49
15	467.09
16	469.69
17	472.29
18	474.89
19	477.49
20	480.09

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106153-484

Sampling

Year: 2020

Quarter: 1

Sample ID: GW153-484-201

Date Sampled: 1-9-2020 Time Sampled: 1045 Sampling Team: #2

PID Reading: 3.9 ppm DMS Tether and Reel ID match Well ID? PF Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	<u>Alkalinity</u>	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **90-day Hazardous Waste Area**

Notes:

Sample ID: GW153-484-201

Duplicate ID:
(if applicable) GW153-484-601

COC#: COC-153-484-201

Reviewed by: C. Montoya

Review Date: 1-15-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106201

Deployment

Year: 2020

Quarter: 1

Sample ID: GW201-201

Well Information

Screen Interval Length (ft): 30

Previous Depth to Water (MRP): 482.33 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -7.32

Well Depth: 524.65 ft MRP

Top of Screen: 489.65 ft MRP

Bottom of Screen: 519.65 ft MRP

Deployment Team:

Date Deployed:

Time Deployed:

PID:

MiniRAE 3000

Serial No:

Water Level Meter:

Solinst 500 ft

Serial No:

PID Reading:

ppm

Depth to Water:

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	490.35
2	492.95
3	495.55
4	498.15
5	500.75
6	503.35
7	505.95
8	508.55
9	511.15
10	513.75

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

Review Date:

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106203

Sampling

Year: 2020

Quarter: 1 6W-201-201

Sample ID: GW203-201

Date Sampled: 1-7-2020

Time Sampled: 1300

Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0

DMS Tether and Reel ID match Well ID? KR

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW203-201

Duplicate ID:
(if applicable) GW203-601

COC#: COC-203-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106202

Deployment

Year: 2020

Quarter: 1

Sample ID: GW202-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 482.88 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -37.01

Well Depth: 539.90 ft MRP

Top of Screen: 519.90 ft MRP

Bottom of Screen: 534.90 ft MRP

Deployment Team:

jm GB

Date Deployed:

12-10-19

Time Deployed:

0820

PID:

MiniRAE 3000

Serial No:

W#0006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

jm

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Sampler
Number:

Top of Sampler
Depth (MRP)

1	520.60
2	523.20
3	525.80
4	528.40
5	531.00

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106202

Sampling

Year: 2020

Quarter: 1

Sample ID: GW202-201

Date Sampled: 1-7-2020 Time Sampled: 1240 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

		Choose only one								
1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW202-201

Duplicate ID:
(if applicable) GW202-601

COC#: COC-202-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106203

Deployment

Year: 2020

Quarter: 1

Sample ID: GW203-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 482.69 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -140.39

Well Depth: 643.08 ft MRP

Top of Screen: 623.08 ft MRP

Bottom of Screen: 638.08 ft MRP

Deployment Team: Jim GB

Date Deployed: 12-10-19

Time Deployed: 0840

PID:

MiniRAE 3000

Serial No:

W H0006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading: 0.0

ppm

Depth to Water: —

DMS Tether and Reel ID match Well ID?

Jim
Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	623.78
2	626.38
3	628.98
4	631.58
5	634.18

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by: C. Montoya

Review Date: 12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106201

203

Sampling

Year: 2020

Quarter: 1

Sample ID: GW201-201

Date Sampled: 1-7-2020 Time Sampled: 1325 Sampling Team: KR K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

		Choose only one								
1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW201-201

Duplicate ID:
(if applicable) GW201-601

COC#: COC-201-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106204

Deployment

Year: 2020

Quarter: 1

Sample ID: GW204-201

Well Information

Screen Interval Length (ft): 30

Previous Depth to Water (MRP): 457.12 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -5.38

Well Depth: 497.50 ft MRP

Top of Screen: 462.50 ft MRP

Bottom of Screen: 492.50 ft MRP

Deployment Team:

Jm GB

Date Deployed:

12-11-19

Time Deployed:

1035

PID:

MiniRAE 3000

Serial No:

WHT0206

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

Jm

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	463.20
2	465.80
3	468.40
4	471.00
5	473.60
6	476.20
7	478.80
8	481.40
9	484.00
10	486.60

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106204

Sampling

Year: 2020

Quarter: 1

Sample ID: GW204-201

Date Sampled: 1-8-2020 Time Sampled: 1415 Sampling Team: #2

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? PF Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID: MiniRAE 3000 Serial No: WH0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes: _____

Sample ID: GW204-201

Duplicate ID:
(if applicable) GW204-601

COC#: COC-204-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106205

Deployment

Year: 2020

Quarter: 1

Sample ID: GW205-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 457.49 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -35.01

Well Depth: 512.50 ft MRP

Top of Screen: 492.50 ft MRP

Bottom of Screen: 507.50 ft MRP

Deployment Team:

jm GB

Date Deployed:

12-11-19

Time Deployed:

1020

PID:

MiniRAE 3000

Serial No:

W40006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

jm

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	493.20
2	495.80
3	498.40
4	501.00
5	503.60

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106205

Sampling

Year: 2020

Quarter: 1

Sample ID: GW205-201

Date Sampled: 1-8-2020 Time Sampled: 1355 Sampling Team: # 2

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? PF Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW205-201

Duplicate ID:
(if applicable) GW205-601

COC#: COC-205-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106206

Deployment

Year: 2020

Quarter: 1

Sample ID: GW206-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 457.64 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -135.86

Well Depth: 613.20 ft MRP

Top of Screen: 593.50 ft MRP

Bottom of Screen: 608.20 ft MRP

Deployment Team: jm GB

Date Deployed: 12-11-19 Time Deployed: 1005

PID: MiniRAE 3000 Serial No: W110006

Water Level Meter: Solinst 500 ft Serial No: N/A

PID Reading: 0.0 ppm

Depth to Water: —

DMS Tether and Reel ID match Well ID?

jm
Initial to confirm that ID
check was completed

Notes: _____

Sampler
Number: Top of Sampler
Depth (MRP)

<u>1</u>	594.20
<u>2</u>	596.80
3	599.40
4	602.00
5	604.60

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Duplicate sample required. Please
deploy extra DMS as needed

Reviewed by: C. Montoya

Review Date: 12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106206

Sampling

Year: 2020

Quarter: 1

Sample ID: GW206-201

Date Sampled: 1-8-2020 Time Sampled: 1300 Sampling Team: # 2

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? PF Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

		Choose only one										
1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☒	☐		
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐		
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐		
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐		
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐		
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐		6mm

Duplicate sample required.

PID: MiniRAE 3000 Serial No: W4006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes: _____

Sample ID: GW206-201

Duplicate ID:
(if applicable) GW206-601

COC#: COC-206-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106207

Deployment

Year: 2020

Quarter: 1

Sample ID: GW207-201

Well Information

Screen Interval Length (ft): 30

Previous Depth to Water (MRP): 468.23 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -4.77 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 508.00 ft MRP

Top of Screen: 473.00 ft MRP

Bottom of Screen: 503.00 ft MRP

Deployment Team:

Date Deployed:

Time Deployed:

PID:

MiniRAE 3000

Serial No:

Water Level Meter:

Solinst 500 ft

Serial No:

PID Reading:

Depth to Water:

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	473.70
2	476.30
3	478.90
4	481.50
5	484.10
6	486.70
7	489.30
8	491.90
9	494.50
10	497.10

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

Review Date:

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106207

Sampling

Year: 2020

Quarter: 1

Sample ID: GW207-201

Date Sampled: 1-8-2020 Time Sampled: 1210 Sampling Team: #2

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? PF Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID: 0.0

MiniRAE 3000

Serial No: WH006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW207-201

Duplicate ID:
(if applicable) GW207-601

COC#: COC-207-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106208

Deployment

Year: 2020

Quarter: 1

Sample ID: GW208-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 467.92 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -35.08

Well Depth: 523.00 ft MRP

Top of Screen: 503.00 ft MRP

Bottom of Screen: 518.00 ft MRP

Deployment Team:

jm EB

Date Deployed:

12-11-19

Time Deployed:

0930

PID:

MiniRAE 3000

Serial No:

W H 0006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

DMS Tether and Reel ID match Well ID?

jm

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	503.70
2	506.30
3	508.90
4	511.50
5	514.10

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106208

Sampling

Year: 2020

Quarter: 1

Sample ID: GW208-201

Date Sampled: 1-8-2020 Time Sampled: 1235 Sampling Team: # 2

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? PF Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH 006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW208-201

Duplicate ID:
(if applicable) GW208-601

COC#: COC-208-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106209

Deployment

Year: 2020

Quarter: 1

Sample ID: GW209-201

Well Information

Screen Interval Length (ft): 14

Previous Depth to Water (MRP): 467.28 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -135.72

Well Depth: 622.00 ft MRP

Top of Screen: 603.00 ft MRP

Bottom of Screen: 617.00 ft MRP

Deployment Team:

JM GB

Date Deployed:

12-11-19

Time Deployed:

0942

PID:

MiniRAE 3000

Serial No:

VH0006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

✓

DMS Tether and Reel ID match Well ID?

JM

Initial to confirm that ID
check was completed

Notes:

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Sampler
Number:

Top of Sampler
Depth (MRP)

1	603.70
2	606.30
3	608.90
4	611.50
5	614.10

Reviewed by:

C. Morabito

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106209

Sampling

Year: 2020

Quarter: 1

Sample ID: GW209-201

Date Sampled: 1-8-2020 Time Sampled: 1300 Sampling Team: #2

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? 1/5 Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one										
	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW209-201

Duplicate ID:
(if applicable) GW209-601

COC#: COC-209-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106216

Deployment

Year: 2020

Quarter: 1

Sample ID: GW216-201

Well Information

Screen Interval Length (ft): 30

Previous Depth to Water (MRP): 458.91 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 3.41 **** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 490.50 ft MRP

Top of Screen: 455.50 ft MRP

Bottom of Screen: 485.50 ft MRP

Deployment Team:

Jm GB

Date Deployed:

12-10-19

Time Deployed:

1405

PID:

MiniRAE 3000

Serial No:

WTH0006

Water Level Meter:

Solinst 500 ft

Serial No:

GT-0001

PID Reading:

0.0

ppm

Depth to Water:

457.70

Measure Water Level

DMS Tether and Reel ID match Well ID?

Jm
Initial to confirm that ID
check was completed

Notes:

Sampler Number:	Top of Sampler Depth (MRP)
1	456.20
2	458.80
3	461.40
4	464.00
5	466.60
6	469.20
7	471.80
8	474.40
9	477.00
10	479.60

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106216

Sampling

Year: 2020

Quarter: 1

Sample ID: GW216-201

Date Sampled: 1-7-2020

Time Sampled: 0903

Sampling Team: D. Schmeelk, J. Livingston

PID Reading: 0.0

DMS Tether and Reel ID match Well ID?

JRL

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

Sample ID: GW216-201

Duplicate ID: (if applicable) GW216-601

COC#: COC-216-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106217

Deployment

Year: 2020

Quarter: 1

Sample ID: GW217-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 458.81 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -26.19

Well Depth: 505.00 ft MRP

Top of Screen: 485.00 ft MRP

Bottom of Screen: 500.00 ft MRP

Deployment Team:

Date Deployed:

12-10-19

Time Deployed:

1350

PID:

MiniRAE 3000

Serial No:

WH0006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	485.70
2	488.30
3	490.90
4	493.50
5	496.10

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Year: 2020

Well Location ID:

KAFB-106217

Sampling

Quarter: 1

Sample ID: GW217-201

Date Sampled:

1/7/2020

Time Sampled:

0812

Sampling Team:

D Schmeitz J Livingston

PID Reading:

0.0

DMS Tether and Reel ID match Well ID?

RL

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

1

EDB

Choose only one

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☒

☐

2

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

3

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

4

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

5

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

6

EDB

VOCs

BTEX (N)

Metals (Dissolved)

Metals (Total)

Alkalinity

Anions

Nitrate / Nitrite

☐

☐

6mm

PID:

MiniRAE 3000

Serial No:

W110005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

Sample ID:

GW217-201

Duplicate ID:
(if applicable)

GW217-601

COC#:

COC-217-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106218

Deployment

Year: 2020

Quarter: 1

Sample ID: GW218-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 458.94 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -93.06

Well Depth: 572.45 ft MRP

Top of Screen: 552.00 ft MRP

Bottom of Screen: 567.00 ft MRP

Deployment Team:

jm GB

Date Deployed:

12-10-19

Time Deployed:

1335

PID:

MiniRAE 3000

Serial No:

WHT006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

jm

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	552.70
2	555.30
3	557.90
4	560.50
5	563.10

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106218

Sampling

Year: 2020

Quarter: 1

Sample ID: GW218-201

Date Sampled:

1-7-2020

Time Sampled:

0835

Sampling Team:

D. Schmeelk, J. Livingston

PID Reading:

0.0

DMS Tether and Reel ID match Well ID?

JRL

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

		Choose only one								
		VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	EDB								☒	☐
2	EDB								☐	☐
3	EDB								☐	☐
4	EDB								☐	☐
5	EDB								☐	☐
6	EDB								☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

water cracks bubbles in both VOAs, 1mm

Sample ID:

GW218-201

Duplicate ID:
(if applicable)

GW218-601

COC#:

COC-218-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106222

Deployment

Year: 2020

Quarter: 1

Sample ID: GW222-201

Well Information

Screen Interval Length (ft): 30

Previous Depth to Water (MRP): 457.94 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 0.14 ***** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 493.20 ft MRP

Top of Screen: 457.80 ft MRP

Bottom of Screen: 487.80 ft MRP

Deployment Team:

Date Deployed:

12-10-19

Time Deployed:

1225^{PM} 1300

PID:

MiniRAE 3000

Serial No:

W4H0006

Water Level Meter:

Solinst 500 ft

Serial No:

GT-0001

PID Reading:

0.0

ppm

Depth to Water:

SM-458.19 456.63

Measure Water Level

DMS Tether and Reel ID match Well ID?

SM

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Sampler
Number:

Top of Sampler
Depth (MRP)

1 458.50

2 461.10

3 SM 463.70

4 466.30

5 468.90

6 471.50

7 474.10

8 476.70

9 479.30

10 481.90

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-16-19

1+2 site w/ DMS deployed



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106222

Sampling

Year: 2020

Quarter: 1

Sample ID: GW222-201

Date Sampled: 1-7-2020 Time Sampled: 1030 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

		Choose only one								
1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH000C

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW222-201

Duplicate ID:
(if applicable) GW222-601

COC#: COC-222-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106223

Deployment

Year: 2020

Quarter: 1

Sample ID: GW223-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 458.62 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -29.18

Well Depth: 508.00 ft MRP

Top of Screen: 487.80 ft MRP

Bottom of Screen: 502.80 ft MRP

Deployment Team:

Date Deployed:

12-10-19

Time Deployed:

1245

PID:

MiniRAE 3000

Serial No:

W Hood 6

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	488.50
2	491.10
3	493.70
4	496.30
5	498.90

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Year: 2020

Well Location ID:

KAFB-106223

Sampling

Quarter: 1

Sample ID: GW223-201

Date Sampled: 1-7-2020 Time Sampled: 0938 Sampling Team: D. Schweelk, J. Livingston

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? JRL Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW223-201

Duplicate ID:
(if applicable) GW223-601

COC#: COC-223-201

Reviewed by: C. Matar

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106224

Deployment

Year: 2020

Quarter: 1

Sample ID: GW224-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 459.76 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -95.24

Well Depth: 575.50 ft MRP

Top of Screen: 555.00 ft MRP

Bottom of Screen: 570.00 ft MRP

Deployment Team: Jim GB

Date Deployed: 12-10-19

Time Deployed: 1225

PID:

MiniRAE 3000

Serial No:

W110006

Water Level Meter:

Solinst 500 ft

Serial No:

GT - 0001

PID Reading:

ppm

Depth to Water:

458.49

DMS Tether and Reel ID match Well ID?

Jim
Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	555.70
2	558.30
3	560.90
4	563.50
5	566.10

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by: C. Montoya

Review Date: 12/16/19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106224

Sampling

Year: 2020

Quarter: 1

Sample ID: GW224-201

Date Sampled: 1-7-2020

Time Sampled: 1002

Sampling Team: D. Schmeelk, J. Livingston

PID Reading: 0.0

DMS Tether and Reel ID match Well ID?

JKL

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40005

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW224-201

Duplicate ID:
(if applicable) GW224-601

COC#: COC-224-201

Reviewed by: C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106230

Deployment

Year: 2020

Quarter: 1

Sample ID: GW230-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 443.03 (Gauged on 10/8/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -57.97

Well Depth: 521.00 ft MRP

Top of Screen: 501.00 ft MRP

Bottom of Screen: 516.00 ft MRP

Deployment Team: Jm BG

Date Deployed: 12-9-19

Time Deployed: 0825

PID: MiniRAE 3000

Serial No: WH0006

Water Level Meter: Solinst 500 ft

Serial No: N/A

PID Reading: 0.0 ppm

Depth to Water: —

DMS Tether and Reel ID match Well ID? Jm

*Initial to confirm that ID
check was completed*

Notes: * Only 5 sample sites — deployed 5 DMS,

Reviewed by: C. Montoya

Review Date: 12-13-19

Sampler
Number:

Top of Sampler
Depth (MRP)

1	501.70
2	504.30
3	506.90
4	509.50
5	512.10

QC sample notes.
(If blank, no QC samples required):

**Duplicate sample required. Please
deploy extra DMS as needed**

Analyte(s):

- Alkalinity
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106230

Sampling

Year: 2020

Quarter: 1

Sample ID: GW230-201

Date Sampled: 1-7-2020 Time Sampled: 0815 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

Choose only one										
	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	<u>EDB</u>	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☒	☐
2	EDB	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	<u>Anions</u>	Nitrate / Nitrite	☒	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☒	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☒	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

Duplicate sample required.

PID: MiniRAE 3000 Serial No: W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes: _____

Sample ID: GW230-201

Duplicate ID:
(if applicable) GW230-601

COC#: COC-230-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106231

Deployment

Year: 2020

Quarter: 1

Sample ID: GW231-201

Well Information

Screen Interval Length (ft): 35

Previous Depth to Water (MRP): 451.80 (Gauged on 10/2/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 11.80 ******** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 480.00 ft MRP

Top of Screen: 440.00 ft MRP

Bottom of Screen: 475.00 ft MRP

Deployment Team: jm GB

Date Deployed: 12-9-19

Time Deployed: 1005

PID: MiniRAE 3000

Serial No: WH0006

Water Level Meter: Solinst 500 ft

Serial No: GT 0001

PID Reading: 0.0 ppm

Depth to Water: 450.17

Measure Water Level

DMS Tether and Reel ID match Well ID? jm

*Initial to confirm that ID
check was completed*

Notes: _____

Sampler
Number: Top of Sampler
Depth (MRP)

1 440.70

2 443.30

3 445.90

4 448.50

5 451.10

6 453.70

7 456.30

8 458.90

9 461.50

10 464.10

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

**Duplicate sample required. Please
deploy extra DMS as needed**

450.17

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by: C. Montoya

Review Date: 12-23-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106231

Sampling

Year: 2020

Quarter: 1

Sample ID: GW231-201

Date Sampled: 1-6-2020 Time Sampled: 1005 Sampling Team: KR, PF

PID Reading: 0.1 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

		Choose only one								
		VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	<u>EDB</u>								☒	☐
2	EDB								☐	☐
3	EDB								☐	☐
4	EDB								☐	☐
5	EDB								☐	☐
6	EDB								☐	☐

6mm

Duplicate sample required.

PID:

MiniRAE 3000

Serial No:

WH0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Duplicate taken

Sample ID: GW231-201

Duplicate ID: GW231-601
(if applicable)

COC#: COC-231-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106232

Deployment

Year: 2020

Quarter: 1

Sample ID: GW232-201

Well Information

Screen Interval Length (ft): 15

Previous Depth to Water (MRP): 451.33 (Gauged on 10/2/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -51.67

Well Depth: 523.00 ft MRP

Top of Screen: 503.00 ft MRP

Bottom of Screen: 518.00 ft MRP

Deployment Team:

Date Deployed:

12-9-19

Time Deployed:

1030

PID:

MiniRAE 3000

Serial No:

WH0006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

N/A

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	503.70
2	506.30
3	508.90
4	511.50
5	514.10

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106232

Sampling

Year: 2020

Quarter: 1

Sample ID: GW232-201

Date Sampled: 1-6-2020

Time Sampled: 1040^{KR} 1035

Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0

DMS Tether and Reel ID match Well ID? KR

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW232-201

Duplicate ID:
(if applicable) GW232-601

COC#: COC-232-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106235-438

Deployment

Year: 2020

Quarter: 1

Sample ID: GW235-438-201

Well Information

Screen Interval Length (ft): 25

Previous Depth to Water (MRP): 440.33 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 2.33 ******** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 465.00 ft MRP

Top of Screen: 438.00 ft MRP

Bottom of Screen: 463.00 ft MRP

Deployment Team:

jm BG

Date Deployed:

12-9-19

Time Deployed:

0855

PID:

MiniRAE 3000

Serial No:

WH0006

Water Level Meter:

Solinst 500 ft

Serial No:

GT 0001

PID Reading:

0.0

ppm

Depth to Water:

439.03

Measure Water Level

DMS Tether and Reel ID match Well ID?

jm
Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

439.03	1	438.70
	2	441.30
	3	443.90
	4	446.50
	5	449.10
	6	451.70
	7	454.30

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106235-438

Sampling

Year: 2020

Quarter: 1

Sample ID: GW235-438-201

Date Sampled: 1-6-2020 Time Sampled: 0915 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

		Choose only one								
1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐ 6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW235-438-201

Duplicate ID:
(if applicable) GW235-438-601

COC#: COC-235-438-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106235-472

Deployment

Year: 2020

Quarter: 1

Sample ID: GW235-472-201

Well Information

Screen Interval Length (ft): 20

Previous Depth to Water (MRP): 440.31 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -31.69

Well Depth: 494.00 ft MRP

Top of Screen: 472.00 ft MRP

Bottom of Screen: 492.00 ft MRP

Deployment Team:

JM GB

Date Deployed:

12-9-19

Time Deployed:

0910

PID:

MiniRAE 3000

Serial No:

WTH0006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

N/A

DMS Tether and Reel ID match Well ID?

JM
Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	472.70
2	475.30
3	477.90
4	480.50
5	483.10
6	485.70
7	488.30

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106235-472

Sampling

Year: 2020

Quarter: 1

Sample ID: GW235-472-201

Date Sampled: 1-6-2020 Time Sampled: 0900 Sampling Team: KR, PF

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

		Choose only one								
1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐ 6mm

PID:

MiniRAE 3000

Serial No:

W110006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW235-472-201

Duplicate ID:
(if applicable) GW235-472-601

COC#: COC-235-472-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106235-501

Deployment

Year: 2020

Quarter: 1

Sample ID: GW235-501-201

Well Information

Screen Interval Length (ft): 20

Previous Depth to Water (MRP): 440.35 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -60.65

Well Depth: 523.00 ft MRP

Top of Screen: 501.00 ft MRP

Bottom of Screen: 521.00 ft MRP

Deployment Team:

Date Deployed:

12-9-19

Time Deployed:

0930

PID:

MiniRAE 3000

Serial No:

W40006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

N/A

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number: Top of Sampler
Depth (MRP)

1	501.70
2	504.30
3	506.90
4	509.50
5	512.10
6	514.70
7	517.30

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106235-501

Sampling

Year: 2020

Quarter: 1

Sample ID: GW235-501-201

Date Sampled:

1/6/2020

Time Sampled:

0835 ⁰⁸³⁵ KR

Sampling Team:

KR, PF

PID Reading:

0.0

DMS Tether and Reel ID match Well ID?

KR

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID:

GW235-501-201

Duplicate ID:
(if applicable)

GW235-501-601

COC#:

COC-235-501-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106236-436

Deployment

Year: 2020

Quarter: 1

Sample ID: GW236-436-201

Well Information

Screen Interval Length (ft): 25

Previous Depth to Water (MRP): 440.09 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 4.09 ******** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 463.00 ft MRP

Top of Screen: 436.00 ft MRP

Bottom of Screen: 461.00 ft MRP

Deployment Team: jm GB

Date Deployed: 12-9-19

Time Deployed: 1350

PID:

MiniRAE 3000

Serial No:

WHT006

Water Level Meter:

Solinst 500 ft

Serial No:

GT-0001

PID Reading: 0.0

ppm

Depth to Water: 438.74

Measure Water Level

DMS Tether and Reel ID match Well ID? jm

Initial to confirm that ID
check was completed

Notes:

Sampler
Number: Top of Sampler
Depth (MRP)

1	436.70
2	439.30
3	441.90
4	444.50
5	447.10
6	449.70
7	452.30

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by: C. Montoya

Review Date: 12-23-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106236-436

Sampling

Year: 2020

Quarter: 1

Sample ID: GW236-436-201

Date Sampled: 1-7-2020 Time Sampled: 0925 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

		Choose only one								
		VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	<u>EDB</u>								☐	☐
2	EDB								☐	☐
3	EDB								☐	☐
4	EDB								☐	☐
5	EDB								☐	☐
6	EDB								☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW236-436-201

Duplicate ID:
(if applicable) GW236-436-601

COC#: COC-236-436-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106236-470

Deployment

Year: 2020

Quarter: 1

Sample ID: GW236-470-201

Well Information

Screen Interval Length (ft): 20

Previous Depth to Water (MRP): 440.06 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -29.94

Well Depth: 492.00 ft MRP

Top of Screen: 470.00 ft MRP

Bottom of Screen: 490.00 ft MRP

Deployment Team:

Jm GB

Date Deployed:

12-9-19

Time Deployed:

1400

PID:

MiniRAE 3000

Serial No:

W110006

Water Level Meter:

Solinst 500 ft

Serial No:

N/A

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

Jm

Initial to confirm that ID
check was completed

Notes:

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- EDB

Sampler
Number:

Top of Sampler
Depth (MRP)

1	470.70
2	473.30
3	475.90
4	478.50
5	481.10
6	483.70
7	486.30

Reviewed by:

C. Montoya

Review Date:

12-16-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106236-470

Sampling

Year: 2020

Quarter: 1

Sample ID: GW236-470-201

Date Sampled: 1-7-2020 Time Sampled: 0940 Sampling Team: K. Robinson, P. Ferran

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? LR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

		Choose only one								
		VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	<u>EDB</u>								☐	☐
2	EDB								☐	☐
3	EDB								☐	☐
4	EDB								☐	☐
5	EDB								☐	☐
6	EDB								☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW236-470-201

Duplicate ID:
(if applicable) GW236-470-601

COC#: COC-236-470-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106236-499

Deployment

Year: 2020

Quarter: 1

Sample ID: GW236-499-201

Well Information

Screen Interval Length (ft): 20

Previous Depth to Water (MRP): 440.10 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): -58.90

Well Depth: 521.00 ft MRP

Top of Screen: 499.00 ft MRP

Bottom of Screen: 519.00 ft MRP

Deployment Team:

Date Deployed:

12-9-19

Time Deployed:

1415

PID:

MiniRAE 3000

Serial No:

W40006

Water Level Meter:

Solinst 500 ft

Serial No:

PID Reading:

0.0

ppm

Depth to Water:

—

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

Sampler
Number:

Top of Sampler
Depth (MRP)

1	499.70
2	502.30
3	504.90
4	507.50
5	510.10
6	512.70
7	515.30

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- EDB

Reviewed by:

C. Montoya

Review Date:

12-23-19

Depths highlighted blue represent submerged
samplers based on previous water level



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106236-499

Sampling

Year: 2020

Quarter: 1

Sample ID: GW236-499-201

Date Sampled: 1-7-2020 Time Sampled: 0955 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

		Choose only one								
1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW236-499-201

Duplicate ID:
(if applicable) GW236-499-601

COC#: COC-236-499-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106240-449

Deployment

Year: 2020

Quarter: 1

Sample ID: GW240-449-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 471.99 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 22.95 ***** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 491.04 ft MRP

Top of Screen: 449.04 ft MRP

Bottom of Screen: 489.04 ft MRP

Deployment Team: JM LB

Date Deployed: 12-10-19

Time Deployed: 1020

PID:

MiniRAE 3000

Serial No:

W40006

Water Level Meter:

Solinst 500 ft

Serial No:

PID Reading:

0.0

ppm

Depth to Water:

471.21

Measure Water Level

DMS Tether and Reel ID match Well ID?

JM
Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number:

Top of Sampler
Depth (MRP)

1 449.74

2 452.34

3 454.94

4 457.54

5 460.14

6 462.74

7 465.34

8 467.94

9 470.54

10 473.14

11 475.74

12 478.34

13 480.94

14 483.54

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106240-449

Sampling

Year: 2020

Quarter: 1

Sample ID: GW240-449-201

Date Sampled: 1-7-2020 Time Sampled: 1150 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

Choose only one										
1	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW240-449-201

Duplicate ID:
(if applicable) GW240-449-601

COC#: COC-240-449-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106241-428

Deployment

Year: 2020

Quarter: 1

Sample ID: GW241-428-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 449.50 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 21.40 ******** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 470.10 ft MRP

Top of Screen: 428.10 ft MRP

Bottom of Screen: 468.10 ft MRP

Deployment Team:

JM GB

Date Deployed:

12-10-19

Time Deployed:

1145

PID:

MiniRAE 3000

Serial No:

WTH0006

Water Level Meter:

Solinst 500 ft

Serial No:

GT-0001

PID Reading:

0.0

ppm

Depth to Water:

448.33

Measure Water Level

DMS Tether and Reel ID match Well ID?

JM

Initial to confirm that ID check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

MS/MSD required. Please deploy extra DMS as needed

Sampler Number:

Top of Sampler Depth (MRP)

1 428.80

2 431.40

3 434.00

4 436.60

5 439.20

6 441.80

7 444.40

8 447.00

9 449.60

10 452.20

11 454.80

12 457.40

13 460.00

14 462.60

Depths highlighted blue represent submerged samplers based on previous water level

Reviewed by: C. Montoya

Review Date: 12-10-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106241-428

Sampling

Year: 2020

Quarter: 1

Sample ID: GW241-428-201

Date Sampled: 1-9-2020

Time Sampled: 0825

Sampling Team: # 2

PID Reading: 0.0

DMS Tether and Reel ID match Well ID?

PF

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one										
		VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	<u>EDB</u>	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☒
2	<u>EDB</u>	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	Metals (Total)	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☒
3	EDB	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☒
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☐	☒
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☐	☒
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☒ <u>6mm</u>

MS/MSD required.

PID:

MiniRAE 3000

Serial No:

W14 006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW241-428-201

Duplicate ID: GW241-428-601
(if applicable)

COC#: COC-241-428-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106242-418

Deployment

Year: 2020

Quarter: 1

Sample ID: GW242-418-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 440.96 (Gauged on 10/2/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 22.82 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 460.14 ft MRP

Top of Screen: 418.14 ft MRP

Bottom of Screen: 458.14 ft MRP

Deployment Team:

Date Deployed:

12-9-19

Time Deployed:

1320

PID:

MiniRAE 3000

Serial No:

W40006

Water Level Meter:

Solinst 500 ft

Serial No:

W40012 JM GT-001

PID Reading:

0.0

ppm

Depth to Water:

439.65

Measure Water Level

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

QC sample notes.
(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number:

Top of Sampler
Depth (MRP)

1 418.84

2 421.44

3 424.04

4 426.64

5 429.24

6 431.84

7 434.44

8 437.04

9 439.64

10 442.24

11 444.84

12 447.44

13 450.04

14 452.64

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-23-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106242-418

Sampling

Year: 2020

Quarter: 1

Sample ID: GW242-418-201

Date Sampled: 1-6-2020 Time Sampled: 1120 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one										
1	<u>EDB</u>	VOCs BTEX (N)	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☐	☐	
2	EDB	VOCs BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☐	☐	
3	EDB	VOCs BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☐	
4	EDB	VOCs BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐	
5	EDB	VOCs BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐	
6	EDB	VOCs BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐	6mm

PID:

MiniRAE 3000

Serial No:

WA0006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW242-418-201

Duplicate ID:
(if applicable) GW242-418-601

COC#: COC-242-418-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106243-425

Deployment

Year: 2020

Quarter: 1

Sample ID: GW243-425-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 445.63 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 20.59 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 467.54 ft MRP

Top of Screen: 425.04 ft MRP

Bottom of Screen: 465.04 ft MRP

Deployment Team:

JM GB

Date Deployed:

12-10-9

Time Deployed:

1100

PID:

MiniRAE 3000

Serial No:

WTH0806

Water Level Meter:

Solinst 500 ft

Serial No:

GT: 0001

PID Reading:

0.0

ppm

Depth to Water:

444.56

Measure Water Level

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler Number: Top of Sampler Depth (MRP)

1 425.74

2 428.34

3 430.94

4 433.54

5 436.14

6 438.74

7 441.34

8 443.94

9 446.54

10 449.14

11 451.74

12 454.34

13 456.94

14 459.54

Depths highlighted blue represent submerged samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106243-425

Sampling

Year: 2020

Quarter: 1

Sample ID: GW243-425-201

Date Sampled: 1-6-2020 Time Sampled: 1325 Sampling Team: K. Robinson, P. Ferrari

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one										
	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite		
1	<u>EDB</u>	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW243-425-201

Duplicate ID:
(if applicable) GW243-425-601

COC#: COC-243-425-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106244-445

Deployment

Year: 2020

Quarter: 1

Sample ID: GW244-445-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 467.65 (Gauged on 10/1/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 22.56 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 487.09 ft MRP

Top of Screen: 445.09 ft MRP

Bottom of Screen: 485.09 ft MRP

Deployment Team:

Date Deployed:

12-11-19

Time Deployed:

1105

PID:

MiniRAE 3000

Serial No:

W10006

Water Level Meter:

Solinst 500 ft

Serial No:

GT-0001

PID Reading:

0.0

ppm

Depth to Water:

466.86

Measure Water Level

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number:

Top of Sampler
Depth (MRP)

1 445.79

2 448.39

3 450.99

4 453.59

5 456.19

6 458.79

7 461.39

8 463.99

9 466.59

10 469.19

11 471.79

12 474.39

13 476.99

14 479.59

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106244-445

Sampling

Year: 2020

Quarter: 1

Sample ID: GW244-445-201

Date Sampled: 1-7-2020 Time Sampled: 1100 Sampling Team: K. Robinson, P. Kiriwani

PID Reading: 6.0 DMS Tether and Reel ID match Well ID? KR Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

		Choose only one								
1	<u>EDB</u>	VOCs	<u>BTEX (N)</u>	<u>Metals (Dissolved)</u>	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

W40006

IDW will be taken to: **GWTS/Pending Disposal Area**

Notes:

Sample ID: GW244-445-201

Duplicate ID:
(if applicable) GW244-445-601

COC#: COC-244-445-201

Reviewed by: C. Montoya

Review Date: 1-8-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106245-460

Deployment

Year: 2020

Quarter: 1

Sample ID: GW245-460-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 485.83 (Gauged on 9/30/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 22.16 **** (Water level <5ft above top of screen or screen not submerged)

Well Depth: 505.67 ft MRP

Top of Screen: 463.67 ft MRP

Bottom of Screen: 503.67 ft MRP

Deployment Team:

Jm GB

Date Deployed:

12-10-19

Time Deployed:

0935

PID:

MiniRAE 3000

Serial No:

W40806

Water Level Meter:

Solinst 500 ft

Serial No:

GT-0001

PID Reading:

0.0

ppm

Depth to Water:

485.17'

Measure Water Level

DMS Tether and Reel ID match Well ID?

Jm

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

MS/MSD required. Please deploy
extra DMS as needed

Sampler
Number:

Top of Sampler
Depth (MRP)

1 464.37

2 466.97

3 469.57

4 472.17

5 474.77

6 477.37

7 479.97

8 482.57

9 485.17

10 487.77

11 490.37

12 492.97

13 495.57

14 498.17

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106245-460

Sampling

Year: 2020

Quarter: 1

Sample ID: GW245-460-201

Date Sampled: 1-8-2020 Time Sampled: 0945 Sampling Team: #2

PID Reading: 0.0 DMS Tether and Reel ID match Well ID? PF Initial to confirm that ID check was completed

Sampler Number:
(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes
Dup? MS/MSD?

Choose only one										
1	<u>EDB</u>	<u>VOCs</u>	<u>BTEX (N)</u>	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☒
2	<u>EDB</u>	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	Metals (Total)	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☒
3	EDB	VOCs	BTEX (N)	<u>Metals (Dissolved)</u>	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☒
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	Alkalinity	Anions	Nitrate / Nitrite	☐	☒
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☐	☒
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☒

6mm

MS/MSD required.

PID: 0.0 MiniRAE 3000 Serial No: WH006

IDW will be taken to: GWTS/Pending Disposal Area

Notes: _____

Sample ID: GW245-460-201

Duplicate ID:
(if applicable) GW245-460-601

COC#: COC-245-460-201

Reviewed by: C. Montoya

Review Date: 1-9-2020



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106247-450

Deployment

Year: 2020

Quarter: 1

Sample ID: GW247-450-201

Well Information

Screen Interval Length (ft): 40

Previous Depth to Water (MRP): 476.26 (Gauged on 10/2/2019) LNAPL NOT detected during prior gauging

Length of Screen not submerged (ft): 22.94 **** (Water level < 5ft above top of screen or screen not submerged)

Well Depth: 495.64 ft MRP

Top of Screen: 453.32 ft MRP

Bottom of Screen: 493.32 ft MRP

Deployment Team:

Date Deployed:

12-11-19

Time Deployed:

0755

PID:

MiniRAE 3000

Serial No:

W H0006

Water Level Meter:

Solinst 500 ft

Serial No:

GT-0001

PID Reading:

0.0

ppm

Depth to Water:

475.51

Measure Water Level

DMS Tether and Reel ID match Well ID?

Initial to confirm that ID
check was completed

Notes:

QC sample notes.

(If blank, no QC samples required):

Analyte(s):

- Alkalinity
- BTEX
- Anions
- Dissolved Metals
- EDB
- NO3/NO2-N
- Total Metals

Sampler
Number:

Top of Sampler
Depth (MRP)

1 454.02

2 456.62

3 459.22

4 461.82

5 464.42

6 467.02

7 469.62

8 472.22

9 474.82

10 477.42

11 480.02

12 482.62

13 485.22

14 487.82

Depths highlighted blue represent submerged
samplers based on previous water level

Reviewed by:

C. Montoya

Review Date:

12-16-19



Passive Diffusion Water Sampling Data Sheet

Well Location ID:

KAFB-106247-450

Sampling

Year: 2020

Quarter: 1

Sample ID: GW247-450-201

Date Sampled:

01/06/2020

Time Sampled:

0854

Sampling Team:

D. Schmeelk, N. Peterson

PID Reading:

0.0

DMS Tether and Reel ID match Well ID?

NP

Initial to confirm that ID check was completed

Sampler Number:

(shallow to deep)

Type of Analysis (circle appropriate)

Document in notes

Dup? MS/MSD?

Choose only one

1	<u>EDB</u>	VOCs	<u>BTEX (N)</u>	<u>Metals (Dissolved)</u>	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
2	EDB	VOCs	BTEX (N)	Metals (Dissolved)	<u>Metals (Total)</u>	Alkalinity	<u>Anions</u>	<u>Nitrate / Nitrite</u>	☐	☐
3	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	<u>Alkalinity</u>	Anions	Nitrate / Nitrite	☐	☐
4	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
5	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐
6	EDB	VOCs	BTEX (N)	Metals (Dissolved)	Metals (Total)	Alkalinity	Anions	Nitrate / Nitrite	☐	☐

6mm

PID:

MiniRAE 3000

Serial No:

WH0005

IDW will be taken to: GWTS/Pending Disposal Area

Notes:

Sample ID: GW247-450-201

Duplicate ID: (if applicable) GW247-450-601

COC#: COC-247-450-201

Reviewed by:

C. Montoya

Review Date:

1-8-2020



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-003-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
				Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB	(6020A/6010C) Dissolved Fe, Mn	(6010C) Chloride, bromide, sulfate	(353.2) Nitrate-Nitrite	(300.0)	(SM2320B) Alkalinity (Total, Carbonate, and Bicarbonate)		(RSK-175) Carbon Dioxide	(RSK-175) Methane	(RSK-175)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
1	GW003-201	1-17-2020	1250	5	-	3	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

COMMENTS:

Pump SN: 1807B-699

TB201-39

AMPLER(S):

Dylan Schmeelk

RELINQUISHED BY:

COURIER AND SHIPPING NUMBER:

FedEx 8143 8205 2254

Printed Name and Signature:

DATE TIME

RECEIVED BY:

DATE TIME

D. Schmeelk

1-17-2020 1600

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1025

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-004-201

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

COMMENTS

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate)	Carbon Dioxide (SM2320B)	Methane (RSK-175)	(RSK-175)	COMMENTS
1	GW004-201	1-16-2020	0920	5	—	3	—	2	—	—	—	—	—	—	—	—	—
2																	
3																	
4																	
5																	
6																	

COMMENTS:

TB201- 37

SAMPLER(S):

Pump SN: 1807B-699
D. Schmeelk

COURIER AND SHIPPING NUMBER:

FedEx 8143 8205 2243

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk

1-16-2020

1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1025

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-005-201

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR:
2020

QUARTER:
1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (5M2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW005-201	1-8-2020	1050	10	—	3	—	2	1	1*	1	1	1	—	—	
2	GW005-601	1-8-2020	1050	12	—	3	—	2	1	1*	1	1	1	—	—	
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

TB201-19

SAMPLER(S): **Pete Ferrar and Kylian Robinson**

COURIER AND SHIPPING NUMBER: **FedEx 8143 8205 2221**

RELINQUISHED BY: DATE TIME

Printed Name and Signature:

Pete Ferrar, Pete Lunan 1-8-2020 1630

Printed Name and Signature:

RECEIVED BY: DATE TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-009-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (353.2)	Carbon Dioxide (SM2320B)	(RSK-175) Methane (RSK-175)	
1	GW009-201	1-8-2020	0811	10	-	3	-	2	1	1*	1	1	1			
2	GW009-601	1-8-2020	0811	10	-	3	-	2	1	1*	1	1	1			
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

TB201-18

SAMPLER(S): D. Schneelk

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2232

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Dylan Schneelk 1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-012R-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Cu,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	
1	GW012R-201	1-14-2020	1150	24	-	9	-	6	3	3*	1	1	1		Please see Comments for requested MS/MSD analytes
2	GW012R-601	1-14-2020	1150	10	-	3	-	2	1	1*	1	1	1		
3															
4															
5															
6															

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please run MS/MSD on the following analytes only:
VOCs/BTEX/BTEXN, EDB, Total As and Pb, and dissolved Mn and Fe

Associated with ER201-03
TB201-33

Pump SN: 1807B-699

TB201- 33

SAMPLER(S): D. Schmeelk	COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2298
RELINQUISHED BY: Printed Name and Signature: Dylan Schmeelk	RECEIVED BY: Printed Name and Signature:
DATE: 1-14-2020	DATE:
TIME: 1700	TIME:
Printed Name and Signature:	Printed Name and Signature:
Printed Name and Signature:	Printed Name and Signature:
Printed Name and Signature:	Printed Name and Signature:
Printed Name and Signature:	Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-013-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	(RSK-175)	COMMENTS	
1	GW013-201	1-15-2020	0935	5	—	3	—	2										
2																		
3																		
4																		
5																		
6																		

COMMENTS:

Pump SN 1807B-699

TB201-36

SAMPLER(S): D. Schmeelk

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2276

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Dylan Schmeelk

1-15-2020 1600

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-029-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (6010C)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW029-201	1-6-2020	1200	2	-	-	-	2	-	-	-	-	-	-	-	
2	GW029-601	1-6-2020	1200	2	-	-	-	2	-	-	-	-	-	-	-	
3																
4																
5																
6																

COMMENTS:

TB201-07

SAMPLER(S): K. Robinson P. Ferrari

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8174

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Pete Ferrari Pete Ferrari 1-6-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-030-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM23208)	Carbon Dioxide (RSK-175)	
1	GW030-201	1-6-2020	1220	6	-	-	-	6	-	-	-	-	-	-	Please see Comments for requested MS/MSD analytes KR
2															
3															
4															
5															
6															

COMMENTS:

Please run MS/MSD on the following analytes only:
VOCs/BTEX/BTEXN, EDB, Total As and Pb, and dissolved Mn and Fe

TB201-08

SAMPLER(S):

K. Robinson, P. Ferrari

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8185

Printed Name and Signature:

DATE

TIME

RECEIVED BY:

DATE

TIME

Pete Ferrari

1-6-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
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Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-031-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8260C) EDB	(8011) Total (As,Pb,Ca,K,Na,Mg)	(6010C) Dissolved Fe, Mn	(6020A/6010C) Total (As,Pb,Ca,K,Na,Mg)	Chloride, bromide, sulfate (3000)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSC-175)	Methane (RSC-175)	COMMENTS
1	GW031-201	1-6-2020	1730	2	-	-	-	2	-	-	-	-	-	-	-	-	
2																	
3																	KR
4																	
5																	
6																	

COMMENTS:

Bottles Filled on Fill. They were capped + topped off, but some microbubbles remain.

TB201-08

SAMPLER(S):

L. Robinson, P. Ferraro

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8185

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Pete Ferraro

1-6-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-032-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW032-201	01/06/2020	1305	2				2								
2																
3																
4																
5																
6																

COMMENTS:

TB201- 03

SAMPLER(S):

D. Schmeelk

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8130

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk

[Signature]

01/06/2020

1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-033-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
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YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW033-201	01/06/2020	1348	2				2								
2																
3																
4																
5																
6																

COMMENTS:

TB201- 03

SAMPLER(S):

D. Schmeelk

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8130

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk

[Signature]

01/06/2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-034-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (333.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	
1	GW034-201	01/06/2020	1327	2				2							
2															
3															
4															
5															
6															

COMMENTS:

SAMPLER(S):

D. Schmeelk

TB201-04

RELINQUISHED BY:

DATE

TIME

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 5141

Printed Name and Signature:

Dylan Schmeelk

[Signature]

01/06/2020 1730

Printed Name and Signature:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-041-201

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

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PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

COMMENTS

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	(6020A/6010C) Total (As, Pb, Cd, K, Na, Mg)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	(RSK-175) Methane	COMMENTS
1	GW041-201	1-9-2020	1545	7	-	-	-	2	1	1*	1	1	1	-		
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

TB201-30

SAMPLER(S): *Pete Ferrari, Kyle Robinson*

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2335

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1025

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-049-201

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

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YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	(RSK-175) Methane
1	GW049-201	1-8-2020	0911	2				2							
2															
3															
4															
5															
6															

COMMENTS:

TB201- 26

SAMPLER(S):

D. Schmeelk

COURIER AND SHIPPING NUMBER:

FedEx 8143 8205 2162

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk

1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-050-201

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

COMMENTS

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6020A/6010C)	Chloride, bromide, sulfate (6010C)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW050-201	1-8-2020	0955	2				2								
2																
3																
4																
5																
6																

COMMENTS:

TB201-22

SAMPLER(S): D. Schmeelk

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2200

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk

[Signature]

1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-051-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ST106/SS111

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)
1	GW051-201	1-8-2020	0935	2				2							
2															
3															
4															
5															
6															

COMMENTS:

TB201- 23

SAMPLER(S):

D. Schuelek

COURIER AND SHIPPING NUMBER:

FedEx 8143 8205 2195

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schuelek

1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-097-201

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

COMMENTS

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	(RSK-175)	COMMENTS
1	GW097-201	1-15-2020	1330	5	-	3	-	2									
2																	
3																	
4																	
5																	
6																	

COMMENTS:

Pump SN: 1807B-699

TB201-36

SAMPLER(S):

D. Schmeelk

COURIER AND SHIPPING NUMBER:

FedEx 8143 8205 2276

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk

1-15-2020 1600

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-098-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW098-201	1-15-2020	1125	5	-	3	-	2								
2																
3																
4																
5																
6																

COMMENTS:

Pump SN: 1807B-699

TB201-36

SAMPLER(S): D. Schuelek

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2276

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1626

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-099-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Dissolved Fe, Mn (6020A/6010C)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Comments
1	GW099-201	1-16-2020	1250	5	1	3	1	2							
2															
3															
4															
5															
6															

COMMENTS:

Pump SN: 1807B-699

TB201-38

SAMPLER(S):

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2265

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-100-201

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW100-201	1-16-2020	1111	5	-	3	-	2								
2																
3																
4																
5																
6																

COMMENTS:

Pump SN: 1807B-699

TB201- 38

SAMPLER(S):
D. Schmeelk

COURIER AND SHIPPING NUMBER: FedEx 9143 82052265

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-101-201

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)													COMMENTS
				Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB	(6020A/6010C) Total (As,Pb,Ca,K,Na,Mg)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(Total, Carbonate, and Bicarbonate) Alkalinity (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)		
1	GW101-201	1-17-2020	0915	5	-	3	-	2									
2																	
3																	
4																	
5																	
6																	

COMMENTS:

COMMENTS:

SAMPLER(S):

Pump SN: 1807B-699

D. Schmeelk

TB201- 39

COURIER AND SHIPPING NUMBER:

FedEx 8143 8205 2254

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 594-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-102-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Cd, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM23208)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW102-201	1-17-2020	1111	5	-	3	-	2								
2																
3																
4																
5																
6																

COMMENTS:

TB201-39

SAMPLER(S):

Pump SN: 1807B-699
D. Schmeelk

COURIER AND SHIPPING NUMBER:

FedEx 8143 8205 2254

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-149-484-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As, Pb, Cd, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW149-484-201	1-9-2020	0950	4	-	-	-	2	1	1*	4	1	1	-	-	[Handwritten signature and arrow pointing to row 1]
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Due to failure of 2 passive samplers, total metal volume is low

TB201-30

SAMPLER(S): Pete Ferraro Kyleen Robinson
RELINQUISHED BY: DATE TIME

COURIER AND SHIPPING NUMBER: FedEx 814382052335

Printed Name and Signature: Pete Ferraro Pete Ferraro
1-9-2020 1630

RECEIVED BY: DATE TIME
Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-151-484-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)													COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	(RSK-175)	
1	GW151-484-201	1-9-2020	1125	7	-	-	-	2	1	1*	1	1	1	-	-	-	
2																	
3																	
4																	
5																	
6																	

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

TB201- 28

SAMPLER(S): Pete Ferrari, Kylan Robinson
RELINQUISHED BY: DATE TIME

COURIER AND SHIPPING NUMBER: FedEx 814382052151

Printed Name and Signature:

Pete Ferrari Pete Ferrari
1-9-2020 1030

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD

Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-152-484-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (3000)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate)	(SM23208) Carbon Dioxide (RSK-175)	(RSK-175) Methane	COMMENTS
1	GW152-484-201	1-9-2020	1210	7	—	—	—	2	1	1*	1	1	1	—	—	
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

TB201- 28

SAMPLER(S): Pete Ferrari, Kylene Robinson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2151

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Pete Ferrari Kylene Robinson 1-9-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-153-484-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW153-484-201	1-9-2020	1045	7	-	-	-	2	1	1*	1	1	1	-	-	
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

TB201-31

SAMPLER(S): Pete Ferrari, Kyloian Robinson

COURIER AND SHIPPING NUMBER: FedEx 814382052324

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Pete Ferrari

1-9-2020

1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-201-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST108/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, Bromide, Sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW201-201	1-7-2020	1300	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3																→ KR
4																
5																
6																

COMMENTS:

TB201-17

SAMPLER(S): K. Robinson, P. Ferrari
RELINQUISHED BY:

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8277

Printed Name and Signature:	DATE	TIME
Kylian Robinson	1-7-2020	1330
Dylan Schneelk	1-7-2020	1730

Printed Name and Signature:	DATE	TIME
Dylan Schneelk	1-7-2020	1330



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-202-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As/Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW202-201	1-7-2020	1240	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3																
4																
5																
6																

COMMENTS:

TB201- 17

SAMPLER(S): K. Robinson, P. Ferrari

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8277

RELINQUISHED BY: DATE TIME

Printed Name and Signature:

Kylian Robinson 1-7-2020 1330

Printed Name and Signature:

Dylan Schuelek 1-7-2020 1730

Printed Name and Signature:

RECEIVED BY: DATE TIME

Printed Name and Signature:

Dylan Schuelek 1-7-2020 1330

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-203-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(3260C) BTEX	(3260C) VOCs	(8011) EDR	(6010C) Dissolved Fe, Mn	(6020A/6010C) Total (As,Pb,Ca,K,Na,Mg)	Chloride, bromide, sulfate	(300.0) Nitrate-Nitrite	(353.2) Total Carbonate and Bicarbonate	(SM2320B) Alkalinity	Carbon Dioxide	(RSK-175) Methane	(RSK-175) Carbon Dioxide	COMMENTS
1	GW203-201	1-7-2020	1325	2	-	-	-	2	-	-	-	-	-	-	-	-	1
2																	MR
3																	
4																	
5																	
6																	

COMMENTS:

TB201-16

SAMPLER(S): K. Robinson P. Ferrari

COURIER AND SHIPPING NUMBER: FedEx 811 5649 8266

RELINQUISHED BY: DATE TIME

RECEIVED BY: DATE TIME

Printed Name and Signature: Kylan Robinson 1-7-2020 1330

Printed Name and Signature: Dylan Schmeelt 1-7-2020 1330

Printed Name and Signature: Dylan Schmeelt 1-7-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-204-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW204-201	1-8-2020	1415	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3																
4																
5																
6																

COMMENTS:

TB201- 25

SAMPLER(S): Pete Ferrari Galveston Bay
RELINQUISHED BY: DATE TIME

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2173

Printed Name and Signature:

Pete Ferrari Pete Ferrari 1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 594-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-205-201

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW205-201	1-8-2020	1355	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3																
4																
5																
6																

COMMENTS:

SAMPLER(S): *Pete Ferraro Galveston Begay*
RELINQUISHED BY: DATE TIME

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2173

TB201- 25

Printed Name and Signature: *Pete Ferraro* *Pete Ferraro* 1-8-2020 1630
Printed Name and Signature:

Printed Name and Signature: RECEIVED BY: DATE TIME

Printed Name and Signature: Printed Name and Signature:
Printed Name and Signature: Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-206-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW206-201	1-8-2020	1330	2	-	-	-	2	-	-	-	-	-	-	-	
2	GW206-601	1-8-2020	1330	2	-	-	-	2	-	-	-	-	-	-	-	
3																
4																
5																
6																

COMMENTS:

PF

TB201-26

SAMPLER(S): Pete Ferrari, Galeston Begay
RELINQUISHED BY: DATE TIME

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2162

Printed Name and Signature: Pete Ferrari Date: 1-8-2020 Time: 1630

RECEIVED BY: DATE TIME

Printed Name and Signature:
Printed Name and Signature:
Printed Name and Signature:
Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-207-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity/ (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)
1	GW207-201	1-8-2020	1210	2	-	-	-	2	-	-	-	-	-	-	-
2															
3															
4															
5															
6															

COMMENTS:

TB201- 23

SAMPLER(S): Pete Ferrari Galveston Begay

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2195

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Pete Ferrari Pete Ferrari 1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-208-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	
1	GW208-201	1-8-2020	1235	2	-	-	-	2	-	-	-	-	-	-	
2															
3															
4															
5															
6															

COMMENTS:

SAMPLER(S): Pete Ferrari, Galveston Began
RELINQUISHED BY: DATE TIME

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2184

TB201-24

Printed Name and Signature: Pete Ferrari Date: 1-8-2020 Time: 1630

RECEIVED BY: DATE TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-209-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW209-201	1-8-2020	1300	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3		PF														
4																
5																
6																

COMMENTS:

TB201-24

SAMPLER(S): Pete Ferrari Galveston Beganey
RELINQUISHED BY: DATE TIME

Printed Name and Signature: Pete Ferrari Date: 1-8-2020 Time: 1630

Printed Name and Signature:

Printed Name and Signature:

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2184

RECEIVED BY: DATE TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

226 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625		CHAIN-OF-CUSTODY RECORD										COC NUMBER	
												COC-216-201	
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 62599DM01		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601				FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA				YEAR: 2020	
		FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA						QUARTER: 1 (Jan-Mar)					
PROJECT SITE AND PHASE: ST106/SS111				Lab PO Number: 14800				LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258					

					ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (5M2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	(RSK-175)		
1	GW216-201	1-7-2020	0903	2	—				2	—								
2																		
3																		
4																		
5																		
6																		

COMMENTS:

TB201- 13

SAMPLER(S): D. Schmeelk				COURIER AND SHIPPING NUMBER: FedEx 811 5649 8233			
RELINQUISHED BY:		DATE		TIME		RECEIVED BY:	
Printed Name and Signature:		DATE		TIME		Printed Name and Signature:	
D. Schmeelk		1-7-2020		1730			
Printed Name and Signature:		DATE		TIME		Printed Name and Signature:	
Printed Name and Signature:		DATE		TIME		Printed Name and Signature:	



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-217-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

COMMENTS

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As, Pb, Cd, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (3000)	Nitrate-Nitrite (353.2)	(Total, Carbonate, and Bicarbonate) Alkalinity (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW217-201	1/7/2020	0812	2				2								
2																
3																
4		JRL														
5																
6																

COMMENTS:

TB201-12

SAMPLER(S): D Schmeck

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8222

RELINQUISHED BY: DATE TIME

Printed Name and Signature:

D. Schmeck

1-7-2020 1730

Printed Name and Signature:

RECEIVED BY: DATE TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-218-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW218-201	1-7-2020	0835	2	—	—	—	2	—	—	—	—	—	—	—	—
2	GW218-601	1-7-2020	0835	2	—	—	—	2	—	—	—	—	—	—	—	—
3																
4																
5																
6																

COMMENTS:

TB201-12

SAMPLER(S): D. Schmeelk, J. Livingston

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8222

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

D. Schmeelk

1-7-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-222-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C) BTEX	(8260C) BTEXN	ED8 (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (5M2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW222-201	1-7-2020	1030	2	-	-	-	2	-	-	-	-	-	-	
2															
3															
4															
5															
6															

COMMENTS:

TB201-16

SAMPLER(S): K. Robinson, P. Ferrari

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8266

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Kylian Robinson

1-7-2020 1330

Dylan Schmeekle

1-7-2020 1330

Printed Name and Signature:

Printed Name and Signature:

Dylan Schmeekle

1-7-2020 1730

Printed Name and Signature:

Printed Name and Signature:

226 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No. (410) 771-1825		CHAIN-OF-CUSTODY RECORD										COC NUMBER						
												COC-223-201						
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 62599DM01		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601				FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA				YEAR: 2020						
								FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA				QUARTER: 1 (Jan-Mar)						
PROJECT SITE AND PHASE: ST106/SS111				Lab PO Number: 14800				LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258										
ANALYSIS REQUIRED (Specify number of bottles)																		
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity/Carbonate, and Bicarbonate (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	(RSK-175)	COMMENTS	
1	GW223-201	1-7-2020	0938	2					2									/
2																		
3																		
4																		
5																		
6																		
COMMENTS:																		
SAMPLER(S): D. Schmeelk										COURIER AND SHIPPING NUMBER: FedEx 5111 5649 8233								
RELINQUISHED BY:				DATE		TIME		RECEIVED BY:										
Printed Name and Signature:				DATE		TIME		Printed Name and Signature:										
Dylan Schmeelk				1-7-2020		1730												
Printed Name and Signature:								Printed Name and Signature:										
Printed Name and Signature:								Printed Name and Signature:										

TB201- 13



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-224-201

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: **2020**
QUARTER: **1 (Jan-Mar)**

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) BTEXN	(8260C) BTEX	VOCs (8260C)	(8011) EDB	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	GW224-201	1/7/2020	1002	2					2					
2														
3														
4														
5														
6														

COMMENTS:

TB201-14

SAMPLER(S): **D. Schmeelk**

COURIER AND SHIPPING NUMBER: **FedEx 8111 5649 8244**

RELINQUISHED BY:		DATE	TIME	RECEIVED BY:		DATE	TIME
Printed Name and Signature:				Printed Name and Signature:			
Dylan Schmeelk		1-7-2020	1730				
Printed Name and Signature:				Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			

 225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625		CHAIN-OF-CUSTODY RECORD												COC NUMBER	
														COC-230-201	
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 62599DM01		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601				FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA				YEAR: 2020			
								FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA				QUARTER: 1 (Jan-Mar)			
PROJECT SITE AND PHASE: ST106/SS111				Lab PO Number: 14800				LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258							

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
					VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8260C)	Total (As, Pb, Ca, K, Na, Mg) (8011)	Dissolved Fe, Mn (6020A/6010C)	(6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM23208)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW230-201	1-7-2020	0815	7	-	-	-	2	1	1*	1	1	1	-	-		
2	GW230-601	1-7-2020	0815	7	-	-	-	2	1	1*	1	1	1	-	-		
3																	
4																	
5																	
6																	

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

TB201-11

SAMPLER(S): P. Ferrari, E. Robinson				COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8211			
RELINQUISHED BY:		DATE	TIME	RECEIVED BY:		DATE	TIME
Kylie Robinson / [Signature]		1-7-2020	1200	Dylan Schueelt / [Signature]		1/7/2020	1200
Dylan Schueelt / [Signature]		1/7/2020	1730				



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-231-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW231-201	1-6-2020	1005	2	-	-	-	2	-	-	-	-	-	-	
2	GW231-601	1-6-2020	1005	2	-	-	-	2	-	-	-	-	-	-	
3															
4															
5															142
6															

COMMENTS:

TB201-09

SAMPLER(S): K. Robinson P. Ferrari

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8196

RELINQUISHED BY: DATE TIME

RECEIVED BY: DATE TIME

Printed Name and Signature:

Printed Name and Signature:

Pete Ferrari Pete Lamond 1-6-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-232-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	EDB (8260C)	EDB (8011)	Total (As/Pb/Ca/K/Na/Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity/ Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW232-201	1-6-2020	1035	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3																
4																
5																
6																

COMMENTS:

TB201-09

SAMPLER(S):

L. Robinson P. Ferrari

COURIER AND SHIPPING NUMBER:

FedEx 811 5649 8196

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Pete Ferrari Pete Ferrari 1-6-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-235-438-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As, Pb, Cd, Cr, Ni, Mn, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity/Carbonate, and Bicarbonate (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW235-438-201	1-6-2020	0915	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3																
4																LR
5																
6																

COMMENTS:

SAMPLER(S):

K. Robinson, P. Ferrari

TB201- 05

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8152

Printed Name and Signature:

DATE

TIME

RECEIVED BY:

DATE

TIME

Pete Ferrari

Pete Ferrari

1-6-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1025

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-235-472-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As, Pb, Cd, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (SM2320B) (Total, Carbonate, and Bicarbonate)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW235-472-201	1-6-2020	0900	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3																
4																1/12
5																
6																

COMMENTS:

Bottles fizzed on fill. They were tapped + topped off; in 1, bubbles still stuck to the side

SAMPLER(S):

K. Robinson P. Ferrari

TB201-05

RELINQUISHED BY:

DATE

TIME

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8152

Printed Name and Signature:

Pete Ferrari P. Ferrari

1-6-2020

1730

RECEIVED BY:

Printed Name and Signature:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
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Fax No. (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-235-501-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As/Pb/Ca/K/Na/Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM/2320B)	Carbon Dioxide (RSK-175)	Comments
1	GW235-501-201	1-6-2020	0835	2	1	1	1	2	1	1	1	1	1	1	
2															
3															
4															
5															
6															

COMMENTS:

Fizzed upon filling. Bottles were tapped + topped off, but microbubbles remain

SAMPLER(S):

L. Robinson P. Ferrari

RELINQUISHED BY:

DATE

TIME

COURIER AND SHIPPING NUMBER:

FedEx 9111 5649 5141

TB201-04

Printed Name and Signature:

Pete Ferrari Pete Ferrari 1-6-2020 1730

Printed Name and Signature:

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



226 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-236-436-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ANALYSIS REQUIRED (Specify number of bottles)															COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) ED8	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)
1	GW236-436-201	1-7-2020	0925	2	-	-	-	2	-	-	-	-	-	-	-
2															
3															
4															
5															
6															

COMMENTS:

TB201-15

SAMPLER(S): L. Robinson P. Ferrari

COURIER AND SHIPPING NUMBER: FedEx 8W 5649 8255

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Kylian Robinson / K Robinson

1-7-2020

1200

Dylan Schmeck / Dylan Schmeck

1/7/2020

1200

Printed Name and Signature:

Printed Name and Signature:

Dylan Schmeck / Dylan Schmeck

1/7/2020

1730

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD

Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-236-470-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW236-470-201	1-7-2020	0940	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3																
4																
5																
6																

COMMENTS:

TB201-15

SAMPLER(S): K. Robinson P. Ferrari

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8255

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-236-499-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (3000)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GW236-499-201	1-7-2020	0955	2	-	-	-	2	-	-	-	-	-	-	-	
2																
3																KR
4																
5																
6																

COMMENTS:

TB201-14

SAMPLER(S): K. Robinson, P. Ferrari

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8244

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



226 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-240-449-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (AsPbCaKNaMg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (3000)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW240-449-201	1-7-2020	1150	10	-	3	-	2	1	1*	1	1	1	-	-	
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 2 samples into one SDG and invoice SDG to 62599DM01.1017.4.14 I . Sample 3 of 6

TB201-10

SAMPLER(S):

K. Robinson P. Ferraro

RELINQUISHED BY:

DATE

TIME

COURIER AND SHIPPING NUMBER:

FedEx 8111 5679 8200

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Kylian Robinson

1-7-2020 1330

Printed Name and Signature:

Dylan Schueck

1-7-2020 1330

Printed Name and Signature:

Dylan Schueck

1-7-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-241-428-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As,Pb,Ca,K,Na,Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW241-428-201	1-8-2020	0825	15	-	-	-	6	3	3*	1	1	1	-	-	Please see Comments for requested MS/MSD analytes
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please run MS/MSD on the following analytes only:
VOCs/BTEX/BTEXN, EDB, Total As and Pb, and dissolved Mn and Fe

Please combine these 2 samples into one SDG and invoice SDG to 62599DM01.1017.4.14 I . Sample 6 of 6

TB201-21

SAMPLER(S): Pete Ferrar, Kyle Robinson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2200

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Pete Ferrar, Peter Lunn

1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1025

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-242-418-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs	(8260C) BTEX	(8260C) BTEXN	(8260C) EDB	(8011) Total (As,Pb,Ca,K,Na,Mg)	(6010C) Dissolved Fe, Mn	Chloride, bromide, sulfate	(3000) Nitrate-Nitrite	(353.2) Alkalinity (Total, Carbonate, and Bicarbonate)	(SM2320B) Carbon Dioxide	(RSK-175) Methane	COMMENTS
1	GW242-418-201	1-6-2020	1120	7	-	-	-	2	1	1*	1	1	1	-	-	
2																
3																ICR
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 2 samples into one SDG and invoice SDG to 62599DM01.1017.4.14 I . Sample 2 of 6

SAMPLER(S): K. Robinson P. Ferrari

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8163

TB201-06

RELINQUISHED BY: DATE TIME
Printed Name and Signature: P. Ferrari 1-6-2020 1730

RECEIVED BY: DATE TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-243-425-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (SM2320B) (Total, Carbonate, and Bicarbonate)	Carbon Dioxide (RSK-175)	
1	GW243-425-201	1-6-2020	1325	7	-	-	-	2	1	1*	1	1	1	-	
2															
3															
4															KE
5															
6															

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 2 samples into one SDG and invoice SDG to 62599DM01.1017.4.14 I . Sample 1 of 6

TB201-06

SAMPLER(S): K. Robinson, P. Ferrari

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8163

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Pete Ferrari Pete Ferraro 1-6-2020 1734

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-244-445-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total (As/Ph,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	(RSK-175) Methane	COMMENTS
1	GW244-445-201	1-7-2020	1100	10	-	3	-	2	1	1*	1	1	1	-	-	
2																
3																KN
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 2 samples into one SDG and invoice SDG to 62599DM01.1017.4.14I . Sample 4 of 6

TB201-10

SAMPLER(S): K. Robinson, P. Ferraro			COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8200		
RELINQUISHED BY:		DATE	TIME	RECEIVED BY:	
Printed Name and Signature: Kylan Robinson		1-7-2020	1530	Printed Name and Signature: Dylan Schneelk	
Printed Name and Signature: Dylan Schneelk		1-7-2020	1730	Printed Name and Signature:	
Printed Name and Signature:				Printed Name and Signature:	



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1025

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-245-460-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

Lab PO Number: 14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)
1	GW245-460-201	1-8-2020	0945	24	-	9	-	6	3	3*	1	1	1	-	Please see Comments for requested MS/MSD analytes
2															
3															
4															
5															
6															

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please run MS/MSD on the following analytes only:
VOCs/BTEX/BTEXN, EDB, Total As and Pb, and dissolved Mn and Fe

Please combine these 2 samples into one SDG and invoice SDG to 62599DM01.1017.4.14 I 5. Sample 5 of 6

TB201-20

SAMPLER(S): Pete Ferrari Kyline Robinson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2210

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Pete Ferrari Peter Luman

1-8-2020

1630 0945

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-247-450-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62735DM02

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA

Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

New PO

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity/ (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GW247-450-201	01/06/2020	0854	10	—	3	—	2	1	1*	1	1	1			
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 4 samples into one SDG and invoice SDG to 62735DM02. 1017.05

Sample 2 of 9

TB201-02

SAMPLER(S): Dr. Schmeelk

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8120

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dr. Schmeelk

01/06/2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-ER201-01

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)		
1	ER201- 01	01-09-2020	0846	5	-	3	-	2	1	-	-	-	-		
2															
3															
4															
5															

Please add Fe and Mn to total metals analysis.

Pump Serial Number: SN-1808-402

TB201-0133x

SAMPLER(S): Dylan Schmeelk	COURIER AND SHIPPING NUMBER: 81438 2052 324
RELINQUISHED BY: Dylan Schmeelk	RECEIVED BY:
DATE: 1-9-2020	DATE:
TIME: 1630	TIME:
Printed Name and Signature: Dylan Schmeelk	Printed Name and Signature:
Printed Name and Signature:	Printed Name and Signature:
Printed Name and Signature:	Printed Name and Signature:
Printed Name and Signature:	Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-ER201-02

PROJECT NAME:
Kirtland AFB Bulk Fuels Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: **2020**
QUARTER: **1**

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM2320B) Alkalinity (Total, Carbonate, and Bicarbonate)	
1	ER201-02	1-13-2020	0858	5	-	3	-	2	1					
2														
3														
4														
5														

Please add Fe and Mn to total metals analysis.

Associated with ~~KAFB 106~~ GW059-201

Pump Serial Number: **1807B-902**

TB201-34

SAMPLER(S): **D. Schneelk**

COURIER AND SHIPPING NUMBER:

RELINQUISHED BY:

DATE

TIME

FedEx 8143 8205 2287

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-ER201-03

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (5020A/5010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM2320B) Alkalinity (Total Carbonate and Bicarbonate)	COMMENTS
1	ER201-03	1-14-2020	0911	6	1	3	1	2	1					
2														
3														
4														
5														

Please add Fe and Mn to total metals analysis.

Associated with: GW012R-601
GW012R-201

Pump Serial Number: 18L100378-B 1807B-699

TB201-34

AMPLER(S): D. Schmeelk, K. Robinson

COURIER AND SHIPPING NUMBER:

Fedex 8143 8205 2287

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Kylian Robinson

1-14-2020 1700

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-S1-447-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62735DM02

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

New PO

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS		
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)			
1	GWS1-447-201	1-9-2020	1520	10	-	3	-	2	1	1*	1	1	1	-			
2																	
3																	
4																	
5																	
6																	

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 5 samples into one SDG and invoice SDG to 62735DM02. 1017.05 Sample 5 of 9 TB201-33

SAMPLER(S): Pete Ferrari, Kylan Robinson			COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2302				
RELINQUISHED BY:		DATE	TIME	RECEIVED BY:		DATE	TIME
Printed Name and Signature:				Printed Name and Signature:			
Pete Ferrari, Kylan Robinson		1-9-2020	1630				
Printed Name and Signature:				Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			



226 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1025

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-S2-451-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62735DM02

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaast.com EA
Amanda Smith: asmith@eaast.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaast.com EA

YEAR: 2020

QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

New PO

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	EDB (8011)	Total (As, Pb, Cd, Cu, Ni, Mn) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GWS2-451-201	01/06/2020	1058	10	—	3	—	2	1	1*	1	1	—	—	
2															
3															
4															
5															
6															

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 4 samples into one SDG and invoice SDG to 62735DM02.1017.05 Sample 4 of 9

TB201- 01

SAMPLER(S): D. Schmeelk

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8119

RELINQUISHED BY: DATE TIME

RECEIVED BY: DATE TIME

Printed Name and Signature: Dylan Schmeelk 01/06/2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625		CHAIN-OF-CUSTODY RECORD										COC NUMBER	
												COC-S3-449-201	
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 62735DM02		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601				FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA				YEAR: 2020	
								FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA				QUARTER: 1 (Jan-Mar)	
PROJECT SITE AND PHASE: ST106/SS111				New PO				LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258					

				ANALYSIS REQUIRED (Specify number of bottles)												
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS
1	GWS3-449-201	1-9-2020	1355	10	—	3	—	2	1	1*	1	1	1	—	—	
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 5 samples into one SDG and invoice SDG to 62735DM02.1017.05 Sample 9 of 9 TB201-29

SAMPLER(S): Pete Ferrari, Ky Lion Robinson			COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2140		
RELINQUISHED BY:		DATE		TIME	
Printed Name and Signature: Pete Ferrari		DATE 1-9-2020		TIME 1630	
Printed Name and Signature:		DATE		TIME	
Printed Name and Signature:		DATE		TIME	
Printed Name and Signature:		DATE		TIME	



225 Schilling Circle Suite
400 Hunt Valley MD
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Fax No: (410) 771-1025

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-S4-446-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62735DM02

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

New PO

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As, Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GWS4-446-201	01/06/2020	0945	10	-	3	-	2	1	1*	1	1	1	-		
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 4 samples into one SDG and invoice SDG to 62735DM02.1017.05

Sample 1 of 9

TB201-02

SAMPLER(S): D. Schneepk	RELINQUISHED BY:	DATE	TIME
Printed Name and Signature:			
Printed Name and Signature: D. Schneepk		01/06/2020	1730
Printed Name and Signature:			
Printed Name and Signature:			

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8120	RECEIVED BY:	DATE	TIME
Printed Name and Signature:			
Printed Name and Signature:			
Printed Name and Signature:			
Printed Name and Signature:			



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Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-S5-446-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62735DM02

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

New PO

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS		
				Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB	(6020A/6010C) Total (As,Pb,Ca,K,Na,Mg)	(6010C) Dissolved Fe, Mn	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)		(RSK-175) Methane	
1	GWS5-446-201	1-9-2020	1510	10	—	3	—	2	1	1*	1	1	1				
2																	
3																	
4																	
5																	
6																	

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 5 samples into one SDG and invoice SDG to 62735DM02. 1017.05 Sample 8 of 9

TB201-32

SAMPLER(S): Pete Ferraro, Kytia Robinson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2313

RELINQUISHED BY: DATE TIME

RECEIVED BY: DATE TIME

Printed Name and Signature: Pete Ferraro Kytia Robinson 1-9-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
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Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-S7-451-201

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62735DM02

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1 (Jan-Mar)

PROJECT SITE AND PHASE:
ST106/SS111

New PO

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total (As Pb, Ca, K, Na, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GWS7-451-201	1-9-2020	1440	4	-	VR 3	-	VR 2	1	1*	1	VR 1	1			
2																
3																
4																
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Due to low sample volume from DMS failure, An adjusted Aliquot was taken.
Please try to get EDB and BTEX from reduced Aliquot.

Please combine these 5 samples into one SDG and invoice SDG to 62735DM02. 1017.05 Sample 7 of 9

TB201-32

SAMPLER(S): Pete Ferranti Kyle Robinson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2313

RELINQUISHED BY: DATE TIME
Pete Ferranti 1-9-2020 1630

RECEIVED BY: DATE TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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Tel No: (410) 584-7000
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CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-S8-451-201

PROJECT NAME: Kirtland AFB Bulk Fuels Facility	PROJECT NUMBER: 62735DM02	LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601	FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA	YEAR: 2020
			FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA	QUARTER: 1 (Jan-Mar)
PROJECT SITE AND PHASE: ST106/SS111		New PO	LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258	

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C) BTEX	(8260C) BTEXN	EDR (8011)	Total (As, Pb, Cd, Ni, Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	
1	GWS8-451-201	9/06/2020	1206	10	3	—	2	1	1*	1	1	1			
2															
3															
4															
5															
6															

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered

Please combine these 4 samples into one SDG and invoice SDG to 62735DM02.1017.05

Sample 3 of 9

TB201-01

SAMPLER(S): D. Schmeelk	COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8119				
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
Printed Name and Signature: Dorian Schmeelk	9/06/2020	1730	Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625		CHAIN-OF-CUSTODY RECORD										COC NUMBER									
												COC-S9-447-201									
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 62735DM02		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601				FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA				YEAR: 2020 QUARTER: 1 (Jan-Mar)									
PROJECT SITE AND PHASE: ST106/SS111				New PO				LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258													
ANALYSIS REQUIRED (Specify number of bottles)																					
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDR (8011)	Total (As,Pb,Ca,K,Na,Mg) (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	Carbon Dioxide (RSK-175)	Methane (RSK-175)	COMMENTS					
1	GWS9-447-201	1-7-2020	1240	10 7 PF-	3	—	2	1	1*	1	1	1	1	—							
2																					
3																					
4																					
5																					
6																					
COMMENTS: *Dissolved Fe, Mn aliquot was field filtered																					
Please combine these 5 samples into one SDG and invoice SDG to 62735DM02.1017.05 Sample 6 of 9 TB201- 33																					
SAMPLER(S): <i>Pete Ferrar, Kyllan Rablison</i>								COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2302													
RELINQUISHED BY:								DATE				TIME				RECEIVED BY:		DATE		TIME	
Printed Name and Signature: <i>Pete Ferrar, Kyllan Rablison</i>								DATE: 1-9-2020				TIME: 1630				Printed Name and Signature:					
Printed Name and Signature:								DATE:				TIME:				Printed Name and Signature:					
Printed Name and Signature:								DATE:				TIME:				Printed Name and Signature:					
Printed Name and Signature:								DATE:				TIME:				Printed Name and Signature:					



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400 Hunt Valley MD
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Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-SWB201-01

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR:
2020

QUARTER:
1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	SWB201-01	1-16-2020	1045	6	-	3	-	2	1					
2														
3														
4														
5														

Please add Fe and Mn to total metals analysis.

Associated with: ESS lab grade water

TB201-37

SAMPLER(S): J. Messenger

COURIER AND SHIPPING NUMBER: FEDEX 8143 8205 2243

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Joshua Messenger John Messenger 1-16-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201- 01

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaast.com EA
Amanda Smith: asmith@eaast.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaast.com EA

YEAR:
2020

QUARTER:
1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C) BTX	(8260C) BTXN	(8260C) EDB	(8011) Total As, Pb, Cd, K, Na, Mg	Dissolved Fe, Mn (6020A/6010C)	(6010C) Chloride, bromide, sulfate	(300.0) Nitrate-Nitrite	(353.2) Alkalinity (Total Carbonate and Bicarbonate)	(SM2320B)	
1	TB201- 01	1-06-2020	1430	4	2	2	2							
2														
3														
4														
5														

Associated with: GWS8-451-201
GWS2-451-201

SAMPLER(S): N. Peterson

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8119

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson *Nicole Peterson* 1-06-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
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Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-02

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM2320B) Alkalinity (Total, Carbonate, and Bicarbonate)	
1	TB201-02	1-06-2020	1430	4	2	2	2							
2														
3														
4														
5														

Associated with: GW247-450-201

GWS4-446-201

SAMPLER(S): N. Peterson

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8120

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson *Nicole Peterson*

1-06-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-03

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-03	1-06-2020	1430	2	2 ^{HP}	-	2							NP
2														
3														
4														
5														

Associated with: GW033-201
GW032-201

SAMPLER(S): N. Peterson

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8130

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson Nicole Peterson

1-06-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-04

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 558-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201- 04	1-06-2020	1730	2	-	2 ^{NP}	-	2						
2														
3														
4														
5														

Associated with: GW034-201
GW235-50+201

SAMPLER(S): N. Peterson

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 5141

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson *Nicole Peterson*

1-06-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-05

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	EDB (8011)	(8260C) BTEXN	(6020A/6010C) Total As, Pb, Cd, K, Na, Mg	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM2320B) Alkalinity Total, Carbonate, and Bicarbonate	
1	TB201-05	1-06-2020	1430	2	-	2 ^{HP}	-	2						
2														
3														
4														
5														

Associated with: GW235-438-201
GW235-472-201

SAMPLER(S): Nicole Peterson

RELINQUISHED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson

Nicole Peterson

Printed Name and Signature:

1-06-2020 17:30

Printed Name and Signature:

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8152

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-06

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR:
2020

QUARTER:
1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 656-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As,Pb,Ca,K,Na,Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity, Carbonate, and Bicarbonate (SM2320B)	
1	TB201-06	01-06-2020	1430	2	—	NR 2	—	2						
2														
3														
4														
5														

Associated with: GW243-425-201
GW242-418-201

SAMPLER(S): N. Peterson

RELINQUISHED BY:

DATE

TIME

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8163

Printed Name and Signature:

RECEIVED BY:

DATE

TIME

Nicole Peterson Niwml Pet 1-06-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
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Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-07

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As,Pb,Ca,K,Na,Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-07	01/06/2020	1430	2	2	2	2	2						
2														
3														
4														
5														

Associated with: GW029-201
GW029-601

SAMPLER(S): D. Schmeelk

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8174

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Dylan Schmeelk

01/06/2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-08

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C) BTX (8260C)	EDB (8011) BTXN (8260C)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM2320B) Alkalinity (Total, Carbonate, and Bicarbonate)			
1	TB201-08	1-6-2020	1430	2	2	2								
2														
3														
4														
5														

Associated with: GW030-201
GW031-201

SAMPLER(S): D. Schmeelk				COURIER AND SHIPPING NUMBER: FedEx 811 5649 8185			
RELINQUISHED BY:		DATE	TIME	RECEIVED BY:		DATE	TIME
Printed Name and Signature: Dylan Schmeelk		1-6-2020	1730	Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			



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Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-09

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST109/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-09	1-6-2020	1430	2	2			2						
2														
3														
4														
5														

Associated with: GW232-201
GW231-201
GW231-601

SAMPLER(S): D. Schmeelk

RELINQUISHED BY:

DATE

TIME

COURIER AND SHIPPING NUMBER:

FedEx 8111 5649 8196

Printed Name and Signature:

Dylan Schmeelk

1-6-2020 1730

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-10

YEAR: 2020

QUARTER: 1

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

COMMENTS

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	COMMENTS
1	TB201-10	1-7-2020	1130	4	2	2	2	2						
2														
3														
4														
5														

Associated with: ~~GW 240-201~~ ✓
~~GW 244-201~~ ✓
GW 244-445-201
GW 240-449-201

SAMPLER(S): D. Schneelk

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8200

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-11

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7256

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED8 (8011)	Total As,Pb,Ca,K,Na,Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	COMMENTS
1	TB201-11	1-7-2020	1130	2	2			2						
2														
3														
4														
5														

Associated with: GW230-201
GW230-601

SAMPLER(S): D. Schneelk

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8211

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-12

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-12	1-7-2020	1130	2	2			2						
2														
3														
4														
5														

Associated with: GW 218-201
GW 218-601
GW 217-201

SAMPLER(S): D. Schmeelk

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8222

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk

1-7-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD

Tel No: (410) 584-7000
Fax No. (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-13

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA

Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDR (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-13	1-7-2020	1130	2	2			2						
2														
3														
4														
5														

Associated with: GW 216-201
GW 223-201

SAMPLER(S): D Schmeeltz

COURIER AND SHIPPING NUMBER: FedEx Bill 5649 8233

Printed Name and Signature:

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Dylan Schmeeltz

1-7-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-14

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

COMMENTS

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As Pb Ca K Na Mg (6020A/6010C)	Dissolved Fe, Mn (6020A/6010C)	(6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(353.2) Alkalinity (Total, Carbonate, and Bicarbonate)	(SM2320B)
1	TB201-14	1-7-2020	1130	2				2							
2															
3															
4															
5															

Associated with: GW224-201
GW236-499-201

SAMPLER(S): D. Schmeelk

COURIER AND SHIPPING NUMBER: FedEx 811 5649 8244

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk

1-7-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-15

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)		
1	TB201-15	1-7-2020	1130	2	2			2							
2															
3															
4															
5															

Associated with: GW236-436-201
GW236-470-201

SAMPLER(S): D. Schmeelk

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8255

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk 1-7-2020 1130

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-16

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C) BTX (8260C)	BTX (8260C)	BTXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-16	1-7-2020	1130	2	2			2						
2														
3														
4														
5														

Associated with: GW203-201
GW222-201

SAMPLER(S): D. Schneek

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8260

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schneek

1-7-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-17

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA

Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity/ Total, Carbonate, and Bicarbonate (SM2320B)	
1	TB201-17	1-7-2020	1130	2	2			2						
2														
3														
4														
5														

Associated with: GW 201-201
GW 202-201

SAMPLER(S): D. Schmeelk

COURIER AND SHIPPING NUMBER: FedEx 8111 5649 8277

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Dylan Schmeelk

1-7-2020 1730

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-18

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

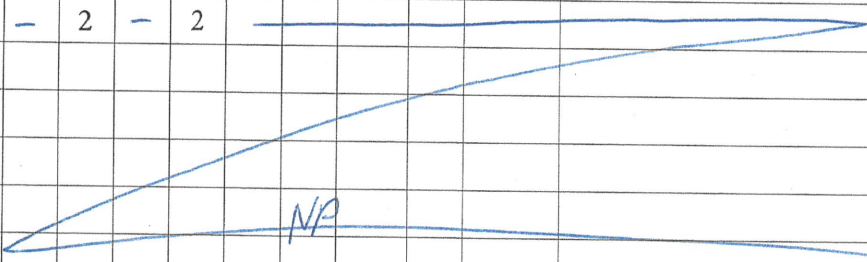
YEAR: **2020**

QUARTER: **1**

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-18	1-8-2020	1200	4	-	2	-	2						
2														
3														
4														
5														
														NA

Associated with: **GW009-201**
GW009-601

SAMPLER(S): **N. Peterson**

COURIER AND SHIPPING NUMBER: **FedEx 8143 8205 2232**

RELINQUISHED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson

Nicole Peterson

1-8-2020

1630

Printed Name and Signature:

Printed Name and Signature:

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-19

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

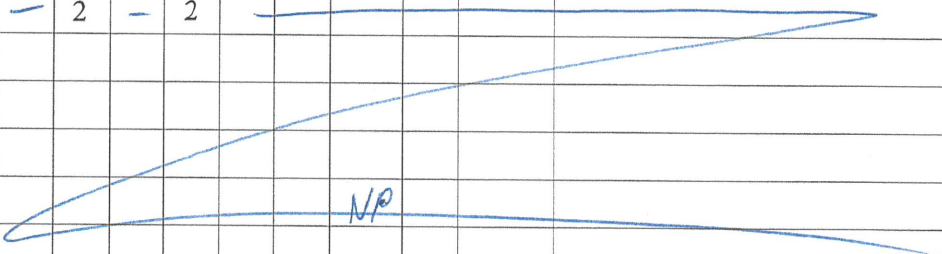
YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As,Pb,Ca,K,Na,Mg (6020A/6010C)	Disolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)		
1	TB201-19	1-8-2020	1200	4	—	2	—	2							
2															
3															
4															
5															
														NP	

Associated with: GW005-201
GW005-601

SAMPLER(S): N. Peterson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2232 NP 2221

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson Nick Peterson

1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD

Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-20

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA

Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-20	1-8-2020	1200	4	-	2	-	2						NP
2														
3														
4														
5														

Associated with: GW245-460-201

SAMPLER(S):

N. Peterson

COURIER AND SHIPPING NUMBER:

FedEx 8143 8205 2210

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson Nicole Peterson

1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-21

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-21	1-8-2020	1200	2	-	NP	-	2						
2														
3														
4														
5														

Associated with: GW241-428-201

SAMPLER(S): N. Peterson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2200

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson Nicole Peterson

1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201- 22

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (8020A/8010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM2320B) Alkalinity (Total, Carbonate, and Bicarbonate)	
1	TB201- 22	1-8-2020	1200	2	—	—	—	2						
2														
3														
4														
5														

Associated with: GW050-201

SAMPLER(S): N. Peterson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2200

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson Nicole Peterson

1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-23

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-23	1-8-2020	1200	2	-	NP	-	2						
2														
3														
4														
5														NP

Associated with: GW051-201
GW207-201

SAMPLER(S): N. Peterson				COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2195			
RELINQUISHED BY:		DATE	TIME	RECEIVED BY:		DATE	TIME
Printed Name and Signature: Nicole Peterson		1-8-2020	1630	Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			



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Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-24

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8250C)	BTEX (8250C)	BTEXN (8250C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-24	1-8-2020	1200	2	-	NP	-	2						
2														
3														
4														
5														
														NP

Associated with: GW208-201
GW209-201

SAMPLER(S): N. Peterson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2184

RELINQUISHED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson Nicole Peterson

1-8-2020 1630

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
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Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-25

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-25	1-8-2020	1200	2	-	NP	-	2						
2														
3														
4														
5														
														NP

Associated with: GW204-201
GW205-201

SAMPLER(S): N. Peterson

RELINQUISHED BY:

DATE

TIME

Printed Name and Signature:

Nicole Peterson *Nicole Peterson* 1-8-2020 1630

Printed Name and Signature:

Printed Name and Signature:

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2173

RECEIVED BY:

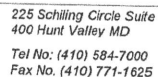
DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



COC NUMBER

COC-TB201-26

YEAR:	2020
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QUARTER:	1
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PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond:	tlamond@eaest.com	EA
Amanda Smith:	asmith@eaest.com	EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss:	pmoss@eaest.com	EA

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

[illegible]

Associated with: GW206-201
GW049-201
GW206-601

SAMPLER(S): N. Peterson

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2162

RELINQUISHED BY:		DATE	TIME
Printed Name and Signature:			
Nicole Peterson <i>Nicole Peterson</i>		1-8-2020	1630
Printed Name and Signature:			

RECEIVED BY:		DATE	TIME
Printed Name and Signature:			

Printed Name and Signature:	Printed Name and Signature:
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Printed Name and Signature:		Printed Name and Signature:	
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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-28

YEAR: 2020

QUARTER: 1

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

COMMENTS

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB	(6020A/6010C) Total As, Pb, Cd, K, Na, Mg	(6010C) Dissolved Fe, Mn	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate)	(SM2320B)
1	TB201-28	1-9-2020	1130	2	2	2	2	2	2	2	2	2	2	2
2														
3														
4														
5														

Associated with: ~~GW151-201 NP~~ GW151-484-201
~~GW152-201 NP~~ GW152-484-201

SAMPLER(S): C. Montoya

COURIER AND SHIPPING NUMBER:

FedEx

cm 814382052151
~~2773 8676 2516~~

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



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400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-29

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmilh@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: **2020**

QUARTER: **1**

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (5010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-29	1-9-2020	1130	4	-	2	-	2						
2														
3														
4														
5														

Associated with: ~~GWS3-221 NP~~
~~GWS2-201 NP~~

GWS3-449-201

SAMPLER(S): *C. Montoya*

RELINQUISHED BY:

Printed Name and Signature:

Carlos Montoya

Printed Name and Signature:

Printed Name and Signature:

COURIER AND SHIPPING NUMBER:

FedEx 814382052140

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 594-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-30

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-30	1-9-2020	1130	2	2	2	2	2	2	2	2	2	2	
2														
3														
4														
5														

Associated with: GW149-221 NP GW149-484-201
GW041-201

SAMPLER(S): C. Montoya		COURIER AND SHIPPING NUMBER: FedEx 814382052335	
RELINQUISHED BY:		DATE	TIME
Printed Name and Signature: Carlos Montoya		1-9-2020	1630
Printed Name and Signature:			
Printed Name and Signature:			
Printed Name and Signature:			
Printed Name and Signature:			
Printed Name and Signature:			



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-31

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@easst.com EA
Amanda Smith: asmith@easst.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@easst.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

				ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As,Pb,Ca,K,Na,Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate and Bicarbonate) (SM2320B)	
1	TB201-31	1-9-2020	1130	2	2			2						
2														
3														
4														
5														

Associated with: ~~GWIS3-201~~ NP GWIS3-484-201

CRW ER201-01

SAMPLER(S): C. Montoya

COURIER AND SHIPPING NUMBER: FedEx 814382052324

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Carlos Montoya

1-9-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-32

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020
QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	COMMENTS
1	TB201-32	1-9-2020	1130	4	2	1	2							
2														
3														
4														
5														

Associated with: ~~GW55-201~~ GW55-446-201
~~GW57-201~~ GW57-451-201

SAMPLER(S): C. Montoya		COURIER AND SHIPPING NUMBER: FedEx 814382052313	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Printed Name and Signature: Carlos Montoya	1-9-2020	1630	Printed Name and Signature:
Printed Name and Signature:			Printed Name and Signature:
Printed Name and Signature:			Printed Name and Signature:
Printed Name and Signature:			Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD

Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-33

YEAR: 2020

QUARTER: 1

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA

Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM2320B) Alkalinity (Total, Carbonate, and Bicarbonate)	
1	TB201-33	1-9-2020	1130	4	-	2	-	2						
2														
3														
4														
5														

Associated with: ~~GWS1-201~~ NP GWS1-447-201
~~GWS9-201~~ NP GWS9-447-201

SAMPLER(S): C. Montoya		COURIER AND SHIPPING NUMBER: FedEx 814382052302	
RELINQUISHED BY:		DATE	TIME
Printed Name and Signature: Carlos Montoya		1-9-2020	1630
Printed Name and Signature:			
Printed Name and Signature:			
Printed Name and Signature:			
Printed Name and Signature:			



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-34

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-34	1-14-2020	1600	4	-	2	-	2	-	-	-	-	-	JHR
2														
3														
4														
5														

Associated with:

ER-201-02
ER-201-03

SAMPLER(S): K. Robinson

RELINQUISHED BY:

Printed Name and Signature:

Kylian Robinson

DATE

TIME

1-14-2020 1700

Printed Name and Signature:

Printed Name and Signature:

COURIER AND SHIPPING NUMBER:

FedEx 8143 8205 2287

Printed Name and Signature:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-335

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amara Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM2320B) Alkalinity (Total, Carbonate, and Bicarbonate)	
1	TB201-335	1-14-2020	1600	4	-	2	-	2	-	-	-	-	-	KR KR
2														
3														
4														
5														

Associated with: 6W-012R-201
6W-012R-601

SAMPLER(S): K. Robinson			COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2298		
RELINQUISHED BY:			RECEIVED BY:		
Printed Name and Signature:	DATE	TIME	Printed Name and Signature:	DATE	TIME
Kylian Robinson	1-14-2020	1700			
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

814382052276

EA		225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625		CHAIN-OF-CUSTODY RECORD										COC NUMBER	
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 62599DM01		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601				FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA				COC-TB201-36			
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 14800		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258				FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA				YEAR: 2020 QUARTER: 1			
				ANALYSIS REQUIRED (Specify number of bottles)											
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	COMMENTS		
1	TB201-36	1-15-2020	1400	4	-	2	-	2							
2															
3															
4															
5															
Associated with:															
GW013-201															
GW097-201															
GW098-201															
SAMPLER(S): J. Messenger				COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2276											
RELINQUISHED BY:				DATE		TIME		RECEIVED BY:				DATE		TIME	
Printed Name and Signature: Joshua Messenger John Messenger				1-15-2020		1600									
Printed Name and Signature:								Printed Name and Signature:							
Printed Name and Signature:								Printed Name and Signature:							
Printed Name and Signature:								Printed Name and Signature:							



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-37

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA

Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB	(6020A/6010C) Total As, Pb, Ca, K, Na, Mg	(6010C) Dissolved Fe, Mn	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM2320B) Alkalinity (Total, Carbonate, and Bicarbonate)	COMMENTS
1	TB201- 37	1-16-2020	1100	4	-	2	-	2						
2														
3														
4														
5														

Associated with: GW004-201
SWB 201-01

SAMPLER(S): J. Messenger

RELINQUISHED BY:

DATE

TIME

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2243

RECEIVED BY:

DATE

TIME

Printed Name and Signature:

Printed Name and Signature:

Joshua Messenger

J. Messenger

1-16-2020 1630

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:

Printed Name and Signature:



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 594-7000
Fax No. (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-38

PROJECT NAME:
**Kirtland AFB Bulk Fuels
Facility**

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
**Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601**

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA

FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: **2020**

QUARTER: **1**

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	Total As, Pb, Cd, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Alkalinity (Total, Carbonate, and Bicarbonate) (SM2320B)	
1	TB201-38	1-16-2020	1100	4	-	2	-	2						
2														
3														
4														
5														

Associated with: GW100-201
GW099-201

SAMPLER(S): <i>J. Messenger</i>			COURIER AND SHIPPING NUMBER: FedEx 81438205 2265				
RELINQUISHED BY:		DATE	TIME	RECEIVED BY:		DATE	TIME
Printed Name and Signature: <i>Joshua Messenger</i>		<i>John M...</i>	1-16-2020	1630			
Printed Name and Signature:				Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			
Printed Name and Signature:				Printed Name and Signature:			



225 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-TB201-39

PROJECT NAME:
Kirtland AFB Bulk Fuels
Facility

PROJECT NUMBER:
62599DM01

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaast.com EA
Amanda Smith: asmith@eaast.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaast.com EA

YEAR: 2020

QUARTER: 1

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	EDB (8260C)	(8260C) BTXN	(6011) Total As, Pb, Cd, K, Na, Mg	Dissolved Fe, Mn (6020A/6010C)	Chloride, bromide, sulfate (6010C)	Nitrate-Nitrite (300.0)	(353.2) Nitrate-Nitrite	
1	TB201- 39	01-17-2020	1300	4	-	2	-	2						
2														
3														
4														
5														

Associated with: 61000

Associated with: GW003-201
GW101-201
GW102-201

SAMPLER(S): Galveston Begaye

COURIER AND SHIPPING NUMBER: FedEx 8143 8205 2254

RELINQUISHED BY:
Printed Name and Signature: Galveston Begaye
DATE: 01-17-2020 TIME: 1600

RECEIVED BY:
Printed Name and Signature: DATE: TIME:

Printed Name and Signature:

Printed Name and Signature:



United States Department of the Interior

U. S. GEOLOGICAL SURVEY
New Mexico Water Science Center
Albuquerque, New Mexico 87110

MEMORANDUM FOR RECORD

April 28, 2020

Attention: Cynthia Cash, AFCEC

Through: Kimberly Beisner, Water Quality Specialist, NMWSC
Stuart Norton, Supervisory Hydrologist, NMWSC

From: Kate Wilkins, Hydrologic Technician, NMWSC

Subject: Quarterly Organic Data Transmittal for Kirtland Air Force Base (KAFB) Bulk Fuels Facility (BFF) Ethylene Dibromide (EDB) Plume Sentinel Wells for the January 2020 to March 2020 Quarter.

The USGS installed sentinel wells downgradient of the KAFB BFF EDB plume and upgradient from community water-supply wells, as a means of providing independent observation of water quality in the vicinity of community water-supply wells. Samples are collected from the sentinel wells on a quarterly basis in accordance with the USGS fundamental science practices. This memorandum provides a summary of organic data results for the USGS KAFB BFF EDB plume Sentinel Wells (Figure 1, Table 1). Laboratory analytical results for the quarter from January 2020 through March 2020 are presented in Table 2.

Site Descriptions

All the sentinel well sites (Figure 1, Table 1) are located in urban areas. The Trumbull well nest is located in a parking lot at the intersection of Trumbull Avenue SE and Mesilla Street SE. The surrounding neighborhood has a lot of vehicle traffic. The Cesar Chavez well nest is located behind the Cesar E. Chavez Community Center, and the site is separated from vehicle traffic. The Southern well nest is located east of Phil Chacon Park, and the site is generally separated from vehicle traffic. The VA well nest is located next to Randolph Road SE, which has a lot of vehicle traffic.

Sampling Period

Samplers were deployed between October 7, 2019 and October 10, 2019. Environmental samples were collected between January 6, 2020 and January 9, 2020.

Sampling Protocols

Samples were collected using dual membrane diffusion samplers following USGS sampling protocols outlined in the National Field Manual for the collection of water-quality data (U.S. Geological Survey, variously dated). The quality assurance samples collected include a source solution blank, trip blank, field blanks, equipment blank, matrix spike and replicate.

Sample Analysis

To improve data quality, ensure timely delivery of the data and improve quality assurance documentation, in November 2018, USGS began using the USGS National Water Quality Laboratory (NWQL) for organic compounds analyses. All samples collected quarterly at the USGS KAFB EDB sentinel wells are being analyzed by the NWQL. Organic compound analysis is completed by NWQL using method O-4127-96 (Connor and others, 1998). Effective October 1, 2019, laboratory reporting thresholds were modified to reflect detection limits of EPA Method SW8260C and EPA Method SW8011. The method is approved to be in conformance with the National Environmental Laboratory Accreditation Program (NELAP).

Data Review

The data presented herein have been reviewed and approved by USGS staff, as outlined in the work plan (Travis, 2017). Results are reported in Table 2. No detections were found in the environmental samples. The data reviewed within this memorandum were in accordance with the quality assurance requirements outlined in the work plan.

The data are publicly available via NWIS at <https://waterdata.usgs.gov/nwis/>. If you have any questions regarding the data, please feel free to contact me at 505-830-7946 or klwilkins@usgs.gov.

Sincerely,

KATE WILKINS
Digitally signed by KATE
WILKINS
Date: 2020.04.28 11:41:37
-06'00'

Kate Wilkins
Project Chief
Hydrologic Technician
USGS New Mexico Water Science Center

cc: Sheen Kottkamp, AFCEC
Ben Moayyad, USACE
Bernard Bockisch, EA Engineering
Stuart Norton, USGS
Kimberly Beisner, USGS
Michael Johnson, USGS

References:

Connor, B.F., Rose, D.L., Noriega, M.C., Murtagh, L.K., and Abney, S.R., 1998, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory--Determination of 86 volatile organic compounds in water by gas chromatography/mass spectrometry, including detections less than reporting limits: U.S. Geological Survey Open-File Report 97-829, 78 p.

Travis, R., 2017, Work Plan For The Quarterly Sampling of the Kirtland Air Force Base Bulk Fuels Facility Plume Sentinel Wells. 31 p.

U.S. Geological Survey, variously dated, National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1-A10, available online at <http://pubs.water.usgs.gov/twri9A>.

Figure 1: Location of Kirtland Air Force Base Bulk Fuels Facility, USGS sentinel wells, and community water supply wells, Albuquerque and Kirtland Air Force Base, New Mexico.

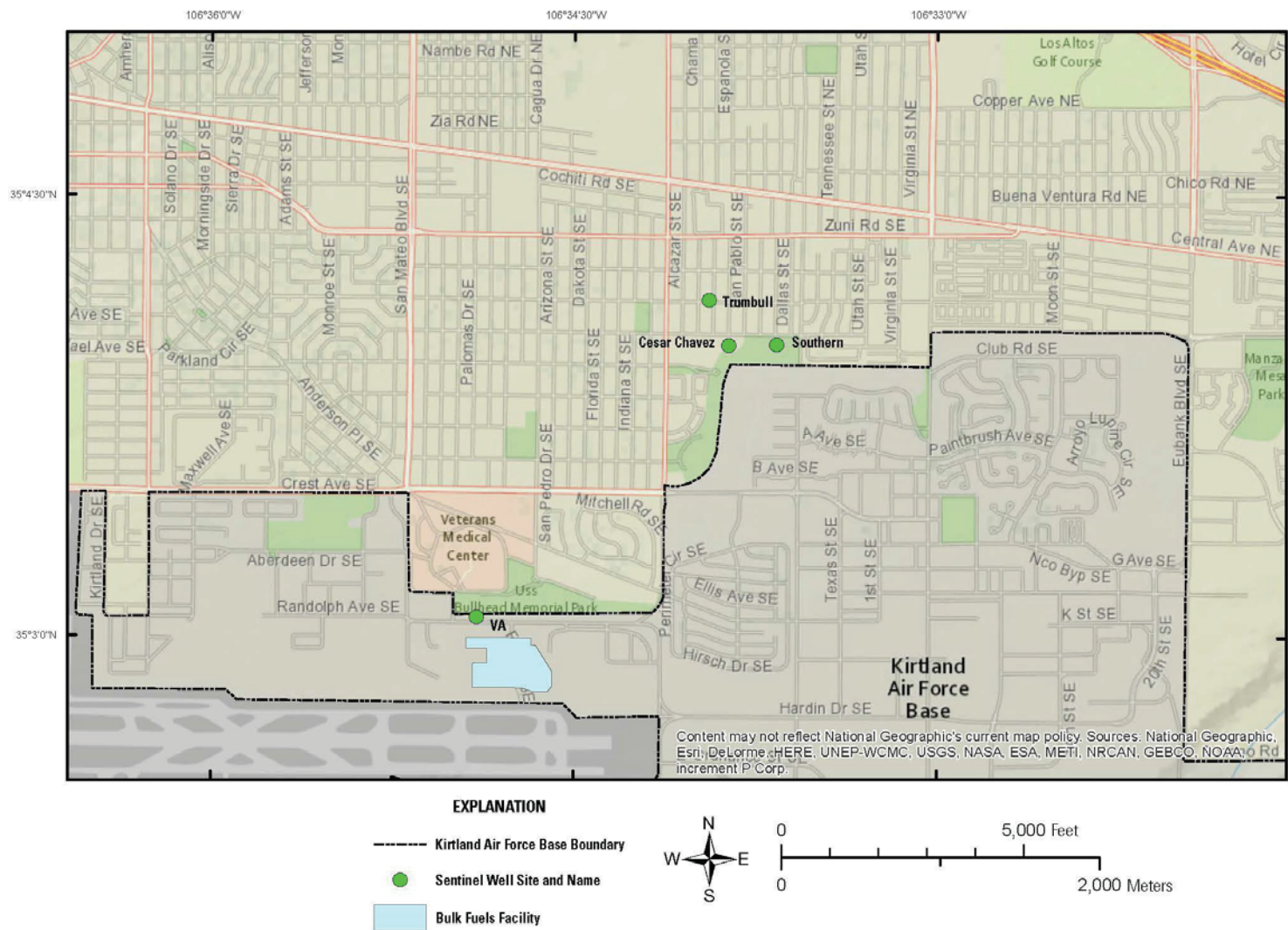


Table 1: Sentinel Well Site Information

Site Identification Number	Station Name	Construction Completion Date	Well Depth (feet below land surface (bls))	Well Diameter (inches)	Screened Interval (feet bls)
Cesar Chavez Sentinel Wells					
350359106335201	10N.04E.30.134A CESAR CHAVEZ SENTINEL WELL 1A	11/20/2014	519	2.5	459 - 509
350359106335202	10N.04E.30.134B CESAR CHAVEZ SENTINEL WELL 1B	10/28/2014	620	2.5	580 - 600
350359106335203	10N.04E.30.134C CESAR CHAVEZ SENTINEL WELL 1C	10/28/2014	1,040	2.5	1,000 - 1,020
350359106335204	10N.04E.30.134D CESAR CHAVEZ SENTINEL WELL 1D	10/28/2014	1,338	2.5	1,298 - 1,318
Southern Sentinel Wells					
350359106333901	10N.04E.30.144A SOUTHERN SENTINEL WELL 1A	12/11/2014	538	2.5	468 - 518
350359106333902	10N.04E.30.144B SOUTHERN SENTINEL WELL 1B	3/22/2015	610	2.5	570 - 590
350359106333903	10N.04E.30.144C SOUTHERN SENTINEL WELL 1C	3/22/2015	1,090	2.5	1,050 - 1,070
350359106333904	10N.04E.30.144D SOUTHERN SENTINEL WELL 1D	3/22/2015	1,400	2.5	1,360 - 1,380
Trumbull Sentinel Wells					
350408106335601	10N.04E.30.1243A TRUMBULL-NEST-1A	4/18/2013	522	2.5	437 - 467; 467 - 517
350408106335602	10N.04E.30.1243B TRUMBULL-NEST-1B	4/18/2013	1,018	2.5	998 - 1,008
350408106335603	10N.04E.30.1243B TRUMBULL-NEST-1C	4/18/2013	1,432	2.5	1,412 - 1,422
VA Sentinel Wells					
350304106345401	10N.03E.36.1433A T10N.R03E.S36.1433A Shallow VA Sentinel Well	4/26/2016	660	3	620 - 640
350304106345402	10N.03E.36.1433B T10N.R03E.S36.1433A Middle VA Sentinel Well	4/26/2016	860	3	820 - 840
350304106345403	10N.03E.36.1433C T10N.R03E.S36.1433A Deep VA Sentinel Well	4/26/2016	1,040	3	1,000 - 1,020

Table 2
Groundwater Analytical Results for Sentinel Wells, January - March 2020

Site Name:		Cesar Chavez 1A	Cesar Chavez 1B	Cesar Chavez 1C	Cesar Chavez 1D
Station Identification:		350359106335201	350359106335202	350359106335203	350359106335204
Sample Date:		01/07/2020 1400	01/07/2020 1200	01/07/2020 1300	01/07/2020 1100
Sample Type:		Environmental	Environmental	Environmental	Environmental
Sample Depth (ft bgs):		496	591	1002	1303
Site Elevation (ft above sea level):		5350.33	5350.23	5350.23	5350.23

Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	Project Screening Level ^c	Result	Val Qual	MRL	Result	Val Qual	MRL	Result	Val Qual	MRL	Result	Val Qual	MRL
EDB	USGS Method O-4127-96 (µg/L)	1,2-dibromoethane ^d	0.1	0.05	0.05	<0.028	U	0.028	<0.028	U	0.028	<0.028	U	0.028	<0.028	U	0.028
VOCs		Benzene	10	5	5	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Ethylbenzene	750	700	700	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Naphthalene	30	NS	30	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Toluene	750	1,000	750	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Total Xylenes	620	10,000	620	<1.8	U	1.8	<1.8	U	1.8	<1.8	U	1.8	<1.8	U	1.8

Site Name:		Southern 1A	Southern 1B	Southern 1C	Southern 1D
Station Identification:		350359106333901	350359106333902	350359106333903	350359106333904
Sample Date:		01/08/2020 1400	01/08/2020 1300	01/08/2020 1200	01/08/2020 1100
Sample Type:		Environmental	Environmental	Environmental	Environmental
Sample Depth (ft bgs):		506	580	1062	1370
Site Elevation (ft above sea level):		5363.20	5363.10	5363.10	5363.10

Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	Project Screening Level ^c	Result	Val Qual	MRL	Result	Val Qual	MRL	Result	Val Qual	MRL	Result	Val Qual	MRL
EDB	USGS Method O-4127-96 (µg/L)	1,2-dibromoethane ^d	0.1	0.05	0.05	<0.028	U	0.028	<0.028	U	0.028	<0.028	U	0.028	<0.028	U	0.028
VOCs		Benzene	10	5	5	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Ethylbenzene	750	700	700	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Naphthalene	30	NS	30	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Toluene	750	1,000	750	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Total Xylenes	620	10,000	620	<1.8	U	1.8	<1.8	U	1.8	<1.8	U	1.8	<1.8	U	1.8

Site Name:		Trumbull 1A	Trumbull 1B	Trumbull 1C
Station Identification:		350408106335601	350408106335602	350408106335603
Sample Date:		01/06/2020 1300	01/06/2020 1200	01/06/2020 1100
Sample Type:		Environmental	Environmental	Environmental
Sample Depth (ft bgs):		484	1000	1414
Site Elevation (ft above sea level):		5337.76	5337.76	5337.76

Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	Project Screening Level ^c	Result	Val Qual	MRL	Result	Val Qual	MRL	Result	Val Qual	MRL
EDB	USGS Method O-4127-96 (µg/L)	1,2-dibromoethane ^d	0.1	0.05	0.05	<0.028	U	0.028	<0.028	U	0.028	<0.028	U	0.028
VOCs		Benzene	10	5	5	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Ethylbenzene	750	700	700	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Naphthalene	30	NS	30	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Toluene	750	1,000	750	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Total Xylenes	620	10,000	620	<1.8	U	1.8	<1.8	U	1.8	<1.8	U	1.8

Table 2
Groundwater Analytical Results for Sentinel Wells, January - March 2020

			Site Name:			VA Shallow			VA Middle			VA Deep		
			Station Identification:			350304106345401			350304106345402			350304106345403		
			Sample Date:			01/09/2020 1300			01/09/2020 1200			01/09/2020 1100		
			Sample Type:			Environmental			Environmental			Environmental		
			Sample Depth (ft bgs):			622			820			1000		
			Site Elevation (ft above sea level):			5340.668			5340.668			5340.668		
Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	Project Screening Level ^c	Result	Val Qual	MRL	Result	Val Qual	MRL	Result	Val Qual	MRL
EDB	USGS Method O-4127-96 (µg/L)	1,2-dibromoethane ^d	0.1	0.05	0.05	<0.028	U	0.028	<0.028	U	0.028	<0.028	U	0.028
VOCs		Benzene	10	5	5	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Ethylbenzene	750	700	700	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Naphthalene	30	NS	30	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Toluene	750	1,000	750	<0.6	U	0.60	<0.6	U	0.60	<0.6	U	0.60
		Total Xylenes	620	10,000	620	<1.8	U	1.8	<1.8	U	1.8	<1.8	U	1.8

^a NMWQCC numeric standards per the NMAC Title 20.6.2.3101A, Standards for Ground Water of 10,000 mg/L Total Dissolved Solids Concentration or Less (NMAC 2004).
^b EPA National Primary Drinking Water Regulations, MCLs and Secondary MCLs, Title 40CFR Part 141, 143 (May 2009).
^c The project screening level was selected to satisfy the requirements of the Kirtland AFB Hazardous Waste Permit Number NM9570024423 as the lowest of (1) NMWQCC numeric standard or (2) EPA MCL.
^d 1,2-dibromoethane is reported as a MDL based on NELAP certification. The MDL for 1,2-dibromoethane is 0.014 µg/L.

µg/L = microgram per liter
bgs = below-ground surface
CFR = Code of Federal Regulations
EDB = ethylene dibromide (1,2-dibromoethane)
EPA = U.S. Environmental Protection Agency
ft = foot/feet
MCL = maximum contaminant level
MRL = USGS National Water Quality Laboratory Method Reporting Level
MDL = USGS National Water Quality Laboratory Method Detection Limit
NMAC = New Mexico Administrative Code
NMWQCC = New Mexico Water Quality Control Commission
Val Qual = validation qualifier
VOC = volatile organic compound

Results:
< = less than the limit of quantification (numerical result)

Qualifiers:
Val Quals based on criteria set by NWQL.
U = A result that is either not detected or below the Method Detection Level.

References:
New Mexico Administrative Code. 2004. State of New Mexico, Title 20.6.2 Ground and Surface Water Protection.

APPENDIX E-6

Explanations from Previous Reports

LIST OF ACRONYMS AND ABBREVIATIONS

%	percent
µg/L	micrograms per liter
AFB	Air Force Base
amsl	above mean sea level
BFF	Bulk Fuels Facility
BTEX	benzene, toluene, ethylbenzene, and total xylenes
DMS	dual-membrane sampler
DO	dissolved oxygen
EDB	ethylene dibromide
GWM	groundwater monitoring
GWTS	groundwater treatment system
mg/L	milligrams per liter
PSL	project screening limit
Q1	first quarter of the year (January 1 through March 31)
Q2	second quarter of the year (April 1 through June 30)
Q4	fourth quarter of the year (September 1 through December 31)
REI	reference elevation interval
RPD	relative percent different
SE	southeast
VA	Veteran's Affairs

1. EXPLANATION OF REFERENCE ELEVATION INTERVAL DESIGNATIONS

The following text was initially provided in the Fourth Quarter (Q4) 2016 Quarterly and Annual Report (Kirtland Air Force Base [AFB], 2017a):

In previous reports, the distribution of groundwater contamination had been described in terms of shallow, intermediate, and deep intervals within the ethylene dibromide (EDB) plume. These intervals were broadly defined by permeable zones in which EDB migration had been identified, and these intervals have been used to guide the vertical design of monitoring wells. However, with the implementation of the groundwater treatment system (GWTS) interim measure north of Ridgecrest Drive, Southeast (SE), combined with the anticipated continuing water table rebound of approximately 2 feet per year for the next decade, these definitions of shallow, intermediate, and deep become problematic. Not all contamination will move upward with the rising water table; therefore, the base of the deep zone is expected to remain somewhat fixed. In addition, as the water table rises, the plume is expected to increase in thickness over time and impact a shallower layer of the aquifer that is not present today. For these reasons, the continued use of shallow, intermediate, and deep nomenclature will be inadequate to accurately describe changing vertical plume concentrations and changes in the plume related to the GWTS operation.

To assess performance of the GWTS, particularly regarding plume capture and plume collapse, several methods of analysis that compare variations in groundwater flow paths and contaminant concentration trends will be employed both horizontally and vertically. Horizontally, visualizing how concentrations vary in map view, from upgradient to downgradient, around Bullhead Park and the Veteran's Affairs (VA) Medical Center, has not changed as these features are fixed. However, in the vertical dimension, shallow, intermediate, and deep are changing with time and are not fixed. Therefore, to fix these layers to accommodate consistent performance analysis in the vertical dimension, and to provide for future addition of new layers (i.e., a shallower zone) as the water table rises, the concept of reference elevation interval (REI) is introduced in this Report. In concept, what were once the deep, intermediate, or shallow zones will now be represented as layers in cake (e.g., with a bottom elevation and a top elevation). Because of the nature of the permeable zones, the bottom and top undulate somewhat rather than being perfectly flat; however, the plume can still be visualized in terms of these layers. As the water table rises, layers can be added to the top. Because these fixed layers are defined, vertical water levels and vertical contaminant concentrations can be compared over time and always to the same references. This will allow meaningful analysis of trends that demonstrate plume capture and collapse with consistent reference points. The three REIs are 4857, 4838, and 4814, corresponding to the historically identified shallow, intermediate, and deep zones, respectively. Table 3-4 includes the REI assignments for the groundwater monitoring (GWM) network.

The association of the former groundwater zones and REIs relative to the depth of well screen intervals within the GWM network is summarized below:

- **REI 4857** is currently the uppermost interval so named because the GWM wells comprising this dataset are screened across the elevation of 4,857 feet above mean sea level (amsl). Data collected or measured from these GWM wells are representative of the hydrogeologic conditions of this zone that is bounded on top by the water table surface and bounded on the bottom by a surface that intercepts the bottom of the REI 4857 well screens. The screen elevations for the GWM wells within this dataset range from 4,879 feet amsl down to 4,827 feet amsl, and include all wells formerly categorized as shallow, and two new GWM wells completed in December 2016 (KAFB-106235-463 and KAFB-106236-461). These two new wells were not sampled in Q4

2016. A total of 62 wells comprise this dataset, eight of which are included in both the REI 4857 and REI 4838 datasets: KAFB-106001, KAFB-106015, KAFB-106017, KAFB-106018, KAFB-106019, KAFB-106021, KAFB-106022, and KAFB-106025. The reason for this double assignment is due to well screen construction lengths (25-30 feet) and, thus, overlapping screen intervals in REI 4838 by more than 5 feet. This means that samples collected from these eight wells are representative of REI 4857, and are also representative of at least a third of REI 4838. Of note, a majority of the REI 4857 wells were designed to be water table wells with partially submerged screens, having relatively long screen lengths ranging from 20 to 30 feet. However, due to rising groundwater elevations, only 14 GWM wells included in REI 4857 remained with partially submerged screens as of Q4 2016.

- **REI 4838** directly underlies REI 4857 and is so named because all but one of the screens of the GWM wells comprising this dataset are screened across the elevation of 4,838 feet amsl. Data collected or measured from these GWM wells are representative of the hydrogeologic conditions of this zone that is bounded on top by the bottom surface of REI 4857 and bounded on the bottom by a surface that intercepts the mid-point between the REI 4838 screens and the underlying REI 4814 screens. The screen elevations for the GWM wells within this dataset range from 4,848 feet amsl down to 4,800 feet amsl, and includes all but two of the wells previously categorized as intermediate; the exceptions are GWM wells KAFB-106230 and KAFB-106232, which are now included in the REI 4814 dataset due to the depth of their screens. Eight wells are included in both in REI 4857 and REI 4838 datasets, as discussed above. The REI 4838 GWM well dataset contains one anomalous well assignment (KAFB-106037). This well, having a screened elevation between 4,815 and 4,800 feet amsl, was previously assigned as a deep well. However, it is part of the only clustered well group having four wells (all other have either two or three). Having three REIs meant excluding one well from this system in the capture analyses. KAFB-106037 was chosen over KAFB-106036 because analysis of historical groundwater level measurements from this clustered well group showed that it was in better communication with the nearby interim measure extraction well KAFB-106228. KAFB-106037 was placed in REI 4838 because the deepest well in the clustered well group (KAFB-106212) is screened below extraction well KAFB-106228, which necessitated its inclusion in the underlying REI 4814. A total of 46 GWM wells are included in REI 4838.
- **REI 4814** directly underlies REI 4838 and currently represents the lowest elevation dataset. This dataset includes all but one well (KAFB-106037) previously designated as deep, as well as the two previously designated intermediate wells (KAFB-106230 and KAFB-106232), as described above. The screened intervals for GWM wells within this dataset cover a large vertical extent of the aquifer ranging from an elevation of 4,824 feet amsl down to an elevation of 4,720 feet amsl. Not all of the screened intervals overlap, prohibiting the assignment of a reference elevation common to all wells. There are 16 wells with screen elevations ranging from 4,824 to 4,798 feet amsl, while 20 well screens fall within the 4,781- TO 4,753 feet amsl range, and three well screens from 4,740- to 4,720 feet amsl. A reference elevation of 4,814 feet amsl was chosen as an identifier for this interval because it passes through the screens of the uppermost group of wells in the dataset allowing for the addition of a deeper REI if required in the future. Data collected or measured from these GWM wells are representative of the hydrogeologic conditions of this zone that is bounded on top by the bottom surface of REI 4838 and bounded on the bottom by a surface that intercepts the bottom of the REI 4814 well screens. There are 39 GWM wells installed in REI 4814.

2. DISCUSSION OF FIELD PARAMETERS FROM PASSIVE SAMPLING

2.1 COMPARISON OF FIELD PARAMETERS BETWEEN PASSIVE AND LOW-FLOW SAMPLING

The following text was initially provided in the Second Quarter (Q2) 2017 Quarterly Report (Kirtland AFB, 2017b):

Upon initiating the Q2 2017 passive sampling, field parameter measurements were notably skewed from historical measurements. Following the collection of field parameters from 13 GWM well locations with passive samplers, it was apparent that field parameter data collected from the passive samplers were not representative of the groundwater conditions due to the pore diameter of the passive sampling membranes, and continued collection of field parameters from passive samplers was terminated pending discussion with the New Mexico Environment Department. Therefore, field parameters were only collected from wells that utilized low-flow sampling techniques (all located south of Gibson Boulevard SE).

2.2 PASSIVE SAMPLER EVALUATION

The following text was initially provided in the Q4 2017 Quarterly and Annual Report (Kirtland AFB, 2018a):

A demonstration was performed in Q4 2017 to assess a proposed transition from collecting grab samples using a low-flow methodology (Bennett pump sampling systems) to a passive sampling technique (i.e., dual-membrane sampler [DMS]). This demonstration consisted of comparing low-flow sample analytical results and passive sample analytical results for EDB; benzene, toluene, ethylbenzene, and total xylenes (BTEX); and inorganic compounds from groundwater samples collected from five source area wells (Figure E-7-1). The results are reported in Table 3-14, and shown on Figure 3-23.

In addition, field parameters were compared between the low-flow purge water using a YSI Pro Plus multiparameter probe with a flow-through cell, and measurements taken *in situ* within the well using an Aqua TROLL[®] 600 multiparameter sonde deployed within the well screen depth (Table 3-15). If passive sampling is approved for source area wells, reliable field parameter measurements will not be achieved from the DMSs and, therefore, an *in situ* method may be proposed if continued field parameter collection is necessary.

The analytical results from this demonstration are summarized below. In accordance with the work plan (Kirtland AFB, 2017c), the low-flow sample data are used for reporting purposes. The sample results from the DMSs are only used for demonstration purposes, and a relative percent difference (RPD) was calculated for each analyte within each sample (Table 3-14). The approved Quality Assurance Project Plan acceptable RPD for duplicate groundwater samples is 35 percent (%) for analytical results and was, therefore, used herein to determine a comparable threshold value. The RPD acceptance threshold of 35% is relevant when comparing two samples utilizing the same sampling methodology. A comparison of results collected via two different sampling methods, one discrete (DMS) and one indiscrete (Bennett Pump), may result in widely varying RPDs. The 35% threshold has been selected to illustrate that the two methods provide results that are comparable to two samples obtained using the same sampling methodology. Analytical results and RPDs are summarized below:

- EDB was detected in all groundwater samples collected using both low-flow and passive technologies. The RPD for EDB from samples collected from KAFB-106005 was 10%. The EDB concentrations from the other four wells in the demonstration ranged from 0.85 to 5.9 micrograms per liter ($\mu\text{g/L}$), with RPDs ranging from 48 to 175%; above the acceptable 35% RPD.
- Benzene was detected in all groundwater samples (at concentrations above the project screening limit [PSL] of 5 $\mu\text{g/L}$) using both low-flow and passive technologies. The RPD for the benzene results was 0% for KAFB-106008 (both methods had a benzene concentration of 2,300 $\mu\text{g/L}$) and the RPD was relatively low for two other wells (KAFB-106005 and KAFB-106006) at 26 and 31%, respectively. The RPD for benzene from groundwater samples collected from KAFB-106014 and KAFB-106059 was 64 and 121%, respectively; above the acceptable 35% RPD.
- Toluene was detected or estimated in all groundwater samples collected using both low-flow and passive technologies. The RPD for toluene ranged from 16 to 195%, and was below the acceptable 35% RPD in two wells (KAFB-106005 and KAFB-106008).
- Ethylbenzene was detected in all groundwater samples collected using both low-flow and passive technologies. The RPD for ethylbenzene was 0% in KAFB-106006 (both methods had an ethylbenzene concentration of 3 $\mu\text{g/L}$) and the RPD was relatively low for KAFB-106005 (19%). The ethylbenzene concentrations from the other three wells in the demonstration ranged from 45 to 470 $\mu\text{g/L}$, with RPDs ranging from 39 to 164%; above the acceptable 35% RPD.
- Total xylenes were detected all groundwater samples collected using both low-flow and passive technologies, with the exception of the DMS sample from KAFB-106006, precluding the ability to calculate an RPD from that well. The RPD for total xylenes was 17% from KAFB-106005, within the 35% RPD. The RPD was above 35% in the remaining wells (KAFB-106008, KAFB-106014, and KAFB-106059).

It should be noted that while some RPD values for EDB and benzene exceeded the 35% threshold, no significant differences in analyte concentrations were observed between either sampling method or the respective analyte PSL. Both methods yielded comparable results that were either both below or above the PSL. The only exception to this was the EDB results from well KAFB-106006. At this well, the low-flow sampling method resulted in an estimated value below the PSL (0.014 $\mu\text{g/L}$) while the passive sampling method resulted in a value above the PSL (0.21 $\mu\text{g/L}$). When comparing plume maps utilizing either the passive sampling data or the low-flow sampling data, only minimal shifts of some internal isocontours occur between the two sample types (Figure 3-23); however, the overall contoured boundary (specified as the PSL concentration) generally remained unchanged.

- Inorganic concentrations observed in the groundwater samples collected using the two methods were generally in agreement, with only a few samples that exceeded the 35% RPD, as follows:
 - Dissolved manganese in KAFB-106005 (40% RPD) and KAFB-106014 (46% RPD)
 - Nitrate/nitrite nitrogen in KAFB-106005 (156% RPD) and KAFB-106006 (40% RPD)
 - Dissolved iron in KAFB-106006 (44% RPD)
 - Chloride in KAFB-106014 (80% RPD).

The results from the field parameter demonstration are summarized below. In accordance with the work plan (Kirtland AFB, 2017c), the low-flow purge water data are used for reporting purposes as measured using the YSI Pro Plus. The field parameters from the Aqua TROLL[®] 600 multiparameter sonde are used for demonstration purposes only, and an RPD was calculated for each parameter within each well (Table 3-15). An RPD of 50% was deemed acceptable for the field parameters, and is conservative given the variability and relatively low concentrations of dissolved oxygen (DO) and turbidity. In accordance with the work plan (Kirtland AFB, 2017c), field parameters were collected until stabilization of three consecutive readings within 10% of one another was achieved, or a maximum of 1 hour. The final, stabilized field parameters measurements are used for reporting and demonstration purposes.

- Turbidity had relatively high RPDs, with the exception of KAFB-106014 at 20%; the remaining four wells had an RPD for turbidity ranging from 60 to 198%.
- Temperature was consistent between the two methods, with a maximum RPD of 12% (KAFB-106008).
- DO had relatively high RPDs in three wells (KAFB-106005, KAFB-106006, and KAFB-106008). DO had relatively low RPDs in KAFB-106014 (46%) and KAFB-106059 (28%). Although DO had relatively high RPDs in three of the demonstration wells, the results were all <1 milligrams per liter (mg/L), with the exception of the low-flow result from KAFB-106006 (2.94 mg/L).
- Specific conductivity was consistent between the two methods, with a maximum RPD of 43% (KAFB-106005).
- pH was consistent between the two methods, with a maximum RPD of 7% (KAFB-106059).
- Oxidation-reduction potential had relatively high RPDs in wells KAFB-106005 and KAFB-106059 at 55 and 54%, respectively. The other wells demonstrated relatively low RPDs for oxidation reduction potential, ranging from 5 to 29%.

These results indicate that passive sampling techniques (i.e., DMSs) generally provide results that are comparable to low-flow techniques for inorganic parameters. For volatile parameters, including EDB and BTEX, the results indicate good agreement between the two methods for relatively lower concentrations (e.g., KAFB-106005 and KAFB-106006); however, the higher concentrations of EDB and BTEX did not provide as comparable results between the two methods (e.g., KAFB-106008, KAFB-106014, and KAFB-106059). Plume delineation in the source area at the PSL for both EDB and benzene was comparable between both methods. Significant differences in concentration contours were only observed at concentrations exceeding the PSL by approximately three orders of magnitude (Figure 3-23). The only exception to the plume boundary was for the EDB PSL contour extending further south around KAFB-106006 due to the higher passive sampler concentration.

Previous demonstrations have shown generally comparable results between the two methods, with no consistent bias identified (i.e., neither method has consistently resulted in higher or lower concentrations). Furthermore, vertical profiles were evaluated in Q4 2016 and first quarter (Q1) 2017 (Kirtland AFB, 2017d) that demonstrated most source area wells that were evaluated did not have significant vertical gradients and, therefore, matching the passive sample depths to the low-flow sample depth, as was done for this demonstration, should not result in a significant sample bias. The two field parameter methods (low-flow purge water versus *in situ* measurements) resulted in agreement between the methods, with turbidity being the parameter with the greatest discrepancies. Temperature, pH, and specific conductivity

all revealed consistent measurements between the two methods. Although DO resulted in RPDs greater than 50% in three wells, all results were <1 mg/L, with the exception of the low-flow result from KAFB-106006 (2.94 mg/L).

3. REGIONAL GROUNDWATER GRADIENT

The following text was initially provided in the Q2 2018 Quarterly Report (Kirtland AFB, 2018b):

The GWM well network for the Kirtland AFB Bulk Fuels Facility (BFF) jet fuel dissolved-phase contamination is screened near the top of the saturated interval of the Santa Fe Group aquifer system. Historically, this aquifer system was the sole water supply for the Albuquerque metropolitan area and the groundwater flow was from north-northeast to south-southwest toward the Rio Grande (Bexfield and Anderholm, 2000). As the population increased, water demand also increased and the Santa Fe aquifer system experienced significant stress resulting in water level declines in excess of 100 feet near Kirtland AFB (Powell and McKean, 2014). Furthermore, the groundwater flow changed direction from south-southwest (toward the Rio Grande) to an easterly and northeasterly direction, away from the Rio Grande and toward the city and its drinking water supply wells (Powell and McKean, 2014). It is important to note the predominant groundwater flow direction, which the dissolved-phase constituents migrated along, was north-northeast. To reduce the use of groundwater while maintaining municipal water supply, in 2008, the Albuquerque Bernalillo County Water Utility Authority began diverting water from the San Juan-Chama Drinking Water Project. As a result, this surface water diversion has relieved the pumping stress of the Santa Fe aquifer system and groundwater levels have been rebounding approximately 3-4 ft per year, with rates varying depending upon the proximity to pumping wellfields or historical groundwater sinks (Beman, 2013). A more detailed discussion of the conceptual site model can be found in Section 7 of the RFI Report (Kirtland AFB, 2018c).

4. DESCRIPTION OF FORMER WELL DESIGNATIONS AND ASSOCIATED SAMPLING REGIMES

The following text was initially provided in the Q4 2018 Quarterly and Annual Report (Kirtland AFB, 2019):

In previous reports, GWM wells were assigned designations based either on their location related to the groundwater gradient and their spatial relationship to the dissolved-phase EDB or simply on their location (i.e., source area, etc.). However, due to the changing regional groundwater gradient (Section 3), these designations may no longer be appropriate or meaningful. In order to present analytical data and data summaries conveniently at the project scale, all GWM wells will hereafter be designated simply as “groundwater monitoring well,” except for newly added wells (which includes any newly installed wells), and the presentation of analytical data will be centered on analytes as opposed to former well designation. The former well designations and monitoring well objective are provided in Table 3-1 along with the current sampling regime by quarter. A brief description of the former well designations and the frequency of samples collected by designation is provided below.

Newly Added Wells—Newly added wells include both existing wells that are added to the GWM network as well as newly installed wells that have not completed four quarters of baseline sampling. Newly added GWM wells require a minimum of four consecutive quarters of baseline full-suite analytical sampling before receiving a designation that determines the long-term sampling regime. These wells have been added to define the plume boundary and provide additional water table monitoring due to the rising groundwater elevation.

Source Area Wells—Primarily located in the BFF south of Randolph Road SE and proximal to the spill site on-Base. Sampled during Q2 and Q4. These wells monitor the higher concentrations of dissolved-phase contaminants on-Base.

Downgradient Proximal Wells—Located north of Ridgecrest Drive SE surrounding the historical low concentration dissolved-phase EDB to the west, north, and east into the distal portion of the GWM network. Analytical data for these wells have been historically below the maximum contaminant level for EDB. Sampled every quarter. These wells assist in plume boundary definition.

Veterans Affairs (VA) Proximal Wells—Three sets of nested wells located between the historical dissolved-phase EDB south of Ridgecrest Drive SE and the Raymond G. Murphy VA Medical Center as a means to detect any potential contaminant migration toward the VA medical campus. Sampled every quarter. These wells provide additional wellhead protection monitoring for the VA supply well.

Signal Wells—Three wells located along the south side of Ridgecrest Drive SE to monitor BTEX and provide early indication if these dissolved-phase constituents are migrating from the source area into the interim measure Target Capture Zone. Sampled during Q2 and Q4.

GWM Wells—Primarily located north of Ridgecrest Drive SE within the historical footprint of the dissolved-phase EDB. Analytical data from these wells serve to define the volume and mass of the dissolved-phase EDB throughout the GWM network. Sampled in Q2 and Q4.

5. REFERENCES

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- Kirtland AFB. 2018b. *Quarterly Monitoring Report April-June 2018, Bulk Fuels Facility, SWMU ST-106/SS-111*. Prepared by EA Engineering, Science, and Technology, Inc., PBC for Kirtland AFB under USACE–Albuquerque District Contract No. W912DR-12-D-0006. September.
- Kirtland AFB. 2018c. *Phase I RCRA Facility Investigation Report, Bulk Fuels Facility Releases, Solid Waste Management Unit ST-106/SS-111*. Prepared by Sundance Consulting, Inc. for Kirtland AFB under USACE–Albuquerque District Contract No. W912PP-16-C-0002. August.
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- Powell, R.I. and S.E. McKean. 2014. Estimated 2012 groundwater potentiometric surface and drawdown from predevelopment to 2012 in the Santa Fe Group aquifer system in the Albuquerque metropolitan area, central New Mexico: U.S. Geological Survey Scientific Investigations Map 3301.

FIGURES

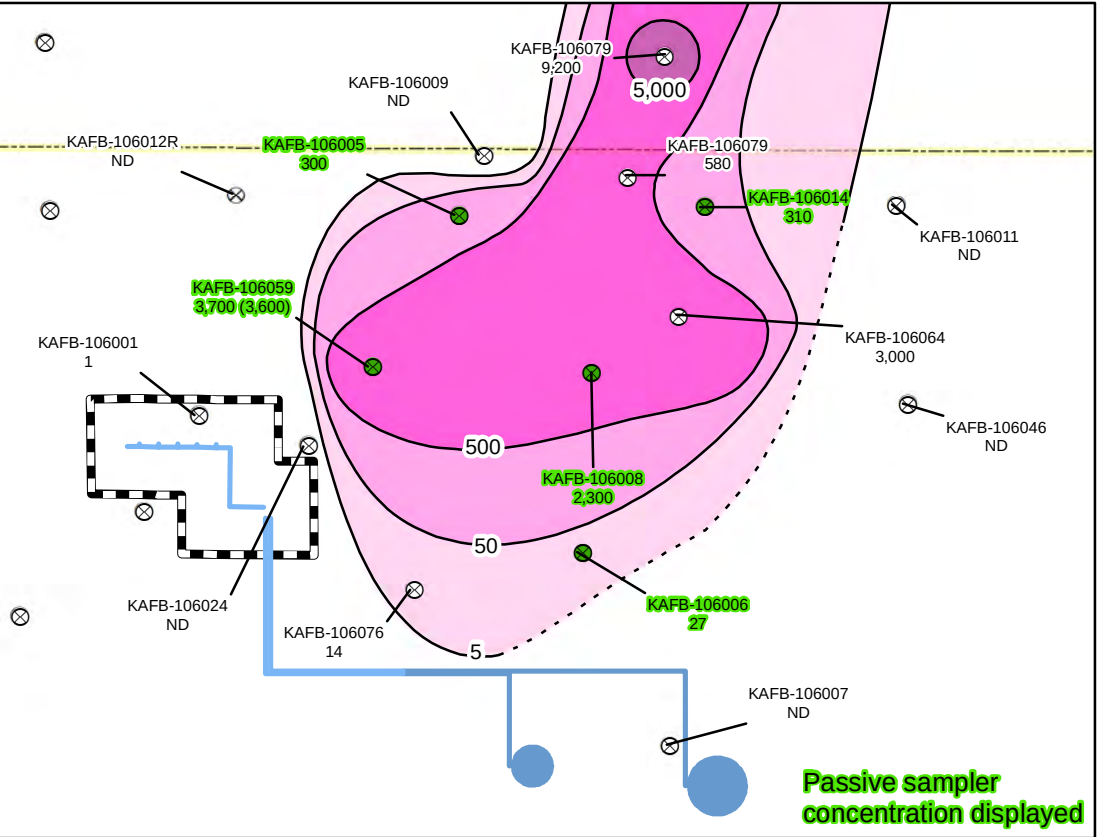
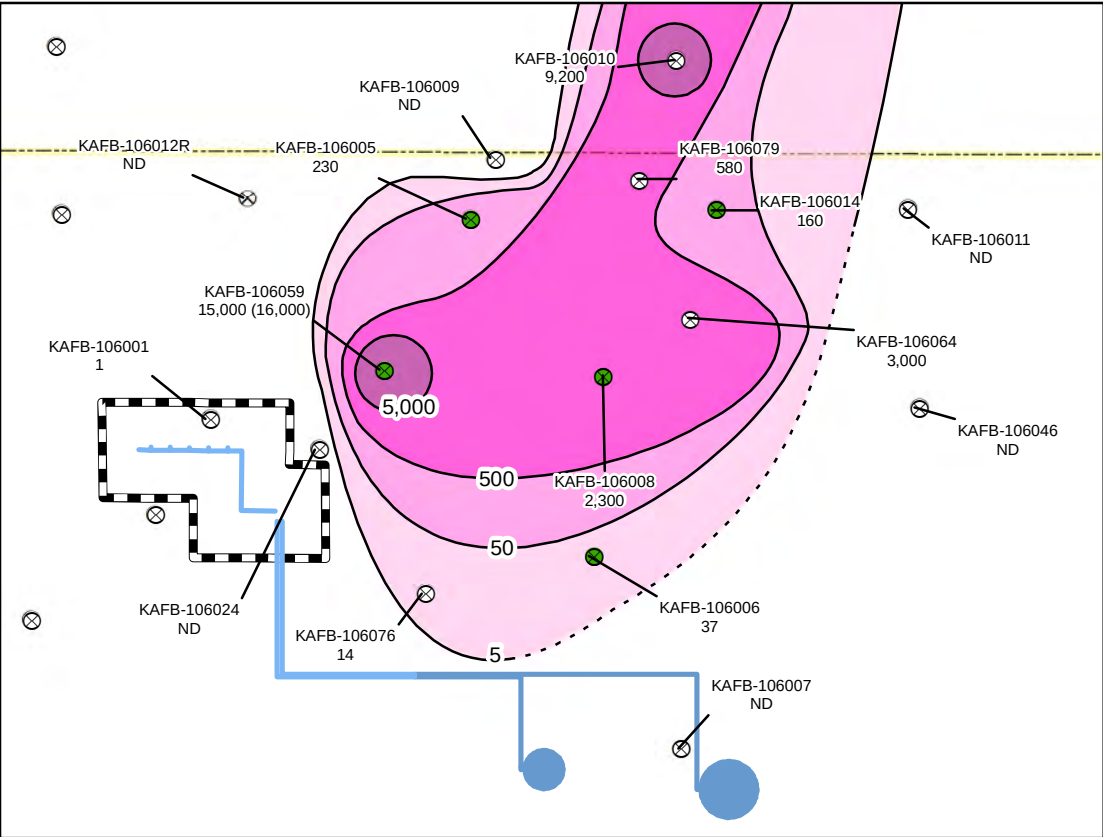
List of Appendix E-6 Figures

- Q4 2017 Figure 3-23 – Source Area Well Comparison between Low Flow Samples and Passive Samplers in REI 4857, Q4 2017

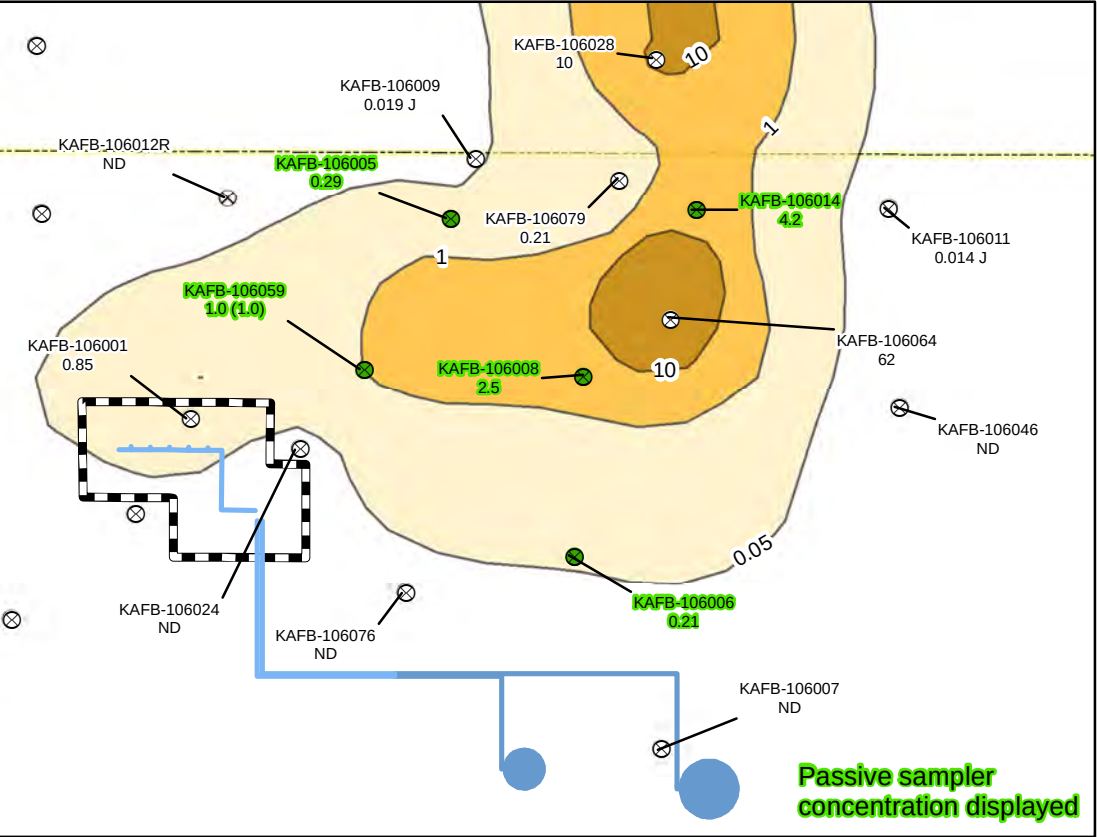
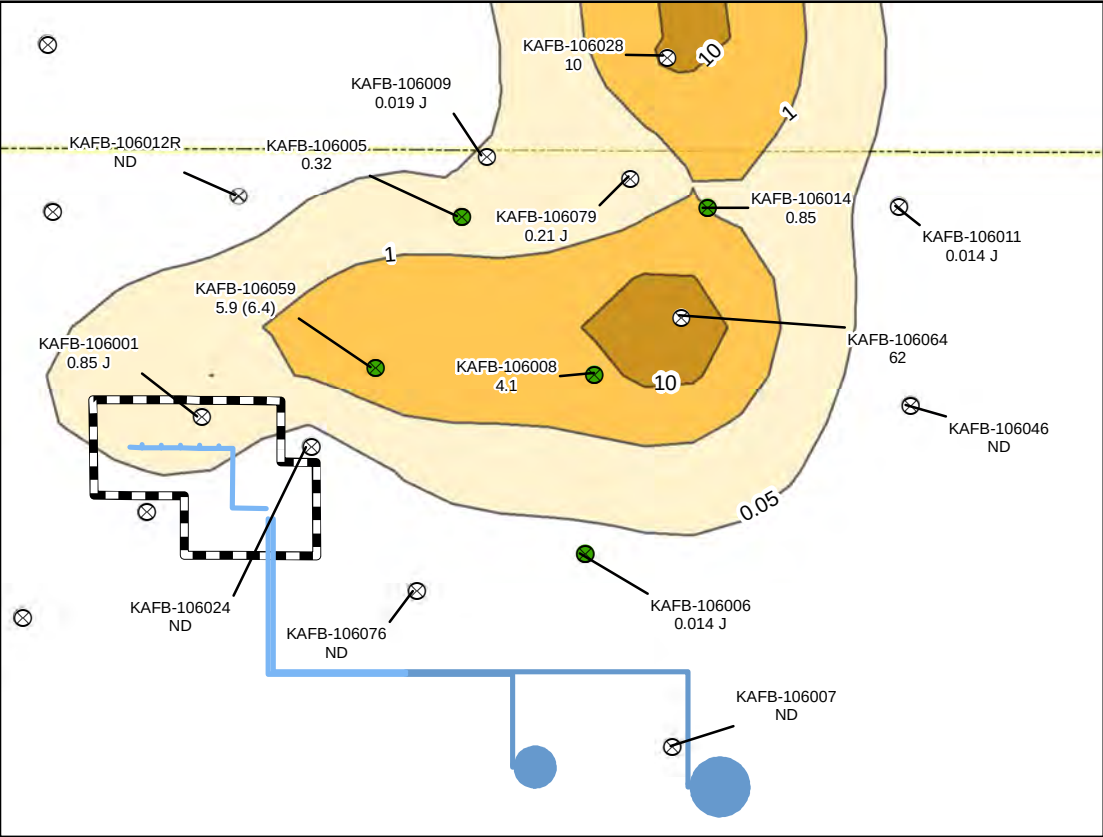
Low Flow Grab Samples

Passive Samples

Benzene



EDB



Legend

- ⊗ Groundwater Monitoring Well
- Groundwater Monitoring Well used in Source Area Comparison Study
- Former Buried Fuel Transfer Line
- Former Aboveground Fuel Transfer Line
- Installation Boundary
- Former Aboveground Storage Tank
- ▭ Source Area

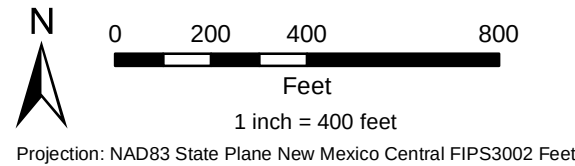
Benzene Concentration Range

- 5.0 (EPA MCL) - 50 µg/L
- 50 - 500 µg/L
- 500 - 5,000 µg/L
- 5,000 - 15,000 µg/L

EDB Concentration Range

- 0.05 (EPA MCL) - 1.0 µg/L
- 1.0 - 10 µg/L
- 10 - 50 µg/L

Notes:
Monitoring wells used in comparison study:
KAFB-106005, KAFB-106006, KAFB-106008,
KAFB-106014, and KAFB-106059.
EDB plume based on model generated with
C-Tech MVS Premier Version 9.94.
Values in parentheses are duplicate sample results.
All units are measured in µg/L.
µg/L = micrograms per liter
EDB = ethylene dibromide
ND = nondetect
Q4 = quarter 4
Qualifier(s):
J = denotes the analyte was positively identified,
but the associated numerical value is estimated.



QUARTERLY AND ANNUAL REPORT
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BULK FUELS FACILITY
SOLID WASTE MANAGEMENT UNIT ST-106/SS-111
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 3-23

SOURCE AREA WELL COMPARISON
BETWEEN LOW FLOW SAMPLES AND
PASSIVE SAMPLERS IN REI 4857, Q4 2017

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- Q4 2017 Table 3-14 – Comparison of Analytical Results between Bennett Pumps and Passive Samplers in Source Area Wells, Q4 2017
- Q4 2017 Table 3-15 – Comparison of Analytical Results between YSI and Aqua-Troll Parameter Readings for Source Area Wells, Q4 2017
- Q4 2018 Table 3-1 – Groundwater Monitoring Program

Table 3-4
Groundwater Monitoring Wells Included in Q4 2016 Monitoring Activities

Well Location ID	Reference Elevation Interval (ft AMSL)	Installation Date	Date Sampled	Screen Interval ^a (ft bgs)	Screen Interval ^a (AMSL)	Dedicated Sampling System (Yes/No)?	Screen Submerged (Yes/No)?	Estimated Pump Intake Depth (ft bgs) ^b	Analytical Suite ^c
Groundwater Monitoring Wells									
KAFB-3411	4857	11/10/1999	11/16/2016	461-504	4879-4836	No	Yes	505.31	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106001	4857/4838	11/10/2000	11/10/2016	483-508	4859-4834	No	Yes	487.83	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106002	4857	3/26/2002	10/20/2016	479-504	4861-4836	Yes	Yes	503.99	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106007	4857	11/14/2007	10/31/2016	484-509	4860-4835	Yes	Yes	504.07	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106015	4857/4838	10/14/2008	10/25/2016	485-510	4855-4830	No	Yes	490.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106016	4857	10/17/2008	10/24/2016	475-500	4864-4839	Yes	Yes	494.73	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106019	4857/4838	12/9/2008	11/7/2016	493-518	4859-4834	No	Yes	497.95	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106020	4857	12/19/2008	10/25/2016	482-507	4859-4834	No	Yes	484.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106021	4857/4838	6/7/2009	10/5/2016	458-483	4856-4831	No	Yes	460.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106022	4857/4838	6/12/2009	10/13/2016	462-487	4856-4831	Yes	Yes	483.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106023	4857	6/27/2009	11/10/2016	473-498	4856-4831	No	Yes	475.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106024	4857	8/3/2009	11/2/2016	481-506	4862-4837	Yes	Yes	502.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106025	4857/4838	12/5/2010	10/5/2016	465-490	4852-4827	No	Yes	467.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106027	4857	5/1/2010	10/24/2016	481-501	4864-4844	Yes	Yes	490.59	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106035	4857	8/9/2011	10/27/2016	452-482	4869-4839	No	No	474.35	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106036	4838	8/5/2011	10/27/2016	481-496	4841-4826	No	Yes	483.80	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106037	4838	7/14/2011	11/8/2016	507-522	4815-4800	No	Yes	509.21	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106039	4838	7/26/2011	10/27/2016	508-523	4840-4825	No	Yes	513.50	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106040	4814	7/19/2011	10/29/2016	530-545	4817-4802	No	Yes	536.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106042	4857	5/31/2011	11/10/2016	469-484	4855-4840	No	Yes	471.06	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106043	4814	5/18/2011	10/10/2016	543-558	4781-4766	Yes	Yes	550.60	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106044	4838	1/7/2011	10/24/2016	504-519	4842-4827	Yes	Yes	511.70 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106045	4814	1/17/2011	11/14/2016	528-543	4817-4802	No	Yes	535.80 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106046	4857	4/8/2011	10/31/2016	490-510	4863-4843	Yes	Yes	504.95	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106047	4838	4/8/2011	10/31/2016	512-527	4841-4826	Yes	Yes	519.55	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106048	4814	4/8/2011	11/15/2016	535-550	4818-4803	No	Yes	537.50	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106052	4857	7/25/2011	10/12/2016	449-479	4870-4840	Yes	Yes	472.28	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106053	4838	7/11/2011	10/12/2016	478-493	4841-4826	Yes	Yes	486.10	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106054	4814	6/28/2011	10/12/2016	504-519	4814-4799	Yes	Yes	511.60	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106055	4857	6/24/2011	10/12/2016	465-485	4860-4840	Yes	Yes	479.90	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106057	4838	6/19/2011	10/12/2016	484-499	4841-4826	Yes	Yes	493.05	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106058	4814	6/14/2011	10/13/2016	511-526	4815-4800	Yes	Yes	518.07	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106070	4857	5/23/2011	10/17/2016	460-485	4858-4833	Yes	Yes	474.85	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106071	4814	5/13/2011	10/18/2016	548-563	4773-4758	Yes	Yes	555.43	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106072	4838	5/1/2011	11/3/2016	475-495	4844-4824	No	Yes	477.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106073	4838	5/5/2011	11/14/2016	499-514	4841-4826	No	Yes	501.74	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106074	4814	4/28/2011	11/14/2016	569-584	4772-4757	No	Yes	571.56	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106075	4857	4/17/2011	10/19/2016	480-500	4860-4840	Yes	Yes	494.90	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106082	4857	4/5/2011	11/1/2016	472-492	4863-4843	No	Yes	474.10	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106083	4838	4/15/2011	11/7/2016	495-510	4840-4825	No	Yes	497.62	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106084	4814	4/5/2011	11/1/2016	566-581	4768-4753	No	Yes	571.50	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106085	4857	7/8/2011	10/17/2016	446-476	4871-4841	Yes	No	468.96	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106086	4838	6/26/2011	11/8/2016	476-491	4842-4827	No	Yes	478.03	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106087	4814	6/19/2011	11/8/2016	546-561	4771-4756	No	Yes	548.01	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106088	4857	6/3/2011	10/17/2016	460-480	4864-4844	Yes	Yes	475.06	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106089	4838	5/23/2011	10/15/2016	481-496	4843-4828	Yes	Yes	488.99	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106090	4814	5/23/2011	10/18/2016	555-570	4768-4753	Yes	Yes	562.41	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106091 ^e	4857	6/4/2011	10/13/2016 / 12/15/16	454-474	4860-4840	Yes	Yes	468.98	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106092	4838	5/24/2011	10/17/2016	474-489	4840-4825	Yes	Yes	480.35	VOCs, EDB, metals, anions, alkalinity, FP

Table 3-4
Groundwater Monitoring Wells Included in Q4 2016 Monitoring Activities

Well Location ID	Reference Elevation Interval (ft AMSL)	Installation Date	Date Sampled	Screen Interval ^a (ft bgs)	Screen Interval ^a (AMSL)	Dedicated Sampling System (Yes/No)?	Screen Submerged (Yes/No)?	Estimated Pump Intake Depth (ft bags) ^b	Analytical Suite ^c
KAFB-106093	4814	5/24/2011	10/13/2016	544-559	4770-4755	Yes	Yes	550.38	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106094	4857	6/26/2011	10/20/2016	484-504	4861-4841	Yes	Yes	499.11	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106095	4838	6/24/2011	10/19/2016	504-519	4841-4826	Yes	Yes	511.03	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106096	4814	6/7/2011	10/20/2016	576-591	4769-4754	Yes	Yes	583.75	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106103	4838	6/21/2011	10/18/2016	485-500	4844-4829	Yes	Yes	492.46	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106104	4814	6/15/2011	10/18/2016	510-525	4818-4803	Yes	Yes	517.41	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106105	4838	8/19/2011	11/2/2016	484-499	4838-4823	No	Yes	486.06	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106106	4857	8/10/2011	10/11/2016	454-484	4868-4838	Yes	Yes	476.17	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106107	4814	8/30/2011	11/10/2016	510-525	4812-4797	No	Yes	512.27	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106212	4814	2/17/2015	10/31/2016	543-558	4779-4764	No	Yes	453.97	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106213	4857	2/10/2015	10/13/2016	448-478	4877-4847	Yes	No	475.30	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106214	4838	3/9/2015	10/17/2016	478-493	4848-4833	Yes	Yes	490.08	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106215	4814	4/28/2015	11/7/2016	547-562	4779-4764	No	Yes	549.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106219	4857	3/12/2015	10/6/2016	463-493	4877-4847	Yes	No	475.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106220	4838	3/12/2015	10/6/2016	493-508	4847-4832	Yes	Yes	490.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106221	4814	6/5/2015	10/6/2016	561-576	4779-4764	Yes	Yes	554.40	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106225	4857	1/19/2015	10/11/2016	450-480	4876-4846	Yes	No	474.70	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106226	4838	2/3/2015	11/8/2016	480-495	4847-4832	No	Yes	482.14	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106227	4814	5/6/2015	10/11/2016	548-563	4780-4765	Yes	Yes	554.00	VOCs, EDB, metals, anions, alkalinity, FP
Downgradient Proximal Wells									
KAFB-106029	4857	6/4/2011	10/4/2016	451-471	4860-4840	No	Yes	465.35	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106030	4838	5/25/2011	10/4/2016	469-484	4842-4827	Yes	Yes	476.97	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106031	4814	5/25/2011	10/4/2016	496-510	4815-4801	Yes	Yes	502.49	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106032	4857	6/24/2011	10/26/2016	456-476	4862-4842	No	Yes	470.74	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106033	4838	6/24/2011	10/26/2016	477-492	4841-4826	No	Yes	480.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106034	4814	6/24/2011	10/26/2016	502-517	4817-4802	Yes	Yes	509.33	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106049	4857	5/13/2011	10/11/2016	457-477	4859-4839	No	Yes	471.50	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106050	4838	5/2/2011	10/11/2016	474-489	4842-4827	Yes	Yes	482.57	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106051	4814	4/26/2011	10/11/2016	500-515	4816-4801	Yes	Yes	508.87	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106201	4857	10/4/2012	10/10/2016	487-517	4868-4838	No	Yes	502.00 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106202	4838	9/23/2012	10/10/2016	517-532	4838-4823	Yes	Yes	521.77	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106203	4814	9/9/2012	10/10/2016	620-635	4735-4720	Yes	Yes	627.50 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106204	4857	8/29/2012	10/10/2016	462-492	4871-4841	No	No	477.55 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106205	4838	8/21/2012	10/10/2016	492-507	4841-4826	Yes	Yes	500.00 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106206	4814	8/9/2012	10/10/2016	593-608	4741-4726	Yes	Yes	600.85 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106207	4857	8/22/2012	10/25/2016	473-503	4872-4842	No	No	488.00 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106208	4838	8/16/2012	10/10/2016	503-518	4841-4826	No	Yes	510.50 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106209	4814	8/7/2012	10/25/2016	603-617	4741-4727	No	Yes	610.00 ^d	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106216	4857	2/10/2015	10/13/2016	455-485	4879-4849	Yes	No	475.08	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106217	4838	2/17/2015	11/7/2016	485-500	4849-4834	No	Yes	487.06	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106218	4814	5/26/2015	10/13/2016	552-567	4781-4766	Yes	Yes	554.58	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106222	4857	1/15/2015	10/12/2016	458-488	4875-4845	Yes	No	475.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106223	4838	2/17/2015	10/12/2016	488-503	4846-4831	Yes	Yes	489.50	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106224	4814	5/15/2015	10/12/2016	555-570	4780-4765	Yes	Yes	554.58	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106231	4857	9/8/2015	10/3/2016	440-475	4887-4852	Yes	No	470.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106232	4814	9/1/2015	10/3/2016	503-518	4824-4809	No	Yes	503.00	VOCs, EDB, metals, anions, alkalinity, FP
Veterans Affairs Proximal Wells									
KAFB-106003	4857	1/25/2003	10/24/2016	476-501	4861-4836	No	Yes	501.70	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106004	4857	1/4/2006	11/15/2016	484-509	4859-4834	No	Yes	488.77	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106013	4857	9/19/2008	11/9/2016	486-511	4862-4837	No	Yes	491.72	VOCs, EDB, metals, anions, alkalinity, FP

Table 3-4
Groundwater Monitoring Wells Included in Q4 2016 Monitoring Activities

Well Location ID	Reference Elevation Interval (ft AMSL)	Installation Date	Date Sampled	Screen Interval ^a (ft bgs)	Screen Interval ^a (AMSL)	Dedicated Sampling System (Yes/No)?	Screen Submerged (Yes/No)?	Estimated Pump Intake Depth (ft bgs) ^b	Analytical Suite ^c
KAFB-106097	4838	4/27/2011	11/9/2016	506-521	4842-4827	No	Yes	508.14	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106098	4814	4/17/2011	11/9/2016	531-546	4817-4802	No	Yes	533.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106099	4838	5/12/2011	11/2/2016	501-516	4842-4827	No	Yes	503.11	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106100	4814	5/3/2011	10/19/2016	526-541	4817-4802	No	Yes	533.47	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106101	4838	2/21/2011	10/24/2016	496-511	4841-4826	No	Yes	503.22	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106102	4814	3/3/2011	11/1/2016	521-534	4816-4803	No	Yes	526.00	VOCs, EDB, metals, anions, alkalinity, FP
Source Area Wells									
KAFB-106005	4857	1/22/2007	11/15/2016	479-504	4865-4840	No	Yes	484.04	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106006	4857	10/31/2007	11/8/2016	483-508	4866-4841	No	Yes	484.60	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106008	4857	11/21/2007	11/17/2016	486-511	4863-4838	No	Yes	491.10	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106009	4857	11/28/2007	11/3/2016	480-505	4865-4840	No	Yes	485.70	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106010	4857	12/6/2007	11/16/2016	483-508	4860-4835	No	Yes	485.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106011	4857	9/23/2008	10/24/2016	486-511	4864-4839	Yes	Yes	505.83	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106012R	4857	4/23/2014	11/8/2016	465-495	4877-4847	No	No	495.52	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106014	4857	10/3/2008	11/16/2016	486-511	4861-4836	No	Yes	491.17	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106028	4857	3/19/2012	10/19/2016	486-510	4863-4839	Yes	Yes	506.80	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106059	4857	4/7/2011	11/14/2016	483-503	4862-4842	No	Yes	488.60	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106060	4838	4/16/2011	10/20/2016	503-518	4842-4827	Yes	Yes	510.29	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106061	4814	4/8/2011	10/20/2016	573-588	4772-4757	Yes	Yes	580.20	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106062	4814	3/19/2011	10/24/2016	575-590	4773-4758	Yes	Yes	582.70	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106063	4838	4/8/2011	11/2/2016	505-520	4844-4829	No	Yes	510.38	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106064	4857	3/24/2011	11/15/2016	485-505	4863-4843	No	Yes	490.18	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106065	4838	5/17/2011	10/19/2016	508-523	4841-4826	Yes	Yes	515.35	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106066	4814	5/16/2011	10/19/2016	575-590	4774-4759	Yes	Yes	583.06	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106067	4857	5/11/2011	10/19/2016	485-505	4863-4843	Yes	Yes	499.99	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106068	4814	5/2/2011	10/17/2016	580-595	4767-4752	Yes	Yes	587.41	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106069	4838	5/1/2011	11/1/2016	506-521	4841-4826	No	Yes	508.08	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106076	4857	4/8/2011	11/21/2016	480-500	4865-4845	No	Yes	482.14	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106077	4838	4/8/2011	11/16/2016	504-519	4841-4826	No	Yes	506.00	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106078	4814	4/8/2011	11/16/2016	573-588	4772-4757	Yes	Yes	581.01	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106079	4857	3/22/2011	10/20/2016	483-503	4864-4844	Yes	Yes	498.78	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106080	4838	4/17/2011	10/20/2016	503-518	4843-4828	Yes	Yes	511.77	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106081	4814	4/16/2011	10/20/2016	574-589	4772-4757	Yes	Yes	582.34	VOCs, EDB, metals, anions, alkalinity, FP
Signal Wells									
KAFB-106017	4857/4838	11/19/2008	10/18/2016	482-507	4857-4832	Yes	Yes	501.56	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106018	4857/4838	11/24/2008	10/18/2016	476-501	4857-4832	Yes	Yes	495.70	VOCs, EDB, metals, anions, alkalinity, FP
KAFB-106038	4857	8/5/2011	11/15/2016	478-508	4870-4840	No	No	509.27	VOCs, EDB, metals, anions, alkalinity, FP

Table 3-4
Groundwater Monitoring Wells Included in Q4 2016 Monitoring Activities

^a Screen interval is rounded to the nearest foot.

^b Portable equipment sampling depths are estimated to the nearest half foot due to slight inaccuracies with the mechanism measuring the pump setting in the field

^c The analytical methods for EDB and VOCs are 8011 and 8260C, respectively. Metals analyses consisted of select total metals (arsenic, calcium, lead, potassium, magnesium, and sodium by analytical method 6020A/6010C and select and dissolved metals (iron and manganese) (6010C). Anions analysis consisted of ammonia by method 4500NH3B/C, bromide by method 300.0A, chloride by method 300.0A, nitrate/nitrite nitrogen by method 353.2, sulfate by method 300.0A, and sulfide by method 4500 S2CF. FP include pH, specific conductivity, dissolved oxygen, oxidation reduction potential, temperature, and turbidity.

^d Pump setting estimated as half-way between top and bottom of screen.

^e Due to fuel contamination at the location of well at KAFB-106091, the well was resampled for EDB, benzene, ethylbenzene, toluene, and total xylenes on December 15, 2016

AMSL = above mean sea level

bgs = below ground surface

EDB = ethylene dibromide

FP = field parameter

ft = foot/feet

ID = identification

Q = quarter

VOC = volatile organic compound

Table 3-14
Comparison of Analytical Results between Bennett Pumps and Passive Samplers in Source Area Wells, Q4 2017

		Well Location ID:		KAFB-106005			KAFB-106006			KAFB-106008		
			Sample Date:	10/23/2017	10/18/2017		10/19/2017			10/20/2017		
		Field Sample ID:		GW005-174	GW005-174D		GW006-174	GW006-174D		GW008-174	GW008-174D	
		Sample Collection Method:		Bennett Pump	DMS ^a		Bennett Pump	DMS ^a		Bennett Pump	DMS ^a	
Parameter	Analytical Method	Analyte	Project Screening Level ^d	Result ^b	Result ^b	Relative Percent Difference ^c	Result ^b	Result ^b	Relative Percent Difference ^c	Result ^b	Result ^b	Relative Percent Difference ^c
EDB	Method SW8011 (µg/L)	1,2-dibromoethane	0.05	0.32	0.29	10	0.014 J	0.21	175	4.1	2.5	48
VOCs	Method SW8260C (µg/L)	Benzene	5	230	300	26	37	27	31	2300	2300	0
		Ethylbenzene	700	29	35	19	3	3	0	120	190	45
		Toluene	750	4	3	29	7	0.6 J	168	1700	2000	16
		Xylenes, Total	620	63	75	17	2	< 1 U	NA	310	490	45
Total Metals	Method SW6010C (mg/L)	Calcium	NS	250	243	3	35.2	35.0	1	121	138	13
		Iron, dissolved	1.0	0.164 J	0.189 J	14	0.390 J	0.610	44	3.58	3.55 J	1
		Magnesium	NS	39.7	38.5	3	5.46	5.51	1	20.0	22.5	12
		Manganese, dissolved	0.2	0.136	0.0905	40	0.702	0.798	13	5.80	6.80	16
		Potassium	NS	5.42	5.22	4	2.08	2.01	3	3.31	3.54	7
		Sodium	NS	80.9	77.8	4	22.5	22.1	2	34.8	36.7	5
	Method SW6020A (mg/L)	Arsenic	0.01	< 0.0020 U	< 0.0020 U	NA	0.0010 J	< 0.0020 U	NA	0.00080 J	< 0.0020 U	NA
		Lead	0.015	0.00015 J	< 0.00025 U	NA	< 0.00025 U	< 0.00025 U	NA	< 0.00025 U	0.00030 J	NA
Anions	Method E300.0 (mg/L)	Bromide	NS	3.8	3.5	8	< 2.5 U	< 2.5 U	NA	1.9 J	2.0 J	5
		Chloride	250	211 J	217	3	9.7	9.3	4	16.0	16.8	5
		Sulfate	250	480	529	10	33.8	33.7	0	3.0 J	2.6 J	14
	Method E353.2 (mg/L)	Nitrate/Nitrite Nitrogen	10 ^e	0.50 J	0.062 J	156	0.10 J	0.15 J	40	< 0.10 U	< 0.10 U	NA
Alkalinity	Method SM2320B (mg/L)	Alkalinity, bicarbonate (as CaCO3)	NS	167 J	134	22	107	106	1	344	371	8
		Alkalinity, carbonate (as CaCO3)	NS	< 5.0 U	< 5.0 U	NA	< 5.0 U	< 5.0 U	NA	< 5.0 U	< 5.0 U	NA
		Alkalinity, total (as CaCO3)	NS	167 J	134	22	107	106	1	344	371	8

Table 3-14
Comparison of Analytical Results between Bennett Pumps and Passive Samplers in Source Area Wells, Q4 2017

		Well Location ID:		KAFB-106014			KAFB-106059					
			Sample Date:	10/20/2017	10/19/2017		10/19/2017					
		Field Sample ID:		GW014-174	GW014-174D		GW059-174	GW059-174D		GW059-574	GW059-574D	
		Sample Collection Method:		Bennett Pump	DMS ^a		Bennett Pump	DMS ^a		Bennett Pump	DMS ^a	
Parameter	Analytical Method	Analyte	Project Screening Level ^d	Result ^b	Result ^b	Relative Percent Difference ^c	Result ^b	Result ^b	Relative Percent Difference ^c	Result ^b	Result ^b	Relative Percent Difference ^c
EDB	Method SW8011 (µg/L)	1,2-dibromoethane	0.05	0.85	4.2	133	5.9	1.0	142	6.4	1.0	146
VOCs	Method SW8260C (µg/L)	Benzene	5	160	310	64	15000	3700	121	16000	3600	127
		Ethylbenzene	700	67	45	39	870	86	164	890	86	165
		Toluene	750	170	2	195	18000	6600	93	18000	6300	96
		Xylenes, Total	620	140	2	194	3000	1700	55	3000	1600	61
Total Metals	Method SW6010C (mg/L)	Calcium	NS	67.2	54.8	20	138	113	20	137	138	1
		Iron, dissolved	1.0	< 0.200 U	< 0.200 U	NA	7.38	5.98	21	7.28	5.98	20
		Magnesium	NS	10.2	8.83	14	24.7	20.3	20	24.5	24.7	1
		Manganese, dissolved	0.2	1.19	1.91	46	4.07	3.45	16	4.08	3.49	16
		Potassium	NS	2.79	2.32	18	3.99	3.47	14	3.94	3.99	1
		Sodium	NS	30.4	25.6	17	41.1	34.8	17	40.6	42.1	4
	Method SW6020A (mg/L)	Arsenic	0.01	< 0.0020 U	< 0.0020 U	NA	0.0024 J	0.0020 J	18	0.0023 J	0.0017 J	30
		Lead	0.015	< 0.00025 U	< 0.00025 U	NA	< 0.00025 U	< 0.00025 U	NA	< 0.00025 U	< 0.00025 U	NA
Anions	Method E300.0 (mg/L)	Bromide	NS	1.8 J	1.6 J	12	2.3 J	2.2 J	4	2.3 J	2.0 J	14
		Chloride	250	55.0	23.7	80	61.4	52.6	15	61.0	47.4	25
		Sulfate	250	21.0	17.1	20	< 5.0 U	< 5.0 U	NA	< 5.0 U	3.0 J	NA
	Method E353.2 (mg/L)	Nitrate/Nitrite Nitrogen	10 ^e	< 0.10 U	0.79 J	NA	< 0.10 U	< 0.10 U	NA	< 0.10 U	< 0.10 U	NA
Alkalinity	Method SM2320B (mg/L)	Alkalinity, bicarbonate (as CaCO3)	NS	165	168	2	403	382	5	406	372	9
		Alkalinity, carbonate (as CaCO3)	NS	< 5.0 U	< 5.0 U	NA	< 5.0 U	< 5.0 U	NA	< 5.0 U	< 5.0 U	NA
		Alkalinity, total (as CaCO3)	NS	165	168	2	403	382	5	406	372	9

Table 3-14
Comparison of Analytical Results between Bennett Pumps and Passive Samplers in Source Area Wells, Q4 2017

^a Sample aliquots were collected using dual-membrane samplers.

^b Nondetect results are reported less than the LOD.

^c RPD is calculated as (A-B) / (A+B/2) X 100 where the Bennett pump result is A and the DMS result is B.

-- = sample not analyzed for this parameter

DMS = dual-membrane sampler

EDB = ethylene dibromide (1,2-dibromoethane)

LOD = limit of detection

LOQ = limit of quantitation

NA = RPD is not calculated if both results are nondetect or if one or both of the results are below the LOQ.

RPD = relative percent difference

VOC = volatile organic compound

Shaded = RPD value exceeds 35 percent field duplicate sample precision criteria (Kirtland AFB Quality Assurance Project Plan for Bulk Fuels Facility Expansion of the Dissolved-Phase Plume Groundwater Treatment System Design Solid Waste Management Unit ST-106/SS-111 (USAF 2016)

Qualifiers:

J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.

U = Qualifier denotes the analyte is not detected above the detection limit.

UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Table 3-15
Comparison of Analytical Results between YSI and Aqua-Troll Parameter Readings for Source Area Wells, Q4 2017

		Well Location ID:		KAFB-106005			KAFB-106006			KAFB-106008			KAFB-106014		
		Sample Date:		10/23/2017	10/18/2017		10/19/2017	10/19/2017		10/20/2017	10/18/2017		10/20/2017	10/19/2017	
		Sample Depth (ft bgs):		483			486			490			490		
		Reference Elevation Interval		4857			4857			4857			4857		
Parameter	Analyte	NMAC NMWQCC ^a	Project Screening Level ^b	YSI	Aqua-troll	Relative Percent Difference	YSI	Aqua-troll	Relative Percent Difference	YSI	Aqua-troll	Relative Percent Difference	YSI	Aqua-troll	Relative Percent Difference
Field Parameters	Turbidity	NS	NS	10.9	3.63	100.1	2.65	1.43	59.8	9.07	1.5	143.2	3.66	3.00	19.8
	Temperature (°C)	NS	NS	18.3	19.77	7.7	19.9	20.43	2.6	17.50	19.82	12.4	18.80	19.68	4.6
	DO (mg/L)	NS	NS	0.6	0.07	156.9	2.94	.64	128.5	0.28	0.07	120.0	0.32	0.20	46.2
	Spec Cond (µS/cm)	NS	NS	2463	1590.6	43.0	334.5	329.46	1.5	882.00	967.87	9.3	618.00	467.64	27.7
	pH (S.U.)	NS	NS	7.06	7.03	0.4	7.57	7.51	0.8	6.95	6.89	0.9	7.44	7.16	3.8
	ORP (mV)	NS	NS	-154.90	-270.9	54.5	-161.10	-169.50	5.1	-113.30	-152.10	29.2	-210.60	-194.30	8.1

Table 3-15
Comparison of Analytical Results between YSI and Aqua-Troll Parameter Readings for Source Area Wells, Q4 2017

		Well Location ID:		KAFB-106059		
		Sample Date:		10/19/2017	10/19/2017	
		Sample Depth (ft bgs):		488		
		Reference Elevation Interval		4857		
Parameter	Analyte	NMAC NMWQCC ^a	Project Screening Level ^b	YSI	Aqua-troll	Relative Percent Difference
Field Parameters	Turbidity	NS	NS	1.66	273.15	197.6
	Temperature (°C)	NS	NS	20.2	19.99	1.0
	DO (mg/L)	NS	NS	0.58	.77	28.1
	Spec Cond (µS/cm)	NS	NS	1016	896.17	12.5
	pH (S.U.)	NS	NS	7.24	6.78	6.6
	ORP (mV)	NS	NS	-134.8	-77.5	54.0

Table 3-15
Comparison of Analytical Results between YSI and Aqua-Troll Parameter Readings for Source Area Wells, Q4 2017

^a NMWQCC numeric standards per the NMAC Title 20.6.2.3101A, Standards for Groundwater of 10,000 mg/L Total Dissolved Solids Concentration or Less (NMAC 2004). For metals,

^b The project screening level was selected to satisfy the requirements of the Kirtland AFB Hazardous Waste Permit Number NM9570024423 as the lowest of (1) NMWQCC numeric standard or (2) EPA MCL. If no NMQWCC standard or MCL exists for any analyte, then the project screening level will be the EPA RSL.

µg/L = microgram per liter

µS/cm = microsiemens per centimeter

°C = degree Celsius

EPA = U.S. Environmental Protection Agency

ID = identification

NMAC = New Mexico Administrative Code

NMWQCC = New Mexico Water Quality Control Commission

REG = normal field sample

Spec Cond = Specific Conductivity

S.U. = standard unit

Table 3-1
Groundwater Monitoring Program

Location ID	1st Quarter (January-March)	2nd Quarter Semiannual (April-June)	3rd Quarter (July-September)	4th Quarter Annual (October-December)	Former Well Designation and Monitoring Well Objective ^{h,g}
Newly Added Wells^a					
KAFB-106041 ^{b,d}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	NA
KAFB-106149-484 ^{b,e}	EDB, metals anions, alkalinity	BTEX, EDB, metals anions, alkalinity	EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	NA
KAFB-106151-484 ^{b,e}	EDB, metals anions, alkalinity	BTEX, EDB, metals anions, alkalinity	EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	NA
KAFB-106152-484 ^{b,e}	EDB, metals anions, alkalinity	BTEX, EDB, metals anions, alkalinity	EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	NA
KAFB-106153-484 ^{b,e}	EDB, metals anions, alkalinity	BTEX, EDB, metals anions, alkalinity	EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	NA
KAFB-106235-463 ^{b,f}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	NA
KAFB-106235-492 ^{b,f}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, VOCs, metals anions, alkalinity	NA
KAFB-106235-521 ^{b,f}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	NA
KAFB-106236-461 ^{b,f}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, VOCs, metals anions, alkalinity	NA
KAFB-106236-490 ^{b,f}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	NA
KAFB-106236-519 ^{b,f}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, VOCs, metals anions, alkalinity	NA
KAFB-106240-449 ^{b,g}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, VOCs, metals anions, alkalinity	NA
KAFB-106241-428 ^{b,g}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, VOCs, metals anions, alkalinity	NA
KAFB-106242-418 ^{b,g}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, VOCs, metals anions, alkalinity	NA
KAFB-106243-425 ^{b,g}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, VOCs, metals anions, alkalinity	NA
KAFB-106244-445 ^{b,g}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, VOCs, metals anions, alkalinity	NA
KAFB-106245-460 ^{b,g}	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, metals anions, alkalinity	EDB, VOCs, metals anions, alkalinity	NA
Groundwater Monitoring Wells^a					
KAFB-106001	None	EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Groundwater Monitoring
KAFB-106002	None	EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Groundwater Monitoring
KAFB-106003	BTEX, EDB, FP	BTEX, EDB, metals, anions, alkalinity, FP	BTEX, EDB, FP	EDB, VOCs, metals, anions, alkalinity, FP	VA Proximal
KAFB-106004	BTEX, EDB, FP	BTEX, EDB, metals, anions, alkalinity, FP	BTEX, EDB, FP	EDB, VOCs, metals, anions, alkalinity, FP	VA Proximal
KAFB-106005 ^b	BTEX, EDB, metals, anions, alkalinity	BTEX, EDB, metals, anions, alkalinity	BTEX, EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	Source Area
KAFB-106006	None	BTEX, EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Source Area
KAFB-106007	None	EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Groundwater Monitoring
KAFB-106008	None	BTEX, EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Source Area
KAFB-106009 ^b	BTEX, EDB, metals, anions, alkalinity	BTEX, EDB, metals, anions, alkalinity	BTEX, EDB, metals, anions, alkalinity	EDB, VOCs, metals, anions, alkalinity	Source Area
KAFB-106010	None	BTEX, EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Source Area
KAFB-106011	None	BTEX, EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Source Area
KAFB-106012R	BTEX, EDB, metals, anions, alkalinity, FP	BTEX, EDB, metals, anions, alkalinity, FP	BTEX, EDB, metals, anions, alkalinity, FP	EDB, VOCs, metals, anions, alkalinity, FP	Source Area
KAFB-106013	BTEX, EDB, FP	BTEX, EDB, metals, anions, alkalinity, FP	BTEX, EDB, FP	EDB, VOCs, metals, anions, alkalinity, FP	VA Proximal
KAFB-106014	None	BTEX, EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Source Area
KAFB-106015 ^b	None	EDB, metals, anions, alkalinity	None	EDB, VOCs, metals, anions, alkalinity	Groundwater Monitoring
KAFB-106016	None	EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Groundwater Monitoring
KAFB-106017	None	BTEX, Naphthalene, EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Signal
KAFB-106018	None	BTEX, Naphthalene, EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Signal
KAFB-106019	None	EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Groundwater Monitoring
KAFB-106020	None	EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Groundwater Monitoring
KAFB-106021 ^b	None	EDB, metals, anions, alkalinity	None	EDB, VOCs, metals, anions, alkalinity	Groundwater Monitoring
KAFB-106022 ^b	None	EDB, metals, anions, alkalinity	None	EDB, VOCs, metals, anions, alkalinity	Groundwater Monitoring
KAFB-106023 ^b	None	EDB, metals, anions, alkalinity	None	EDB, VOCs, metals, anions, alkalinity	Groundwater Monitoring
KAFB-106024	None	EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Groundwater Monitoring
KAFB-106025 ^b	None	EDB, metals, anions, alkalinity	None	EDB, VOCs, metals, anions, alkalinity	Groundwater Monitoring
KAFB-106026 ^c	--	--	--	--	Groundwater Monitoring
KAFB-106027	None	EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Groundwater Monitoring
KAFB-106028	None	BTEX, EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Source Area
KAFB-106029 ^b	EDB	EDB, metals, anions, alkalinity	EDB	EDB, VOCs, metals, anions, alkalinity	Downgradient Proximal
KAFB-106030 ^b	EDB	EDB, metals, anions, alkalinity	EDB	EDB, VOCs, metals, anions, alkalinity	Downgradient Proximal

Groundwater Monitoring Program

[illegible]

Groundwater Monitoring Program

[illegible]

Table 3-1
Groundwater Monitoring Program

Location ID	1st Quarter (January-March)	2nd Quarter Semiannual (April-June)	3rd Quarter (July-September)	4th Quarter Annual (October-December)	Former Well Designation and Monitoring Well Objective ^{h,g}
Groundwater Monitoring Wells ^a					
KAFB-106223 ^b	EDB	EDB, metals, anions, alkalinity	EDB	EDB, VOCs, metals, anions, alkalinity	Downgradient Proximal
KAFB-106224 ^b	EDB	EDB, metals, anions, alkalinity	EDB	EDB, VOCs, metals, anions, alkalinity	Downgradient Proximal
KAFB-106225 ^b	None	EDB, metals, anions, alkalinity	None	EDB, VOCs, metals, anions, alkalinity	Groundwater Monitoring
KAFB-106226 ^b	None	EDB, metals, anions, alkalinity	None	EDB, VOCs, metals, anions, alkalinity	Groundwater Monitoring
KAFB-106227 ^b	None	EDB, metals, anions, alkalinity	None	EDB, VOCs, metals, anions, alkalinity	Groundwater Monitoring
KAFB-106230 ^c	--	--	--	--	Groundwater Monitoring
KAFB-106231 ^b	EDB	EDB, metals, anions, alkalinity	EDB	EDB, VOCs, metals, anions, alkalinity	Downgradient Proximal
KAFB-106232 ^b	EDB	EDB, metals, anions, alkalinity	EDB	EDB, VOCs, metals, anions, alkalinity	Downgradient Proximal
KAFB-3411	None	EDB, metals, anions, alkalinity, FP	None	EDB, VOCs, metals, anions, alkalinity, FP	Groundwater Monitoring

Table 3-1
Groundwater Monitoring Program

^a The groundwater monitoring network consists of 149 wells that are currently sampled under Solid Waste Management Unit ST106/SS-111. Select wells are identified for additional or more frequent monitoring of risk-driving constituents. Metals analysis consists of select total metals (arsenic, calcium, lead, potassium, magnesium, and sodium) and select dissolved metals (iron and manganese). Anions analysis consists of bromide, chloride, nitrate/nitrite nitrogen, and sulfate. Field parameters include pH, specific conductivity, dissolved oxygen, oxidation reduction potential, temperature, and turbidity.

^b Well sampled with passive sampling methodology; field parameter measurements are not representative and therefore are not collected.

^c Well no longer sampled due to safety concerns.

^d Newly added to the groundwater monitoring network in fourth quarter 2017.

^e Newly added to the groundwater monitoring network in first quarter 2018.

^f Newly installed groundwater monitoring well that was completed in fourth quarter 2016.

^g Newly installed groundwater monitoring well that was completed in third quarter 2018.

^h In previous reports, groundwater monitoring wells were designated based on their location related to groundwater gradient and the EDB plume or on their location, i.e. “downgradient”, “source area”, etc. However, due to the changing regional groundwater gradient (see Quarter 2 2018 Quarterly Monitoring Report [USACE 2018]), these designations are not always appropriate. To simplify and more accurately represent dynamic hydrologic conditions, all groundwater monitorings wells will be designated simply as “groundwater monitoring well” after completing a baseline sampling of four quarters. Prior to the baseline sampling, the wells will be designated as "newly added".

^g Monitoring Well Objective:

Newly Added Wells—Newly added wells can include both existing wells that are added to the GWM network as well as newly installed wells. Newly added GWM wells require a minimum of four consecutive quarters of baseline full-suite analytical sampling before receiving a designation that determines the long-term sampling regime. These wells have been added to define the plume boundaries and provide additional water table monitoring due to the rising groundwater elevation.

Source Area Wells—Primarily located in the BFF south of Randolph Road SE and proximal to the spill site on-Base. Sampled during Q2 and Q4. These wells monitor the higher concentrations of dissolved-phase plumes on-Base.

Downgradient Proximal Wells—Located north of Ridgecrest Drive SE surrounding the historical EDB plume to the west, north, and east into the distal portion of the GWM network. Analytical data for these wells have been historically below the maximum contaminant level (MCL) for EDB. Sampled every quarter. These wells assist in plume boundary definition.

Veterans Affairs (VA) Proximal Wells—Three sets of nested wells located between the historical EDB plume south of Ridgecrest Drive SE and the Raymond G. Murphy VA Medical Center as a means to detect any potential contaminant migration towards the VA medical campus. Sampled every quarter. These wells provide additional wellhead protection monitoring for the VA supply well.

Signal Wells—Three wells located along the south side of Ridgecrest Drive SE to monitor benzene, toluene, ethylbenzene, and total xylenes (BTEX) and provide early indication if the benzene plume is migrating from the source area into the interim measure target area capture zone created by the groundwater extraction wells. Sampled during Q2 and Q4.

Groundwater Monitoring Wells—Primarily location north of Ridgecrest Drive SE within the historical footprint of the EDB plume. Analytical data from these wells serve to define the volume and mass of the EDB plume throughout the GWM network. Sampled in Q2 and Q4.

BTEX = benzene, toluene, ethylbenzene, and total xylenes

EDB = ethylene dibromide

FP = field parameter

ID = identification

NA = not applicable

VOC = volatile organic compound

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