ADDISON INFRASTRUCTURE & DEVELOPMENT SERVICES

SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF

SEDIMENT REMOVAL FOR VITRUVIAN PARK

TOWN OF ADDISON, TEXAS
INFRASTRUCTURE AND DEVELOPMENT SERVICES
BID NUMBER 19-77

FEBRUARY 2019

PREPARED BY

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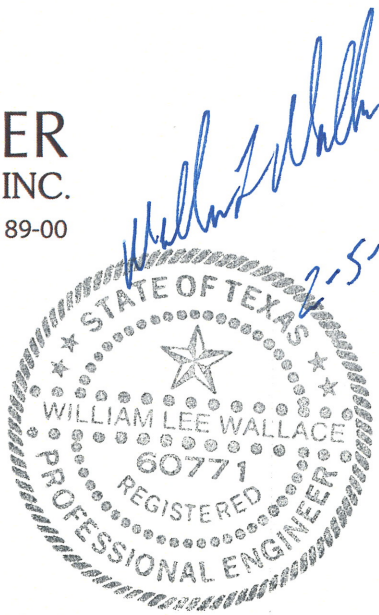

2-5-19

TOWN OF ADDISON, TEXAS

MAYOR

Joe Chow

MAYOR PRO TEMPORE

Paul Walden

DEPUTY MAYOR PRO TEMPORE

Tom Braun

COUNCIL MEMBERS

Ivan Hughes

Guillermo Quintanilla

Lori Ward

Marlin Willesen

CITY MANAGER

Wesley S. Pierson

DIRECTOR OF INFRASTRUCTURE AND DEVELOPMENT SERVICES

Lisa A. Pyles

ASSISTANT DIRECTOR OF INFRASTRUCTURE SERVICES AND ENGINEERING

Jason Shroyer, P.E.

STREETS AND STORMWATER MANAGER

Todd Weinheimer

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SECTION AB

ADVERTISEMENT FOR BIDS

ADVERTISEMENT FOR BIDS

1. The Town of Addison is requesting bids for the Bid of the Sediment Removal for Vitruvian Park. **Bids will be accepted until 2:00 p.m., Tuesday, February 26, 2019** at the Finance Building, 5350 Belt Line Rd., Dallas, Texas 75254 – Attention Purchasing Department, at which time responders names and bids will be publicly read aloud. Late bids will not be considered. The plans, specifications, quantities, pre-bid time and date, and other information are available on www.bidsync.com. The plans, specifications, and quantities for the work to be done are also on file with Lisa A. Pyles, Director of Infrastructure and Development Services, Town of Addison, 16801 Westgrove Drive, Addison, Texas 75001, and such plans, specifications, and quantities may be examined without charge. The Town of Addison reserves the right to waive any formalities, to reject any and all bids, and to select the proposal deemed most advantageous to the Town of Addison.

2. The Contractor shall identify his bid on the outside of the envelope by writing the words **INFRASTRUCTURE AND DEVELOPMENT SERVICES BID NUMBER 19-77, SEDIMENT REMOVAL FOR VITRUVIAN PARK**

   PAPER BIDS SHALL BE REQUIRED.

3. Bids shall be accompanied by a bid bond in an amount not less than five percent (5%) of the total maximum bid from a reliable surety company licensed by the State of Texas to act as a Surety and be listed on the current U.S. Treasury Listing of Approved Sureties, or a Binder of Insurance executed by a surety company licensed by the State of Texas to act as a surety or its authorized agent as a guarantee that the bidder will enter into a contract and execute a Performance Bond within ten (10) days after notice of award of contract to him.

4. Plans, specifications and bidding documents may be downloaded from www.bidsync.com. The Town of Addison is a "free buyer", meaning that prospective bidders need only a free registration to sign up for plan updates. Bidders assume all risk for acquiring specs and/or plans from third party sites and plan rooms, as only Bidsync.com will be directly updated by Addison.

5. The right is reserved by the Mayor and the City Council as the interests of the City may require to reject any or all bids and to waive any formality in bids received and to select the proposal deemed most advantageous to the City.

6. The Bidder (Proposer) must supply all the information required by the Proposal Form.

7. A Performance Bond, Payment Bond, and Maintenance Bond will be required by the Owner; each Bond shall be in the amount of 100% of the total contract amount. Bonds shall be issued by a surety company licensed by the State of Texas to act as a Surety and be listed on the current U.S. Treasury Listing of Approved Sureties.

8. The Bidder (Proposer) must supply all the information required by the Bidder Qualification Statement.

9. **An optional pre-bid meeting will be held on Tuesday, February 14, 2019 at 2:00pm in the Town of Addison Service Center 1st Floor Large Conference Room located at 16801 Westgrove Drive, Addison, TX 75001.**

10. For information on bidding or work to be performed, please submit all questions on Bidsync. **All questions must be received by 5:00pm on Monday, February 18, 2019. All questions received by this deadline will be answered by 5:00pm on Thursday, February 21, 2019.**

11. The project consists of the removal of sediment and debris within Farmers Branch Creek at Vitruvian Park from approximately Bella Lane to the weir structure 600 ft South of Ponte Avenue. Removal shall be completed via hydraulic dredging with mechanical means as necessary with disposal of dewatered sediment at an approved municipal landfill.

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SECTION IB

INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

A. PROJECT: SEDIMENT REMOVAL FOR VITRUVIAN PARK, in the Town of Addison. The bids will be evaluated as stated in Section "O" of these Instructions to Bidders.

B. PROJECT DESCRIPTION: The project consists of the removal of sediment and debris within Farmers Branch Creek at Vitruvian Park from approximately Bella Lane to the weir structure 600 ft South of Ponte Avenue. Removal shall be completed via hydraulic dredging with mechanical means as necessary with disposal of dewatered sediment at an approved municipal landfill.

C. PROPOSALS: Proposals must be in accordance with these instructions in order to receive consideration.

D. DOCUMENTS: Bidding Documents include the Project Manual (consisting of the Advertisement for Bids, these Instructions to Bidders, Proposal Forms, Reference Form, Contract Agreement, Information and Instruction Form, Performance Bond, Payment Bond, Maintenance Bond, Contractor's Affidavit of Bills Paid, General Provisions, Special Provisions, Project Sign, and Technical Specifications), a Waiver of Lien, Drawings, and Addenda which may be issued by the Town of Addison during the bidding period. Bidding Documents may be viewed and/or obtained under the terms and conditions set forth in the Advertisement for Bids, Section AB of this Project Manual.

E. EXAMINATION OF DOCUMENTS AND SITE: Bidders shall carefully examine the Bidding Documents and the construction site to obtain firsthand knowledge of the scope and the conditions of the Work. Each Contractor, Subcontractor and Sub-subcontractor, by submitting a proposal to perform any portion of the Work, represents and warrants that he has examined the Drawings, Specifications (Project Manual) and the site of the Work, and from his own investigation has satisfied himself as to the scope, accessibility, nature and location of the Work; the character of the equipment and other facilities needed for the performance of the Work; the character and extent of other work to be performed; the local conditions; labor availability, practices and jurisdictions; and other circumstances that may affect the performance of the Work. No additional compensation will be allowed by the Owner for the failure of such Contractor, Subcontractor or Sub-subcontractor to inform himself as to conditions affecting the Work.

F. INTERPRETATION OF DOCUMENTS: If any person contemplating submitting a bid for the proposed Contract is in doubt as to the meaning of any part of the Drawings, Specifications (Project Manual) or other proposed Contract Documents, he may submit questions to the Town of Addison, no later than 5:00pm on Monday, February 18, 2019. All questions received by this deadline will be answered by 5:00pm on Thursday, February 21, 2019. Bidders should act promptly and allow sufficient time for a reply to reach them before preparing their bids. Any interpretation or clarification will be in the form of an Addendum duly issued. No alleged verbal interpretation or ruling will be held binding upon the Owner.

G. SUBSTITUTIONS: Conditions governing the submission of substitutions for specific materials, products, equipment and processes are in the Special Provisions. Requests for

substitutions must be received by the Town of Addison seven (7) calendar days prior to the established bid date.

H. ADDENDA: Interpretations, clarifications, additions, deletions and modifications to the Documents during the bidding period will be issued in the form of Addenda and a copy of such Addenda will be released through www.bidsync.com. It will be the responsibility of each person who has been issued a set of bid documents to secure all Addenda from www.bidsync.com. Addenda will be a part of the Bidding Documents and the Contract Documents, and receipt of them shall be acknowledged in the Bid Form. All such interpretations and supplemental instructions will be in the form of written addenda to the contract documents which, if issued, will be released through www.bidsync.com not later than three (3) calendar days prior to the date fixed for the opening of bids. If any bidder fails to acknowledge the receipt of such addenda in the space provided in the bid form, his bid will nevertheless be construed as though the receipt of such addenda had been acknowledged.

I. COMPLETION TIME: The selected contractor shall use the time period between the awarding of the contract at City Council and the date of Notice to Proceed to submit materials and shop drawings for approval by Nathan D. Maier Consulting Engineers (NDMCE) and the Town of Addison. NDMCE shall review and return these submittals in the most expedient manner possible to accommodate immediate material ordering.

a. Upon receiving Notice to Proceed, the selected contractor shall have **90 calendar days** to construct the project and achieve substantial completion. Substantial completion for this project includes the following items:
    i. Preliminary Punchlist walk-through with the Town performed;
b. After substantial completion is reached, the contractor shall have an **additional 20 calendar days** to achieve 100% final completion. Final completion for this project shall include:
    i. Punchlist items completed and approved by the Town;
    ii. Site clean-up;
    iii. Submittal of Record Drawings; and
    iv. Execution of Maintenance Bond.

J. PREPARATION OF BIDS: Prices quoted shall include all items of cost, expense, taxes, fees and charges incurred by, or arising out of, the performance of the work to be performed under the Contract. Bids shall be submitted in duplicate and shall be signed in ink. Any bid on other than the required form will be considered informal and may be rejected. Erasures or other changes in a bid must be explained or noted over the initials of the bidder. Bids containing any conditions, omissions, unexplained erasures and alterations, or irregularities of any kind may be rejected as informal. The prices should be expressed in words and figures or they may be deemed informal and may be rejected. In case of discrepancy between the price written in the bid and that given in the figures, the price in writing will be considered as the bid. In the case of a discrepancy between a unit price and its extension, the unit price will govern. Failure to submit all requested information will make a bid irregular and subject to rejection. Bids shall be signed with name typed or printed below signature, and, if a partnership, give full name of all partners. Where bidder is a corporation, bids must be signed with the legal name of the corporation followed by the name of the state of incorporation and the legal signature of an officer authorized to bind the corporation to a contract.

SUBMITTAL OF BIDS: Sealed proposals will be received at the time, date and place stated in the Advertisement for Bids. Proposals shall be made on unaltered Proposal Forms furnished by the Town of Addison. Bidders shall submit proposals in an opaque, sealed envelope addressed to the Owner and plainly mark on the outside of the envelope the name and address of the bidder. One original, two copies, and one electronic (USB) version of the proposal shall be submitted. The envelopes shall also be marked with the following project description:

INFRASTRUCTURE AND DEVELOPMENT SERVICES BID NUMBER 19-77

SEDIMENT REMOVAL FOR VITRUVIAN PARK

The Bid Bond must be completed and signed by each bidder and submitted with the bid. Submit Bids by mail or in person prior to the time for receiving bids set forth in the Advertisement for Bids issued by the Town.

Electronic bidding on bidsync.com will not be considered for this project. The Town of Addison uses bidsync to distribute bids and proposals. There will be NO COST to the contractor for standard bids or proposals. Bid Number 19-77 is considered a standard bid. For Cooperative Bids and Reverse Auctions ONLY, the successful contractor/supplier agrees to pay bidsync a transaction fee of one percent (1%) of the total amount of all contracts for goods and/or services. Cooperative Bids and Reverse Auctions will be clearly marked on the bid documents. To assure that all contractors/suppliers are treated fairly, the fee will be payable whether the bid/proposal is submitted electronically, or by paper means. Refer to www.bidsync.com for further information.

K. MODIFICATION AND WITHDRAWAL OF BIDS: Prior to the time set for bid opening, bids may be withdrawn or modified. Bids may be modified only on the official bid form and must be signed by a person legally empowered to bind the bidder. No bidder shall modify, withdraw, or cancel his bid or any part thereof for sixty (60) calendar days after the time agreed upon for the receipt of bids.

L. DISQUALIFICATION: The Owner reserves the right to disqualify proposals, before or after the opening, upon evidence of collusion with intent to defraud or other illegal practices relating to this proposal upon the part of the bidder.

M. SUBMISSION OF POST-BID INFORMATION: Upon notification of acceptance, the selected bidder shall, within twenty-four (24) hours, submit the following:

1. A designation of the portions of the Work proposed to be performed by the bidder with his own force.
2. A list of names of the Subcontractors or other persons or organizations, including those who are to furnish materials and equipment fabricated to a special design proposed for such portions of the Work as may be designated in the Bidding Documents or as may be requested by the Town of Addison. The bidder will be required to establish to the satisfaction of the Owner the reliability and responsibility of the proposed Subcontractors and suppliers to furnish and perform the Work.

3. Other information as required.

N. AWARD: The Owner reserves the right to accept any or to reject any bids without compensation to bidders and to waive irregularities and informalities. The Town of Addison Infrastructure Operations & Services Department, in making its recommendation, will consider the following elements:

1. Whether the bidder is a contractor with experience in the type of work involved.
2. Whether the bidder has adequate plant, equipment and personnel to perform the work properly and expeditiously.
3. Whether the bidder has a suitable financial status and reputation for meeting obligations incident to work of the kind specified.
4. Whether the bidder has complied with the terms and conditions.

Alternate items may or may not be awarded. Addition or deletion of other items or schedules will be governed by the *Standard Specifications for Public Works Construction – North Central Texas, 4th Edition*, (hereinafter called SSPWC) Item 104.2 "Change or Modification of Contract".

O. EXECUTION OF THE CONTRACT: The successful bidder will be required to enter into a contract with the Owner within ten (10) days of notice by the Owner that his bid has been accepted. Failure to enter into a contract within the established time limit shall be considered grounds for forfeiture of the bid bond.

P. CONSTRUCTION SCHEDULE: It is the Owner's desire to have the project completed and operational in as short a time as possible. The number of calendar days for completion of the project will begin with the date specified in the Notice to Proceed. The Notice to Proceed will be issued in a manner to facilitate a smooth construction of the project. The Contractor shall begin construction within ten (10) calendar days of the issuance of the Notice to Proceed.

Q. COST PLUS TIME BIDDING: N/A

R. FORM OF CONTRACT: The contract for the construction of the project will be drawn up by the Owner. A sample form of agreement is included in the Contract Agreement Section.

S. BONDS: A Performance Bond, Payment Bond and a Maintenance Bond will be required by the Owner. The Performance Bond and Payment Bond shall name the Town of Addison, and others as directed by the Town, as joint obligees. Sample forms have been included in the Performance Bond, Payment Bond, and Maintenance Bond sections. (Contractor shall confirm the legal names of obligees prior to execution of Bonds.)

T. BID SECURITY: Bids shall be accompanied by a bid bond in an amount not less than five percent (5%) of the total maximum bid price from a surety company licensed to do business in the State of Texas as a guarantee that the bidder will enter into a contract and execute a Performance Bond and Payment Bond within ten (10) calendar days after notice of award of contract to him.

U. RESOLUTIONS: If the bidder is a corporation, a copy of the resolution empowering the person submitting the bid to bind the bidder must be included with the bid.

V. CONSTRUCTION STAKING: Construction staking and re-staking will not be provided by the Owner. Benchmarks and Horizontal Control are shown on the plans. There is no separate bid item for staking, therefore, the contractor must include value for staking in the various bid items as subsidiary to the contract. Any staking or re-staking that is required shall be the responsibility of the Contractor and shall be at no cost to the Owner.

W. FINAL PAYMENT: The general provisions for Final Payment shall be as stated in Item 109.5.4 of the SSPWC including all Amendments and Additions. Prior to final payment the Contractor shall provide the Owner with the following items:

1. A Contractor's Affidavit of Bills Paid in accordance with Section BP.
2. A Consent of Surety Company to Final Payment.
3. A complete set of record plans which indicate all construction variations from the original construction documents in accordance with the Special Provisions.
4. A one (1) year Maintenance Bond in accordance with Section MB.
5. Acknowledgement that the project has been reviewed and accepted by TDLR.

X. PREVAILING WAGE RATES: Wage rates paid on this project shall not be less than specified in the schedule of general prevailing rates of per diem wages as attached in the Special Provisions.

Y. PRIORITY OF CONTRACT DOCUMENTS: In case of conflict between contract documents, priority of interpretation shall be in the following order: signed agreement; performance and payment bonds; proposal; special provisions (or conditions); technical specifications; general provisions; advertisement for bids; project drawings; *Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges* adopted by the Texas Department of Transportation 2014; Standard Specifications for Public Works Construction (NCTCOG, 2004); Town of Addison Standard Drawings. This priority list shall take precedence over Item 105.1.1 of the SSPWC.

SECTION PF-1

PROPOSAL FORM

PROPOSAL FORM

_____ , 2019

TO: The Honorable Mayor and Town Council
Town of Addison, Texas

Gentlemen:

The undersigned bidder, having examined the plans, specifications and contract documents, and the location of the proposed work, and being fully advised as to the extent and character of the work, proposes to furnish all equipment and to perform labor and work necessary for completion of the work described by and in accordance with the Plans, Specifications and Contract for the following prices, to wit:

Signed by: _____

ACKNOWLEDGMENT OF ADDENDA:

The Bidder acknowledges receipt of the following addenda:

Addendum No. 1 _____

Addendum No. 2 _____

Addendum No. 3 _____

The following pages contain all bid items for:

BID SCHEDULE – SEDIMENT REMOVAL FOR VITRUVIAN PARK.
BID NUMBER 19-77

ITEM NO.	EST. QTY.	UoM	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1.	1	LS	Site Work, Mobilization/Demobilization, Permits, Bonds and Insurance, For the sum of _____Dollars And_____ Cents Per Lump Sum	$_____	$_____
2.	1	LS	Removal, Dewatering, and Disposal Plan for Approval, For the sum of _____Dollars And_____ Cents Per Lump Sum	$_____	$_____
3.	5,750	DT	Sediment Removal via Hydraulic Dredging to Dewatering System, For the sum of _____Dollars And_____ Cents Per Dry Ton	$_____	$_____
4.	5,750	DT	Disposal of Sediment to an Approved Disposal Site, For the sum of _____Dollars And_____ Cents Per Dry Ton	$_____	$_____
5.	15	LD	Sediment Removal and Disposal via Mechanical Means, For the sum of _____Dollars And _____ Cents Per Load	$_____	$_____
6.	1	LS	Storm Water Pollution Prevention Plan and Implementation, For the sum of _____Dollars And _____ Cents Per Lump Sum	$_____	$_____

7.	1	LS	Site Restoration, For the sum of _____Dollars And _____ Cents Per Lump Sum	$_____	$_____

Total Bid Amount: $_____

NOTES:

1. All items, labor, materials, equipment, facilities, incidentals and work required for construction of the project are to be provided and installed by the Contractor as part of the project and payment for the cost of such shall be included in the price bid for the construction of the project.

2. Prices must be shown in words and figures for each item listed in the Proposal. In the event of discrepancy, the words shall control.

3. Materials, which are "tax exempt", are those items which are physically incorporated into the facilities constructed for the Town of Addison, as set forth in the Special Provisions. Materials include, but are not limited to purchased items such as water pipe, sanitary sewer pipe, storm drain pipe, etc.

   Services, which are "not tax exempt", are those items which are used by the Contractor but are not physically incorporated into the Town of Addison's facility and/or items which are consumed by construction, as set forth in the Special Provisions. Services include, but are not limited to, items such as supplies, tools, skill and labor, the purchase, rental or lease of equipment, etc.

_____
Name of Person Signing Bid

_____
Signature of Person Signing Bid

_____
Address

_____
Telephone No. Fax No.

_____
T.I.N. (Tax Identification or Employer's Number)

If BIDDER is:

AN INDIVIDUAL

By _____ (Seal)
(Individual's Name)

doing business as _____

Business address: _____

_____

_____

Phone No. _____

A PARTNERSHIP

By _____ (Seal)
(Firm Name)

_____
(General Partner)

doing business as _____

Business address: _____

_____

_____

Phone No. _____

A CORPORATION

By _____
(Corporation Name)

_____
(State of Incorporation)

By _____
(Name of Person Authorized to Sign)

_____
(Title)

(Corporate Seal)

Attest _____
(Secretary)

Business address: _____

_____

_____

Phone No. _____

A JOINT VENTURE

By _____
(Name)

_____
(Address)

By _____
(Name)

_____
(Address)

(Each joint venture must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)

SECTION BB

BID BOND

BID BOND

Bidder shall submit a bid bond equal to five percent (5%) of the bid price. Failure to submit a bid bond when required may deem the bid non-responsive. Bid Bonds may be submitted electronically with the executed original provided immediately upon request.

SECTION BQS

BIDDER QUALIFICATION STATEMENT

SECTION BQS

ALL BIDDERS ARE NOTIFIED THAT THE FOLLOWING QUALIFICATION STATEMENT MUST BE COMPLETED AND SUBMITTED WITH THE BID PROPOSAL

CONTRACTOR'S QUALIFICATIONS

The Contractor shall show that he has experience with similar projects that require working on water, sanitary sewer, and storm sewer construction and/or relocation projects working in confined areas in close proximity to many physical features (such as: fences, carports, utility poles, guy lines, gas lines and meters, water lines, sewer manholes and cleanouts, etc.) which will require the Contractor to plan his work efforts and equipment needs with these limitations in mind. The Contractor shall submit a complete list of ALL Municipal and Similar Non-Municipal current and completed projects for the past three (3) years for review. This list shall include the names of supervisors and type of equipment used to perform this work.

BIDDERS QUALIFICATION STATEMENT

INFRASTRUCTURE AND DEVELOPMENT SERVICES BID NUMBER 19-77, SEDIMENT REMOVAL FOR VITRUVIAN PARK

Contractor:_____

Indicate One: _____Sole Proprietor _____Partnership _____Other

_____Corporation _____ Joint Venture

Name:_____Partner:_____

Title:_____Title:_____

Address:_____ Address:_____

City:_____ City:_____

State & Zip:_____ State & Zip:_____

Phone:_____ ___Phone:_____

State and Date of Incorporation, Partnership, Ownership, Etc._____

Location of Principal Office:_____

Contact and Phone at Principal Office:_____

Liability Insurance Provider and Limits of Coverage:_____

Workers Compensation Insurance Provider:_____

Surety (Performance and Payment):_____

Address:_____

Contact and Phone:_____

Superintendent and Backup Superintendent: (Work Resume - attach additional sheets.) (Safety Record – attached additional sheets; if needed show all verified safety violations.) The superintendent shall be able to communicate in English and not operate any equipment and have not had any verified job safety violations in the past five years. Any variations shall be reviewed by the OWNER for approval or denial. A job site shall be shut down if proper supervision is not provided.

Superintendent Name Backup Superintendent Name

_____ _____

Safety Record – List ALL Verified Violations for Superintendent and Backup Superintendent with explanation, date and action taken to correct future safety violations:

Superintendent

_____

_____

_____

_____

Backup Superintendent

_____

_____

_____

_____

Total Number of Employees to be Associated with this Job:_____

Managerial_____ Administrative_____ Professional_____

Skilled_____ Semi-Skilled_____ Other_____

Percentage of work to be done by Bidder's Employees (Based on Dollars Bid): _____

Type(s) of work to be done by Bidder's Employees (examples: concrete paving, structural concrete, waterlines, sanitary sewer lines, storm pipe, storm inlets, excavation, lime, bridge fencing, etc.)

_____

_____

_____

Access to Tools and Equipment: Percent Owned____ Percent Rented____

Number of Years in Business as a Contractor on Above Types of Works:_____

Type(s) of Work to be done by Sub-Contractors
Include Name, Address, and Phone Number of Sub-Contractor.
Use additional sheets if needed.

Type of Work	Sub-Contractor

List Equipment to be used on this project (Make/Model/Age of Major Equipment) Any Equipment not listed shall be reviewed by the OWNER for approval or rejection prior to use of Equipment on this project. (Use additional sheets if necessary)

Type of Equipment	Make	Model	Age (years)

List of ALL Municipal and Similar Non-Municipal current and completed projects for the past three (3) years. (Use additional sheets if necessary.)

1. Project:_____

   Current Status:_____

   Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

   _____

   _____

   _____

   Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

   _____

   _____

   _____

   Project Description:_____

   Owner/Agency:_____

   Year Built:_____ Contract Price:_____

   Contact Person:_____ Phone:_____

2. Project:_____

   Current Status:_____

   Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

   _____

   _____

   _____

   Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

   _____

   _____

_____

Project Description:_____

Owner/Agency:_____

Year Built:_____ Contract Price:_____

Contact Person:_____ Phone:_____

3. Project:_____

Current Status:_____

Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Project Description:_____

Owner/Agency:_____

Year Built:_____ Contract Price:_____

Contact Person:_____ Phone:_____

4. Project:_____

Current Status:_____

Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Project Description:_____

Owner/Agency:_____

Year Built:_____ Contract Price:_____

Contact Person:_____ Phone:_____

5. Project:_____

Current Status:_____

Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Project Description:_____

Owner/Agency:_____

Year Built:_____ Contract Price:_____

Contact Person:_____ Phone:_____

6. Project:_____

Current Status:_____

Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Project Description:_____

Owner/Agency:_____

Year Built:_____ Contract Price:_____

Contact Person:_____ Phone:_____

7. Project:_____

Current Status:_____

Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Project Description:_____

Owner/Agency:_____

Year Built:_____ Contract Price:_____

Contact Person:_____ Phone:_____

8. Project:_____

Current Status:_____

Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Project Description:_____

Owner/Agency:_____

Year Built:_____ Contract Price:_____

Contact Person:_____ Phone:_____

9. Project:_____

Current Status:_____

Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Project Description:_____

Owner/Agency:_____

Year Built:_____ Contract Price:_____

Contact Person:_____ Phone:_____

10. Project:_____

Current Status:_____

Any Litigation Issues: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Any Verified Safety Violations: Yes or No (Circle One) If Yes, explain:_____

_____

_____

_____

Project Description:_____

Owner/Agency:_____

Year Built:_____ Contract Price:_____

Contact Person:_____ Phone:_____

Trade references (List Company, Address, Contact Person, and Phone):

_____

_____

_____

Bank References (List Institution, Address, Contact Person, and Phone)

_____

_____

_____

Claims and Suits (if the answer to any of the following questions is yes, please attached details):

1. Has your organization ever failed to complete any work awarded to it?_____

2. Are there any judgments, claims, arbitration proceedings, or suits pending or outstanding against your organization or officers?_____

3. Has your organization filed any lawsuits or requested arbitration with regard to construction contracts within the last five years?_____

4. Within the last five (5) years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract?_____

I,_____,being duly sworn deposes and says that the information

provided herein is true and sufficiently complete so as not to be misleading.

Date this_____day of_____, 20_____.
Name of
Organization:_____
_

By:_____

Title:_____

STATE OF TEXAS

COUNTY OF DALLAS

BEFORE ME the undersigned authority, on this day personally appeared _____

_____, known to me to be the person whose name subscribed to the

foregoing instrument, and acknowledged to me that he executed the same for the

purposes and considerations therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this ___day of _____ 20____.

_____

Notary Public in and for _____ County, Texas

SECTION CA

CONTRACT AGREEMENT

CONTRACT AGREEMENT

STATE OF TEXAS

COUNTY OF DALLAS

THIS AGREEMENT is made and entered into this _____ day of _____, 2019, by and between the Town of Addison, of the County of Dallas and State of Texas, acting through its City Manager, thereunto duly authorized so to do, Party of the First Part, hereinafter termed the OWNER, and _____, of the City of _____, County of _____, State of _____, Party of the Second Part, hereinafter termed CONTRACTOR.

WITNESSETH: That for and in consideration of the payment and agreement hereinafter mentioned, to be made and performed by the OWNER, the said CONTRACTOR hereby agrees with the said OWNER to commence and complete construction of certain improvements as follows:

SEDIMENT REMOVAL FOR VITRUVIAN PARK

INFRASTRUCTURE AND DEVELOPMENT SERVICES BID NUMBER 19-77

and all extra work in connection therewith, under the terms as stated in the General and Specific Conditions of the AGREEMENT; and at his own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance and other accessories and services necessary to complete the said construction, in accordance with the conditions and prices stated in the Proposal attached hereto and in accordance with the Advertisement for Bids, Instructions to Bidders, General Provisions, Special Provisions, Plans, and other drawings and printed or written explanatory matter thereof, and the Technical Specifications and Addenda thereto, as prepared by the OWNER, each of which has been identified by the endorsement of the CONTRACTOR and the OWNER thereon, together with the CONTRACTOR's written Proposal and the General Provisions, all of which are made a part hereof and collectively evidence and constitute the entire AGREEMENT.

The CONTRACTOR hereby agrees to commence work within ten (10) calendar days after the date of written notice to do so shall have been given to him, to complete the work within one hundred and twenty **(90)** calendar days, after he commences work, subject to such extensions of time as are provided by the General Provisions.

The OWNER agrees to pay the CONTRACTOR _____ _____ Dollars **($_____)** in current funds for the performance of the Contract in accordance with the Proposal submitted thereof, subject to additions and deductions, as provided in the General Provisions, and to make payments of account thereof as provided therein.

IN WITNESS WHEREOF, the parties of these presents have executed this AGREEMENT in the year and day first above written.

TOWN OF ADDISON, TEXAS (OWNER) **ATTEST:**

By: _____ By: _____
City Manager

(CONTRACTOR) ATTEST:

By: _____ By: _____

The following to be executed if the CONTRACTOR is a corporation:

I, _____ certify that I am the secretary of the corporation named as CONTRACTOR herein; that _____, who signed this Contract on behalf of the CONTRACTOR is the _____ (official title) of said corporation; that said Contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

Signed: _____

Corporate Seal

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SECTION PrB

PERFORMANCE BOND

PERFORMANCE BOND

STATE OF TEXAS }
COUNTY OF DALLAS }

WHEREAS, _____as principal ("Contractor") and _____, a corporation organized under the laws of _____ and being duly authorized to do business in the State of Texas, as surety ("Surety")(whether one or more), do hereby expressly acknowledge themselves to he held and bound to pay to the Town of Addison, Texas, a home-rule municipality organized and operating under the Constitution and laws of the State of Texas (the "Town"), its successors and assigns, and to all persons, firms, subcontractors and corporations who may furnish materials or labor under the contract as more fully described below, the sum of _____ Dollars in the lawful currency of the United States of America ($) for the payment of which Contractor and Surety are liable to the Town, jointly and severally; and

WHEREAS, Contractor has this day entered into a written contract with the Town to build and construct _____
_____
_____
which contract and the plans and specifications therein mentioned (collectively referred to hereinafter as the "Contract") are hereby expressly incorporated into and made a part hereof as though set forth at length; and

WHEREAS, this bond is given pursuant to Chapter 2253 of the Texas Government Code;

NOW, THEREFORE, if Contractor shall well, truly and faithfully perform all of the undertakings, duties, terms, conditions and agreements of the Contract; shall satisfy all claims and demands incurred under the Contract; shall fully indemnify and hold the Town harmless; shall reimburse and repay the Town for any outlay or expense which the Town may incur in making good any default, and shall promptly make payment to all persons, firms, subcontractors and corporations who may furnish materials or labor under the Contract, then this obligation shall be void; otherwise to remain in full force and effect. The obligations of Contractor and Surety under this bond apply both to the original Contract and to any extension or modification of the Contract and Surety agrees that no change, extension of time, addition, expansion or other modification of the Contract, the work to be done under the Contract, or the plans and specifications which are a part of the Contract shall in any manner affect the obligations of Surety under this bond, and Surety waives notice of any such change, extension of time, addition, expansion or other modification. The obligations of Contractor and Surety under this bond are performable and payable in Dallas County, Texas such that exclusive venue for any legal action pertaining to this bond shall lie in Dallas County, Texas. By their signatures below, the persons signing this bond warrant and represent that they are, respectively, duly authorized to sign on behalf of Contractor and Surety.

EXECUTED this the _____ day of _____, 2____.

CONTRACTOR: SURETY: 1

By:_____ By:_____

Title:_____ Title:_____

ACKNOWLEDGMENTS
[Contractor]

STATE OF TEXAS }
COUNTY OF DALLAS }

Before me _____ (insert the name of the officer) on this day _____ personally appeared _____ known to me (or proved to me on the oath of _____) or through _____ (description of identity card or other document) to be the person whose name is subscribed to the forgoing instrument and acknowledged to me that he/she executed the same for the purpose and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, 2_____.

_____ _____
Notary Public in and for the State of Texas Typed or Printed Name of Notary
My Commission Expires:_____

[Surety]

STATE OF TEXAS }
COUNTY OF DALLAS }

This instrument was acknowledged before me on the ____day of _____, 2_____ by _____ who is the _____ of the Surety, on behalf of Surety.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the _____ day of _____, 2_____.

_____ _____
Notary Public in and for the State of Texas Typed or Printed Name of Notary

My Commission Expires:_____

1 Please see attached contact sheet for Surety and the Texas Department of Insurance.

Payment and Performance Bond Contact Sheet

(1) Claims:

All notices of claims shall be sent to the surety at the following address:

_____
(Name of surety)

_____
(Mailing address)

_____
(Physical address)

_____
(Phone number)

(2) Texas Department of Insurance Contact Number:

The address and contact information of the surety may otherwise be obtained by contacting the Texas Department of Insurance at the following toll free telephone number:

1-800-252-3439.

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SECTION PyB

PAYMENT BOND

PAYMENT BOND

STATE OF TEXAS }
COUNTY OF DALLAS }

WHEREAS, _____, as principal ("Contractor") and _____, a corporation organized under the laws of _____ and being duly authorized to do business in the State of Texas, as surety ("Surety")(whether one or more), do hereby expressly acknowledge themselves to he held and bound to pay to the Town of Addison, Texas, a home-rule municipality organized and operating under the Constitution and laws of the State of Texas (the "Town"), its successors and assigns, and to all persons, firms, subcontractors and corporations who may furnish materials or labor under the contract as more fully described below, the sum of _____ Dollars in the lawful currency of the United States of America ($) for the payment of which Contractor and Surety are liable to the Town, jointly and severally; and

WHEREAS, Contractor has this day entered into a written contract with the Town to build and construct _____
_____

which contract and the plans and specifications therein mentioned (collectively referred to hereinafter as the "Contract") are hereby expressly incorporated into and made a part hereof as though set forth at length; and

WHEREAS, this bond is given pursuant to Chapter 2253 of the Texas Government Code;

NOW, THEREFORE, if Contractor shall promptly make payment to all persons, firms, subcontractors and corporations who may furnish materials or labor under the Contract, then this obligation shall be void; otherwise to remain in full force and effect. The obligations of Contractor and Surety under this bond apply both to the original Contract and to any extension of time or modification of the Contract and Surety agrees that no change, extension of time, addition, expansion or other modification of the Contract, the work to be done under the Contract, or the plans and specifications which are a part of the Contract shall in any manner affect the obligations of Surety under this bond, and Surety waives notice of any such change, extension of time, addition, expansion or other modification. The obligations of Contractor and Surety under this bond are performable and payable in Dallas County, Texas such that exclusive venue for any legal action pertaining to this bond shall lie in Dallas County, Texas. By their signatures below, the persons signing this bond warrant and represent that they are, respectively, duly authorized to sign on behalf of Contractor and Surety.

EXECUTED this the _____ day of _____, 2_____.

CONTRACTOR: SURETY: 1

By:_____ By:_____

Title:_____ Title:_____

ACKNOWLEDGMENTS
[Contractor]

STATE OF TEXAS }
COUNTY OF DALLAS }

Before me _____ (insert the name of the officer) on this day _____ personally appeared _____ known to me (or proved to me on the oath of _____) or through _____ (description of identity card or other document) to be the person whose name is subscribed to the forgoing instrument and acknowledged to me that he/she executed the same for the purpose and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, 2_____.

_____ _____
Notary Public in and for the State of Texas Typed or Printed Name of Notary
My Commission Expires:_____

[Surety]

STATE OF TEXAS }
COUNTY OF DALLAS }

This instrument was acknowledged before me on the _____ day of _____, 2_____ by _____ who is the _____ of the Surety, on behalf of Surety.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the _____ day of _____, 2_____.

_____ _____
Notary Public in and for the State of Texas Typed or Printed Name of Notary

My Commission Expires:_____

1 Please see attached contact sheet for Surety and the Texas Department of Insurance

Payment and Performance Bond Contact Sheet

(1) Claims:

All notices of claims shall be sent to the surety at the following address:

_____
(Name of surety)

_____
(Mailing address)

_____
(Physical address)

_____
(Phone number)

(2) Texas Department of Insurance Contact Number:

The address and contact information of the surety may otherwise be obtained by contacting the Texas Department of Insurance at the following toll free telephone number:

1-800-252-3439.

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SECTION MB

MAINTENANCE BOND

MAINTENANCE BOND – TWO YEAR

STATE OF TEXAS '

COUNTY OF DALLAS '

WHEREAS,_____, as principal ("Contractor") and _____, a corporation organized under the laws of _____ and being duly authorized to do business in the State of Texas, as surety ("Surety")(whether one or more), do hereby expressly acknowledge themselves to he held and bound to pay to the Town of Addison, Texas, a home-rule municipality organized and operating under the Constitution and laws of the State of Texas (the "Town"), its successors and assigns the sum of _____ Dollars in the lawful currency of the United States of America ($) for the payment of which Contractor and Surety are liable to the Town, jointly and severally; and

WHEREAS, Contractor has this day entered into a written contract with the Town to build and construct which contract and the plans and specifications therein mentioned (collectively referred to hereinafter as the "Contract") are hereby expressly incorporated into and made a part hereof as though set forth at length; and

WHEREAS, under the Contract it is provided that the Contractor will maintain and keep in good repair all work to be performed and done under the Contract for a period of **two (2) years** from the date of acceptance of the completed work by the Town, and to do and perform all necessary work and repair any defective condition, it being understood that the purpose of this maintenance bond is to insure all warranties, express or implied, made or given by the Contractor to the Town and to cover all defective, inadequate or non-conforming conditions arising by reason of any materials or labor installed, provided, constructed or performed by the Contractor and in case the Contractor shall fail to correct any such conditions it is agreed that the Town may make such corrections and charge the cost of making those corrections against the Contractor and the Surety on this obligation, and the Contractor and Surety shall be subject to the liquidated damages provided in the contract, the plans and the specifications for each day's failure on its part to comply with the terms and provisions of the Contract;

NOW, THEREFORE, if the Contractor shall keep and perform its obligation to maintain the work and keep the work in repair for the full maintenance period of **two (2) years** as herein provided, then these presents shall be null and void and have no further effect, but if default shall be made by Contractor in the performance of its obligations, then these presents shall have full force and effect, and the Town shall have and recover from the Contractor and its Surety damages in the premises as provided and it is further understood and agreed that this obligation shall be a continuing one against the Contractor and the Surety and that successive recoveries may be had hereon for successive breaches until the full amount of this bond shall have been exhausted; and it is further understood that the obligation under this bond to maintain the work shall continue throughout the maintenance period and shall not be changed, diminished, or in any other manner affected during the term of this bond. The obligations of Contractor and Surety under this bond apply both to the original Contract and to any extension or modification of the Contract and Surety agrees that no change, extension of time, addition, expansion or other modification of the Contract, the work to be done under the Contract, or the plans and specifications which are a part of the Contract shall in any manner affect the obligations of Surety under this bond, and Surety waives notice of any such change, extension of time, addition, expansion or other modification. The obligations of Contractor and Surety under this bond are performable and payable in Dallas County, Texas such that exclusive venue for any legal action pertaining to this bond shall lie in Dallas County, Texas. By their signatures below, the persons signing this bond warrant and represent that they are, respectively, duly authorized to sign on behalf of Contractor and Surety.

EXECUTED this the _____ day of _____, 2_____.

CONTRACTOR:	SURETY:
By:_____	By:_____
Printed Name:_____	Printed Name:_____
Title:_____	Title:_____
Address of Principal:	Address of Surety:
_____	_____
_____	_____
_____	_____

ACKNOWLEDGMENTS

[Contractor]

STATE OF TEXAS '
COUNTY OF DALLAS '

Before me _____(insert the name of the officer) on this day _____ personally appeared _____ known to me (or proved to me on the oath of _____) or through _____ (description of identity card or other document) to be the person whose name is subscribed to the forgoing instrument and acknowledged to me that he/she executed the same for the purpose and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, 2_____.

_____ _____
Notary Public in and for the State of Texas Typed or Printed Name of Notary
My Commission Expires:_____

[Surety]

STATE OF TEXAS '
COUNTY OF DALLAS '

This instrument was acknowledged before me on the ___ day of _____, 2_____ by _____ who is the _____ of the Surety, on behalf of Surety.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the _____ day of _____, 2_____.

_____ _____
Notary Public in and for the State of Texas Typed or Printed Name of Notary
2-4-13 2 yr

SECTION BP

CONTRACTOR'S AFFIDAVIT OF BILLS PAID

CONTRACTOR'S AFFIDAVIT OF BILLS PAID

STATE OF TEXAS

COUNTY OF DALLAS

Personally, before me the undersigned authority, on this day appeared _____ who, being duly sworn, on oath, says that he is a legal representative of _____
(full name of Contractor as in contract)

and that the contract for the construction of the project, designated as

SEDIMENT REMOVAL FOR VITRUVIAN PARK

INFRASTRUCTURE AND DEVELOPMENT SERVICES BID NUMBER 19-77

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has been satisfactorily completed and that all bills for materials, apparatus, fixtures, machinery and labor used in connection with the construction of this project have, to the best of my knowledge and belief, been fully paid.

_____
Signature

_____
Title

Sworn to and subscribed before me this _____day of _____, 201_.

_____
Notary Public in and for

_____ County, Texas

Instructions:

If the contractor is an individual, he shall sign the affidavit. If the contractor is a partnership, any partner may sign the affidavit. If the contractor is a corporation, a person authorized by the by-laws or by the Board of Directors shall sign the affidavit. If the Contractor is a joint-venture of individuals, any of the individuals may sign the affidavit. If the Contractor is a joint-venture of partnerships, or of individuals and partnerships, the affidavit may be signed by the individual or any partner of any partnership. If the contractor is a joint-venture in which a corporation is a party, separate affidavits must be executed in the name of the joint-venture: one by each corporation and one by each individual or partnership. Signatures for corporations should be by a duly authorized officer. If signature is by another, a showing of authority to sign must accompany the affidavit.

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SECTION GP

GENERAL PROVISIONS

GENERAL PROVISIONS

The General Provisions of the Contract shall be as stated in the *Standard Specifications for Public Works Construction – North Central Texas, 4th Edition (2004)*, under Division 100, "General Provisions," Items 101.1 through 109.6 inclusive, as amended or supplemented and except as modified by the Special Provisions or Instructions to Bidders.

SECTION SP

SPECIAL PROVISIONS

SPECIAL PROVISIONS

1. **SCOPE OF WORK:** The Work to be performed under the provisions of these Contract Documents shall consist of furnishing all materials, labor, equipment, supplies and appurtenances; providing all construction, plant, equipment and tools; performing all necessary labor and supervision; and the construction complete, including all Work appurtenant thereto, the proposed improvements for: Sediment Removal for Vitruvian Park ("Project").

2. **GENERAL:** This Work shall conform to the requirements of the Specifications and the details as shown on the Plans. These Contract Documents are intended to be complementary. The Contractor shall do all work as provided in the plans, specifications, special provisions, bid and contract, and shall do such additional Extra work as may be considered necessary to complete the work in a satisfactory and acceptable manner. The Contractor shall furnish all labor, tools, materials, machinery, equipment, and incidentals necessary to the satisfactory prosecution and completion of the Work. Requirements of any of the Contract Documents are as binding as if called for by all. In the event of conflict between the Plans and the Specifications, the Contractor will be deemed to have assumed the more expensive way of doing the Work unless, before submitting a bid, the Contractor shall have asked for and obtained (by addendum) a written decision as to which method or material is intended.

In cases of discrepancies, calculated dimensions shall govern over scaled dimensions; Special Provisions and special Specifications shall govern over both General Provisions and standard Specifications; and quantities shown on the Plans shall govern over those shown in the proposal.

3. **EXAMINATION OF SITE:** The Contractor acknowledges that he has investigated and satisfied itself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, or similar physical conditions at the site, conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The Contractor acknowledges that he has inspected the site of the Work and is familiar with the soil conditions to be encountered. Any failure by the Contractor to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The Town of Addison assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Town and the Engineer.

4. **SPECIFICATIONS:** Construction improvements shall be governed by the following published specifications and details (except as modified by these Special Provisions):

Standard Specifications for Public Works Construction, North Central Texas - North Central Texas Council of Governments (4^{th} edition);

Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges – Texas Department of Transportation, 2014;

Town of Addison Standard Construction Details;

The Contractor shall keep copies of applicable Specifications on the Project site at all times.

Where reference is made to specifications compiled by other agencies, organizations or departments, such referenced specifications are hereby made a part of the Project Specifications.

5. **SUBSURFACE INVESTIGATION:** Subsurface exploration to ascertain the nature of soils, including the amount of rock, if any, is the responsibility of any and all prospective Bidders. It shall be the responsibility of the Bidders to make such subsurface investigations as he deems necessary to determine the nature of the material to be encountered. Some preliminary subsurface exploration has been performed by the Town of Addison and the Engineer, and is provided to the Contractor in the Contract Documents. This information is provided only as preliminary and all bids shall be based on information obtained by the Contractor. The Town of Addison and the Engineer disclaim any responsibility for the accuracy, true location and extent of the soils information that has been prepared by others. They further disclaim responsibility for interpretation of that data by Bidders, as in projecting soil bearing values, rock profiles, soils stability and the presence, level and extent of underground water.

6. **HISTORICAL, SCIENTIFIC AND ARCHAEOLOGICAL DISCOVERIES:** Contractor shall immediately give an oral and written report to the Town of Addison of the discovery of any articles of historical, scientific, or archaeological significance. Contractor shall take all necessary steps to preserve the article and shall cease operations, which would affect the find until otherwise directed by the Town of Addison but continue with all other unaffected operations. The future operations of Contractor with respect to the discovery, including disposition of the articles, shall be decided by the Town of Addison. The Town of Addison shall have sole and exclusive title to any discovered articles.

The Town of Addison shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in Contractor's cost of, or the time required for performing any part of the work under the Contract, whether or not changed as a result of conditions, an equitable adjustment will be made and the Contract modified in writing accordingly.

No request by Contractor for an equitable adjustment to the Contract under this Section shall be allowed unless Contractor has given the written notice required. No request by Contractor for an equitable adjustment of the Contract for differing site conditions will be allowed or shall be made after final payment under the Contract.

ENVIRONMENTAL REQUIREMENTS: In addition to requirements set forth in other sections of the Contract, including the Plans and Specifications, Contractor shall

ensure that the requirements of this Section are fulfilled and incorporated into its procedures and processes as well as those of any Subcontractors. All materials utilized by Contractor on the Project shall comply with all applicable local, state and federal laws and regulations.

A. Contractor is responsible for compliance with any requirements included in the Contract Documents regarding Hazardous Materials. If Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by Contractor, Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Town of Addison in writing.

1. The term "Hazardous Materials" means any substance or compound, whether solid, liquid or gaseous: (i) which is listed, defined or regulated as a "hazardous substance", "hazardous waste", "extremely hazardous waste", "solid waste", "toxic substance", "hazardous substance", "hazardous material" or "regulated substance" or otherwise classified as hazardous or toxic, in or pursuant to any Environmental Law; or (ii) which is or contains asbestos, radon, any polychlorinated biphenyl, urea formaldehyde foam insulation, explosive or radioactive material, lead, or motor fuel or other volatile organic compounds; or (iii) which causes or poses a threat to cause a contamination or nuisance on the Project Site or any adjacent property, or (iv) which causes or poses a threat to cause a hazard to the environment or to the health, safety or welfare of persons on or about the Project Site.

2. The term "Environmental Law" means any federal, state or local law, statute, guidance or policy statement, ordinance, code, rule, regulation, license, authorization, decision, order, injunction or decree, which pertains to health, safety or the environment (including, but not limited to, ground, air, water or noise pollution or contamination, and underground or aboveground tanks) and shall include without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, the Resource Conservation and Recovery Act of 1976, as amended, the Occupational Health and Safety Act, the Toxic Substances Control Act, the Texas Water Code and the Texas Solid Waste Disposal Act and any other state or federal environmental statutes.

B. If the material or substance was on the site prior to the issuance of the Notice to Proceed, the Town of Addison shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by Contractor and, in the event such material or substance is found to be present, to verify that it has been remediated to levels required by the Texas Commission on Environmental Quality. When the material or substance has been remediated, Work in the affected area shall resume upon written direction of the Town of Addison.

C. Except as provided in Subparagraph B., Contractor (with the Town of Addison's prior written approval of the laboratory) shall obtain the services of a licensed laboratory

to verify the presence or absence of the material or substance reported by Contractor and, in the event such material or substance is found to be present, the Town of Addison shall determine whether Contractor or the Town of Addison shall have the substance remediated to levels required by the Texas Commission on Environmental Quality. When the material or substance has been remediated, Work in the affected area shall resume upon written direction of the Town of Addison. The Contract time shall be not be extended and the Contract Price shall not be increased, unless the material or substance to be remediated were not introduced to the Work Site by Contractor, and Contractor shall then pay for (or reimburse the Town of Addison for) the testing and remediation.

D. The Town of Addison shall not be responsible under this Section for materials or substances Contractor brings or introduces to the Project Site. Contractor shall be responsible for the fault or negligence in the use and handling of materials or substances of Contractor, Subcontractor, Sub-subcontractor, or anyone directly or indirectly employed by any of them.

E. Contractor shall indemnify the Town of Addison and its affiliates for any and all damages incurred by the Town of Addison as a result of Contractor's actions with respect to all applicable state and federal environmental laws related to materials or substances Contractor brings to the Project Site, including but not limited to fines, penalties, costs of remediation and reasonable attorney's fees. No time extension shall be granted for breach of this provision.

F. Contractor agrees that it shall not transport to, use, generate, dispose of, or install at the Project Site any Hazardous Materials, except in accordance with applicable environmental laws. Further, in performing the Work, Contractor shall not cause any release of Hazardous Materials into, or contamination of, the environment, including the soil, the atmosphere, any water course or ground water unless required by the Contract Documents. In the event Contractor engages in any of the activities prohibited in this Section or fails to stop Work as provided in this Section, to the fullest extent permitted by law, Contractor hereby indemnifies and holds the Town of Addison, its affiliates and their respective officers, agents, employees and tenants harmless from and against any and all claims, damages, losses, causes of action, suits and liabilities of every kind, including but not limited to, expenses of litigation, court costs, punitive damages and attorneys' fees, arising out of, incidental to or resulting from the activities prohibited in this Section or Contractor's failure to stop Work as required. Contractor shall obtain from manufacturers and furnish to the Town of Addison Materials Safety Data Sheets (OSHA Form 20) for all materials incorporated into the Project by Contractor. The Town of Addison hereby agrees that, as between the Town of Addison and Contractor, the Town of Addison will be responsible for Hazardous Materials on site which existed prior to Contractor performing Work on the Project Site or which are introduced to the Project Site by the Town of Addison, except as provided in this Section. Contractor will not be considered the generator of Hazardous Materials on site which existed prior to Contractor performing Work on the Work Site or which are introduced to the Project Site by the Town of Addison. If the Hazardous Materials were on the Project Site prior to Contractor's presence on the Project Site or were introduced to the Project Site by the

Town of Addison, then, if appropriate, the Town of Addison will make an equitable adjustment to the Contract.

G. Include in all construction subcontracts exceeding $100,000, the following requirement: "Contractor is responsible for compliance with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act, Section 505 of the Clean Water Act, Executive Order 11738, and Environmental Protection Agency regulations."

H. No request by Contractor for an equitable adjustment to the Contract under this Section shall be allowed unless Contractor has given the written notice required.

I. No request by Contractor for an equitable adjustment of the Contract for Hazardous Materials will be allowed or shall be made after final payment under the Contract.

7. **COMPLIANCE WITH LAWS:** The Contractor shall familiarize himself with the nature and extent of the Specifications, Plans, Project Site conditions, traffic and safety requirements, and shall fully comply with all local, state and federal laws, including all codes, ordinances, rules and regulations applicable to this Contract and the Work to be done hereunder, which exist or which may be enacted later by governmental bodies having jurisdiction or authority for such enactment. The Contractor shall comply with all federal, state and local laws, rules and regulations of every kind and nature applicable to the performance of its Work hereunder, and shall hold the Town of Addison and the Engineer harmless therefrom. No plea of ignorance or misunderstanding thereof will be considered.

8. **PERMITS, LICENSES. AND REGULATIONS:** Permits and licenses for the prosecution of the Work shall be secured and paid for by the Contractor. Any required permit fees will still be paid by the Contractor. Wherever the Work under this contract requires the obtaining of permits from the Town of Addison or other public authorities, duplicate copies of such permits shall be furnished to the Engineer by the Contractor hereunder before the Work covered thereby is started. **NO WORK WILL BE ALLOWED TO PROCEED BEFORE SUCH PERMITS ARE OBTAINED.**

9. **RIGHTS-OF-WAY AND EASEMENTS:** Rights-of-way and permanent easements, dedicated to the Town of Addison, will be secured for this Project and made a part of thereto. The Contractor shall obtain a right-of-way permit from the Town of Addison prior to beginning Work. When working within the public rights-of-way and easements, the Contractor shall at all times observe and comply with all Federal and State Laws, and Town of Addison ordinances and regulations which in any way affect the conduct of the Work or its operations, and shall observe and comply with all orders, laws, ordinances and regulations which exist or which may be enacted later by bodies having jurisdiction or authority for such enactment. No plea of misunderstanding or ignorance thereof will be considered. The Contractor and his Sureties shall indemnify and save harmless the Town of Addison, the Engineer and all of their officers, agents, and employees against

any and all claims or liability arising from or based on the violation of any such law, ordinance, regulation, or order, whether it be by itself or its employees.

It shall be the responsibility of the Contractor, prior to the initiation of construction on easements through private property, to inform the property owner of its intent to begin construction. Before beginning construction in areas of public dedication, the Contractor shall inform the agency having jurisdiction in the area forty-eight (48) hours prior to initiation of the Work. All easements shall be cleaned up after use and restored to their original conditions or better.

10. **RESTRICTED WORK HOURS:** Per the Town of Addison Building Regulations, "It shall be unlawful for a person, firm or corporation to excavate, erect, build, construct, alter, repair or demolish any building or structure which has been issued or which is required to be issued a building permit by the Town of Addison between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday, and between the hours of 7:00 p.m. and 8:00 a.m. on Saturday and Sunday, if such activity is performed within a residential, apartment, or townhouse zoned area, or within three hundred (300) feet of an occupied residence, except in cases of urgent necessity or in the interest of public safety and convenience, and then only by permit of the City Manager."

It is in the interest of the public safety and convenience for the Work under this Project to occur outside the standard Work hours. However, the contractor will must present a detailed Work schedule and obtain written approval from the Town.

11. **COMPLIANCE WITH IMMIGRATION LAWS:** Contractor shall take all steps necessary to ensure that all of the Contractor's employees are authorized to work in the United States as required by the Immigration Reform and Control Act of 1986.

12. **NON-DISCRIMINATION POLICY:** It is the policy of the Town of Addison to afford all people an equal opportunity to bid on any contract being let by the Town. The Town of Addison has a policy that prohibits discrimination against any person because of race, color, sex, or national origin, in the award or performance of any contract. The Town of Addison will require its employees, agents, and Contractors to adhere to this policy.

13. **ANTITRUST LAWS:** The Contractor hereby assigns to the Town of Addison any and all claims for overcharges associated with this contract which arise under the antitrust laws of the United States 15 U.S.C.A. Sec. 1, et seq. (1973).

14. **ABANDONMENT:** The Town of Addison reserves the right to abandon, without obligation to the Contractor, any part of the Project, or the entire Project, at any time before the Contractor begins any construction Work authorized by the Town of Addison. In case of total abandonment of the Project, the Contract becomes void. The Town of Addison may abandon portions of the Project at any time during the Project duration. In case of such partial abandonment, the Contractor shall not be due any payment for lost or unrealized profits on the abandoned portions of the Project.

15. **DISCREPANCIES:** If the Contractor, in the course of the Work, finds any discrepancy between the Contract Documents and the physical conditions of the Project, or any errors or omissions in Plans or in the layout as given by survey points and instructions, or if it appears that any Plan, Specification or other Contract Document is or may not be in compliance with any building code or other requirement of any governmental body, he shall immediately inform the Town of Addison and the Engineer in writing, and the Town of Addison and the Engineer shall promptly verify the same. Any Work done after such discovery, until authorized, will be done at the Contractor's risk.

16. **PREPARATION OF STORM WATER POLLUTION PREVENTION PLAN:** A Storm Water Pollution Prevention Plan (SW3P) will not be required for this project.

This specification is not all inclusive of the requirements for an SW3P. The Contractor shall comply with all requirements of the TCEQ TPDES permit and the local authorities' storm water ordinance and/or regulations.

17. **ADDENDA:** Bidders desiring further information, or interpretation of the Plans and Specifications, must make written request for such information to the Engineer (not later than six (6) working days prior to the date set for the Bid opening. The ability to ask questions will close at **5:00 PM, Monday, February 18, 2019**. Answers to all such requests will be issued in the form of Addenda and a copy of such Addenda will be released through www.bidsync.com. It will be the responsibility of each person who has been issued as set of Bidding Documents to secure all Addenda from www.bidsync.com. Addenda will be bound with and made a part of the Contract Documents. No other explanation or interpretation will be considered official or binding. Should a Bidder find discrepancies in, or omissions from, the Plans, Specifications or Contract Documents, or should it be in doubt as to their meaning, it shall at once notify the Engineer in writing in order that a written addendum may be sent to all Bidders.

18. **PAY ITEMS:** Pay items provided are intended to be all-inclusive of the Work required on this Project. Work required by the Plans or Specifications but not provided with a specific pay item shall be considered incidental to other items of Work. Final payment to the construction Contractor shall not be made until all Work has been finally completed and verified in accordance with the construction contract, Plans and Specifications and have been finally accepted by the Town of Addison.

See bid item descriptions/reference specifications for details.

19. **INCREASE OR DECREASE IN QUANTITIES:** The quantities shown in the proposal are approximate. Final payment will be based on quantities determined by measurement methods described for each Work item.

When the quantity of Work to be done or materials to be furnished under any major pay item or contract is more than 125% of the quantity stated in the contract, whether stated by Town of Addison or by Contractor, then either party to the contract, upon demand, shall be entitled to negotiate for revised consideration on the portion of Work above 125% of the quantity stated in the contract.

When the quantity of the Work to be done or materials to be furnished under any major pay item of the contract is less than 75% of the quantity stated in the contract, whether stated by Town of Addison or by Contractor, then either party to the contract, upon demand, shall be entitled to negotiate for revised consideration on the portion of Work below 75% of the quantity stated in the contract. This paragraph shall not apply in the event Town of Addison deletes a pay item in its entirety from this contract.

20. **SUBSIDIARY WORK:** Any and all Work specifically governed by documentary requirements for the Project, such as conditions imposed by the Plans or these Special Provisions, in which no specific item for bid has been provided for in the Proposal, shall be considered as a subsidiary item of Work, the cost of which shall be included in the various bid items in the Proposal. Costs of permits, inspection fees, traffic control, construction staking, surface restoration and cleanup are general items of Work which fall in the category of subsidiary Work. Any repairs or replacement of items damaged during demolition or as a result of new construction will be considered subsidiary. Limits of all Work requiring repair will be determined by the Town of Addison staff or the inspector. Extreme care should be taken during all demolition and construction operations.

21. **QUALIFICATION OF BIDS:** The Town of Addison reserves the right to reject any and all Bids, to waive any and all informalities not involving price, time or changes in the Work, and the right to disregard all nonconforming, non-responsive, unbalanced, or conditional Bids. The Town reserves the right to reject the Bid of any Bidder if the Town believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by the Town. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolve in favor of the correct sum.

To be considered responsive, the apparent three lowest Bidders are required to submit the Statement of Experience per Section BQS "Bidder Qualification Statement" within 5 days.

The apparent low three Bidders will be notified by the Engineer to request the information.

AWARD AND EXECUTION OF CONTRACT: For the purpose of award, each bid submitted shall consist of the correct summation of the products of the estimated quantities shown in the proposal, multiplied by their bid unit prices.

Bidders must fill bid proposal for all base bids and all additive alternates. The method of Award will be based on the lowest qualified bidder for all base bids plus any combination of the additive alternates depending on the availability of funds.

The Town reserves the right to accept whichever bid is determined to be in the best interest of the public and to reject all bids.

All payments will be based on actual quantities and bid unit prices.

22. **EXPLANATION OF CONTRACT TIME:** The term "Contract Time" as used in this Provision will mean the **90** calendar days for completion of the Work of the Contract from the date the Contract was executed. The term "calendar day" as used in this Article will mean every day shown on the calendar. Calendar days will be consecutively counted from commencement of Contract Time regardless of weather, weekends, holidays, suspensions of Contractor's operations, delays or other events as described herein.

In the event of a catastrophic event (i.e., war, invasion, riot, declared state of emergency, national strike, or other situations as declared by the Town of Addison) directly and substantially affecting the Contractor's operations on the Contract, the Contractor and the Town shall agree as to the number of calendar days to extend the Contract Time. In the event the Contractor and Town are unable to agree to the number of calendar days to extend the Contract Time, the Town shall unilaterally determine the number of calendar days to extend the Contract Time reasonably necessary and due solely to such catastrophic event and the Contractor shall have no right whatsoever to contest such determination, save and except that the Contractor establishes that the number of calendar days determined by the Town were arbitrary or without any reasonable basis.

Should the Contractor fail to complete the Contract on or before expiration of the Allowable Contract Time, as adjusted in accordance with the provisions above, the Town shall deduct from the moneys due the Contractor the Daily Value as shown in provision 99 for each calendar day completion exceeds the Allowable Contract Time. The term "Allowable Contract Time" as used in this Article shall mean the Original Contract Time plus adjustments pursuant to the statements above. This deduction shall be the disincentive for the Contractor's failing to timely complete the Contract. **This shall be strictly enforced.**

23. **COPIES OF PLANS FURNISHED:** One (1) copy of 11" x 17" and one (1) electronic copy of the Plans shall be furnished to the successful Contractor, at no charge, for construction purposes. Additional copies may be obtained at cost of $150.00 per set upon request.

24. **PRE-CONSTRUCTION CONFERENCE:** The successful Contractor, Engineer, and Town of Addison shall meet for a pre-construction conference before any of the Work begins on this Project. At this time, details of sequencing of the Work, contact individuals for each party, testing requirements, submittals, and pay requests will be covered. Prior to the meeting, the Contractor shall prepare schedules showing the sequencing and progress of their Work and its effect on others. A final composite schedule will be prepared during this conference to allow an orderly sequence of Project construction.

25. **MOBILIZATION:** See specification 01270 included in the technical specifications.

26. **GENERAL SEQUENCE OF CONSTRUCTION:** Prior to the start of Work, the Contractor shall develop a detailed construction and sequence of construction schedule using the critical path method (CPM) and submit to the Town of Addison and Engineer for approval. The CPM shall reflect all definable features of Work and activities that shall cause minimum interference with traffic along, across and adjacent to the Project during construction. If the schedule or sequence becomes unworkable or unsatisfactory as Work proceeds, adjustments shall be made. During all phases of construction access to all existing businesses must be maintained at all times unless otherwise authorized in writing by the Town of Addison or Addison Airport. Erosion control devices must be properly installed and maintained during all stages of construction.

The Contractor must comply with all work area restrictions as indicated in the Plans unless specifically authorized in writing by the Town of Addison.

The general intent is for the contractor to begin within one area and steadily progress limiting the area of construction to minimize disruptions to aircraft operations and businesses along the route.

27. **PROJECT REPRESENTATIVE:** The Town of Addison, the Engineer, the Contractor(s), and any applicable public utilities shall designate a single individual within their organization to act as liaison for the Project. This individual shall be aware of the day to day activities on the Project, have authority to make decisions binding on the party, and serve as single point for coordination of activities with the other team members. The Contractor's representative must be available to meet and discuss construction related issues on site or at the Town's offices within 20 minutes of a request during working hours and throughout the entire construction period. Upon repeated failure of attendance at requested meetings, Contractor will be required to have a Project representative on-site at all times.

28. **COORDINATION WITH OTHERS:** In the event that other Contractors are doing Work in the same area simultaneously with this Project, the Contractor shall coordinate his proposed construction with that of the other Contractors. The Town of Addison and/or the Engineer shall mediate any disputes, and the Contractors shall comply with their decisions.

29. **INSURANCE:** Each insurance policy that the Contractor must furnish in accordance with these contract documents shall name the Town of Addison and the Engineer as additional insured. Contractor shall include in their bid package, a copy of their certificate of insurance showing compliance to the limits established by the Town of Addison.

1.0 The Contractor shall agree to furnish and maintain continuously during the period of this agreement, any renewals or extension, insurance coverage meeting all of the following requirements:

1.1 Commercial General Liability Insurance at minimum combined single limits of $1,000,000 per occurrence and $2,000,000 general aggregate for Bodily Injury and Property Damage, which coverage shall include Products/Completed Operations, and XCU Hazards. Coverage for product/completed operations must be maintained for at least two (2) years after the construction Work has been completed. Coverage must be amended to provide for an each-project aggregate limit of insurance. Contractual Liability must be included.

1.2 Workers Compensation Insurance at statutory limits, including employer's liability coverage at minimum limits of $1,000,000 each occurrence-each accident, $1,000,000 by disease-each occurrence and $1,000,000 by disease aggregate

1.3 Commercial Automobile Liability Insurance at minimum combined single limits of $1,000,000 per occurrence for bodily injury and property damage, including owned, non-owned, and hired car coverage.

1.4 Umbrella Liability at minimum limits of $1,000,000 each-occurrence $4,000,000 aggregate with respect to primary commercial general liability, automobile liability and employer's liability policies.

1.5 Any Subcontractor(s) hired by the Contractor shall maintain insurance coverage equal to that required by the Contractor. It is the responsibility of the Contractor to assure compliance with this provision. The Town accepts no responsibility arising from the conduct, or lack of conduct, of the Subcontractor.

1.6 A comprehensive general liability insurance form may be used in lieu of a commercial general liability form. In this event, coverage must be written on an occurrence basis, at limits of $1,000,000 each-occurrence, combined single limit and coverage must include a broad form comprehensive general liability endorsement, products/completed operations, XCU hazards and contractual liability.

2.0 With reference to the foregoing insurance requirements, Contractor shall specifically endorse applicable insurance policies as follows:

2.1 The Town shall be named as an additional insured with respect to general liability and automobile liability.

2.2 All liability policies shall contain no cross liability exclusions or insured versus insured restrictions.

2.3 A waiver of subrogation in favor of the Town of Addison shall be contained in the workers compensation and all liability policies.

2.4 All insurance policies shall be endorsed to require the insured to immediately notify the Town of Addison of any material changes in the insurance coverage.

2.5 All insurance policies shall be endorsed to the effect that the Town will receive at least thirty (30) days notice prior to cancellation or non-renewal of the insurance.

2.6 All certificates shall be mailed to Town of Addison, Purchasing Dept., P.O. Box 9010, Addison, Texas 75001 or emailed to purchasing@addisontx.gov.

2.7 All insurance policies, which name the Town as an additional insured, must be endorsed to read as primary coverage regardless of the application of other insurance.

2.8 Required limits may be satisfied by any combination of primary and umbrella liability insurances.

2.9 Contractor may maintain reasonable and customary deductibles, subject to approval by the Town.

3.0 All insurance shall be purchased from an insurance company who meets the following requirements:

3.1 Must be issued by a carrier, which is rated "A-" VII or better by A.M. Best's Key Rating Guide.

3.2 Licensed and admitted to do business in the State of Texas and is a subscriber to the Texas Guaranty Fund.

4.0 All insurance must be written on forms filed with and approved by the Texas State Board of Insurance. Certificates of insurance shall be prepared and executed by the insurance company or its authorized agent and shall contain provisions representing and warranting the following:

4.1 Set forth all endorsements and insurance coverages according to requirements and instruction contained herein.

4.2 Shall specifically set forth the notice-of-cancellation or termination provisions to the Town.

5.0 Upon request, Contractor shall furnish the Town of Addison with certified copies of all insurance policies.

WORKERS' COMPENSATION INSURANCE COVERAGE:

A. Definitions.

Certificate of Coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self insure issued by the Texas Workers' Compensation Commission (the "TWCC"), or a coverage agreement (TWCC-81, TWCC-82, TWCC-83 or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a Project, for the duration of the Project.

Duration of the Project - includes the time from the beginning of the Work on the Project until the Contractor's/person's Work on the Project has been completed and accepted by the governmental entity.

Persons Providing Services on the Project ("Subcontractor" in Section 406.096 of the Texas Labor Code) - includes all persons or entities performing all or part of the services the Contractor has undertaken to perform on the Project, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent Contractors, Subcontractors, leasing companies, motor carriers, Town-operators, employees of any such entity or employees of any entity which furnishes persons to provide services on the Project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a Project. "Services" does not include activities unrelated to the Project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

B. The Contractor shall provide coverage, based on property reporting of classification codes and payroll amounts and filing of any coverage agreement, which meets the statutory requirements of Texas Labor Code, 401.011(44) for all employees of the Contractor providing services on the Project, for the duration of the Project.

C. The Contractor must provide a certificate of coverage to the Town of Addison prior to being awarded the contract.

D. If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the Project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the Town of Addison, showing that the coverage has been extended.

E. The Contractor shall obtain from each person providing services on the Project, and provide to the Town of Addison:

(1) a certificate of coverage, prior to that person beginning Work on the Project, so that the Town of Addison will have on file certificates of coverage showing coverage for all persons providing services on the Project; and,

(2) no later than seven days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;

F. The Contractor shall retain all required certificates of coverage on file for the duration of the Project and for one year thereafter.

G. The Contractor shall notify the Town of Addison in writing by certified mail or personal delivery, within 10 days after the Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project.

H. The Contractor shall post on each Project site a notice, in the text, form and manner prescribed by the TWCC, informing all persons providing services on the Project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage.

I. The Contractor shall contractually require each person with whom it contracts to provide Services on a Project to:

(1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Codes 401.011 (44) for all its employees providing services on the Project, for the duration of the Project;

(2) provide to the Contractor, prior to that person beginning Work on the Project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the Project, for the duration of the Project;

(3) provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;

(4) obtain from each person with whom it contracts, and provide to the Contractor; a certificate of coverage, prior to the other person beginning Work on the Project; and,

b. a new certificate of coverage showing extension of the coverage period, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the Project.

(5) retain all required certificates of coverage on file for the duration of the Project and for one year thereafter;

(6) notify the Town of Addison in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project; and

(7) contractually require each other person with whom it contracts to perform as required by paragraphs (1) - (7) with the certificate of coverage to be provided to the person for whom they are providing services.

J. By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the Town of Addison that all employees of the Contractor who will provide services on the Project will be covered by worker's compensation coverage for the duration of the Project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the TWCC's Division of Self-Insurance Regulation. Providing false or

misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties or other civil actions.

K. The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the Town of Addison to declare the contract void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Town.

The following is the form of notice of workers' compensation coverage prescribed by the TWCC. Pursuant to Section 110.110 (d) (7), this notice must be printed with a title in at least 30-point bold type, and text in at least 19-point nominal type, and shall be in both English and Spanish and any other language common to the worker population.

REQUIRED WORKERS' COMPENSATION COVERAGE

"The law requires that each person working on this site or providing services related to this construction Project must be covered by workers' compensation insurance. This includes persons providing, hauling or delivering equipment or materials, or providing labor or transportation or other service related to the Project, regardless of the identity of their employer or status as an employee.

"Call the Texas Workers' Compensation Commission (TWCC) at (512) 440-3789 to receive further information on the legal requirements for coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage."

30. **RESOLUTION OF DISPUTES:** The parties hereby covenant and agree that in the event of any controversy, dispute, or claim, of whatever nature arising out of, in connection with or in relation to the interpretation, performance or breach of this Contract, including but not limited to any claims based on contract, tort or statute, before filing a lawsuit, the parties agree to submit the matter to Alternative Dispute Resolution pursuant to the laws of the State of Texas. The parties shall select a third party arbitrator or mediator from the current list of neutrals on file with the Alternative Dispute Resolution Administrator of the Dallas County District Courts or other mutually agreeable mediator or arbitrator. All forms of Alternative Dispute Resolution may be used except binding arbitration. The proceedings shall be conducted in accordance with the laws of the State of Texas.

31. **SHOP DRAWINGS:** The Contractor shall provide, review, approve and submit all shop drawings, product data and samples required by the Town of Addison, the Engineer and the Contract Documents in accordance with Item 1.28 of the Standard Specifications for Public Works Construction, North Central Texas Council of Governments. The Contractor shall furnish a minimum of four and a maximum of six copies of shop drawings for review by the Engineer, who will review, approve and forward to the Town of Addison for acceptance. Approved submittals will be returned as follows:

Two (2) – Town of Addison

One (1) – Contractor

One (1) – Garver

Maximum size of submittals shall be 11 x 17 inch. No fax copies are acceptable. Shop drawings shall include all items to be installed in the Project, including but not limited to:

- SWPPP
- Dredging Plan

32. **PROJECT VIDEO:** Prior to the start of construction, Contractor shall video the construction area and property adjacent to construction in the presence of the City Inspector. The format shall be DVD. The video shall be narrated. The Contractor shall furnish the Town of Addison a copy of the video in DVD format prior to commencement of Project. This shall be subsidiary to Project.

33. **SAMPLES AND TESTS OF MATERIALS:** The Town of Addison shall designate and pay an independent testing laboratory to furnish testing for this Project. Random testing will be provided by the independent lab as necessary for compliance with the Specifications. The Contractor shall coordinate construction with the testing lab and the Town of Addison, and shall provide assistance to the testing labs by providing excavation, access, trench safety, materials for testing and any other Work required to insure all testing requirements are met. Work performed to accommodate testing will be a subsidiary item and no extra payment will be authorized. All costs for the field quality control testing shall be paid for by the Town of Addison, except for any and all re-testing, which shall be paid by the Contractor and such cost shall be deducted from monthly pay requests. As a guide, the Contractor shall be responsible for providing any test required by the Specifications.

All samples and tests shall be performed in accordance with the Standard Specifications for Public Works Construction, North Central Texas Council of Governments (Latest Edition) as amended or supplemented.

34. **INSPECTION:** The Town of Addison and the Engineer reserve the right to inspect, test, measure or verify the construction Work for this Project as they deem necessary to ascertain that the Work is being accomplished in accordance with the standards and requirements set forth in the Contract Documents. Notwithstanding such reviews, the Contractor will be held responsible for the finished Work and any acceptance of the Work by the Town or governmental agencies will not relieve the Contractor from responsibility for the Work. The Town reserves the right to place full-time construction inspectors at the site of the Work. Costs for inspection services will be paid by the Town of Addison. The Contractor shall provide assistance to the Town of Addison and the Engineer by providing excavation, trench safety, or other Work necessary to facilitate inspection activities, and shall give sufficient notice well in advance of pending construction activities for scheduling of inspection services.

If the Specifications, the Town's instructions, laws, ordinances, or any public authority require any Work to be specially tested, the Contractor shall give the Town timely notice of its readiness for testing, and if the testing is by an authority other than the Town, of the date fixed for such testing. Tests by the Town shall be made promptly, and where practicable at the source of supply.

35. **ACCESS ROUTES, STAGING AREAS AND STORAGE AREAS:** All haul roads and access routes and the location of job site trailers, staging areas, and storage areas shall be subject to the approval of the Town and the Engineer. The Contractor shall be responsible for maintaining and repairing all roads and other facilities used during construction. Upon completion of the Project all existing roads and other disturbed areas shall be left in a condition equal to that at the time the Contractor commences Work on this Project.

36. **PROPERTY ACCESS:** Access to adjacent hangars shall be maintained at all times unless otherwise directed by the Engineer and/or Town of Addison. Contractor shall also maintain sufficient access throughout the Project limits to the existing apartment buildings and businesses during construction operations.

37. **PLANT, PROCEDURES, METHODS AND EQUIPMENT:** The Contractor shall determine the methods to be employed, the procedures to be followed, and equipment to be used on the Work under this contract, subject to the requirements of these Specifications and approval of the Engineer and Town of Addison. Only adequate and safe procedures, methods and equipment shall be used.

The Contractor shall so arrange his Work and provide such plant and equipment as is necessary in order to meet the progress requirements of the approved time schedule and to complete the Work within the period of time as specified in the Contract. Only such materials and equipment as are necessary for the construction of the Work under this contract shall be placed, stored or allowed to occupy any space at the site of the Work.

It is expressly agreed that the acceptance or approval of any order of procedure, methods or equipment submitted or employed by the Contractor shall not in any manner relieve the Contractor of responsibility for the safety, maintenance and repairs of any Work, or for the construction maintenance and safety of the Work hereunder, or from any liability whatsoever on account of any procedure or method employed by the Contractor.

Where the Work under this contract requires permits from the Town of Addison, the State of Texas, or other public authorities, duplicate copies of such permits shall be furnished to the Engineer by the Contractor before the Work covered thereby is started. **NO WORK WILL BE ALLOWED TO PROCEED BEFORE REQUIRED PERMITS ARE OBTAINED AND DISTRIBUTED.**

38. **PARKING OF CONSTRUCTION EQUIPMENT:** At night and during all other periods of time when equipment is not being actively used on the construction Work, the Contractor shall park the equipment at locations which are approved by the Town of Addison. The Contractor shall provide adequate barricades, markers and lights to protect

the Town of Addison, the Engineer, the public and other Work. All barricades, lights, and markers must meet the requirements of the Town of Addison, State and Federal regulations.

39. **ZONING REQUIREMENTS:** During the construction of this Project, the Contractor shall comply with the present zoning requirements of the Town of Addison in the use of vacant property for storage purposes.

40. **IN PUBLIC ROADS AND PRIVATE DRIVES:** No public road shall be entirely closed overnight. It shall be the responsibility of the Contractor to build and maintain all weather bypasses and detours, if necessary, and to properly light, barricade and mark all bypasses and detours that might be required on and across the roads involved in the Work included in this Contract.

The Contractor shall make every effort to complete construction and allow immediate access to adjacent property at driveway entrances located along the roadways. Towns or tenants of improvements where access and/or entrance drives are located shall be notified at least twenty-four (24) hours prior to the time the construction will be started at their driveways or entrances and informed as to the length of time driveways will be closed. Contractor shall at all times maintain at least one point of access into all properties, unless obtaining written permission from property Town to do otherwise with such written permission being provided to the Town's inspector.

The Contractor shall be responsible for all road and entrance reconstruction and repairs and maintenance of same for a period of two years from the date of Town of Addison's acceptance of the Work. In the event the repairs and maintenance are not made immediately to the satisfaction of the Town, and it becomes necessary for the Town to make such repairs, the Contractor shall reimburse the Town for the cost of such repairs.

The Contractor shall, at all times, keep a sufficient width of the roadway clear of dirt and other material to allow the free flow of traffic. The Contractor shall assume any and all responsibility for damage, personal or otherwise, that may be caused by the construction along roads and private drives.

41. **HAULING ON TOWN OF ADDISON STREETS:** The Contractor shall receive approval of its haul routes and type of equipment to be used prior to beginning construction. The Contractor shall be responsible for maintaining the cleanliness of existing paved roadways and shall provide equipment and manpower for that purpose.

42. **EXISTING POWER POLES & GUY WIRES:** The Contractor shall have the responsibility of coordinating with the proper authorities for the bracing, replacing or relocating of all utility poles and guy wires which interfere with the Work on this Project prior to beginning its construction operations. The Contractor will also be responsible for all damage to poles, guy wires, etc. that are damaged or destroyed by Contractor's operations.

43. **SAFETY RESTRICTIONS - WORK NEAR HIGH VOLTAGE LINES:** The following procedures shall be followed for Work near high voltage lines on this contract:

a. A warning sign not less than five (5) inches by seven (7) inches, painted yellow with black letters that are legible at twelve (12) feet shall be placed inside and outside vehicles such as cranes, derricks, power shovels, drilling rigs, pile driver, hoisting equipment or similar apparatus. The warning sign shall read as follows: "Warning - Unlawful to Operate This Equipment Within Six Feet of High Voltage Lines."

b. Equipment that may be operated within ten (10) feet of high voltage lines shall have an insulating cage guard protecting the boom or arm, except backhoes or dippers, and insulator links on lift hook connections.

c. When necessary to Work within six (6) feet of high voltage electric lines, notify the power company who will erect temporary mechanical barriers, de-energize the line, or raise or lower the line. All such Work done by the power company shall be at the expense of the Contractor. The Contractor shall maintain an accurate log of all such calls to the power company.

d. The Contractor is required to make arrangements with the power company for the temporary relocation or raising of high voltage lines at the Contractor's sole expense.

e. No person shall Work within six (6) feet of high voltage lines without protection measures having been taken as outlined in Paragraph c.

44. **PROTECTION OF EXISTING UTILITIES AND STRUCTURES:** The location and dimensions shown on the Plans relative to existing utilities and subsurface structures are based on the best records and/or field information available and are not guaranteed by the Town of Addison or the Engineer to be accurate as to location and depth. It shall be the Contractor's responsibility to verify locations of adjacent and conflicting utilities sufficiently in advance of its activities in order that he may negotiate such restrictive locations with the Town of Addison of the conflicting utility and/or make local adjustments to provide adequate clearances. The Contractor shall take all necessary precautions in order to protect all utilities and services encountered, whether or not they are indicated on the Plans. All damage to utilities resulting from Contractor's operations shall be restored at its expense. The Town of Addison and the Engineer assume no responsibility for failure to show any or all of these utilities or structures on the Plans, or to show them in their exact locations. It is mutually agreed that such failure shall not be considered sufficient basis for claims for additional compensation for Extra Work or for increasing the pay quantities in any manner whatsoever, unless the obstruction encountered is such as to necessitate changes in the lines or grades, or requires the building of special Work, provisions for which are not made in the Plans, in which case, provisions in these Specifications for Extra Work shall apply.

45. **PUBLIC UTILITIES AND OTHER PROPERTY TO BE CHANGED:** In case it is necessary to change or move the property of a public utility, such property shall not be moved or interfered with until authorized by the Town of Addison or the Engineer. The

right is reserved for the Owner of public utilities to enter upon the limits of the Project for the purpose of making such changes or repairs of their property that may be made necessary by performance of the Contract. The Contractor shall be responsible for coordination with the Town of Addison and the Engineer, and all utility companies whose utility lines or streets may be affected by the proposed improvements. The Contractor shall observe the following:

a. Prior to any excavation, the Contractor shall determine the locations of all existing water, gas, sewer, electric, telephone, telegraph, television, pipelines and other underground utilities and structures.

b. After commencing Work, the Contractor shall use every precaution to avoid interference with existing underground and surface utilities and structures, and protect them from damage.

c. Where the locations of existing underground and surface utilities and structures are indicated, these locations are generally approximate, and all items which may be encountered during the Work are not necessarily indicated. The Contractor shall determine the exact locations of all items indicated, and the existence and locations of all items not indicated.

d. The Contractor shall repair or pay for all damage caused by its operations to all existing utility lines, public property, and private property, whether it is below ground or above ground, and he shall defend and settle in total the cost of all lawsuits which may arise as a result of its operations.

e. To avoid unnecessary interferences or delays, the Contractor shall coordinate all utility removals, replacements and construction with the appropriate utility company, and then request written authorization from the Town of Addison or the Engineer. The Town of Addison and the Engineer will not be liable for damages due to delay as a result of the above.

46. **MAINTENANCE AND REPAIRS:** The Contractor shall maintain and keep in good repair all Work contemplated under these Plans, Specifications, and Plans which shall include the maintenance and repair of all existing streets, storm sewer crossings, utility crossings, temporary crossings for access to adjacent property, barricades, lights, and danger signals, and all Work which is necessary for the well being of the general public. In the event the Contractor fails in its obligations to properly maintain the Work, the Town of Addison shall make such repairs as are necessary and the cost of such repairs shall be deducted from payment due the Contractor.

47. **PROTECTION OF WORK:** During performance and up to date of final acceptance, the Contractor shall be under the absolute obligation to protect the finished Work against damage, loss or injury. In the event of damage, loss or injury, the Contractor shall promptly replace or repair such Work, whichever the Town of Addison shall determine to be preferable. The obligation to deliver finished Work in strict accordance with the contract prior to final acceptance shall be absolute and shall not be affected by the Town

of Addison's approval of or failure to prohibit means and methods of construction used by the Contractor. All risk of loss or damage to the Work shall be borne solely by the Contractor until final acceptance of all Work by the Town of Addison, as evidenced by the Town of Addison's issuance of a certificate of acceptance.

48. **PUBLIC CONVENIENCE AND SAFETY:** In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions of the Project site, including safety of all persons and property during performance of the Work. This requirement shall apply continuously and not be limited to normal Work hours.

Materials stored about the Work site shall be so placed, and the Work shall at all times be so conducted, as to cause no greater obstruction to the traveling public than is considered necessary by the Town of Addison. The materials excavated shall be placed so as not to endanger the Work or prevent free access to all fire hydrants, water valves, gas valves, manholes (telephone, telegraph or electrical conduits, and sanitary sewers) and fire alarm or police call boxes in the vicinity.

The Town of Addison reserves the right to remedy any neglect on the part of the Contractor as regards to the public convenience and safety which may come to the Town of Addison's attention, after 24 hours notice in writing to the Contractor, save in cases of emergency, when the Town of Addison shall have the right to remedy any neglect without notice; and, in either case, the cost of such Work done by the Town of Addison shall be deducted from the monies due or to become due the Contractor. The Contractor shall notify the Town of Addison and the Engineer when any street is to be closed or obstructed. The Contractor shall provide for emergency vehicle access at all times.

Where the Work passes over or through private property, the Town of Addison shall provide such right-of-way. The Contractor shall notify the proper representatives of any public utility, corporation, company or individual, not less than 48 hours in advance of Work which might damage or interfere with the operation of their property along or adjacent to the Work. The Contractor shall be responsible for all damage or injury to property of any character (except such as may be required by the provisions of the Contract Documents, or caused by agents or employees or the Town of Addison) by reason of any negligent act or omission on the part of the Contractor, its employees, agents or Subcontractors, or at any time due to defective Work or materials, or due to its failure to reasonably or properly prosecute the Work, and said responsibility shall not be released by the fact that the Work shall have been completed and accepted.

When and where any such damage or injury is done to public or private property on the part of the Contractor, he shall restore or have restored at its own cost and expense such property to a condition similar or equal to that existing before such damage was done, by repairing, rebuilding or otherwise restoring as he may be directed, or he shall make good such damage or injury in a manner acceptable to the property Town of Addison and the Engineer. In case of failure on the part of the Contractor to restore such property or make good such damage or injury, the Town of Addison may, upon 48 hour written notice

under ordinary circumstances, and without notice when a nuisance or hazardous condition results, proceed to repair, rebuild or otherwise restore such property as may be determined necessary, and the cost thereof shall be deducted from any monies due or to become due to the Contractor under this contract; or where sufficient contract funds are unavailable for this purpose, the Contractor or its surety shall reimburse the Town of Addison for all such costs.

49. **PROTECTION OF PERSONS AND PROPERTY**: The Contractor shall have the responsibility to provide and maintain all warning devices and take all precautionary measures required by law or otherwise necessary to protect the Work and persons and property while said persons or property are approaching, leaving or within the Work site or any area adjacent to said Work site. No separate compensation shall be paid to the Contractor for the installation or maintenance of any protective measures, warning devices, barricades, lights, signs, or any other precautionary measures required by law or otherwise necessary for the protection of persons or property.

The Contractor shall assume all responsibilities to the general public in connection with the general public's immediate approach to and travel through the Work site and the area adjacent to said Work site.

Where the Work is in or adjacent to any street, alley, sidewalk, public right-of-way or public place, the Contractor shall at its own cost and expense provide such flagmen and watchmen and furnish, erect and maintain such warning devices, barricades, lights, signs, and other precautionary measures for the protection of persons or property as may be prudent or necessary, or as required by law. The Contractor's responsibility for providing and maintaining flagmen, watchmen, warning devices, barricades, signs and lights and other precautionary measures shall not cease until the Project shall have been completed and accepted by the Town of Addison, and shall cease when the Town of Addison notifies the Contractor in writing of final Project acceptance.

If the Town of Addison discovers that the Contractor has failed to comply with applicable federal or state laws (by failing to furnish the necessary flagmen, warning devices, barricades, lights, signs or other precautionary measures for the protection of persons or property), the Town of Addison may order the Contractor to take such additional precautionary measures as required by law to protect persons and property. In addition, the Contractor shall be held responsible for all damages to the Work and other public or private property due to the failure of warning devices, barricades, signs, lights or other precautionary measures in protecting said property; and whenever evidence is found of such damage, the Town of Addison may order the damaged portion immediately removed and replaced by and at the cost and expanse of the Contractor.

50. **TRAFFIC CONTROL:** It shall be the responsibility of the Contractor to provide traffic control during the construction as required by the State of Texas, the Town of Addison, and in accordance with the following additional requirements:

a. The Contractor shall be required to furnish barricades, flares, flagmen, etc., for the protection of the public, employees and the Work.

b. The Contractor shall prosecute its Work in such a manner as to create a minimum of interruption to traffic along adjacent roadways.

c. The unit price bid under the appropriate bid item of the proposal shall cover all cost for providing signage, markings, lighting, barricades, flagmen and other devices and personnel required for traffic control during construction of the Project.

d. The Contractor shall not remove any regulatory sign, instructional sign, warning sign, street name sign or any other sign or signal which currently exists.

e. The Contractor shall provide a comprehensive Traffic Control Plan to the Town of Addison and Engineer for review, comment, and approval in the event the planned sequence of work is different in any way from that sequence of work provided for in the plans or where additional details are required. The Traffic Control Plan shall be designed in accordance with established standards and regulations and signed and sealed by a professional engineer, registered in the State of Texas. The plan should reflect the Contractor's proposed construction phasing and methodology and include the design layout for all proposed detour and traffic situations.

51. **BARRICADES, WARNING SIGNS, DETOURS AND SEQUENCE OF CONSTRUCTION:** Throughout the construction operations, streets and intersections will remain open to traffic by constructing the Work in stages. All streets, driveways, adjacent business and alleys shall remain open to traffic as far as is practicable.

A. Safety: The Contractor shall provide, construct and maintain barricades and signs at locations set out in the Plans and in the Special Provisions in accordance with the Texas Manual on "Uniform Traffic Control Devices for Streets and Highways". In addition, he shall provide and maintain such other barricades and signs as deemed necessary by the Town or the Engineer, and provide and maintain, between sunset and sunrise, a sufficient number of lights at barricades and points of danger for the protection of vehicular and pedestrian traffic.

Barricades shall be placed in such a manner as not to interfere with the sight distance of drivers entering the street from side streets.

The Contractor shall keep traveled surfaces used in its hauling operation clear and free of dirt or other material.

The Contractor shall provide and maintain qualified flagmen at such points and for such periods of time as may be required to provide for the safety and convenience of public travel and Contractor's personnel.

52. **PROPERTY LINES AND MONUMENTS:** The Contractor shall protect all property corner markers, and when any such markers or monuments are in danger of being

disturbed, they shall be properly referenced and if disturbed shall be reset at expense of the Contractor.

53. **DURING CONSTRUCTION**: During construction of the Work, the Contractor shall, at all times, keep the site of the Work and adjacent premises as free from material, debris and rubbish as is practicable and shall remove same from any portion of the site if, in the opinion of the Town of Addison or the Engineer, such material, debris or rubbish constitutes a nuisance or is objectionable. In case of failure on the part of the Contractor to maintain a clean site, the Town of Addison may, upon 24 hour written notice, clean the site, and the cost thereof shall be deducted from any monies due or to become due to the Contractor under its contract; or where sufficient contract funds are unavailable for this purpose, the Contractor or its surety shall reimburse the Town of Addison for all such costs.

54. **CONTRACTOR'S CONTINUING OBLIGATION:** Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by the Town of Addison, nor the issuance of a certificate of Substantial Completion, nor any payment by Town of Addison to Contractor under the Contract Documents, nor any use or occupancy of the Work or any part thereof by Town of Addison, nor any act of acceptance by Town of Addison nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by the Town of Addison pursuant to final payment nor any correction of defective Work by Town of Addison will constitute an acceptance of Work not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents.

55. **IRRIGATION AND SPRINKLER REPAIR:** The Contractor shall maintain all existing irrigation systems within the limits of the Project during the duration of the contract. The Contractor shall employ a licensed irrigator who is responsible for the repair or replacement of any damage to irrigation lines, valves, controllers, sprinklers, wiring and appurtenances which are damaged during construction. This repair is subsidiary to the various other items bid. The Contractor will be responsible for any vegetation that dies as a result of damage to the irrigation system and replace it with equal vegetation at its own cost.

56. **REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK:** All Work which has been rejected or condemned shall be repaired; or if it cannot be repaired satisfactorily, it shall be removed and replaced at the Contractor's expense. Defective materials shall be immediately removed from the Work site. Work done without line and grade having been provided; Work done beyond the line or not in conformity with the grades shown on the Plans or as provided, Work done without proper inspection; or any Extra or unclassified Work done without written authority and prior agreement in writing as to prices, shall be at the Contractor's risk and will be considered unauthorized, and at the option of the Town of Addison may not be measured and paid for and may be ordered removed at the Contractor's expense. Upon failure of the Contractor to repair satisfactorily or to remove and replace, if so directed, rejected, unauthorized or

condemned Work or materials immediately after receiving notice from the Town of Addison, the Town will, after giving written notice to the Contractor, have the authority to cause defective Work to be remedied or removed and replaced, or to cause unauthorized Work to be removed and to deduct the cost thereof from any monies due or to become due the Contractor.

57. **DISPOSITION AND DISPOSAL OF MATERIALS:** All materials to be removed from the site including refuse and other debris shall become the property of the Contractor and shall be disposed of outside the limits of the Project per Technical Specification Section 01270 and 02228. Contractor shall also comply with all applicable laws governing the spillage of debris while transporting to a disposal site.

58. **CLEAN-UP FOR FINAL ACCEPTANCE:** The Contractor shall make a final cleanup of all parts of the Work before acceptance by the Town of Addison. This cleanup shall include removal of all objectionable rock and other construction materials, and in general preparing the site of the Work in an orderly manner and appearance.

59. **TESTING REQUIREMENTS:** Testing shall be conducted in accordance with Town of Addison Specifications except as modified in the Special Provisions, Technical Specifications, or as on the plans. The Town of Addison will provide random testing. The Contractor shall coordinate construction with the Town of Addison, and shall provide assistance to the testing labs by providing trench safety, excavation, or other work to insure all testing requirements are met. Work performed to accommodate testing will be a subsidiary item and no extra payment will be authorized. All retesting shall be at the expense of the Contractor. As a general guide, the Contractor shall be responsible for providing the following tests:

(1) Density and associated tests on embedment and backfill if required.
(2) Compressive strength tests on concrete if required.
(3) Gradation soil tests on backfill as may be required.
(4) Providing test results from manufacturer as specified in Town of Addison Specifications.

60. **CLAIMS FOR DAMAGES OR INJURY:** General Provision Item 1.24.3 - SMALL CLAIMS FOR DAMAGE OR INJURY is amended to read as follows: "If any person files a claim against the Town of Addison or Contractor for personal injury or property damage resulting from, arising out of, or caused by, the operations of the Contractor, or any Work within the limits of the Project, the Contractor must either submit to the Town of Addison, a duly executed full release within thirty (30) days from the date of written claim, or immediately report the claim to its liability insurance carrier for their action in adjusting the claim. If the Contractor fails to comply with this provision within the stipulated time limit, it will be automatically deemed that the Contractor has appointed the Town as it's irrevocably Attorney-In-Fact authorizing the Town to report the claim directly with the liability insurance carrier. This provision is in and of itself a Power-of-Attorney from the Contractor to the Town which authorizes the Town to take said action on behalf of the Contractor without the necessity of the execution of any other document. If the Contractor fails to comply with the provisions of this item the Town, at its own

discretion, may terminate this contract or take any other actions it deems appropriate. Any payment or portion thereof due the Contractor, whether it is a final payment, progress payment, payment out of retainage or refund payment may be withheld by the Town as is authorized by Item 109.4. Bankruptcy, insolvency or denial of liability by the insurance carrier shall not exonerate the Contractor from liability.

As a result of the additional Work created to Town of Addison due to un-responded claims for damages by Contractor to third parties, Contractor shall incur penalties for failure to abide by this Special Provision.

Contractor shall respond to the claimant in writing regarding the status of the claim, including whether Contractor disputes the claim, wishes to settle, or will notify its liability insurance carrier regarding the claim. Contractor will be assessed a penalty by the Town of $75.00 per claim, for its failure to respond to the claimant as described above within thirty days of its written notice of claim by the Town.

To ensure Contractor compliance, the Town of Addison shall be notified, by copied correspondence of responses or settlement by Contractor."

61. **WAIVER OF CLAIMS:** The making and acceptance of final payment will constitute:

A. A waiver of all claims by Town of Addison against Contractor, except claims arising from unsettled Liens, from defective Work appearing after final inspection or failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by Town of Addison of any rights in respect of Contractor's continuing obligations under the Contract Documents.

B. A waiver of all claims by Contractor against Town of Addison other than those previously made in writing and still unsettled.

62. **MECHANICS AND MATERIALMEN'S LIEN:** The Contractor shall be required to execute a release of mechanics and materialmen's liens upon receipt of payment and shall ensure that the Project remains free and clear of all liens related to the Work. The Contractor shall have all liens removed by obtaining releases acceptable to the Town of Addison or shall bond around such liens by obtaining a discharge of all liens.

63. **CONTRACTOR'S AFFIDAVIT OF BILLS PAID:** The Contractor shall be required to execute the form provided in Section BP prior to the acceptance of the Project.

64. **PRODUCT RECORD DOCUMENTS:** The Contractor shall maintain record Plans and legibly annotate shop drawings to record changes made after review. A red felt-tip marking pen shall be used for all recording.

Maintenance of Documents: The Contractor shall maintain at the job site one record copy of the Contract Plans, Specifications, Shop Drawings, Change Orders, other modification to the Contract, field test records and other documents submitted by Contractor in compliance with specification requirements. These documents shall be maintained at the

job site apart from documents used for construction. These documents are not to be used for construction purposes. The documents shall be maintained in clean, legible condition. The documents shall be made available at all times for inspection by the Town.

Recording: Each document shall be labeled Project Record Copy in 2-inch high printed letters. The record documents shall be kept current. No Work shall be covered until required information has been recorded.

Contract Plans: The appropriate drawing shall be legibly marked to record, where applicable:

a. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.

b. Field changes of dimension and detail made during construction process.

c. Changes made by Change Order or Supplemental Agreement.

d. Details not on original Contract Plans.

e. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.

f. Changes made by Change Order or Supplemental Agreement.

g. Other matters not originally specified.

Shop Drawing: The Contractor shall maintain the Shop Drawings as record drawings and legibly annotate shop drawings to record changes made after review.

Submittal: At the completion of the Project, the Contractor shall deliver record Plans to the Town. The transmittal letter shall be accompanied, in duplicate, with:

a. Date, Project title and number.

b. Contractor's name and address.
c. Title and number of each record document.

d. Certification that each document as submitted is complete and accurate.

e. Signature of Contractor or its authorized representative.

65. OWNERSHIP OF WORK AND MATERIALS: All Work performed by Contractor pursuant to the Contract shall be the property of the Town of Addison. The Town of Addison shall own all construction, and any data, documents, plans, specifications, working papers, computer programs, photographs, or other material produced by Contractor pursuant to the Contract, and Contractor hereby assigns and transfers to the Town of Addison any and all copyrights for such material. To the extent that such programs used are internal, proprietary programs used by Contractor in the performance

of the Work, Contractor will provide the Town of Addison such access to the programs as is necessary for the Town of Addison to be able to use the products and documents generated by the program, but Contractor is not required to transfer the copyrights or other intellectual property rights to the program to the Town of Addison. As security for partial, progress, or other payments, title to work for which such payments are made shall pass to the Town of Addison at the time of the payment. To the extent that title has not previously been vested in the Town of Addison by reason of payments, full title shall pass to the Town of Addison at delivery of the Work at the location specified in the Contract.

Unincorporated Work to which the Town of Addison has received title by reason of progress, partial or other payments shall be segregated from other Contractor or Subcontractor materials and clearly identified as the Town of Addison property. The Contractor shall be responsible for all materials until they have been incorporated into the Work and the Work has been finally accepted by the Town of Addison. The title transferred as above shall in each case be good, and free and clear of any and all security interests, liens, or other encumbrances. The Contractor promises and agrees that it will not pledge, hypothecate, or otherwise encumber the items in any way that would result in any lien, security interest, charge, or claim upon or against said items. The transfer of title as provided above shall not imply acceptance by the Town of Addison, nor relieve Contractor from the responsibility to strictly comply with the Contract, and shall not relieve Contractor of responsibility for any loss of or damage to such items.

The Contractor shall insert provisions in its subcontracts sufficient to ensure compliance with the content of this Section.

66. **DRAWINGS AND OTHER DATA:** All documents developed by Contractor in the performance of the Contract shall become the sole property of the Town of Addison and may be used by the Town of Addison on any other project without additional compensation to Contractor. Use by the Town of Addison of these documents on other projects does not confer any liability on Contractor.

The Town of Addison shall be considered the "person for whom the work was prepared" for the purpose of authorship in any copyrightable work under 17 U.S.C. § 201(b). With respect thereto, Contractor agrees not to assert or authorize others to assert any rights or establish any claim under the design related patent and copyright laws. All design drawings, as-built drawings and specifications, in any form, shall contain a copyright mark of the Town of Addison.

67. **TOWN OF ADDISON APPROVAL:** This Project is subject to final approval and acceptance by the Town of Addison. Final approval acceptance will not be given until the punch list items are completed to the Town's satisfaction and as-built Plans are given to the Town of Addison.

68. **USE OF EXPLOSIVES:** The use of explosives by the Contractor to complete the Work shall be prohibited.

69. **POWER FOR CONSTRUCTION:** The Contractor shall contract with the local power provider and make the necessary arrangements for securing power required for the construction, including power required for temporary offices. There will be no separated pay item for connection into the existing power system or for the power required for construction purposes.

70. **LIQUIDATED DAMAGES:** If the Contractor fails to complete the Work within the time specified in the contract, the Contractor shall pay liquidated damages to the Town of Addison in the amount of $ 750 for each calendar day of delay until the Work is completed or accepted.

71. **CONTRACT DELAY:** The parties anticipate that delays may be caused by or arise from any number of events during the course of the Contract, including, but not limited to, Work performed, disruptions, permitting issues, actions of subcontractors, suppliers, or other contractors, actions by third parties, weather, weekends, holidays, or other such events, forces or factors sometimes experienced in construction work. Such delays or events and their potential impacts on performance by the Contractor are specifically contemplated and acknowledged by the parties in entering into this Contract, and shall not extend the Contract time for completion. Further, any and all costs or impacts whatsoever incurred by the Contractor in accelerating the Work to overcome or absorb such delays or events in an effort to complete the Contract prior to expiration of the Contract time to complete, regardless of whether the Contractor does so or not, shall be the sole responsibility of the Contractor in every instance.

72. **SUBCONTRACTORS:** No subcontract shall relieve Contractor of any of Contractor's obligations or liabilities under the Contract. Contractor shall be fully responsible and liable for the acts or omissions of all Subcontractors, including persons directly or indirectly employed by them, their guests and invitees. Contractor shall have sole responsibility for managing and coordinating the operations of its Subcontractors, including the settlement of disputes with or between them. Nothing contained in the Contract shall be deemed to create a contractual relationship between any Subcontractor, and the Town of Addison.

Contractor shall provide to the Town of Addison one (1) copy of all executed subcontracts associated with the Contract, including any changes or modifications to the subcontracts, within three (3) days of their execution. No Subcontractor shall be permitted to perform work associated with the subcontract until the Subcontractor (or Contractor on the Subcontractor's behalf) is in compliance with the insurance requirements specified elsewhere in the Contract, and has furnished satisfactory evidence of insurance to the Town of Addison.

73. **PAYMENTS TO SUBCONTRACTORS:** Contractor shall comply with the provisions of applicable laws and regulations relating to Contractor's relations with Subcontractors. Payments by Contractor to Subcontractors associated with the Town of Addison Contracts are subject to the time periods established in the Texas "Prompt Payment Act", contained in Chapter 2251 of the Texas Government Code.

All persons employed in the performance of the Work under the Contract, or any subcontracts hereunder, shall be paid not less than the general rates of per diem, holiday, and overtime wages prevailing in the locality of the Work of a similar character as detailed in the Special Provisions. Failure to comply with this provision shall subject Contractor to the penalties prescribed in Chapter 2258 of the Texas Government Code, as amended.

Contractor will include in each subcontract for property or services entered into by Contractor and a Subcontractor, including a supplier, for purposes of performing the Work under the Contract a payment clause that obligates Contractor to pay the Subcontractor for satisfactory performance under its subcontract within seven (7) days out of such amounts as are paid to Contractor by the Town of Addison under the Contract. A false certification to the Town of Addison under the provisions of the Payments clause may be a principal offense in violation of Section 37.10 of the Texas Penal Code.

74. **USE OF COMPLETED PORTIONS OF THE WORK:** Whenever, as determined by the Town of Addison, any portion of the Work performed by Contractor is in a condition suitable for use, and the best interests of the Town of Addison requires such use the Town of Addison may take possession of or use such portion of the Work. Such use by the Town of Addison shall in no case be construed as final acceptance, and shall neither relieve Contractor of any of its responsibilities under the Contract, nor act as a waiver by the Town of Addison of any of the conditions thereof. Contractor shall not be liable for the cost of repairs, rework, or renewals, which may be required due to ordinary wear and tear resulting from such use. However, if such use increases the cost or delays the completion of remaining portions of the Work, Contractor shall notify the Town of Addison in writing as required by the Contract and shall be entitled to such additional compensation or extension of time, or both, as determined in accordance with the Contract.

If in the course of such use, the Work proves to not be in compliance with the Contract, the Town of Addison shall have the right to continue such use until such portion of the Work can, without injury to the Town of Addison, be taken out of service for correction of defects, errors, omissions, or replacement of unsatisfactory materials, as necessary for such portions of the Work to comply with the Contract. Contractor shall correct the Work as soon as practical, but not later than one (1) month after notification by the Town of Addison.

Contractor shall not use any permanently incorporated materials unless such use is approved in writing by the Town of Addison. Where Contractor's request is granted for the use of certain materials, Contractor shall properly use and maintain and, upon completion of its use and at its own expense, recondition such materials to the satisfaction of the Town of Addison.

75. **COMPLETE AGREEMENT:** The Contract (including Attachments, the Special Provisions, other documents and manuals incorporated herein) is the full and complete

agreement between the Town of Addison and Contractor with respect to the subject matter herein and supersedes any and all prior agreements between the parties hereto.

76. **WAIVER:** The waiver by the Town of Addison of the breach of any provision of the Contract by Contractor shall in no way impair the right of the Town of Addison to enforce the provision for any subsequent breach thereof. All remedies provided hereunder are cumulative and are in addition to all other remedies available at law or in equity.

77. **EXECUTION OF THE CONTRACT:** The Contract may be executed in multiple counterparts, each of which shall, for all purposes, be deemed an original but which together shall constitute one and the same instrument, and the signature pages from any counterpart may be appended to any other counterpart to assemble fully executed documents, and counterparts of the Contract may also be exchanged via electronic facsimile machines and any electronic facsimile of any party's signature shall be deemed to be an original signature for all purposes.

78. **DEFINITIONS:** The following definitions are added to the General Provisions and Special Provisions:

BIDDER: Any person, persons, partnership, company, firm, association, or corporation acting directly or through a duly authorized representative submitting a bid for the work contemplated.

PROJECT: The Town of Addison's overall objective and endeavor of which the Contract forms a part and ultimately creates, which encompasses all Contact Documents constructed to final completion and final acceptance.

WORKING DAY: A working day is defined as a calendar day not including Saturdays, Sundays, or legal holidays authorized in the list prepared by the City of Dallas for contract purposes, in which weather or other conditions not under the control of the Contractor shall permit the performance of the principal units of work underway for a continuous period of not less than 7 hours between 7 A.M. and 6 PM. A principle unit of work shall be that unit which controls completion time of the contract. Nothing in this definition shall be construed as prohibiting the Contractor from working on Saturdays, if the Contractor so desires and permission of the Town of Addison has been granted. Work on Sundays shall not be permitted except in cases of extreme emergency and then only with the written permission of the Town of Addison. If Saturday or Sunday work is permitted, working time shall be charged on the same basis as weekdays. Where the working time is expressed as calendar days or a specific date, the concept of working days shall no longer be relevant to the contract.

79. **MODIFICATIONS TO THE LANGUAGE OF THE GENERAL PROVISIONS:** The General Provisions are modified as follows:

A. Add the following words to the General Provisions before the word "Certificates" found on the fourth line of Section 103.4.1:

"When permitted by law,"

B. Delete the sentence "A model Certificate of Insurance is illustrated in Model Form A.6 in Appendix A." beginning on the ninth line of Section 103.4.1 of the General Provisions and replace with the following:

> "Certificates of Insurance shall be provided on a state approved form."

C. Delete the following sentence beginning on the second line of the fifth subparagraph of Section 104.2.1 of the General Provisions:

> "The foregoing notwithstanding, the total original Contract amount shall not be increased more than 25 percent; the CONTRACTOR, by submission of a bid and execution of the Contract, is deemed to consent to the OWNER'S right to reduce the total original Contract amount by more than 25 percent."

D. Add the following word before the word "decide" found on the second line of Section 105.7.1 of the General Provisions:

"initially"

E. Add the following word after the word "work" found on the fifth line of Section 105.7.1 of the General Provisions:

", subject to the agreement of the Owner"

F. Delete the following sentence beginning on the sixth line of Section 105.7.1 of the General Provisions:

> "Engineer shall determine the amount and quality of work performed and materials furnished, and Engineer's decision and estimates shall be final."

G. Delete Section 105.9.3 of the General Provisions titled "Inspection Overtime" in its entirety.

H. Delete Section 107.2 of the General Provisions titled "Indemnification" in its entirety and replace with the following:

> **"THE CONTRACTOR AGREES TO INDEMNIFY, SAVE, PROTECT, DEFEND, AND HOLD HARMLESS THE OWNER, ITS AFFILIATES AND THEIR OFFICERS, DIRECTORS, AGENTS, INVITEES, AND EMPLOYEES ("INDEMNIFIED PARTIES") FROM AND AGAINST ANY AND ALL LIABILITY, COST, DAMAGE, EXPENSES, FINES AND ALL REASONABLE LEGAL FEES AND**

COURT COSTS, CLAIMS, LOSSES, CAUSES OF ACTION, SUITS, AND LIABILITY OF ANY KIND, INCLUDING ALL EXPENSES OF LITIGATION AGAINST THE INDEMNIFIED PARTIES, WHETHER OR NOT CAUSED IN PART BY ANY ACT OR OMISSION OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER, OR WHETHER LIABILITY IS IMPOSED UPON SUCH PERSON OR ENTITY, FOR ANY LOSS, INJURY, DAMAGE OR DEATH ARISING FROM OR OUT OF THE CONTRACTOR'S ACTS OR OMISSIONS, INCLUDING, BUT NOT LIMITED TO CONTRACTOR'S NEGLIGENT OR GROSSLY NEGLIGENT PERFORMANCE OF THE WORK; NEGLIGENT OR GROSSLY NEGLIGENT USE OR MISUSE OF OWNER'S PROPERTY; NEGLIGENT OR INTENTIONAL ACTIONS, ERRORS OR OMISSIONS AND THOSE OF ITS EMPLOYEES, OFFICERS, DIRECTORS, AGENTS OR SUBCONTRACTORS; VIOLATION OF ANY FEDERAL, STATE OR MUNICIPAL LAWS, REGULATIONS AND/OR ORDINANCES; CONTRACTOR'S OR ITS SUBCONTRACTOR'S USE OF PROPERTY, EQUIPMENT, VEHICLES, OR MATERIALS; DEFECTIVE WORKMANSHIP; NEGLIGENT OR GROSSLY NEGLIGENT USE OR MISUSE OF UTILITIES; OR SUBCONTRACTORS', EMPLOYEES', AGENTS', OFFICERS', OR DIRECTORS' NEGLIGENCE OR INTENTIONAL TORTS. IT IS THE EXPRESS INTENT OF CONTRACTOR TO INDEMNIFY THE INDEMNIFIED PARTIES FROM THE CONSEQUENCES OF THEIR JOINT AND/OR CONCURRENT NEGLIGENCE AND/OR SOLE NEGLIGENCE. IN THE EVENT OF FAILURE BY THE CONTRACTOR TO FULLY PERFORM IN ACCORDANCE WITH THIS INDEMNIFICATION PARAGRAPH, EACH OF THE INDEMNIFIED PARTIES, AT ITS OPTION, AND WITHOUT RELIEVING CONTRACTOR OF ITS OBLIGATIONS HEREUNDER, MAY SO PERFORM, BUT ALL COSTS AND EXPENSES SO INCURRED BY ANY OF THE INDEMNIFIED PARTIES IN THAT EVENT SHALL BE REIMBURSED BY CONTRACTOR TO THE INDEMNIFIED PARTIES, OR ANY OF THEM, AND UNTIL REIMBURSED BY CONTRACTOR SHALL BEAR INTEREST, AT THE RATE OF INTEREST PROVIDED TO BE PAID ON JUDGMENT UNDER THE LAWS OF THE STATE OF TEXAS. THIS INDEMNIFICATION SHALL NOT BE LIMITED TO DAMAGES, COMPENSATION OR BENEFITS PAYABLE UNDER INSURANCE POLICIES,

WORKERS' COMPENSATION ACTS, DISABILITY BENEFIT ACTS OR OTHER EMPLOYEE BENEFIT ACTS.

IN THE EVENT THIS CONTRACT RELATES TO A PROJECT OTHER THAN A SINGLE FAMILY HOUSE, TOWNHOUSE, DUPLEX, OR LAND DEVELOPMENT DIRECTLY RELATED THERETO OR A PUBLIC WORKS PROJECT OF A MUNICIPALITY THEN THE INDEMNITY PROVISIONS INCLUDED HEREIN SHALL BE LIMITED SUCH THAT SUBCONTRACTOR SHALL NOT BE REQUIRED TO INDEMNIFY, HOLD HARMLESS OR DEFEND CONTRACTOR OR ANY THIRD PARTIES AGAINST A CLAIM CAUSED BY THE NEGLIGENCE OR FAULT, THE BREACH OR VIOLATION OF A STATUTE, ORDINANCE, GOVERNMENTAL REGULATION, STANDARD, OR RULE, OR THE BREACH OF CONTRACT OF AN INDEMNIFIED PARTY, ITS AGENT OR EMPLOYEE, OR ANY THIRD PARTY UNDER THE CONTROL OR SUPERVISION OF THE INDEMNIFIED PARTY, OTHER THAN SUBCONTRACTOR OR ITS AGENT, EMPLOYEE, OR SUBCONTRACTOR OF ANY TIER EXCEPT THAT SUBCONTRACTOR SHALL INDEMNIFY, HOLD HARMLESS AND DEFEND THE INDEMNIFIED PARTY AGAINST ANY CLAIMS FOR THE BODILY INJURY OR DEATH OF AN EMPLOYEE OF SUBCONTRACTOR, ITS AGENTS, OR ITS SUBCONTRACTORS OF ANY TIER.

NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, THE INDEMNITY PROVISIONS INCLUDED HEREIN SHALL BE LIMITED SUCH THAT CONTRACTOR SHALL NOT BE REQUIRED TO INDEMNIFY, HOLD HARMLESS OR DEFEND OWNER OR ANY THIRD PARTIES AGAINST A CLAIM CAUSED BY THE NEGLIGENCE OR FAULT, THE BREACH OR VIOLATION OF A STATUTE, ORDINANCE, GOVERNMENTAL REGULATION, STANDARD, OR RULE, OR THE BREACH OF CONTRACT OF THE INDEMNIFIED PARTIES, ITS AGENT OR EMPLOYEE, OR ANY THIRD PARTY UNDER THE CONTROL OR SUPERVISION OF THE INDEMNIFIED PARTIES, OTHER THAN CONTRACTOR OR ITS AGENT, EMPLOYEE, OR SUBCONTRACTOR OF ANY TIER EXCEPT THAT CONTRACTOR SHALL INDEMNIFY, HOLD HARMLESS AND DEFEND THE INDEMNIFIED PARTIES AGAINST ANY CLAIMS FOR THE BODILY INJURY OR DEATH OF

AN EMPLOYEE OF CONTRACTOR, ITS AGENTS, OR ITS SUBCONTRACTORS OF ANY TIER."

I. Add the following language after Section 103.3.1.4 of the General Provisions:

"**103.3.1.5. Maintenance Bond**. A good and sufficient bond in an amount not less than 100-percent of the approximate total of the Contract, as evidenced by the proposed tabulation, or conditioned on the full and proper maintenance and repair of the Work to be done and performed for a period of one year from the date of final acceptance of the Work and the Contractor will do all necessary backfilling that may arise on account of sunken conditions in ditches, or otherwise, and do and perform the necessary Work and repair any defective condition growing out of or arising from the improper laying or construction of same, or on account of any breaking of same caused by the Contractor in construction of same, or on account of any defect arising in any of the Work laid or constructed by the Contractor or on account of improper excavation or backfilling, it being understood that the purpose of this Section is to cover all defective conditions arising by reason of defective materials, Work, or labor performed by the Contractor."

J. Add the following language after Section 104.2.5. of the General Provisions:

"**104.2.6. Change Orders**. A Change Order is a written instrument and signed by the Owner, Contractor and Engineer stating their agreement upon all of the following:

(1) the change in the Work;

(2) the amount of the adjustment, if any, in the Contract Sum; and

(3) the extent of the adjustment, if any, in the Contract Time.

In the event the Contractor proposes a Change Order, the Contractor shall provide sufficient detail for such Change Order to allow analysis and review by the Engineer.

Agreement on any Change Order shall constitute final agreement on the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the Contract Time. In the event a Change Order increases the Contract Sum, the Contractor shall include the Work covered by such Change Orders in Applications for Payment as if such Work were originally part of the Contract Documents.

The Contractor, upon receipt of written notification by the Owner or the Engineer of a proposed item or change in Work, shall

prepare as soon as possible a Change Order on the form provided by the Owner. If the Change Order is returned to the Contractor for additional information or if the scope of the proposed change in the Work is modified by additions, deletions or other revisions, the Contractor shall revise the Change Order accordingly and resubmit the revised Change Order to the Owner and Engineer."

K. Delete the language in Section 105.2.1 of the General Provisions and replace it with the following language:

> **"105.2.1. WORKMANSHIP**: If the OWNER notifies the CONTRACTOR in writing of defective work, the CONTRACTOR shall correct the deficiencies within five (5) calendar days of the Notice at no additional cost to the OWNER. If the defective work is not corrected within five (5) calendar days, or the CONTRACTOR is not making satisfactory progress (in the opinion of the OWNER) to correct the deficiencies, the OWNER may withhold future payments for All Work until the defective work has been corrected to the satisfaction of the OWNER."

L. Add the following language after Section 105.10 of the General Provisions:

> "**105.10.2. GUARANTEE AFTER COMPLETION**: Unless otherwise specified in the technical section of these specifications, the CONTRACTOR shall, after test and acceptance, and for a period of one year from date of final written acceptance by the OWNER or within such longer or shorter period of time as may be prescribed by law or by the terms of any other applicable special warranty on designated equipment or portions of work as required by the Contract Documents, rebuild, repair, or replace any and all items which have proven defective due to unsatisfactory material and/or workmanship. Upon written notice from the OWNER, the CONTRACTOR shall immediately make any repairs that may be ordered, or such repairs will be made by the Owner at the expense of the CONTRACTOR or the CONTRACTOR'S Surety. In case of an emergency where delay would cause serious loss or damage, the Owner may undertake to have the defects repaired without previous notice. The expense of all repairs, including all emergency repairs, shall be borne by the CONTRACTOR or the CONTRACTOR'S Surety, at no cost to the Owner. This obligation shall survive termination of the Contract.
>
> **105.10.3. OFFSET PROGRESS PAYMENTS**: OWNER may, at its option, offset any progress payment or final payment under the Contract Documents against any debt (including taxes) lawfully due to OWNER from Contractor, regardless of whether the amount due arises pursuant to the terms of the Contract

Documents or otherwise and regardless of whether or not the debt due to OWNER has been reduced to judgment by a court.

105.10.4. FINAL ACCEPTANCE AND PAYMENT: This Project is subject to final inspection and final acceptance by the Owner. Whenever the Work provided for by the Contract shall have been completely performed on the part of the CONTRACTOR, including, but not limited to compliance with North Central Texas Council of Governments Standard Specifications for Public Works Construction, October 2004 Section 202.6.4.6., the CONTRACTOR shall notify the OWNER that the Work is ready for final inspection. The OWNER will then make such final inspection and if the work is satisfactory and in accordance with the specifications and contract documents, the OWNER shall issue a certificate of acceptance to the CONTRACTOR and submit a request to accept the Work performed by the CONTRACTOR and payment of a final estimate under the terms of which the OWNER will release 100% of the retainage, plus the unpaid portions of the final estimate as the OWNER deems advisable.

Whenever the improvements provided for by the Contract shall have been completely performed on the part of the Contractor, as evidenced in the certificate of acceptance, and all required submissions provided to the OWNER, a final estimate showing the value of the Work shall be prepared by the OWNER as soon as the necessary measurements and computations can be made. All prior estimates upon which payments have been made are subject to necessary corrections or revisions in the final payment. The amount of this final estimate, less any sums that have been previously paid, deducted or retained under the provisions of the contract, shall be paid the CONTRACTOR within 30 days after the final acceptance by the OWNER, provided the CONTRACTOR has furnished to the OWNER a consent of Surety and satisfactory evidence that all indebtedness connected with the Work and all sums of money due for any labor, materials, apparatus, fixtures, or machinery furnished for and used in the performance of the Work have been paid or otherwise satisfied, or that the person or persons to whom the same may respectively be due have consented to such final payment This requirement it not intended and shall not be construed to recognize subcontractors for the purpose of privity of contract, and no third party benefit rights shall be obtained through these provisions for final payment. The acceptance by the CONTRACTOR of the final payment as aforesaid shall operate as and shall be a release to the OWNER from all claims or liabilities under the Contract, including all subcontractor claims, for anything done or furnished or relating to the Work under the Contract or for

any act or neglect of said OWNER relating to or connected with the Contract.

All warranties and guarantees shall commence from the date of the certificate of acceptance. No interest shall be due the CONTRACTOR on any partial or final payment, or on the retainage.

105.10.5. RIGHT TO AUDIT CONTRACTOR'S RECORDS: By execution of the Contract, CONTRACTOR grants the OWNER the right to audit, at Owner's election, all of CONTRACTOR'S records and billings relating to the performance of the Work under the Contract. CONTRACTOR agrees to retain such records for a minimum of three (3) years following completion of the Work under this Contract. OWNER agrees that it will exercise the right to audit only at reasonable hours."

M. Add the following language after Section 107.5 of the General Provisions:

"**107.5.1. COMPENSATION AND ACKNOWLEDGEMENT OF WORK**: The CONTRACTOR shall receive and accept compensation, as herein provided, as full payment for furnishing all labor, tools, material, equipment and incidentals; for performing all Work contemplated and embraced under the Contract; for all loss or damage arising out of the nature of the Work, or from the action of the elements; for any unforeseen defects or obstruction which may arise or be encountered during the prosecution of the Work and before its final acceptance by the OWNER; for all risks of whatever description connected with the prosecution of the Work; for all expense incurred by or in consequence of suspension or discontinuance of such prosecution of the Work as herein specified; for any infringement of patents, trademarks or copyrights; and for completing the Work in an acceptable manner according to the Plans and Specifications."

N. Add the following language after Section 107.11 of the General Provisions:

"**107.11.1. COOPERATION OF THE CONTRACTOR**: The CONTRACTOR shall give to the work the consistent attention necessary to facilitate the progress thereof, and the CONTRACTOR shall cooperate with the OWNER, and with other CONTRACTORS in every way possible.

The OWNER and the OWNER'S representatives shall at all times have free access to the Work whenever it is in preparation or progress and the contractor shall provide safe, convenient and proper facilities for such access and inspection."

O. Delete Section 107.4 of the General Provisions and replace it with the following:

> "**107.4. VENUE AND CHOICE OF LAW**
>
> The Owner, the Contractor, and the Contractor's sureties agree that this Contract shall be performed in Dallas, Dallas County, Texas, and if legal action is necessary in connection therewith, exclusive venue shall lie in Dallas County, Texas. The terms and provisions of the Contract Documents shall be construed in accordance with the laws and court decisions of the State of Texas."

P. Delete the following language (which is the first paragraph) from Section 109.5.1. of the General Provisions:

> "Between the 25th day and the last day of each month, the Owner shall make an approximate estimate of the value of the work done during the month under the specifications. Whenever the said estimate or estimates of work done since the last previous estimate exceeds $100 in amount, a percentage of such estimate sum shall be paid the Contractor on or before the 15th day of the month next following. The monthly estimate may include acceptable nonperishable materials delivered to the work; such payment shall be allowed on the same percentage basis of the net invoice value as provided hereinafter. The percent retained by the owner shall normally be up to 10 percent at completion, unless otherwise stated. At the midpoint, or at any subsequent time, if the owner determines that the progress of the Contract is satisfactory in all respects, it may at its discretion cease to retain additional funds until the completion of the project, or until progress ceases to be satisfactory. The owner shall make the sole determination in this matter."

Q. Add the following language after Section 109.5.1. of the General Provisions:

> "**109.5.1.1. Applications for Payment.** Applications for progress payment ("Application for Payment") will be submitted no more often than monthly and shall be submitted on the dates set forth in the Agreement. Each Application for Payment shall be (1) sworn to and notarized, (2) supported by such data substantiating the Contractor's right to payment as the Owner or Engineer may require, such as copies of requisitions from Subcontractors and material suppliers, and reflecting retainage if provided for in the Contract Documents, and (3) submitted by the Contractor for review to the Engineer in form and substance as mandated by the Owner. The Contractor's Application for Payment shall be segregated and detailed in a manner satisfactory to the Owner.

In each Application for Payment, the Contractor shall certify that such Application for Payment represents a just estimate of portion of the Work that is complete as of the last day covered by the Application for Payment and shall also certify by sworn affidavit as follows:

> 'There are no known mechanics' or materialmen's liens outstanding at the date of this Application, all due and payable bills with respect to the Work have been paid to date or shall be paid from the proceeds of this Application for Payment, there is no known basis for filing of any mechanics' or materialmen's liens on the Work, and waivers from all subcontractors and materialmen have been or, at the time of payment, will be obtained in such form as to constitute an effective waiver of lien under the applicable laws of the State of Texas.'

109.5.1.2. Lien Waivers. Concurrent with each Application for Payment, the Contractor shall execute and furnish a waiver and release of its lien rights current through the effective date of such Application for Payment conditioned upon receipt of the payment that is the subject of the application. Beginning with the second Application for Payment, the Contractor shall also deliver with each such Application as a condition precedent to payment thereof, waivers of lien from each of the Subcontractors, Sub-subcontractors, and suppliers current through the effective date of the previous Application of Payment. The Contractor shall also execute and obtain any other reasonable forms as the Owner may require in order to assure an effective waiver and release of mechanics' and materialmen's liens in compliance with the laws of the State of Texas. The Contractor shall, if any Subcontractor, Sub-subcontractor or supplier refuses to furnish a release in full, furnish a bond satisfactory to the Owner to indemnify against any lien."

R. Delete Section 109.5.2 of the General Provisions and replace with the following:

> "Ten-percent (10%) retainage shall be withheld until 40 days after Final Completion."

80. **<u>CONTRACTOR REPRESENTATIONS</u>:** By entering into the Contract, the Contractor makes the following representations to the Town of Addison:

A. Contractor has examined and carefully studied the Bidding Documents and the related data identified in the Bidding Documents.

B. The Contractor has visited the Project site where the goods are to be installed or services will be provided and become familiar with and is satisfied as to the observable local conditions that may affect cost, progress, or the furnishing of goods and services, if required to do so by the Bidding Documents, or if, in the Contractor's judgment, any local condition may affect cost, progress, or the furnishing of goods and services.

C. The Contractor is familiar with and is satisfied as to all Laws and Regulations in effect as of the date of the bid that may affect cost, progress, and the furnishing of goods and services.

D. The Contractor has carefully studied, considered, and correlated the information known to the Contractor; information commonly known to sellers of similar goods doing business in the locality of the Project site where the goods will be installed or where services will be provided; information and observations obtained from the Contractor's visits, if any, to the Project site where the goods will be installed or services will be provided; and any reports and drawings identified in the Bidding Documents regarding the Project site where the goods will be installed or where services will be provided, with respect to the effect of such information, observations, and documents on the cost, progress, and performance of the Contractor's obligations under the Bidding Documents.

E. The Contractor has given the Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that the Contractor has discovered in the Bidding Documents, and the written resolution (if any) thereof by the Engineer is acceptable to the Contractor.

F. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing the goods and services for which the bid is submitted

G. The Contractor acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of bids, and final payment for all unit price bid items will be based on actual quantities, determined as provided in the Contract Documents. The Contractor also acknowledges that each unit price includes an amount considered by the Contractor to be adequate to cover the Contractor's overhead and profit for each separately identified item.

81. <u>PREVAILING WAGE RATES</u>: Wage rates paid on this Project shall not be less than specified in the schedule of general prevailing rates of per diem wages as set forth below in the Davis Bacon Act General Decision No. TX130035:

General Decision Number: TX190025 01/04/2019 TX25

Superseded General Decision Number: TX20180035

State: Texas

Sediment Removal for Vitruvian Park

Construction Type: Highway

Counties: Archer, Callahan, Clay, Collin, Dallas, Delta, Denton, Ellis, Grayson, Hunt, Johnson, Jones, Kaufman, Parker, Rockwall, Tarrant and Wise Counties in Texas.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date	0	01/04/2019
* SUTX2011-007 08/03/2011			

	Rates	Fringes
CONCRETE FINISHER (Paving and Structures)	$14.12	
ELECTRICIAN	$19.80	
FORM BUILDER/FORM SETTER		
Paving & Curb	$13.16	
Structures	$13.84	
LABORER		
Asphalt Raker	$12.69	
Flagger	$10.06	
Laborer, Common	$10.72	
Laborer, Utility	$12.32	
Pipelayer	$13.24	
Work Zone Barricade Servicer	$11.68	
POWER EQUIPMENT OPERATOR:		
Asphalt Distributor	$15.32	
Asphalt Paving Machine	$13.99	
Broom or Sweeper Concrete Pavement	$11.74	
Finishing Machine	$16.05	
Concrete Saw	$14.48	
Crane Operator, Lattice Boom 80 Tons or Less	$17.27	
Crane Operator, Lattice Boom over 80 Tons	$20.52	
Crane, Hydraulic 80 Tons or Less	$18.12	
Crawler Tractor	$14.07	
Excavator, 50,000 pounds or Less	$17.19	
Excavator, over 50,000 pounds	$16.99	
Foundation Drill , Truck Mounted	$21.07	
Foundation Drill, Crawler Mounted	$17.99	
Front End Loader 3 CY or Less	$13.69	
Front End Loader, over 3 CY	$14.72	
Loader/Backhoe	$15.18	
Mechanic	$17.68	

Milling Machine	$14.32
Motor Grader, Fine Grade	$17.19
Motor Grader, Rough	$16.02
Pavement Marking Machine	$13.63
Reclaimer/Pulverizer	$11.01
Roller, Asphalt	$13.08
Roller, Other	$11.51
Scraper	$12.96
Small Slipform Machine	$15.96
Spreader Box	$14.73
Servicer	$14.58
Steel Worker (Reinforcing)	$16.18
TRUCK DRIVER	
Lowboy-Float	$16.24
Off Road Hauler	$12.25
Single Axle	$12.31
Single or Tandem Axle Dump Trunk	$12.62
Tandem Axle Tractor with Semi Trailer	$12.86
Transit-Mix	$14.14
WELDER	$14.84

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2014. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2014, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2014 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

82. **BID ITEMS/REFERENCE SPECIFICATIONS:** The requirements of NCTCOG standard specifications for Public Works construction 5th Edition dated 2017, and TxDOT standard specifications for construction and maintenance of highways, streets and bridges, dated 2014, shall apply as described.

83. **NO BOYCOTT ISREAL:** Pursuant to Texas Government Code Chapter 2270, Contractor's execution of this Agreement shall serve as verification that the Contractor does not presently boycott Israel and will not boycott Israel during the term of this Agreement.

SPECIAL PROVISIONS

Note: The series of numbers shown after the description are for either the Texas Department of Transportation (TxDOT) Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges (2014), the North Central Texas Council of Governments (NCTCOG) Standard Specifications for Public Works Construction, Fifth Edition (2017), or technical specifications number provided with this document.

SP.1 PROJECT

The project covered by these specifications consists of the removal of all material defined by the plans and specifications, supplies, appurtenances, equipment and labor and any other necessary items required to complete and make ready for use and operation of the project by the Owner. Final clean up before acceptance by the Owner is included as a part of the project.

SP.2 NCTCOG CONSTRUCTION SPECIFICATIONS

NCTCOG shall be utilized for these areas:

- **Site Protection & Preparation** Division 200
- **Roadway Maintenance & Rehabilitation** Division 400
- **Underground Conduit Construction** Division 500
- **Misc. Construction & Materials** Division 800

Contractor shall notify owner and engineer with any discrepancies between the NCTCOG Specifications and technical specifications prior to starting construction.

SP.3 DISPOSAL OF MATERIAL

Contractor shall remove sediment by means of hydraulic dredging. Limited removal by mechanical means will be permitted in areas where hydraulic dredging cannot be performed and at the approval of the Owner. Sediment shall be removed to the approximate elevations to the "previous conditions" shown in the plans. Contractor shall submit a removal, dewatering, and disposal plan prior to beginning construction. The plan shall be consistent with secured permits. Sediment shall be pumped to geotextile tubes for dewatering in the identified areas. Contractor shall use polymers to minimize the release of solids from geotextile tubes. Dewatered sediments shall be disposed of at an approved municipal landfill with manifest to confirm the disposal.

SP.4 REMOVING OBSTRUCTIONS

Existing driveways, fences, sidewalks, landscaping, signs, and RCP or CMP drainage pipes shall be removed and replaced where necessary. The Contractor shall replace

existing obstructions with equal or better materials. The Contractor shall coordinate any removal with the Property Owner and the Town of Addison.

SECTION TS

TECHNICAL SPECIFICATIONS

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SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 DESCRIPTION

A. Required items of work and incidentals necessary for the satisfactory completion of the Project shall be considered subsidiary to the specified Work required under this Contract and shall be considered as included in the unit process bid for various bid items. The Contractor shall prepare bid accordingly to allow for such items:
   1. Not specifically listed in the bid form.
   2. Not specified in this section to be measured or to be included in one of the items listed in the bid form.
   3. To include Contractor's overhead and profit.

B. Work includes the furnishing of all labor, materials, equipment, tools, and related items for performing all operations required to complete the project satisfactorily in place, as specified by the contract documents.

1.02 NOT USED

1.03 ENGINEER'S ESTIMATE OF QUANTITIES AND COST

A. Engineer's estimated quantities for items of Unit Price Work, as included in the Contract, are approximate only and are included solely for the purpose of comparing bids and pricing. Owner does not expressly or by implication agree that nature of materials encountered below the ground surface or actual quantities of material encountered or required will correspond with the quantities included in the Contract at the time of award and reserves the right to increase or decrease quantities or to eliminate quantities as Owner may deem necessary. Contractor or Owner will not be entitled to adjustment in price of Unit Price Work items as a result of changes in estimated quantity and agree to accept the unit prices accepted in the Bid as complete and total compensation for additions caused by changes or alterations in the Unit Price Work directed by Owner.

1.04 MEASUREMENT AND PAYMENT

A. Lump sum bid items shall cover the costs of all the Work shown and/or specified in the Plans and Specifications and required to complete that particular portion of the Work.

B. Unit price bid items shall apply on any additions to or deductions from the Work required, covering all costs associated in providing a single unit as called for on the Plans and/or Specifications and as required to provide a complete unit. Payment

shall only be made for actual quantity of units provided as determined by the Project Manager.

C. Payment shall constitute full compensation to the Contractor for furnishing all labor, equipment, tools, and materials, and for performing all operations required to furnish to the Owner the entire project, complete in place, as specified and as indicated on the plans and/or specifications.

1.05 SEDIMENT REMOVAL FOR VITRUVIAN PARK BID ITEMS

BID ITEM 1 SITE WORK, MOBILIZATION/DEMOBILIZATION, PERMITS, BONDS AND INSURANCE: This LUMP SUM PRICE item shall consist of all costs associated with supervision, labor, materials, tools, equipment, incidentals and related items required to complete specified work for the Project as detailed by the contract drawings and specifications, complete and in place that are not specifically included in other bid items:

1. Mobilization includes mobilization of all equipment and materials necessary to conduct the project, and demobilization after project completion. It shall also include provision and installation of project identification signs, public and employee safety systems, dredges, dredge pumps, dredge and return water piping, dewatering equipment and appurtenances. All equipment and material shall be removed from the Site upon completion of the Project.
2. Temporary Facilities and Controls including but not limited to temporary facilities; site security; utility coordination; providing power for Contractor's operations as necessary; protection of existing facilities; applying for, obtaining, and implementing appropriate permits.
3. Earthwork and site preparation including site and grading plans; access route plans; materials handling plan; performing surveying if required; restoration of site and appurtenances necessary for cleaning activities.
4. This bid item shall include, but not be limited to costs associated with, and procurement of any and all bonds and insurance required per Contract Documents.

The total cost for this BID ITEM shall not exceed 10% of the total contract price. Demobilization shall be at least 10% of this bid price. Payment for this item will be LUMP SUM for complete, in place, maintained, removed, and accepted work in accordance with the Contract Documents.

BID ITEM 2 REMOVAL, DEWATERING, AND DISPOSAL PLAN FOR APPROVAL: This LUMP SUM PRICE item shall consist of all

costs associated with supervision, labor, materials, tools, equipment, incidentals and related items required to prepare a disposal plan per Technical Specification 02228 Dredging Operations. Plan shall be submitted and approved prior to the start of operations.

Payment for this item will be LUMP SUM for complete and accepted plan in accordance with the Contract Documents.

BID ITEM 3 SEDIMENT REMOVAL VIA HYDRAULIC DREDGING TO DEWATERING SYSTEM: This UNIT PRICE item shall consist of all costs associated with removal and dewatering of in place sediment from the defined work limits per the plans and specifications.

Payment for this item will be based on a UNIT PRICE PER DRY TON of removed sediment at a calculated percentage of solids based on testing results as defined in Technical Specification 01452. This will be calculated by the same means as Bid Item No. 4. For partial payments prior to figuring final dry tonnage, an agreed upon factor between the Owner and Contractor will be used until the material has thoroughly dried to determine the true dry tonnage. This factor will be used and adjusted as necessary during the dredging operations if requested by either party. Final quantity of this item will be based on actual manifested trucks at the disposal facility and lab calculated percent solids.

BID ITEM 4 DISPOSAL OF DEWATERED SEDIMENT TO AN APPROVED DISPOSAL SITE: This UNIT PRICE item includes all costs associated with the loading, hauling off, landfill testing fees, and disposal fees of removing dewatered material from the site to an approved Class 2 facility.

Payment for this item will be based on a UNIT PRICE PER DRY TON of complete removal of dewatered sediment in accordance with the Contract Documents. Measured quantity will be based on manifested loads, weighed by certified scale at the landfill, adjusted by removing calculated water content to determine the final dry tonnage. This quantity will also be used to adjust the final pay quantity for Bid Item No. 3. Manifested loads are based on Technical Specification 02228 and percent solids will be figured based on Technical Specification 01452. Provisions must be provided to guarantee remnant in the trucks is non-existent or will be accounted for. Trucks that return with remnant in their beds will require a reduction in pay quantity.

BID ITEM 5 SEDIMENT REMOVAL AND DISPOSAL VIA MECHANICAL MEANS: This UNIT PRICE item includes all costs associated with

the excavation, stockpiling, loading, hauling off, and disposal, including any testing and dump fees, of the gravel and rock material located in the waterway that cannot be removed via hydraulic means. The material shall be hauled to a suitable Class 2 landfill. The item will be measured by the full dump truck (tandem rear axle) load. For estimate purposes this should be approximated at 8 cy per load.

Payment for this item will be based on a UNIT PRICE PER LOAD of complete removal gravel and rock material in accordance with the Contract Documents.

BID ITEM 6 — STORM WATER POLLUTION PREVENTION PLAN: This LUMP SUM PRICE item includes all costs associated with the development, necessary revisions, and implementation of the Storm Water Pollution Prevention Plan (SWPPP or SWP3); installation, inspection and maintenance of best management practices; and to stabilize the site during operations. Modification to the SWPPP and/or additional control items required by the Owner or contractor's operations shall be considered incidental to this item and shall be provided at no additional cost to Owner. This item is to include all equipment, materials, labor and maintenance necessary to maintain the SWPPP during construction. Contractor shall pay all costs and fees associated with permitting and implementing the SWPPP.

Payment for this item will be LUMP SUM for complete, in place, maintained, removed, and accepted work in accordance with the Contract Documents. 10% of this bid item shall be held and paid upon removal of all SWPPP items.

BID ITEM 7 — SITE RESTORATION: This LUMP SUM PRICE item includes all costs associated with the supervision, labor, materials, tools, equipment, incidentals and related items required for the re-establishment of vegetative ground covering, cleanup of site, and repair of any damaged conditions caused by the contractor's operations.

Payment for this item will be LUMP SUM for complete, in place, maintained, removed, and accepted work in accordance with the Contract Documents.

1.06 NOT USED

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01452

TESTING LABORATORY SERVICES FURNISHED BY OWNER

PART 1 – GENERAL

1.01 REQUIREMENTS

A. The Owner will employ and pay for an independent testing laboratory to perform specified services for testing of the solids concentration of the residuals after they are dewatered in the geotextile tubes. The Contractor will collect a sample(s) with the Owners representative and the Owners representative will deliver the sample(s) to the testing laboratory.

B. When initial tests indicate non-compliance with the Contract Documents, all subsequent retesting occasioned by the non-compliance shall be performed by the same testing laboratory at the sole expense of the Contractor.

C. The Contractor shall pay for:
1. Tests not listed above.
2. Tests made exclusively for Contractor's convenience.
3. Repeat tests required because of Contractor's negligence or defective Work.
4. Testing after failure of two (2) or more of the same test for the same item to comply with the Contract Documents.
5. Re-tests due to testing performed prematurely or in a way that may affect the actual pay quantity to the contractor.

D. Testing laboratory is not authorized to:
1. Approve or accept any portion of the Work or defective Work
2. Rescind, alter, or augment requirements of Contract Documents
3. Perform duties of the Contractor.

E. Employment of a testing laboratory by the Owner in no way relieves the Contractor of his obligation to perform the work according to the Contract Documents.

1.02 RELATED WORK

A. General Conditions of the Contract for Construction. Inspections and testing required by laws, ordinances, rules and regulations or orders of public authorities are the responsibility of the Contractor.

1.03 QUALITY ASSURANCE

A. Testing Laboratory Qualifications:

1. Comply with applicable requirements of ASTM E329, Specification for Agencies Engaged in Construction Inspection and/or Testing.
2. Testing equipment used by laboratory will be calibrated at maximum twelve month intervals by devices of accuracy traceable to either NIST's Standard Reference Materials (SRM), ISO 17025, General Requirements for the Competence of Testing and Calibration Laboratories, or certified by State or Local bureau of weights and measures, or values of natural physical constants generally accepted in the engineering and scientific community.
3. Testing shall comply with EPA's SM2540G for soils.

1.04 LABORATORY'S DUTIES AND RESPONSIBILITIES

A. Testing Laboratory will:
1. Cooperate with Owner and provide qualified personnel promptly on notice.
2. Perform specified testing of materials; comply with applicable standards; and ascertain compliance with requirements of Contract Documents.
3. Promptly notify Engineer, Owner, and Contractor of irregularities or deficiencies in the Work that are observed during performance of services.
4. Promptly provide electronic copies of reports of inspections and tests to Owner, Engineer, and Contractor including:
    a. Date issued.
    b. Project title, number, and name of the Site.
    c. Testing laboratory name and address.
    d. Date of inspection or sampling.
    e. Record of temperature and weather at the time of sampling.
    f. Date of test.
    g. Identification of material or product tested, and associated Specification Section.
    h. Location in the Project.
    i. Type of inspection or test.
    j. Results of inspection or tests and observations regarding compliance with Contract Documents.
5. Perform additional tests and services, as required by Owner or disposal site.

1.05 CONTRACTOR'S RESPONSIBILITIES

A. Contractor will:
1. Assist with obtaining an agreed upon representative sample for the Owner's representative to have tested to determine the percent solids that will be used in calculating the dry tonnage for payment.
2. The samples shall be collected at a minimum once per geotextile tube at a time chosen by the Owner's representative. This shall ideally be at the time of haul off. Additional samples shall be taken at the direction of the Owner's representative.

1.05 OWNER'S RESPONSIBILITIES

A. Owner will:
   1. The Owner's representative shall store and transport the sample to the testing laboratory.
   2. Provide Engineer with lab results once they have received them.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 TESTING PROCEDURES

A. Testing shall comply with EPA's SM2540G for soils.

END OF SECTION

SECTION 02228

DREDGING OPERATIONS

PART 1 – GENERAL

1.01 GENERAL

A. This technical specification covers work required to dredge material in accordance with plans and specifications. Movement of the dredge equipment as required to perform the dredging operation and the repositioning of pipelines and attendant plant to facilitate proper dredge operations are also included. Dredge plant includes all equipment used to accomplish the dredging work including electricity/power, water, and geotextile tubes. Additional requirements are included on the plans and elsewhere in these specifications.

1.02 CHARACTER OF MATERIALS TO BE DREDGED

A. The materials to be removed to restore the waterway to the limits shown on the plans have accumulated primarily as a result of eroded material which is carried to the lake. The material is believed to primarily consist of silts, clay, and sand with some timber, gravel, small rock, trash and other debris. Additional information regarding sampling of the existing site can be found in the Terracon Report No. 94185091. The Contractor shall examine the areas to be dredged and determine for himself the character of the materials.

1.03 SUBMITTALS

A. The contractor shall submit a Removal, Dewatering, and Disposal plan for approval prior to the start of work. At a minimum, the plan shall include the following:

   a. Excavation removal methods
   b. Dewatering process
   c. Waste weighing and recording methods
   d. Waste disposal methods
   e. Equipment requirements
   f. Schedule of work
   g. Accidental spill cleanup plan
   h. Disposal site(s) registration (current TCEQ permit)

B. Disposal Records: Copies of all disposal records shall be submitted to the Town of Addison and shall include, but not limited to, the following information collected on a daily basis for each truck load of waste. This information shall be summarized daily in a log.
   a. Completed Non-Hazardous Waste Manifest form
   b. Date of disposal
   c. Empty (tare) weight as measured by the disposal facility scale

d. Full (loaded) weight as measured by the disposal facility scale
e. Driver’s signature

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 PLANT

A. The Contractor agrees to keep on the job sufficient plant to meet the requirements of the work. The plant shall be in satisfactory operating condition and capable of safely and efficiently performing the work as set forth in the specifications and the plant shall be subject to inspection by the Owner at all times. The plant listed in the Work Plan submitted with the Contractor's proposal is the minimum which the Contractor agrees to place on the job unless otherwise determined by the Owner, and its listing thereon is not to be construed as an agreement on the part of the Owner that it is adequate for the performance of the work. No reduction in the capacity of the plant employed on the work shall be made except by written permission of the Owner. The measure of the "capacity of the plant" shall be its actual performance on the work to which these specifications apply.

B. In the event of collision, fire, major breakdown or any other action preventing continuation of dredging operations for a period of more than 48 hours which is anticipated to continue for a period of 30 days or more, additional dredging plant shall be delivered. In the event the additional plant is not delivered and placed in operation within the allowable 30 days, the contract may be terminated at the discretion of the Owner.

3.02 DISPOSAL OF DREDGE MATERIALS

A. All materials removed from the lake by dredging shall be pumped to geotextile dewatering tubes (bags) placed in the allowable locations shown in the plans. Polymers shall be used to minimize the release of solids from the Geotextile tubes. The runoff from dewatering and the storage areas is to be conveyed back to Farmers Branch Creek in a controlled manner approved by the Town of Addison.

B. The material shall be stored in the tubes until the point in which it has been sufficiently dried out to allow proper and efficient disposal. The material shall be tested and the results submitted to the Town of Addison for agreement and confirmation.

C. Disposal shall be to an approved landfill per the requirements of the Terracon Report No. 94185091 and approved by the Town of Addison.

D. Measurement of this item will be by the dry ton as determined by weighing trucks as defined previously. In the event that residual is remaining in the trucks after dumping, an adjustment to the measured quantity may be required.

3.03 NOT USED

3.04 NOISE ATTENUATION

A. All dredge engines shall be equipped with exhaust silencers.

3.05 DEBRIS DISPOSAL

A. All debris encountered during the dredging process (i.e., metal, cable, rope, trash, etc.) including any contractor waste and geotextile tube remains shall become the property of the Contractor. The Contractor will be responsible for removing and disposing of debris off-site in any state permitted landfill as selected by the Contractor.

B. Should the Contractor, during the progress of the work, lose, dump, throw overboard, sink, or misplace any plant, machinery, or appliance, the Contractor shall recover and remove the same immediately.

3.06 EXISTING STRUCTURES

A. The Contractor shall exercise appropriate care when dredging adjacent to or in the vicinity of existing structures. Any damage to existing structures caused by impact from the dredge or other plant or by dredging in excess of the limits shown on the plans, shall be repaired to the satisfaction of the Owner at no cost to the Owner or to the owners of the structure. Repairs to any roadways, curbs, parking areas, or irrigation systems damaged by contractors equipment or operations shall be repaired back to existing conditions.

3.07 NOT USED

END OF SECTION

SECTION 02276

TEMPORARY EROSION CONTROL AND STORM WATER POLLUTION PREVENTION PLAN

PART 1 – GENERAL

1.01 SECTION INCLUDES

All materials, labor, equipment, tools, and superintendence necessary to furnish and install erosion control.

1.02 REFERENCES

A. City Standards and details in plans.

B. North Central Texas Council of Governments Public Works Construction Standards 2017 (NCTCOG) Item 202 - Temporary Erosion, Sedimentation, and Water Pollution Prevention and Control.

C. North Central Texas Council of Governments iSWM Design Manual for Construction (iSWM), Chapter 4, Best Management Practices.

D. The Storm Water Pollution Prevention Plan (SWP3) for this project.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Conform to SWP3.

B. Conform to iSWM Chapter 4, BEST MANAGEMENT PRACTICES.

PART 3 – EXECUTION

3.01 INSTALLATION, INSPECTION, MAINTENANCE AND REMOVAL

A. Follow SWP3 guidelines.

B. Install per manufacturer’s instruction.

C. Install erosion control as per details in plans with additional controls added based on Contractor’s work.

D. Install per iSWM Chapter 4, BEST MANAGEMENT PRACTICES.

E. Inspect all temporary erosion control measures on a regular basis and immediately after rain events.

F. Remove all temporary erosion control at the conclusion of the project.

END OF SECTION

SECTION 02920

SEEDING

PART 1 – GENERAL

1.01 SCOPE

A. The Contractor shall furnish all labor, materials, equipment, and incidentals necessary to provide an even and thoroughly hydromulched surface over all disturbed working areas of the Project Site.

1.02 REFERENCES

A. Section 204.6. Seeding Turf-grass of the Standard Specifications for the Public Works Construction Standards – North Central Texas Council of Governments, 5th ed, 2017.

1.03 SUBMITTALS

A. Submit to the Owner all information in accordance with Section 01330, Submittals.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Seed: Comply with NCTCOG 204.6

B. Fertilizer: Comply with NCTCOG 204.4 and 204.6

PART 3 – EXECUTION

3.01 INSTALLATION

A. Hydromulching: Comply with NCTCOG 204.6.4.4.

B. Fertilizing: Comply to NCTCOG 204.6.4.5

C. Growth Standards: Provide a dense, virile growth at the end of sixty (60) days after planting. Dense growth shall be defined as 95% coverage of each square yard

planted with those areas covered with growth providing 100% coverage. No bald spots larger than six (6) square inches will be allowed. Exceptions will be allowed at Owner's acceptance based on adjacent pre-existing coverage.

D. Maintenance: Those areas planted shall be watered, maintained except mowing, by the Contractor until areas planted are accepted. This shall include furnishing and installing replacement seed. Contractor is advised that responsibility for maintenance will not be waived due to conflicts between growing seasons and construction schedules.

END OF SECTION

SECTION IS

ADDITIONAL INSURANCE REQUIREMENTS

TOWN OF ADDISON, TEXAS
SEDIMENT REMOVAL FOR VITRUVIAN PARK

REQUIREMENTS

Contractors performing work on TOWN OF ADDISON property or public right-of-way shall provide the TOWN OF ADDISON a certificate of insurance or a copy of their insurance policy(s) (and including a copy of the endorsements necessary to meet the requirements and instructions contained herein) evidencing the coverages and coverage provisions identified herein within ten (10) days of request from TOWN OF ADDISON. Contractors shall provide TOWN OF ADDISON evidence that all subcontractors performing work on the project have the same types and amounts of coverages as required herein or that the subcontractors are included under the contractor's policy. Work shall not commence until insurance has been approved by TOWN OF ADDISON.

All insurance companies and coverages must be authorized by the Texas Department of Insurance to transact business in the State of Texas and must have a A.M. Best's rating A-:VII or greater.

Listed below are the types and minimum amounts of insurances required and which must be maintained during the term of the contract. TOWN OF ADDISON reserves the right to amend or require additional types and amounts of coverages or provisions depending on the nature of the work.

TYPE OF INSURANCE	AMOUNT OF INSURANCE	PROVISIONS
1. **Workers' Compensation Employers' Liability** to include: (a) each accident (b) Disease Policy Limits (c) Disease each employee	Statutory Limits per occurrence Each accident $1,000,000 Disease Policy Limits $1,000,000 Disease each employee$1,000,000	**TOWN OF ADDISON, and Nathan D. Maier Consulting Engineers, Inc. to be provided a *WAIVER OF SUBROGATION AND 30 DAY NOTICE OF CANCELLATION or*** material change in coverage. **Insurance company must be A-:VII rated or above.**
2. **Commercial General (Public) Liability** to include coverage for: a) Bodily Injury b) Property damage c) Independent Contractors d) Personal Injury e) Contractual Liability	Bodily Injury/Property Damage per occurrence $1,000,000, General Aggregate $2,000,000 Products/Completed Aggregate $2,000,000, Personal Advertising Injury per occurrence $1,000,000, Medical Expense 5,000	**TOWN OF ADDISON, and Nathan D. Maier Consulting Engineers, Inc. *to be listed as ADDITIONAL INSURED and provided 30 DAY NOTICE OF CANCELLATION* or material change in coverage.** **Insurance company must be A-:VII rated or above.**
3. **Business Auto Liability** to include coverage for: a) Owned/Leased vehicles b) Non-owned vehicles c) Hired vehicles	Combined Single Limit $1,000,000 per occurrence for bodily injury and property damage	**TOWN OF ADDISON, and Nathan D. Maier Consulting Engineers, Inc. *to be listed as ADDITIONAL INSURED and provided 30 DAY NOTICE OF CANCELLATION* or material change in coverage.** **Insurance company must be A:VII- rated or above.**
4. **Umbrella or Excess Liability Policy over Commercial General Liability and Automobile Liability limits of $1 million per occurrence**	Minimum $4 million per occurrence excess $1 million underlying per occurrence	**TOWN OF ADDISON, and Nathan D. Maier Consulting Engineers, Inc. *to be listed as ADDITIONAL INSURED and provided 30 DAY NOTICE OF CANCELLATION* or material change in coverage.** **Insurance company must be A:VII- rated or above.**

Certificate of Liability Insurance forms (together with the endorsements necessary to meet the requirements and instructions contained herein)may be **faxed** to the Purchasing Department: **972-450-7074 or emailed to: purchasing@addisontx.gov.** Questions regarding required insurance should be directed to the Purchasing Manager.

With respect to the foregoing insurance,

1. All liability policies shall contain no cross liability exclusions or insured versus insured restrictions applicable to the claims of the Town of Addison.

2. All insurance policies shall be endorsed to require the insurer to immediately notify the Town of Addison, Texas of any material change in the insurance coverage.

3. All insurance policies shall be endorsed to the effect that the Town of Addison, Texas will receive at least thirty (30) days' notice prior to cancellation or non-renewal of the insurance.

4. All insurance policies, which name the Town of Addison and Nathan D. Maier Consulting Engineers, Inc. as an additional insured, must be endorsed to read as primary coverage regardless of the application of other insurance.

5. Insurance must be purchased from insurers that are financially acceptable to the Town of Addison and licensed to do business in the State of Texas.

All insurance must be written on forms filed with and approved by the Texas Department of Insurance. Upon request, Contractor shall furnish the Town of Addison with complete copies of all insurance policies certified to be true and correct by the insurance carrier.

This form must be signed and returned with your quotation. You are stating that you do have the required insurance and if selected to perform work for TOWN OF ADDISON, will provide the certificates of insurance (and endorsements) with the above requirements to TOWN OF ADDISON within 10 working days.

A CONTRACT/PURCHASE ORDER WILL NOT BE ISSUED WITHOUT EVIDENCE AND APPROVAL OF INSURANCE.

AGREEMENT

I agree to provide the above described insurance coverages within 10 working days if selected to perform work for TOWN OF ADDISON. I also agree to require any subcontractor(s) to maintain insurance coverage equal to that required by the Contractor. It is the responsibility of the Contractor to assure compliance with this provision. The Town accepts no responsibility arising from the conduct, or lack of conduct, of the Subcontractor.

Project/Bid#_____

Company:_____

Printed Name: _____

Signature:_____ **Date:** _____

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APPENDIX A

Vitruvian 404 Permitting

The Town of Addison is in the process of securing a 404 Permit for the implementation of the Vitruvian Sediment Removal project. The removal of sediment shall be by hydraulic dredging, with a limited amount of removal by mechanical dredging. It is currently anticipated that this project will be authorized under Nationwide Permit 16. The following provides a narrative of the general Nationwide Permit 16 requirements along with the 2017 Nationwide Permit (NWP) Regional Conditions for the State of Texas. This is provided to the contractor for informational purposes. The contractor is required to meet the requirements and conditions of the final permit(s) that is secured for this project. This may include special conditions related to providing information on the contractor's means and methods for completing this project.

NATIONWIDE PERMIT 16
Return Water From Upland Contained Disposal Areas
Effective Date: March 19, 2017
(NWP Final Notice, 82 FR 4)

16. Return Water From Upland Contained Disposal Areas. Return water from an upland contained dredged material disposal area. The return water from a contained disposal area is administratively defined as a discharge of dredged material by 33 CFR 323.2(d), even though the disposal itself occurs in an area that has no waters of the United States and does not require a section 404 permit. This NWP satisfies the technical requirement for a section 404 permit for the return water where the quality of the return water is controlled by the state through the section 401 certification procedures. The dredging activity may require a section 404 permit (33 CFR 323.2(d)), and will require a section 10 permit if located in navigable waters of the United States. (Authority: Section 404)

Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer.

However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project

site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and

will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

D. District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination

that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the

procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

E. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

F. Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type

that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams

may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the acres or linear feet of stream bed that are filled or excavated as a result of the regulated activity. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Protected tribal resources: Those natural resources and properties of traditional or customary religious or cultural importance, either on or off Indian lands, retained by, or reserved by or for, Indian tribes through treaties, statutes, judicial decisions, or executive orders, including tribal trust resources.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all

crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

ADDITIONAL INFORMATION

This nationwide permit is effective March 19, 2017, and expires on March 18, 2022.

Information about the U.S. Army Corps of Engineers regulatory program, including nationwide permits, may also be found at http://www.swf.usace.army.mil/Missions/Regulatory.aspx and http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx

2017 NATIONWIDE PERMIT (NWP) REGIONAL CONDITIONS

FOR THE STATE OF TEXAS

The following regional conditions apply within the entire State of Texas:

1. For all discharges proposed for authorization under Nationwide Permits (NWP) 3, 6, 7, 12, 14, 18, 19, 21, 23, 25, 27, 29, 39, 40, 41, 42, 43, 44, 49, 51, and 52, into the following habitat types or specific areas, the applicant shall notify the appropriate District Engineer in accordance with the NWP General Condition 32, Pre-Construction Notification (PCN). The Corps of Engineers (Corps) will coordinate with the resource agencies as specified in NWP General Condition 32(d) (PCN). The habitat types or areas are:

    a. Pitcher Plant Bogs: Wetlands typically characterized by an organic surface soil layer and include vegetation such as pitcher plants (*Sarracenia* spp.) and/or sundews (*Drosera* spp.).

    b. Bald Cypress-Tupelo Swamps: Wetlands dominated by bald cypress (*Taxodium distichum*) and/or water tupelo (*Nyssa aquatic*).

2. For all activities proposed for authorization under any Nationwide Permit (NWP) at sites approved as compensatory mitigation sites (either permittee-responsible, mitigation bank and/or in-lieu fee) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899, the applicant shall notify the appropriate District Engineer in accordance with the NWP General Condition 32 - Pre-Construction Notification prior to commencing the activity.

3. For all activities proposed for authorization under NWP 16, the applicant shall notify the appropriate District Engineer in accordance with the NWP General Condition 32 (Pre-Construction Notification) and must obtain an individual water quality certification (WQC) from the TCEQ. Work cannot begin under NWP 16 until the applicant has received written approval from the Corps and WQC.

NOTE: For all activities proposing to use equipment that has operated or been stored in a water body on the Texas list of zebra mussel (*Dreissena polymorpha*) infected water bodies, equipment should be decontaminated prior to relocation in accordance with Texas Administrative Code, Title 31, Part 2, Chapter 57, Subchapter A. The following decontamination Best Management Practices (BMPs), as a minimum, are indicated:

    a. Clean: Clean both the inside and outside of equipment and gear, by removing all plants, animals, and mud and thoroughly washing the equipment using a high pressure spray nozzle.

    b. Drain: Drain all water from receptacles before leaving the area, including livewells, bilges, ballast, and engine cooling water on boats.

    c. Dry: Allow time for your equipment to dry completely before relocating in other waters. Equipment should be dried prior to relocation. High temperature pressure washing (greater than or equal to 140F) or professional cleaning may be substituted for drying time.

The following regional condition only applies within the Albuquerque, Fort Worth, and Galveston Districts:

4. For all activities proposed for authorization under Nationwide Permit (NWP) 12 that involve a discharge of fill material associated with mechanized land clearing of wetlands dominated by native woody shrubs, the applicant shall notify the appropriate District Engineer in accordance with the NWP General Condition 32 – Pre-Construction Notification prior to commencing the activity. For the purpose of this regional condition, a shrub dominated wetland is characterized by woody vegetation less than 3.0 inches in diameter at breast height but greater than 3.2 feet in height, which covers 20% or more of the area. Woody vines are not included.

The following regional conditions apply within the Albuquerque District.

5. Nationwide Permit (NWP) 23 – Approved Categorical Exclusions. A pre-construction notification (PCN) to the District Engineer in accordance with General Condition 32 - PCN is required for all proposed activities under NWP 23.

6. Nationwide Permit (NWP) 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities. For all proposed activities under NWP 27 that require pre-construction notification, a monitoring plan commensurate with the scale of the proposed restoration project and the potential for risk to the aquatic environment must be submitted to the Corps. (See “NWP 27 Guidelines” at http://www.spa.usace.army.mil/Missions/RegulatoryProgramandPermits/NWP.aspx).

7. Channelization. Nationwide Permit (NWP) General Condition 9 for Management of Water Flows is amended to add the following: Projects that would result in permanent channelization to previously un-channelized streams require pre-construction notification to the Albuquerque District Engineer in accordance with NWP General Condition 32 – Pre-Construction Notification.

8. Dredge and Fill Activities in Intermittent and Perennial Streams, and Special Aquatic Sites: For all activities subject to regulation under the Clean Water Act Section 404 in intermittent and perennial streams, and special aquatic sites (including wetlands, riffle and pool complexes, and sanctuaries and refuges), pre-construction notification (PCN) to the Albuquerque District Engineer is required in accordance with Nationwide Permit General Condition 32 - PCN.

9. Springs. For all discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs located in an aquatic resource, a pre-construction notification (PCN) is required to the Albuquerque District Engineer in accordance with Nationwide Permit General Condition 32 - PCN. A natural spring is defined as any location where ground water emanates from a point in the ground and has a defined surface water connection to another waters of the United States. For purposes of this regional condition, springs do not include seeps or other groundwater discharges which lack a defined surface water connection.

10. Suitable Fill. Use of broken concrete as fill or bank stabilization material is prohibited unless the applicant demonstrates that its use is the only practicable material (with respect to cost, existing technology, and logistics). Any applicant who wishes to use broken concrete as bank stabilization must provide notification to the Albuquerque District Engineer in accordance with Nationwide Permit General Condition 32 - Pre-Construction Notification along with justification for such use. Use of broken concrete with rebar or used tires (loose or formed into bales) is prohibited in all waters of the United States.

The following regional conditions apply only within the Fort Worth District.

11. For all discharges proposed for authorization under all Nationwide Permits (NWP) into the area of Caddo Lake within Texas that is designated as a "Wetland of International Importance" under the Ramsar Convention, the applicant shall notify the Fort Worth District Engineer in accordance with the NWP General Condition 32 – Pre-Construction Notification (PCN). The Fort Worth District will coordinate with the resource agencies as specified in NWP General Condition 32(d) - PCN.

12. Compensatory mitigation is generally required for losses of waters of the United States that exceed 1/10 acre and/or for all losses to streams that exceed 300 linear feet. Loss is defined in Section F of the Nationwide Permits (NWP). Mitigation thresholds are cumulative irrespective of aquatic resource type at each single and complete crossing. Compensatory mitigation requirements will be determined in accordance with the appropriate district standard operating procedures and processes. The applicant shall notify the Fort Worth District Engineer in accordance with the NWP General Condition 32 - Pre-Construction Notification prior to commencing the activity.

13. For all activities proposed for authorization under Nationwide Permits (NWP) 12, 14 and/or 33 that involve a temporary discharge of fill material into 1/2 acre or more of emergent wetland OR 1/10 acre of scrub-shrub/forested wetland, the applicant shall notify the Fort Worth District Engineer in accordance with the NWP General Condition 32 - Pre-Construction Notification prior to commencing the activity.

14. For all discharges proposed for authorization under Nationwide Permits (NWP) 51 and 52, the Fort Worth District will provide the pre-construction notification (PCN) to the U.S. Fish and Wildlife Service as specified in NWP General Condition 32(d)(2) - PCN for its review and comments.

The following regional conditions apply only within the Galveston District.

15. No Nationwide Permits (NWP), except NWP 3, shall be used to authorize discharges into the habitat types or specific areas listed in paragraphs a through c, below. The applicant shall notify the Galveston District Engineer in accordance with the NWP General Condition 32 - Pre-Construction Notification prior to commencing the activity under NWP 3.

a. Mangrove Marshes. For the purpose of this regional condition, Mangrove marshes are those waters of the United States that are dominated by mangroves (*Avicennia* spp., *Laguncuaria* spp., *Conocarpus* spp., and *Rhizophora* spp.).
b. Coastal Dune Swales. For the purpose of this regional condition, coastal dune swales are wetlands and/or other waters of the United States located within the backshore and dune areas in the coastal zone of Texas. They are formed as depressions within and among multiple beach ridge barriers, dune complexes, or dune areas adjacent to beaches fronting tidal waters of the United States.
c. Columbia Bottomlands. For the purpose of this regional condition, Columbia bottomlands are defined as waters of the United States that are dominated by bottomland hardwoods in the Lower Brazos and San Bernard River basins identified in the 1997 Memorandum of Agreement between the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Natural Resource Conservation Service, and Texas Parks and Wildlife Department for bottomland hardwoods in Brazoria County. (For further information, see http://www.swg.usace.army.mil/Business-With-Us/Regulatory/Permits/Nationwide-General-Permits/)

16. A Compensatory Mitigation Plan is required for all special aquatic site losses, as defined in Section F of the Nationwide Permits (NWP), that exceed 1/10 acre and/or for all losses to streams that exceed 200 linear feet. Compensatory mitigation requirements will be determined in accordance with the appropriate district standard operating procedures and processes. The applicant shall notify the Galveston District Engineer in accordance with the NWP General Condition 32 - Pre-Construction Notification prior to commencing the activity.

17. For all seismic testing activities proposed for authorization under Nationwide Permit (NWP) 6, the applicant shall notify the Galveston District Engineer in accordance with the NWP General Condition 32 - Pre-Construction Notification (PCN). The PCN must state the time period for which the temporary fill is proposed, and must include a restoration plan for the special aquatic sites. For seismic testing under NWP 6 within the Cowardin Marine System, Subtidal Subsystem; as defined by the U.S. Fish and Wildlife Service, Classification of Wetlands and Deepwater Habitats of the United States, December 1979/Reprinted 1992, the Corps will coordinate with the resource agencies in accordance with NWP General Condition 32(d) - PCN.

18. For all activities proposed under Nationwide Permits (NWP) 10 and 11 located in vegetated shallows and coral reefs; as defined by 40 CFR 230.43 and 230.44 respectively, the applicant shall notify the Galveston District Engineer in accordance with the NWP General Condition 32 - Pre-Construction Notification. Examples include, but are not limited to: seagrass beds, oyster reefs, and coral reefs.

19. Nationwide Permit 12 shall not be used to authorize discharges within 500 feet of vegetated shallows and coral reefs; as defined by 40 CFR 230.43 and 230.44 respectively. Examples include, but are not limited to: seagrass beds, oyster reefs, and coral reefs.

20. For all activities proposed for authorization under Nationwide Permit 12 that involve underground placement below a non-navigable river bed and/or perennial stream bed there shall a minimum cover of 48 inches (1,219 millimeters) of soil below the river and/or perennial stream thalweg.

21. For all discharges and work proposed below the high tide line under Nationwide Permits (NWP) 14 and 18, the applicant shall notify the Galveston District Engineer in accordance with the NWP General Condition 32 - Pre-Construction Notification (PCN). The Galveston District will coordinate with the resource agencies in accordance with NWP General Condition 32(d) - PCN.

22. For all activities proposed for authorization under Nationwide Permit (NWP) 33 the applicant shall notify the Galveston District Engineer in accordance with the NWP General Condition 32 – Pre-Construction Notification (PCN). The PCN must include a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions. Activities causing the temporary loss, as defined in Section F of the NWPs, of more than 0.5 acres of tidal waters and/or 200 linear feet of stream will be coordinated with the agencies in accordance with NWP General Condition 32(d) - PCN.

23. No Nationwide Permits (NWP), except NWPs 3, 16, 20, 22, 37, shall be used to authorize discharges, structures, and/or fill within the standard setback and high hazard zones of the Sabine-Neches Waterway as defined in the Standard Operating Procedure - Permit Setbacks along the Sabine-Neches Waterway. The applicant shall notify the Galveston District Engineer in accordance with NWP General Condition 32 - Pre-Construction Notification for all discharge, structures and/or work in medium hazard zones and all NWP 3 applications within the standard setback and high hazard zones of the Sabine-Neches Waterway.

24. No Nationwide Permits (NWP), except 20, 22, and 37, shall be used to authorize discharges, structures, and/or fill within the standard setback exemptions of the Gulf Intracoastal Waterway as defined in the Standard Operating Procedure- Department of the Army Permit Evaluation Setbacks along the Gulf Intracoastal Waterway. The applicant shall notify the Galveston District Engineer in accordance with NWP General Condition 32 (Pre-Construction Notification) for all discharges, structures and/or work within the standard setback, shoreward of the standard setback, and/or standard setback exemption zones.

25. The use of Nationwide Permits in the San Jacinto River Waste Pits Area of Concern are revoked. (For further information, see http://www.swg.usace.army.mil/Business-With-Us/Regulatory/Permits/Nationwide-General-Permits/)

26. The use of Nationwide Permits 51 and 52 are revoked within the Galveston District boundaries.

27. Nationwide Permit (NWP) 53 pre-construction notifications will be coordinated with resource agencies as specified in NWP General Condition 32(d) – Pre-construction Notification.

28. For all activities proposed under Nationwide Permits (NWP) 21, 29, 39, 40, 42, 43, 44, and 50 that result in greater than 300 feet of loss in intermittent and/or ephemeral streams, as defined in Section F of the NWPs, require evaluation under an Individual Permit.

The following regional conditions apply only within the Tulsa District.

29. Upland Disposal: Except where authorized by Nationwide Permit 16, material disposed of in uplands shall be placed in a location and manner that prevents discharge of the material and/or return water into waters or wetlands unless otherwise authorized by the Tulsa District Engineer.

30. Major Rivers: The prospective permittee shall notify the Tulsa District Engineer for all Nationwide Permit 14 verifications which cross major rivers within Tulsa District. For the purposes of this condition, major rivers include the following: Canadian River, Prairie Dog Town Fork of the Red River, and Red River.

APPENDIX B

Original Copy – October 15, 2018
Revised Copy - November 13, 2018

Mr. William Wallace
Nathan D Maier Consulting Engineers Inc.
12377 Merit Drive, Suite 700
Dallas, Texas 75251

Telephone: 214-739-5961
E-mail: bwallace@ndmc.com

Re: Sediment Characterization Summary
Vitruvian Lake Sediment Collection
3966 Vitruvian Way
Addison, Texas
Terracon Project No. 94185091

Dear Mr. Wallace:

Terracon Consultants, Inc. (Terracon) collected sediment samples from the Vitruvian Park man-made lake located at 3966 Vitruvian Way in Addison, Texas, in general accordance with Terracon's Proposal No. P94185091, April 4, 2018. Terracon understands that the Town of Addison intends to dredge sediment from the bottom of Vitruvian Lake and the Town of Addison will evaluate deposition options of the dredging spoils based the results of the testing summarized below.

On August 28, 2018, Terracon collected five sediment samples from the on-site man-made lake to evaluate chemicals of concern (COCs) in sediment for potential off-site reuse options and/or waste characterization purposes. A diagram depicting the approximate sample locations is attached to this letter as Exhibit A. Samples were collected at each sample location utilizing a polyvinyl chloride (PVC) tube sampler with a piston assembly to recover samples. The sediment sampling was conducted from a flat bottom aluminum boat. Non-dedicated sampling equipment was cleaned using an Alconox® wash and potable water rinse prior to the beginning of the project and before collecting each sediment sample.

Terracon's sediment sampling program involved collecting one sample from each location (up to 5 total samples) which were assigned for laboratory analysis of total petroleum hydrocarbons (TPH) by TX 1005 Method, volatile organic compounds (VOCs) by EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, herbicides by EPA Method 8151, organochlorine pesticides by EPA Method 8081, polychlorinated biphenyls (PCBs) by EPA Method 8082, total Resource Conservation and Recovery Act (RCRA) 8 metals by EPA Method 6020/7471. After review of the analytical results, sample S-2 was analyzed for lead by toxicity characteristic leaching procedure (TCLP) by EPA Method 1311/6020. In addition, the sediment samples were submitted for laboratory testing for Atterberg Limits by ASTM D4318, and Grain Size analysis per ASTM D6913. Copies of the laboratory analytical reports are attached to this letter.

Sediment samples were collected and placed in laboratory-prepared glassware containing the appropriate preservative, labeled, and placed on ice in sample coolers. The sample cooler was secured with a custody seal and shipped to the selected analytical laboratory. The sample cooler and completed chain-of-custody forms were relinquished to Pace Analytical National Center for Testing & Innovation (Pace) in Mount Juliet, Tennessee for analysis on normal turnaround. The Atterberg Limits and Grain Size testing was completed by Terracon's Dallas geotechnical laboratory.

The following table below describes the materials encountered at each location.

Location	Materials Encountered
SW-1	Gravel
SW-2	Branches and Leaves with Fine Silt
SW-3	Olive Brown/ Dark Brown Clay
SW-4	Brown Clay with Gravel and Organics
SW-5	Brown Clay with Gravel and Calcareous Nodes

The following table below describes the results of the soils encountered from the appropriate Atterberg and Sieve Analysis tests.

Location	Liquid Limit	Plastic Limit	Plasticity Index	% Fines
SW-1	-	-	-	23.3
SW-2	-	-	-	89.0
SW-3	71	30	41	42.0
SW-4	78	21	57	0
SW-5	61	22	39	42.0

Non-plastic sediments were encountered at locations SW-1 and SW-2. Grain size analysis test were performed on these samples.

Since the Town of Addison intends to dredge sediment from the bottom of Vitruvian Lake and either deposit the dredging spoils for re-use or dispose of the dredging spoils off-site, dependent upon on the results of the analytical testing, the ecological receptor pathway, the direct human contact sediment pathway, and human heath surface water pathway are not applicable and therefore not evaluated.

To evaluate sediment for potential re-use options, COC concentrations were compared to Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP – 30 TAC §350) Residential Tier 1 Protective Concentration Levels (PCLs) for the soil leaching to groundwater exposure pathway assuming a 0.5-acre source area and Class 1 groundwater ($^{GW}Soil_{lng}$). For the purposes on this project the Residential $^{GW}Soil_{lng}$ PCL is the TRRP Assessment Level (AL)

The detected metals concentrations in sediments were also compared to their TRRP Texas-Specific Background Concentrations (TSBCs). In cases where the TSBC is greater than the lowest PCL, the comparable TRRP AL is the TSBC.

Terracon also compared the results to TRRP Residential Tier 1 PCLs for the Total-Soil-Combined ($^{Tot}Soil_{Comb}$) exposure pathway. This pathway evaluates combined exposures from incidental ingestion, dermal contact, inhalation of vapors and particulates in outdoor settings, and the ingestion of above-ground and below-ground vegetables grown in soil.

Since landfill disposal is a potential option, COC concentrations were also compared to Class 1 Non-Hazardous and EPA Hazardous Regulatory Limits defined in the TCEQ *Guidelines for the Classification and Coding of Industrial and Hazardous Wastes*, revised November 2014.

Constituent concentrations qualified with J-flag (J) indicate the constituent was detected at a concentration above the laboratory sample detection limit (SDL), but below the laboratory method quantitation limit (MQL). Constituent concentrations qualified with a J-flag are considered estimated values.

Laboratory analytical results indicate TPH was detected in two samples, S-2 and S-3, above laboratory SDLs; however, the detected concentrations were below the TRRP AL. Several VOCs, including toluene, ethylbenzene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 2-Butanone, 4-methyl-2-pentanone, and acetone were detected above laboratory SDLs; however, the detected concentrations were below their respective TRRP AL. Various PAHs were detected in each sample above laboratory SDLs; however, the detected concentrations were below their respective TRRP AL. Herbicides, organochlorine pesticides, and PCBs were not detected above laboratory SDLs.

RCRA 8 metals, including arsenic and lead, were detected at concentrations exceeding their TRRP AL, with maximum concentrations of 31.8 milligrams per kilogram (mg/kg) and 30.0 mg/kg, respectively. The arsenic concentrations in sample S-1 (31.8 mg/kg) also exceeds the TRRP Residential $^{Tot}Soil_{Comb}$ PCL of 24 mg/kg.

The detected concentrations of lead in sediment sample S-2 was equivalent to the Class I non-hazardous equivalent waste regulatory limit and was submitted for toxicity TCLP lead analysis. TCLP lead was not detected above laboratory SDLs for sample S-2; therefore, the sediment meets the Class 2 non-hazardous equivalent waste criteria for lead. The remaining detected COCs total values were below their respective Class I non-hazardous equivalent waste regulatory limits; therefore, the sediment meets the criteria for Class 2 non-hazardous equivalent waste.

Laboratory analytical results for each of the five sediment samples indicate that chemicals of concern do not exceed TRRP Commercial/Industrial Assessment Levels or $^{Tot}Soil_{Comb}$ PCLs. Therefore, the sediment meets the re-use criteria for Commercial/Industrial properties. Due to the presence of arsenic that exceeds the TRRP Residential $^{Tot}Soil_{Comb}$ PCL, Terracon recommends limiting sediment re-use

options to Commercial/Industrial use properties if the sediment is not disposed at an approved landfill. To limit risk, Terracon recommends that the sediment not be re-used on properties that are currently residential or planned for residential use. 30 Texas Administrative Codes (TAC) 350 (§350.4(a)(74)) defines residential properties as *property used for dwellings such as single family houses and multi-family apartments, children's homes, nursing homes, and residential portions of government-owned lands (local, state, or federal).* Because of the similarity of exposure potential and the sensitive nature of the potentially exposed population, day care facilities, educational facilities, hospitals, and parks (local, state, or federal) shall also be considered residential.

The following management options are applicable for the sediment to be dredged from Vitruvian Lake:

- Sediment may not be re-used on the site since the site is developed as a park with adjoining multi-family apartments, which is considered Residential use. The sediment cannot be re-used on other residential properties or properties planned for residential use.
- If sediment is exported from the site:
  - The sediment may be transported to other Town of Addison owned commercial/industrial properties. The property address and proposed new location should be provided to the Town of Addison for approval prior to exporting the sediment to the proposed location. The volume of soils taken to the subject property should be recorded and provided to the Town of Addison for their records.
  - The sediment may be transported to another Commercial/Industrial use property. The receiving property owner should be provided with information on the origin/contents of the sediment along with a copy of the analytical documentation (i.e. the COCs and their respective concentrations). In addition, the Generator (the Town of Addison) should obtain the receiving property owner's written consent prior to transporting the sediment.
  - The sediment may be disposed at an approved landfill. The analytical results indicate that the sediment meets the criteria for Class 2 non-hazardous equivalent waste.
  - Sediment should not be transported to a third-party soil yard or pit where the Generator does not have control over their re-use and distribution.
  - Sediment should not remain unvegetated and exposed to rainfall and potential erosional runoff. Additionally, sediment should not be placed in or proximate to ecologically sensitive area (i.e. surface water bodies [ponds, lakes, reservoirs, creeks, streams, rivers, ditches] floodplains, wetlands, estuaries, wildlife habitats, or any other areas deemed potential sensitive).

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, express or implied, regarding the findings, conclusions, or recommendations.

Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not intended to be in strict conformance with ASTM E1903-11.

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during these services. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations, or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

This report has been prepared for the exclusive use of Nathan D Maier Consulting Engineers Inc. (client), and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of the client and Terracon. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, LSI report, and Terracon's Agreement for Services. The limitation of liability defined in the terms and conditions of the Agreement for Services is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.

If you should have any questions or comments regarding letter, please contact either of the undersigned at 214-630-1010.

Sincerely,
Terracon Consultants, Inc.

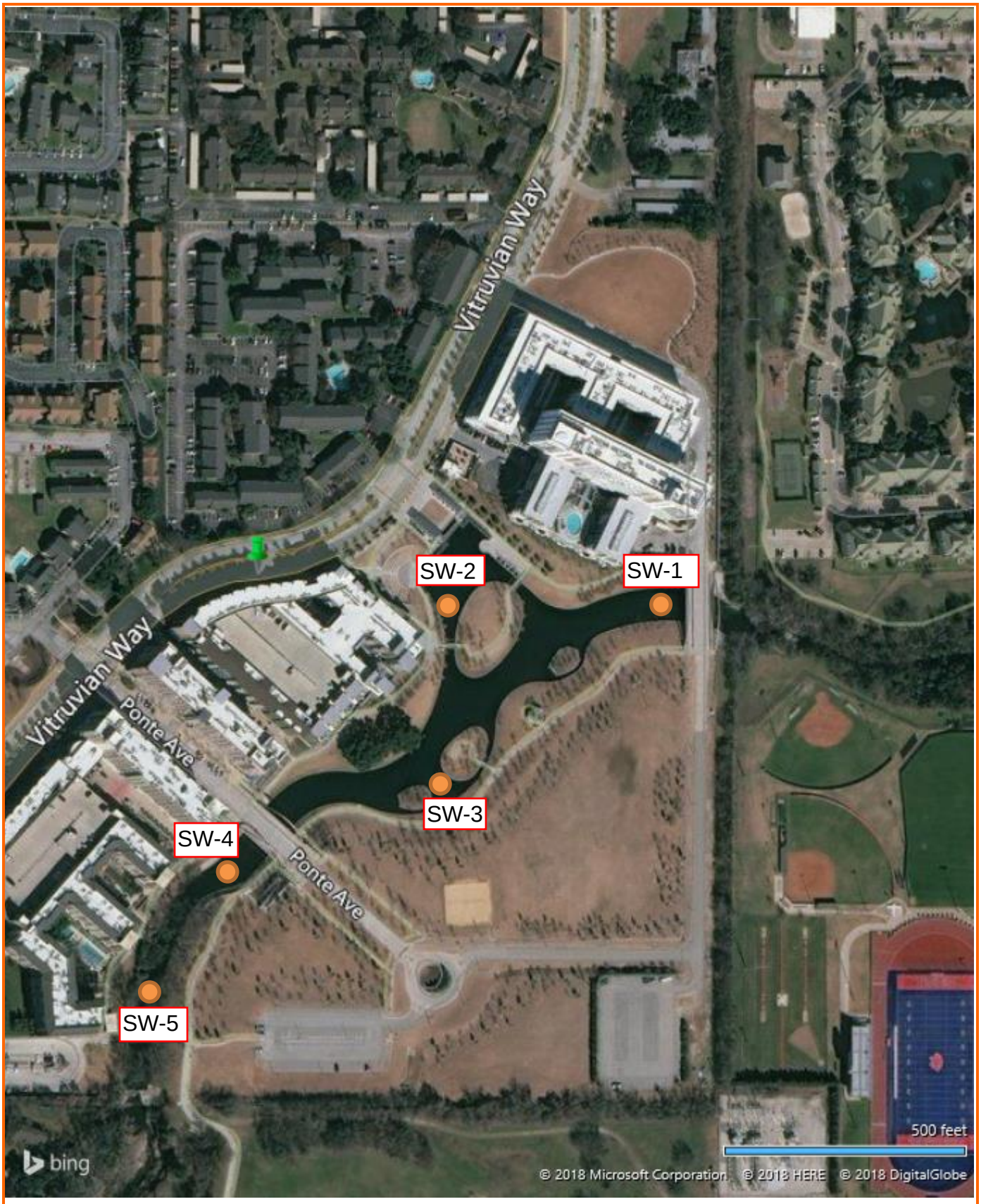
Michael Nibert, CHMM, C.E.M.
Group Manager

Lance Crabtree, P.G.
Senior Project Manager

Enclosures: Exhibit A – Sample Locations
Table 1 – Sediment Analytical Results Summary
Laboratory Analytical Reports

EXHIBIT A - SAMPLE LOCATIONS

Vitruvian Lake Sediment Collection ■ Addison, TX
Ocober 4, 2018 ■ Terracon Proposal No. P94185091



Approximate Sampling Locations

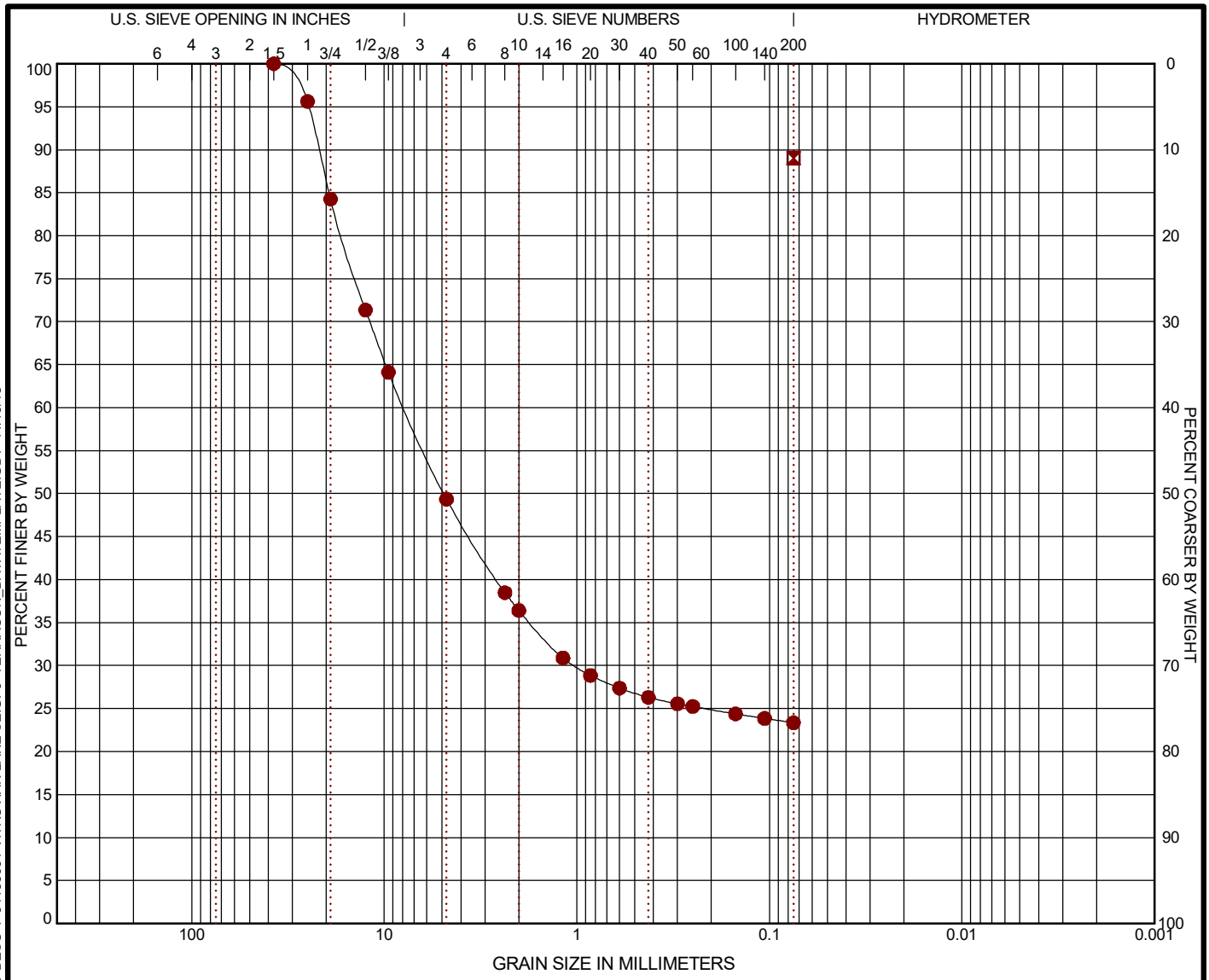
Table 1
Analytical Results Summary
Vitruvian Lake
Addison, Texas
Project No. 94185091

Parameter	Method	TRRP Action Level[1] (mg/kg) Residential	TRRP Assessment Level[2] (mg/kg) Commercial/ Industrial	Total-Soil-Comb (mg/kg) Residential	Total-Soil-Comb (mg/kg) Commercial/ Industrial	Sample Identifier S-1(0-2) 0-2' 8/28/2018	S-2(0-2) 0-2' 8/28/2018	S-3(0-2) 0-2' 8/28/2018	S-4(0-2) 0-2' 8/28/2018	S-5(0-2) 0-2' 8/28/2018
RCRA metals (mg/kg)										
Arsenic	EPA 6020	5.9	5.9	24	200	**31.8**	**7.75**	**7.69**	**9.58**	**10.9**
Barium	EPA 6020	440	440	8100	120,000	272	137	140	138	154
Cadmium	EPA 6020	1.5	1.5	52	1.5	0.354 J	0.591 J	0.624 J	0.346 J	0.308 J
Chromium	EPA 6020	2,400	2,400	33,000	120,000	13.8	27.0	28.6	22.8	27.8
Lead	EPA 6020	15	15	500	1600	8.01	**30.0**	**29.7**	11.6	**15.6**
Selenium	EPA 6020	2.3	2.3	310	4900	0.697	1.40 J	2.01	0.754	0.765
Mercury (pH=6.8)	EPA 7471B	2.1	2.1	8.3	19	0.0116 J	0.0805	0.0871	0.0227 J	0.0273
Toxicity Characterisitc Leaching Procedure (TCLP) (mg/L)										
Lead	EPA 6020B/1311	N/A	N/A	N/A	N/A	---	< SDL*	---	---	---
Total Petroleum Hydrocarbons (TPH) (mg/kg)										
C6-C12	TX 1005	65	190	1,600	3,900	< 17.0	< 54.5	< 49.3	< 20.1	< 19.6
>C12-C28	TX 1005	200	590	2,300	12,000	< 17.0	60.6 J	51.3 J	< 20.1	< 19.6
>C28-C35	TX 1005	200	590	2,300	12,000	< 17.0	< 54.5	< 49.3	< 20.1	< 19.6
C6-C35	TX 1005	N/A	N/A	N/A	N/A	< 17.0	60.6 J	51.3 J	< 20.1	< 19.6
Volatile Organic Compounds (VOC) (mg/kg)										
Toluene	EPA 8260B	8.2	8.2	5900	42000	0.00170	0.00642	0.0129	0.00189	< 0.00164
Ethylbenzene	EPA 8260B	7.6	7.6	6400	29000	< 0.000601	< 0.00202	0.00227	< 0.000709	< 0.000694
1,2,3-Trichlorobenzene	EPA 8260B	26	79	120	350	< 0.00130	0.00729	0.0148	< 0.00154	< 0.00151
1,2,4-Trichlorobenzene	EPA 8260B	4.8	4.8	120	200	< 0.00132	0.00543	0.00520	< 0.00155	< 0.00152
2-Butanone (MEK)	EPA 8260B	29	87	40000	190000	< 0.0142	0.0632	0.122	< 0.0167	< 0.0164
4-Methyl-2-pentanone (MIBK)	EPA 8260B	4.9	15	5900	41000	< 0.0113	< 0.0382	0.0409	< 0.0134	< 0.0131
Acetone	EPA 8260B	43	130	66000	440000	< 0.0155	0.377	0.572	< 0.0183	0.0659
Semi-Volatile Organic Compounds (SVOCs) (mg/kg)										
Anthracene	EPA 8270	6,900	21,000	18,000	190,000	0.0374	< 0.0191	< 0.415	< 0.00846	< 0.0166
Benzo(a)anthracene	EPA 8270	41	170	41	170	0.191	0.0500	0.430	< 0.00573	< 0.0112
Benzo(a)pyrene	EPA 8270	4.1	7.6	4.1	17	0.185	0.0669	0.549	< 0.00733	< 0.0144
Benzo(b)fluoranthene	EPA 8270	42	170	42	170	0.301	0.129	1.21	< 0.00930	0.0200
Benzo(g,h,i)perylene	EPA 8270	1,800	19,000	1,800	19,000	0.0733	0.0366	< 0.474	< 0.00965	< 0.0189
Benzo(k)fluoranthene	EPA 8270	420	1700	420	1700	0.118	0.0539	< 0.382	< 0.00779	< 0.0152
Chrysene	EPA 8270	4100	17000	4100	17000	0.237	0.0972	0.693	< 0.00743	0.0151
Dibenz(a,h)anthracene	EPA 8270	4	17	4	17	0.331	< 0.0249	< 0.540	< 0.0110	< 0.0215
Fluoranthene	EPA 8270	1,900	5,700	2,300	25,000	0.537	0.166	1.44	0.00687	0.0333
Indeno(1,2,3-cd)pyrene	EPA 8270	42	170	42	170	1.20	1.01	< 0.507	< 0.0103	< 0.0202
Phenanthrene	EPA 8270	420	1200	1700	19000	0.222	0.0345	0.381	< 0.00707	< 0.0138
Pyrene	EPA 8270	1,100	3,300	1,700	19,000	0.336	0.103	0.841	< 0.0165	< 0.0322
Herbicides (mg/kg)										
< SDLs	EPA 8151	N/A	N/A	N/A	N/A	< SDLs	< SDLs	< SDLs	< SDLs	< SDLs
Organochlorine Pesticides (mg/kg)										
< SDLs	EPA 8081	N/A	N/A	N/A	N/A	< SDLs	< SDLs	< SDLs	< SDLs	< SDLs
Polychlorinated Biphenyls (PCBs) (mg/kg)										
< SDLs	EPA 8082	N/A	N/A	N/A	N/A	< SDLs	< SDLs	< SDLs	< SDLs	< SDLs

Notes
1. Texas Risk Reduction Program (TRRP) Action Levels as defined in the TCEQ guidance *Determining Which Releases are Subject to TRRP*, revised November 19, 2010
2. TRRP Assesment Level based on Commercial/Industrial land use
*EPA Hazarous Regulatory Limit = 5 mg/L (as defined in the TCEQ Guidelines for the Classification and Coding of Industrial and Hazardous Wastes, revised November 2014)
Only constituents detected above the laboratory sample detection limit (SDL) are reported
<SDL = Constituent not detected above the indicated laboratory SDL
J = Estimated value, constituent detected above laboratory SDL but below the method quantitation limit (MQL)
N/A = Not applicable
--- = Not analyzed
Bold denotes concentrations exceeding Action Levels

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BORING ID	DEPTH	% COBBLES	% GRAVEL	% SAND	% SILT	% FINES	% CLAY	USCS
●	1	0 - 2	0.0	50.6	26.0		23.3		
☒	2	0 - 2					89.0		

	GRAIN SIZE		
	●	☒	
D_{60}	7.832		
D_{30}	1.023		
D_{10}			
	COEFFICIENTS		
C_C			
C_U			

●		☒			
Sieve	% Finer	Sieve	% Finer	Sieve	% Finer
1 1/2"	100.0	#200	89.02		
1"	95.61				
3/4"	84.26				
1/2"	71.35				
3/8"	64.11				
#4	49.35				
#8	38.48				
#10	36.41				
#16	30.88				
#20	28.85				
#30	27.38				
#40	26.29				
#50	25.56				
#60	25.24				
#100	24.38				
#140	23.86				
#200	23.35				

SOIL DESCRIPTION

●

☒

REMARKS

●

☒

PROJECT: Vitruvian Lake Sediment Collection

SITE: 3966 Vitruvian Way
Addison, TX

Terracon
8901 Carpenter Fwy, Ste 100
Dallas, TX

PROJECT NUMBER: 94185091

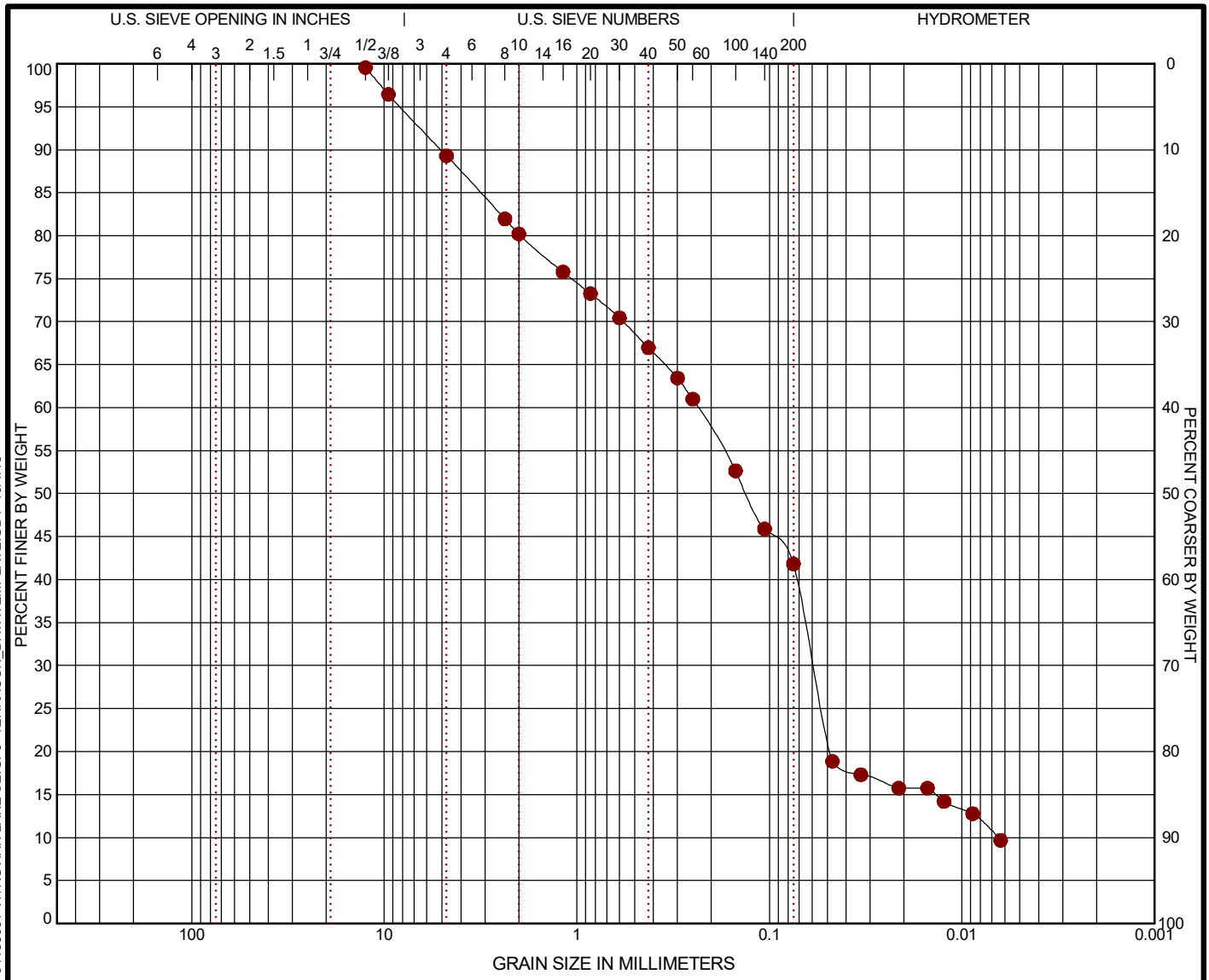
CLIENT: Nathan D Maier Consulting Engrs Inc
Dallas, TX

EXHIBIT: B-1

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: AASHTO DESC-1 94185091 VITRUVIAN LAKE SE.GPJ TERRACON_DATATEMPLATE.GDT 11/13/18

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BORING ID	DEPTH	% COBBLES	% GRAVEL	% SAND	% SILT	% FINES	% CLAY	USCS
●	**3**	**0 - 2**		**10.2**	**47.5**		**41.8**		**SC**

	GRAIN SIZE
	●
D_{60}	**0.235**
D_{30}	**0.059**
D_{10}	**0.007**
	COEFFICIENTS
C_C	**2.27**
C_U	**36.04**

	Sieve	% Finer	Sieve	% Finer	Sieve	% Finer
●	**1/2"**	**99.55**				
	3/8"	**96.43**				
	#4	**89.3**				
	#8	**81.95**				
	#10	**80.2**				
	#16	**75.78**				
	#20	**73.27**				
	#30	**70.44**				
	#40	**66.97**				
	#50	**63.44**				
	#60	**60.99**				
	#100	**52.65**				
	#140	**45.89**				
	#200	**41.82**				

SOIL DESCRIPTION

● CLAYEY SAND (SC)

REMARKS

●

PROJECT: Vitruvian Lake Sediment Collection

SITE: 3966 Vitruvian Way
Addison, TX

Terracon
8901 Carpenter Fwy, Ste 100
Dallas, TX

PROJECT NUMBER: 94185091

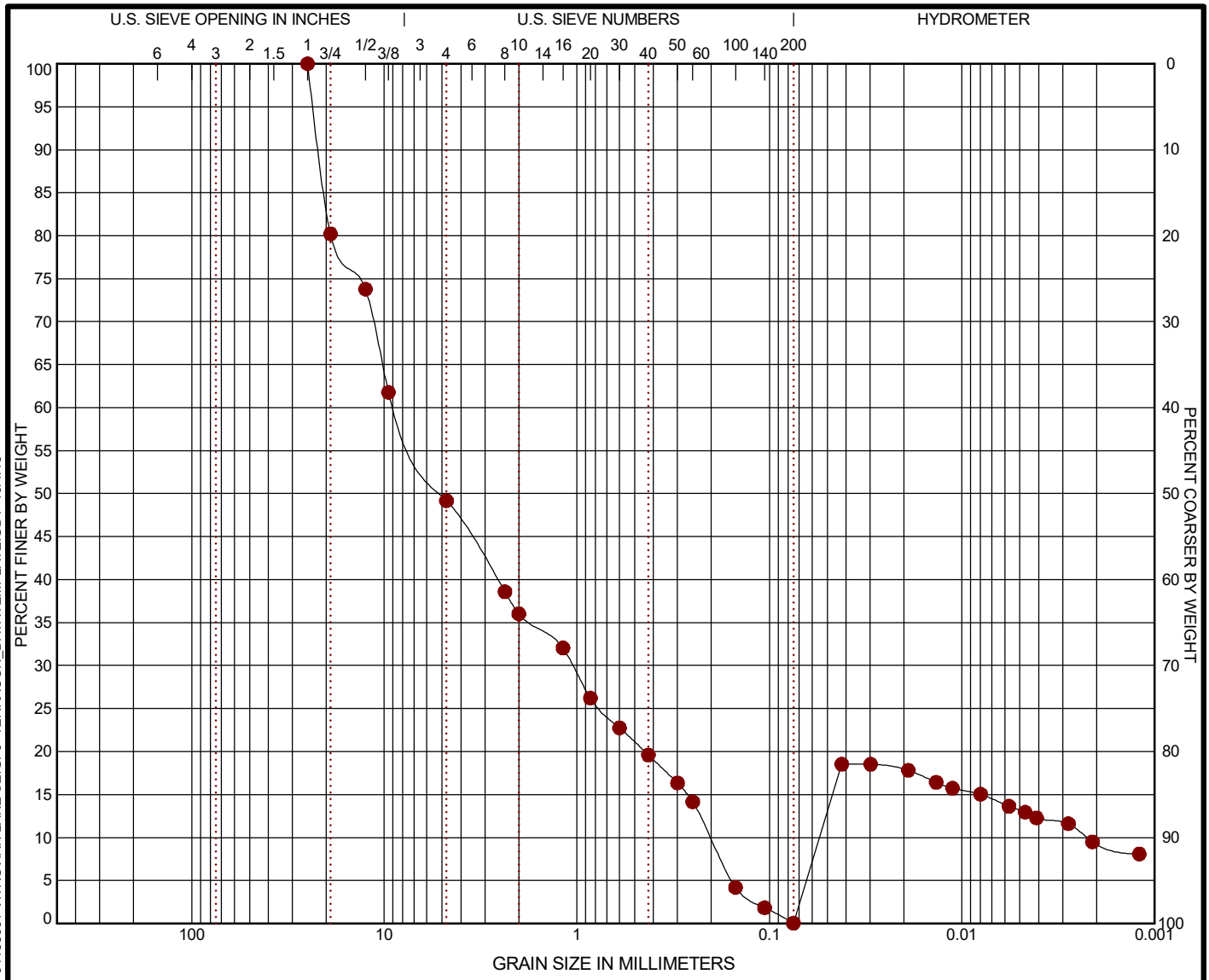
CLIENT: Nathan D Maier Consulting Engrs Inc
Dallas, TX

EXHIBIT: B-1

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS 1 94185091 VITRUVIAN LAKE SE.GPJ TERRACON_DATATEMPLATE.GDT 10/1/18

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BORING ID	DEPTH	% COBBLES	% GRAVEL	% SAND	% SILT	% FINES	% CLAY	USCS
●	**4**	**0 - 2**	**0.0**	**50.8**	**49.1**	**-13.1**		**13.2**	**GP**

	GRAIN SIZE
	●
D_{60}	**8.613**
D_{30}	**1.052**
D_{10}	**0.002**
	COEFFICIENTS
C_C	**57.06**
C_U	**3827.16**

● Sieve	% Finer	Sieve	% Finer	Sieve	% Finer
1"	**100.0**				
3/4"	**80.21**				
1/2"	**73.78**				
3/8"	**61.78**				
#4	**49.17**				
#8	**38.58**				
#10	**36.02**				
#16	**32.05**				
#20	**26.21**				
#30	**22.74**				
#40	**19.59**				
#50	**16.34**				
#60	**14.15**				
#100	**4.19**				
#140	**1.83**				
#200	**0.04**				

SOIL DESCRIPTION

● POORLY GRADED GRAVEL with SAND (GP)

REMARKS

●

PROJECT: Vitruvian Lake Sediment Collection

SITE: 3966 Vitruvian Way
Addison, TX

Terracon
8901 Carpenter Fwy, Ste 100
Dallas, TX

PROJECT NUMBER: 94185091

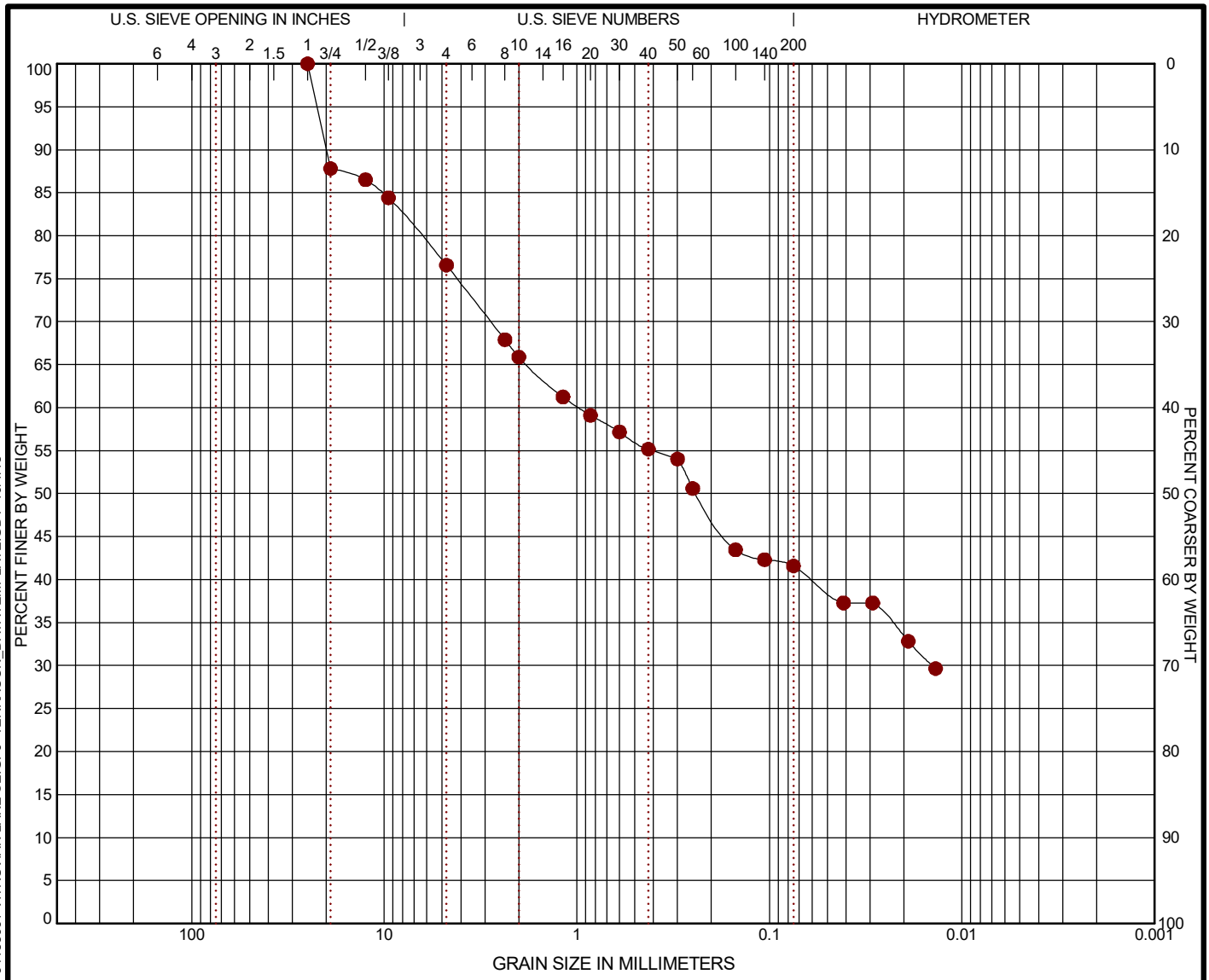
CLIENT: Nathan D Maier Consulting Engrs Inc
Dallas, TX

EXHIBIT: B-1

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS 1 94185091 VITRUVIAN LAKE SE.GPJ TERRACON_DATATEMPLATE.GDT 10/1/18

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BORING ID	DEPTH	% COBBLES	% GRAVEL	% SAND	% SILT	% FINES	% CLAY	USCS
●	**5**	**0 - 2**	**0.0**	**23.4**	**35.0**		**41.6**		**SC**

	GRAIN SIZE			
	●			
D_{60}	**0.976**			
D_{30}	**0.014**			
D_{10}				
	COEFFICIENTS			
C_C				
C_U				

● Sieve	% Finer	Sieve	% Finer	Sieve	% Finer
1"	**100.0**				
3/4"	**87.8**				
1/2"	**86.51**				
3/8"	**84.41**				
#4	**76.58**				
#8	**67.9**				
#10	**65.88**				
#16	**61.24**				
#20	**59.1**				
#30	**57.16**				
#40	**55.18**				
#50	**54.02**				
#60	**50.59**				
#100	**43.46**				
#140	**42.31**				
#200	**41.58**				

SOIL DESCRIPTION

● CLAYEY SAND with GRAVEL (SC)

REMARKS

●

PROJECT: Vitruvian Lake Sediment Collection

SITE: 3966 Vitruvian Way
Addison, TX

Terracon
8901 Carpenter Fwy, Ste 100
Dallas, TX

PROJECT NUMBER: 94185091

CLIENT: Nathan D Maier Consulting Engrs Inc
Dallas, TX

EXHIBIT: B-1

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS 1 94185091 VITRUVIAN LAKE SE.GPJ TERRACON_DATATEMPLATE.GDT 10/1/18

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 11, 2018

Terracon - Dallas, TX

Sample Delivery Group:	L1022277
Samples Received:	08/31/2018
Project Number:	94185091
Description:	Vitruvian Lake

Report To: Mike Nibert
8901 John W Carpenter Fwy, Ste 100
Dallas, TX 75247

Entire Report Reviewed By:

Chris McCord
Project Manager

TABLE OF CONTENTS

S-1 (0-2) L1022277-01 Solid

Collected by: Payne Spudic | Collected date/time: 08/28/18 12:35 | Received date/time: 08/31/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1161816	1	09/06/18 13:54	09/06/18 14:09	JD
Mercury by Method 7471A	WG1160907	1	09/03/18 09:08	09/04/18 09:07	EL
Metals (ICPMS) by Method 6020	WG1160936	5	09/04/18 09:19	09/05/18 15:27	JPD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1163010	1	08/28/18 12:35	09/08/18 22:15	JHH
Semi-Volatile Organic Compounds (GC) by Method TX 1005	WG1160915	1	09/03/18 08:16	09/05/18 04:48	DMW
Chlorinated Acid Herbicides (GC) by Method 8151	WG1161077	1	09/04/18 09:29	09/07/18 05:01	TD
Pesticides (GC) by Method 8081	WG1161301	1	09/04/18 16:58	09/05/18 15:25	VKS
Polychlorinated Biphenyls (GC) by Method 8082	WG1161301	1	09/04/18 16:58	09/05/18 12:19	TD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1161580	2	09/05/18 12:11	09/07/18 06:14	LEA

S-2 (0-2) L1022277-02 Solid

Collected by: Payne Spudic | Collected date/time: 08/28/18 13:35 | Received date/time: 08/31/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1161816	1	09/06/18 13:54	09/06/18 14:09	JD
Mercury by Method 7471A	WG1160907	1	09/03/18 09:08	09/04/18 09:10	EL
Metals (ICPMS) by Method 6020	WG1160936	5	09/04/18 09:19	09/05/18 16:04	JPD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1161718	1.26	08/28/18 13:35	09/05/18 16:35	JHH
Semi-Volatile Organic Compounds (GC) by Method TX 1005	WG1160915	1.2	09/03/18 08:16	09/05/18 05:42	DMW
Chlorinated Acid Herbicides (GC) by Method 8151	WG1161077	1	09/04/18 09:29	09/07/18 05:14	TD
Pesticides (GC) by Method 8081	WG1161301	1	09/04/18 16:58	09/05/18 15:37	VKS
Polychlorinated Biphenyls (GC) by Method 8082	WG1161301	1	09/04/18 16:58	09/05/18 12:34	TD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1161580	1	09/05/18 12:11	09/07/18 03:08	LEA

S-3 (0-2) L1022277-03 Solid

Collected by: Payne Spudic | Collected date/time: 08/28/18 14:15 | Received date/time: 08/31/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1161816	1	09/06/18 13:54	09/06/18 14:09	JD
Mercury by Method 7471A	WG1160907	1	09/03/18 09:08	09/04/18 09:12	EL
Metals (ICPMS) by Method 6020	WG1160936	5	09/04/18 09:19	09/05/18 16:09	JPD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1161718	1.24	08/28/18 14:15	09/05/18 16:54	JHH
Semi-Volatile Organic Compounds (GC) by Method TX 1005	WG1160915	1	09/03/18 08:16	09/05/18 05:56	DMW
Chlorinated Acid Herbicides (GC) by Method 8151	WG1162626	6.01	09/07/18 06:37	09/08/18 00:55	VKS
Pesticides (GC) by Method 8081	WG1161301	1	09/04/18 16:58	09/05/18 15:50	VKS
Polychlorinated Biphenyls (GC) by Method 8082	WG1161301	1	09/04/18 16:58	09/05/18 12:50	TD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1161580	20	09/05/18 12:11	09/09/18 21:10	JF

S-4 (0-2) L1022277-04 Solid

Collected by: Payne Spudic | Collected date/time: 08/28/18 15:40 | Received date/time: 08/31/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1161816	1	09/06/18 13:54	09/06/18 14:09	JD
Mercury by Method 7471A	WG1160907	1	09/03/18 09:08	09/04/18 09:15	EL
Metals (ICPMS) by Method 6020	WG1160936	5	09/04/18 09:19	09/05/18 16:14	JPD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1161718	1	08/28/18 15:40	09/05/18 17:13	JHH
Semi-Volatile Organic Compounds (GC) by Method TX 1005	WG1160915	1	09/03/18 08:16	09/05/18 05:02	DMW
Chlorinated Acid Herbicides (GC) by Method 8151	WG1162626	1	09/07/18 06:37	09/08/18 01:09	VKS
Pesticides (GC) by Method 8081	WG1161301	1	09/04/18 16:58	09/05/18 16:02	VKS
Polychlorinated Biphenyls (GC) by Method 8082	WG1161301	1	09/04/18 16:58	09/05/18 13:06	TD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1161580	1	09/05/18 12:11	09/07/18 03:31	LEA

S-5 (0-2) L1022277-05 Solid

Collected by	Collected date/time	Received date/time
Payne Spudic	08/28/18 16:05	08/31/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1161816	1	09/06/18 13:54	09/06/18 14:09	JD
Mercury by Method 7471A	WG1160907	1	09/03/18 09:08	09/04/18 09:17	EL
Metals (ICPMS) by Method 6020	WG1160936	5	09/04/18 09:19	09/05/18 16:18	JPD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1161718	1	08/28/18 16:05	09/05/18 17:32	JHH
Semi-Volatile Organic Compounds (GC) by Method TX 1005	WG1160915	1	09/03/18 08:16	09/05/18 05:15	DMW
Chlorinated Acid Herbicides (GC) by Method 8151	WG1162626	1	09/07/18 06:37	09/08/18 01:23	VKS
Pesticides (GC) by Method 8081	WG1161301	1	09/04/18 16:58	09/05/18 16:40	VKS
Polychlorinated Biphenyls (GC) by Method 8082	WG1161301	1	09/04/18 16:58	09/05/18 13:22	TD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1161580	2	09/05/18 12:11	09/07/18 05:51	LEA

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

R1 - Field chain-of-custody documentation;

R2 - Sample identification cross-reference;

R3 - Test reports (analytical data sheets) for each environmental sample that includes:

a. Items consistent with NELAC Chapter 5,

b. dilution factors,

c. preparation methods,

d. cleanup methods, and

e. if required for the project, tentatively identified compounds (TICs).

R4 - Surrogate recovery data including:

a. Calculated recovery (%R), and

b. The laboratory's surrogate QC limits.

R5 - Test reports/summary forms for blank samples;

R6 - Test reports/summary forms for laboratory control samples (LCSs) including:

a. LCS spiking amounts,

b. Calculated %R for each analyte, and

c. The laboratory's LCS QC limits.

R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a. Samples associated with the MS/MSD clearly identified,

b. MS/MSD spiking amounts,

c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d. Calculated %Rs and relative percent differences (RPDs), and

e. The laboratory's MS/MSD QC limits

R8 - Laboratory analytical duplicate (if applicable) recovery and precision:

a. The amount of analyte measured in the duplicate,

b. The calculated RPD, and

c. The laboratory's QC limits for analytical duplicates.

R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Chris McCord
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 09/11/2018 12:37
Project Name: Vitruvian Lake	Laboratory Job Number: L1022277-01, 02, 03, 04 and 05
Reviewer Name: Chris McCord	Prep Batch Number(s): WG1160907, WG1160915, WG1161301, WG1160936, WG1161580, WG1161077, WG1161816, WG1161718, WG1163010 and WG1162626

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?		X			1
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?	X				
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			2
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			3
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?		X			4
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			5
		Were MS/MSD RPDs within laboratory QC limits?		X			6
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Supporting Data

Laboratory Name: ESC Lab Sciences	LRC Date: 09/11/2018 12:37
Project Name: Vitruvian Lake	Laboratory Job Number: L1022277-01, 02, 03, 04 and 05
Reviewer Name: Chris McCord	Prep Batch Number(s): WG1160907, WG1160915, WG1161301, WG1160936, WG1161580, WG1161077, WG1161816, WG1161718, WG1163010 and WG1162626

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?	X				
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				

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4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: ESC Lab Sciences	LRC Date: 09/11/2018 12:37
Project Name: Vitruvian Lake	Laboratory Job Number: L1022277-01, 02, 03, 04 and 05
Reviewer Name: Chris McCord	Prep Batch Number(s): WG1160907, WG1160915, WG1161301, WG1160936, WG1161580, WG1161077, WG1161816, WG1161718, WG1163010 and WG1162626

ER #[1]	Description
1	WG1161580 R3339893-1 and 2: The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
2	WG1160915 o-Terphenyl R3339046-5: Percent Recovery is outside of established control limits. 8260B WG1163010 Toluene-d8 L1022277-01: Percent Recovery is outside of established control limits. 8270C WG1161580 2,4,6-Tribromophenol, 2-Fluorobiphenyl, 2-Fluorophenol, Nitrobenzene-d5, p-Terphenyl-d14, Phenol-d5 L1022277-03: Percent Recovery is outside of established control limits.
3	8151 WG1161077 Dinoseb: Percent Recovery is outside of established control limits. 8270C WG1161580 Benzidine: Percent Recovery is outside of established control limits.
4	8151 WG1161077 Dinoseb: Relative Percent Difference is outside of established control limits. 8151 WG1162626 Dinoseb, 2,4,5-TP (Silvex): Relative Percent Difference is outside of established control limits.
5	8260B WG1161718 Acetone: Percent Recovery is outside of established control limits. 8270C WG1161580 Hexachlorocyclopentadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Naphthalene: Percent Recovery is outside of established control limits. 6020 WG1160936 Arsenic, Barium: Percent Recovery is outside of established control limits.
6	8260B WG1161718 Acetone, Benzene, Bromobenzene, Bromodichloromethane, Bromomethane, n-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloroform, Chloromethane, 2-Chlorotoluene, 4-Chlorotoluene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloropropane, 1,1-Dichloropropene, cis-1,3-Dichloropropene, 2,2-Dichloropropane, Di-isopropyl ether, Ethylbenzene, Hexachloro-1,3-butadiene, Isopropylbenzene, p-Isopropyltoluene, Methylene Chloride, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, Tetrachloroethene, Toluene, 1,1,2-Trichlorotrifluoroethane, 1,1,1-Trichloroethane, Trichloroethene, Trichlorofluoromethane, 1,2,3-Trimethylbenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Vinyl chloride, Xylenes, Total: Relative Percent Difference is outside of established control limits. 8270C WG1161580 Anthracene, Benzidine, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Bis(2-chloroethyl)ether, 4-Bromophenyl-phenylether, 4-Chlorophenyl-phenylether, Chrysene, Dibenz(a,h)anthracene, 3,3-Dichlorobenzidine, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorocyclopentadiene, Indeno(1,2,3-cd)pyrene, Nitrobenzene, n-Nitrosodimethylamine, n-Nitrosodiphenylamine, n-Nitrosodi-n-propylamine, Phenanthrene, Benzylbutyl phthalate, Bis(2-ethylhexyl)phthalate, Di-n-butyl phthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-octyl phthalate, Pyrene, 4-Chloro-3-methylphenol, 2,4-Dimethylphenol, 4-Nitrophenol, Pentachlorophenol, Phenol: Relative Percent Difference is outside of established control limits. 8081 WG1161301 4,4-DDT: Relative Percent Difference is outside of established control limits. 6020 WG1160936 Barium: Relative Percent Difference is outside of established control limits.

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4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.1		1	09/06/2018 14:09	WG1161816

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.0116	J	0.00318	0.0200	0.0227	1	09/04/2018 09:07	WG1160907

Metals (ICPMS) by Method 6020

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	31.8	J6	0.0142	0.100	0.567	5	09/05/2018 15:27	WG1160936
Barium	272	J3 J6	0.182	0.200	1.13	5	09/05/2018 15:27	WG1160936
Cadmium	0.354	J	0.0908	0.100	0.567	5	09/05/2018 15:27	WG1160936
Chromium	13.8		0.306	0.200	1.13	5	09/05/2018 15:27	WG1160936
Lead	8.01		0.136	0.100	0.567	5	09/05/2018 15:27	WG1160936
Selenium	0.697		0.216	0.100	0.567	5	09/05/2018 15:27	WG1160936
Silver	U		0.176	0.100	0.567	5	09/05/2018 15:27	WG1160936

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	U		0.0155	0.0250	0.0284	1	09/08/2018 22:15	WG1163010
Acrylonitrile	U		0.00216	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
Benzene	U		0.000454	0.00100	0.00113	1	09/08/2018 22:15	WG1163010
Bromobenzene	U		0.00119	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
Bromodichloromethane	U		0.000894	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Bromoform	U		0.00679	0.0250	0.0284	1	09/08/2018 22:15	WG1163010
Bromomethane	U		0.00420	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
n-Butylbenzene	U		0.00436	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
sec-Butylbenzene	U		0.00287	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
tert-Butylbenzene	U		0.00176	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
Carbon tetrachloride	U		0.00123	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
Chlorobenzene	U		0.000650	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Chlorodibromomethane	U		0.000511	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Chloroethane	U		0.00123	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
Chloroform	U		0.000471	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Chloromethane	U		0.00158	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
2-Chlorotoluene	U		0.00104	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
4-Chlorotoluene	U		0.00128	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
1,2-Dibromo-3-Chloropropane	U		0.00579	0.0250	0.0284	1	09/08/2018 22:15	WG1163010
1,2-Dibromoethane	U		0.000596	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Dibromomethane	U		0.00113	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
1,2-Dichlorobenzene	U		0.00165	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
1,3-Dichlorobenzene	U		0.00193	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
1,4-Dichlorobenzene	U		0.00224	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
Dichlorodifluoromethane	U		0.000928	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
1,1-Dichloroethane	U		0.000652	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
1,2-Dichloroethane	U		0.000539	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
1,1-Dichloroethene	U		0.000567	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
cis-1,2-Dichloroethene	U		0.000783	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
trans-1,2-Dichloroethene	U		0.00162	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
1,2-Dichloropropane	U		0.00144	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
1,1-Dichloropropene	U		0.000794	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
1,3-Dichloropropane	U		0.00199	0.00500	0.00567	1	09/08/2018 22:15	WG1163010

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
cis-1,3-Dichloropropene	U		0.000769	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
trans-1,3-Dichloropropene	U		0.00174	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
2,2-Dichloropropane	U		0.000900	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Di-isopropyl ether	U		0.000397	0.00100	0.00113	1	09/08/2018 22:15	WG1163010
Ethylbenzene	U		0.000601	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Hexachloro-1,3-butadiene	U		0.0144	0.0250	0.0284	1	09/08/2018 22:15	WG1163010
Isopropylbenzene	U		0.000979	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
p-Isopropyltoluene	U		0.00264	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
2-Butanone (MEK)	U		0.0142	0.0250	0.0284	1	09/08/2018 22:15	WG1163010
Methylene Chloride	U		0.00753	0.0250	0.0284	1	09/08/2018 22:15	WG1163010
4-Methyl-2-pentanone (MIBK)	U		0.0113	0.0250	0.0284	1	09/08/2018 22:15	WG1163010
Methyl tert-butyl ether	U		0.000335	0.00100	0.00113	1	09/08/2018 22:15	WG1163010
Naphthalene	U		0.00354	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
n-Propylbenzene	U		0.00134	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
Styrene	U		0.00310	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
1,1,1,2-Tetrachloroethane	U		0.000567	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
1,1,2,2-Tetrachloroethane	U		0.000443	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
1,1,2-Trichlorotrifluoroethane	U		0.000766	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Tetrachloroethene	U		0.000794	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Toluene	0.00170	J	0.00142	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
1,2,3-Trichlorobenzene	U		0.000709	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
1,2,4-Trichlorobenzene	U		0.00547	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
1,1,1-Trichloroethane	U		0.000312	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
1,1,2-Trichloroethane	U		0.00100	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Trichloroethene	U		0.000454	0.00100	0.00113	1	09/08/2018 22:15	WG1163010
Trichlorofluoromethane	U		0.000567	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
1,2,3-Trichloropropane	U		0.00579	0.0125	0.0142	1	09/08/2018 22:15	WG1163010
1,2,4-Trimethylbenzene	U		0.00132	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
1,2,3-Trimethylbenzene	U		0.00130	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
1,3,5-Trimethylbenzene	U		0.00123	0.00500	0.00567	1	09/08/2018 22:15	WG1163010
Vinyl chloride	U		0.000775	0.00250	0.00284	1	09/08/2018 22:15	WG1163010
Xylenes, Total	U		0.00542	0.00650	0.00738	1	09/08/2018 22:15	WG1163010
(S) Toluene-d8	*62.9*	J2			*75.0-131*		*09/08/2018 22:15*	WG1163010
(S) Dibromofluoromethane	*89.2*				*65.0-129*		*09/08/2018 22:15*	WG1163010
(S) 4-Bromofluorobenzene	*97.9*				*67.0-138*		*09/08/2018 22:15*	WG1163010

Semi-Volatile Organic Compounds (GC) by Method TX 1005

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH C6 - C12	U		17.0	50.0	56.7	1	09/05/2018 04:48	WG1160915
TPH C12 - C28	U		17.0	50.0	56.7	1	09/05/2018 04:48	WG1160915
TPH C28 - C35	U		17.0	50.0	56.7	1	09/05/2018 04:48	WG1160915
TPH C6 - C35	U		17.0	50.0	56.7	1	09/05/2018 04:48	WG1160915
(S) o-Terphenyl	*104*				*70.0-130*		*09/05/2018 04:48*	WG1160915

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.00797	0.0700	0.0794	1	09/07/2018 05:01	WG1161077
Dalapon	U		0.0128	0.0700	0.0794	1	09/07/2018 05:01	WG1161077
2,4-DB	U		0.0337	0.0700	0.0794	1	09/07/2018 05:01	WG1161077
Dicamba	U		0.0178	0.0700	0.0794	1	09/07/2018 05:01	WG1161077
Dichloroprop	U		0.0278	0.0700	0.0794	1	09/07/2018 05:01	WG1161077
Dinoseb	U	J3 J4	0.00791	0.0700	0.0794	1	09/07/2018 05:01	WG1161077
MCPA	U		0.503	6.50	7.38	1	09/07/2018 05:01	WG1161077

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
MCPP	U		0.416	6.50	7.38	1	09/07/2018 05:01	WG1161077
2,4,5-T	U		0.00967	0.0700	0.0794	1	09/07/2018 05:01	WG1161077
2,4,5-TP (Silvex)	U		0.0121	0.0700	0.0794	1	09/07/2018 05:01	WG1161077
(S) 2,4-Dichlorophenyl Acetic Acid	*68.1*				*22.0-132*		*09/07/2018 05:01*	WG1161077

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00153	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Alpha BHC	U		0.00154	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Beta BHC	U		0.00182	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Delta BHC	U		0.00162	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Gamma BHC	U		0.00165	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Chlordane	U		0.0443	0.200	0.227	1	09/05/2018 15:25	WG1161301
4,4-DDD	U		0.00177	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
4,4-DDE	U		0.00175	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
4,4-DDT	U		0.00227	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Dieldrin	U		0.00172	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Endosulfan I	U		0.00169	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Endosulfan II	U		0.00182	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Endosulfan sulfate	U		0.00171	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Endrin	U		0.00178	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Endrin aldehyde	U		0.00146	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Endrin ketone	U		0.00187	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Heptachlor	U		0.00175	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Heptachlor epoxide	U		0.00183	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Hexachlorobenzene	U		0.00141	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Methoxychlor	U		0.00202	0.0200	0.0227	1	09/05/2018 15:25	WG1161301
Toxaphene	U		0.0408	0.400	0.454	1	09/05/2018 15:25	WG1161301
(S) Decachlorobiphenyl	*73.4*				*10.0-135*		*09/05/2018 15:25*	WG1161301
(S) Tetrachloro-m-xylene	*70.3*				*10.0-139*		*09/05/2018 15:25*	WG1161301

Polychlorinated Biphenyls (GC) by Method 8082

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.00398	0.0170	0.0193	1	09/05/2018 12:19	WG1161301
PCB 1221	U		0.00609	0.0170	0.0193	1	09/05/2018 12:19	WG1161301
PCB 1232	U		0.00473	0.0170	0.0193	1	09/05/2018 12:19	WG1161301
PCB 1242	U		0.00360	0.0170	0.0193	1	09/05/2018 12:19	WG1161301
PCB 1248	U		0.00357	0.0170	0.0193	1	09/05/2018 12:19	WG1161301
PCB 1254	U		0.00536	0.0170	0.0193	1	09/05/2018 12:19	WG1161301
PCB 1260	U		0.00561	0.0170	0.0193	1	09/05/2018 12:19	WG1161301
(S) Decachlorobiphenyl	*60.1*				*10.0-135*		*09/05/2018 12:19*	WG1161301
(S) Tetrachloro-m-xylene	*77.7*				*10.0-139*		*09/05/2018 12:19*	WG1161301

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.0146	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Acenaphthylene	U		0.0152	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Anthracene	0.0374	J	0.0143	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Benzidine	U	J4	0.145	0.333	0.756	2	09/07/2018 06:14	WG1161580
Benzo(a)anthracene	0.191		0.00971	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Benzo(b)fluoranthene	0.301		0.0158	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Benzo(k)fluoranthene	0.118		0.0132	0.0330	0.0749	2	09/07/2018 06:14	WG1161580

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	0.0733	J	0.0164	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Benzo(a)pyrene	0.185		0.0124	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Bis(2-chlorethoxy)methane	U		0.0175	0.333	0.756	2	09/07/2018 06:14	WG1161580
Bis(2-chloroethyl)ether	U		0.0203	0.333	0.756	2	09/07/2018 06:14	WG1161580
Bis(2-chloroisopropyl)ether	U		0.0172	0.333	0.756	2	09/07/2018 06:14	WG1161580
4-Bromophenyl-phenylether	U		0.0259	0.333	0.756	2	09/07/2018 06:14	WG1161580
2-Chloronaphthalene	U		0.0145	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
4-Chlorophenyl-phenylether	U		0.0142	0.333	0.756	2	09/07/2018 06:14	WG1161580
Chrysene	0.237		0.0126	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Dibenz(a,h)anthracene	0.331		0.0186	0.0330	0.0374	2	09/07/2018 06:14	WG1161580
3,3-Dichlorobenzidine	U		0.180	0.333	0.756	2	09/07/2018 06:14	WG1161580
2,4-Dinitrotoluene	U		0.0138	0.333	0.756	2	09/07/2018 06:14	WG1161580
2,6-Dinitrotoluene	U		0.0167	0.333	0.756	2	09/07/2018 06:14	WG1161580
Fluoranthene	0.537		0.0113	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Fluorene	U		0.0155	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Hexachlorobenzene	U		0.0194	0.333	0.756	2	09/07/2018 06:14	WG1161580
Hexachloro-1,3-butadiene	U		0.0227	0.333	0.756	2	09/07/2018 06:14	WG1161580
Hexachlorocyclopentadiene	U		0.133	0.333	0.756	2	09/07/2018 06:14	WG1161580
Hexachloroethane	U		0.0304	0.333	0.756	2	09/07/2018 06:14	WG1161580
Indeno(1,2,3-cd)pyrene	1.20		0.0175	0.0330	0.0374	2	09/07/2018 06:14	WG1161580
Isophorone	U		0.0118	0.333	0.756	2	09/07/2018 06:14	WG1161580
Naphthalene	U		0.0202	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Nitrobenzene	U		0.0158	0.333	0.756	2	09/07/2018 06:14	WG1161580
n-Nitrosodimethylamine	U		0.147	0.333	0.756	2	09/07/2018 06:14	WG1161580
n-Nitrosodiphenylamine	U		0.204	0.333	0.756	2	09/07/2018 06:14	WG1161580
n-Nitrosodi-n-propylamine	U		0.0206	0.333	0.756	2	09/07/2018 06:14	WG1161580
Phenanthrene	0.222		0.0120	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
Benzylbutyl phthalate	U		0.0234	0.333	0.756	2	09/07/2018 06:14	WG1161580
Bis(2-ethylhexyl)phthalate	U		0.0272	0.333	0.756	2	09/07/2018 06:14	WG1161580
Di-n-butyl phthalate	U		0.0247	0.333	0.756	2	09/07/2018 06:14	WG1161580
Diethyl phthalate	U		0.0157	0.333	0.756	2	09/07/2018 06:14	WG1161580
Dimethyl phthalate	U		0.0123	0.333	0.756	2	09/07/2018 06:14	WG1161580
Di-n-octyl phthalate	U		0.0206	0.333	0.756	2	09/07/2018 06:14	WG1161580
Pyrene	0.336		0.0279	0.0330	0.0749	2	09/07/2018 06:14	WG1161580
1,2,4-Trichlorobenzene	U		0.0199	0.333	0.756	2	09/07/2018 06:14	WG1161580
4-Chloro-3-methylphenol	U		0.0108	0.333	0.756	2	09/07/2018 06:14	WG1161580
2-Chlorophenol	U		0.0189	0.333	0.756	2	09/07/2018 06:14	WG1161580
2,4-Dichlorophenol	U		0.0169	0.333	0.756	2	09/07/2018 06:14	WG1161580
2,4-Dimethylphenol	U		0.107	0.333	0.756	2	09/07/2018 06:14	WG1161580
4,6-Dinitro-2-methylphenol	U		0.281	0.333	0.756	2	09/07/2018 06:14	WG1161580
2,4-Dinitrophenol	U		0.222	0.333	0.756	2	09/07/2018 06:14	WG1161580
2-Nitrophenol	U		0.0295	0.333	0.756	2	09/07/2018 06:14	WG1161580
4-Nitrophenol	U		0.119	0.333	0.756	2	09/07/2018 06:14	WG1161580
Pentachlorophenol	U		0.109	0.333	0.756	2	09/07/2018 06:14	WG1161580
Phenol	U		0.0158	0.333	0.756	2	09/07/2018 06:14	WG1161580
2,4,6-Trichlorophenol	U		0.0177	0.333	0.756	2	09/07/2018 06:14	WG1161580
(S) 2-Fluorophenol	*74.3*				*12.0-120*		*09/07/2018 06:14*	WG1161580
(S) Phenol-d5	*65.2*				*10.0-120*		*09/07/2018 06:14*	WG1161580
(S) Nitrobenzene-d5	*64.7*				*10.0-122*		*09/07/2018 06:14*	WG1161580
(S) 2-Fluorobiphenyl	*72.4*				*15.0-120*		*09/07/2018 06:14*	WG1161580
(S) 2,4,6-Tribromophenol	*84.4*				*10.0-127*		*09/07/2018 06:14*	WG1161580
(S) p-Terphenyl-d14	*84.5*				*10.0-120*		*09/07/2018 06:14*	WG1161580

Sample Narrative:

L1022277-01 WG1161580: Dilution due to matrix impact during extract concentration procedure

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	33.0		1	09/06/2018 14:09	WG1161816

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.0805		0.00848	0.0200	0.0606	1	09/04/2018 09:10	WG1160907

Metals (ICPMS) by Method 6020

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	7.75		0.0379	0.100	1.51	5	09/05/2018 16:04	WG1160936
Barium	137		0.485	0.200	3.03	5	09/05/2018 16:04	WG1160936
Cadmium	0.591	J	0.242	0.100	1.51	5	09/05/2018 16:04	WG1160936
Chromium	27.0		0.818	0.200	3.03	5	09/05/2018 16:04	WG1160936
Lead	30.0		0.363	0.100	1.51	5	09/05/2018 16:04	WG1160936
Selenium	1.40	J	0.575	0.100	1.51	5	09/05/2018 16:04	WG1160936
Silver	U		0.469	0.100	1.51	5	09/05/2018 16:04	WG1160936

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	0.377		0.0523	0.0250	0.0954	1.26	09/05/2018 16:35	WG1161718
Acrylonitrile	U		0.00725	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
Benzene	U		0.00153	0.00100	0.00382	1.26	09/05/2018 16:35	WG1161718
Bromobenzene	U		0.00401	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
Bromodichloromethane	U		0.00301	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Bromoform	U		0.0228	0.0250	0.0954	1.26	09/05/2018 16:35	WG1161718
Bromomethane	U		0.0141	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
n-Butylbenzene	U		0.0147	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
sec-Butylbenzene	U		0.00965	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
tert-Butylbenzene	U		0.00592	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
Carbon tetrachloride	U		0.00412	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
Chlorobenzene	U		0.00219	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Chlorodibromomethane	U		0.00172	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Chloroethane	U		0.00412	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
Chloroform	U		0.00158	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Chloromethane	U		0.00530	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
2-Chlorotoluene	U		0.00351	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
4-Chlorotoluene	U		0.00431	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
1,2-Dibromo-3-Chloropropane	U		0.0195	0.0250	0.0954	1.26	09/05/2018 16:35	WG1161718
1,2-Dibromoethane	U		0.00200	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Dibromomethane	U		0.00382	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
1,2-Dichlorobenzene	U		0.00553	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
1,3-Dichlorobenzene	U		0.00649	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
1,4-Dichlorobenzene	U		0.00752	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
Dichlorodifluoromethane	U		0.00312	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
1,1-Dichloroethane	U		0.00219	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
1,2-Dichloroethane	U		0.00181	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
1,1-Dichloroethene	U		0.00191	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
cis-1,2-Dichloroethene	U		0.00263	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
trans-1,2-Dichloroethene	U		0.00546	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
1,2-Dichloropropane	U		0.00485	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
1,1-Dichloropropene	U		0.00267	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
1,3-Dichloropropane	U		0.00668	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
cis-1,3-Dichloropropene	U		0.00259	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
trans-1,3-Dichloropropene	U		0.00584	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
2,2-Dichloropropane	U		0.00303	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Di-isopropyl ether	U		0.00134	0.00100	0.00382	1.26	09/05/2018 16:35	WG1161718
Ethylbenzene	U		0.00202	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Hexachloro-1,3-butadiene	U		0.0485	0.0250	0.0954	1.26	09/05/2018 16:35	WG1161718
Isopropylbenzene	U		0.00329	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
p-Isopropyltoluene	U		0.00889	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
2-Butanone (MEK)	0.0632	J	0.0477	0.0250	0.0954	1.26	09/05/2018 16:35	WG1161718
Methylene Chloride	U		0.0253	0.0250	0.0954	1.26	09/05/2018 16:35	WG1161718
4-Methyl-2-pentanone (MIBK)	U		0.0382	0.0250	0.0954	1.26	09/05/2018 16:35	WG1161718
Methyl tert-butyl ether	U		0.00113	0.00100	0.00382	1.26	09/05/2018 16:35	WG1161718
Naphthalene	U		0.0119	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
n-Propylbenzene	U		0.00450	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
Styrene	U		0.0104	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
1,1,1,2-Tetrachloroethane	U		0.00191	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
1,1,2,2-Tetrachloroethane	U		0.00149	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
1,1,2-Trichlorotrifluoroethane	U		0.00258	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Tetrachloroethene	U		0.00267	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Toluene	0.00642	J	0.00477	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
1,2,3-Trichlorobenzene	U		0.00239	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
1,2,4-Trichlorobenzene	U		0.0184	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
1,1,1-Trichloroethane	U		0.00105	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
1,1,2-Trichloroethane	U		0.00337	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Trichloroethene	U		0.00153	0.00100	0.00382	1.26	09/05/2018 16:35	WG1161718
Trichlorofluoromethane	U		0.00191	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
1,2,3-Trichloropropane	U		0.0195	0.0125	0.0477	1.26	09/05/2018 16:35	WG1161718
1,2,4-Trimethylbenzene	0.00543	J	0.00443	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
1,2,3-Trimethylbenzene	0.00729	J	0.00439	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
1,3,5-Trimethylbenzene	U		0.00412	0.00500	0.0191	1.26	09/05/2018 16:35	WG1161718
Vinyl chloride	U		0.00261	0.00250	0.00954	1.26	09/05/2018 16:35	WG1161718
Xylenes, Total	U		0.0182	0.00650	0.0248	1.26	09/05/2018 16:35	WG1161718
(S) Toluene-d8	*94.0*				*75.0-131*		*09/05/2018 16:35*	WG1161718
(S) Dibromofluoromethane	*101*				*65.0-129*		*09/05/2018 16:35*	WG1161718
(S) 4-Bromofluorobenzene	*98.2*				*67.0-138*		*09/05/2018 16:35*	WG1161718

Semi-Volatile Organic Compounds (GC) by Method TX 1005

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH C6 - C12	U		54.5	50.0	182	1.2	09/05/2018 05:42	WG1160915
TPH C12 - C28	60.6	J	54.5	50.0	182	1.2	09/05/2018 05:42	WG1160915
TPH C28 - C35	U		54.5	50.0	182	1.2	09/05/2018 05:42	WG1160915
TPH C6 - C35	60.6	J	54.5	50.0	182	1.2	09/05/2018 05:42	WG1160915
(S) o-Terphenyl	*106*				*70.0-130*		*09/05/2018 05:42*	WG1160915

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0213	0.0700	0.212	1	09/07/2018 05:14	WG1161077
Dalapon	U		0.0342	0.0700	0.212	1	09/07/2018 05:14	WG1161077
2,4-DB	U		0.0900	0.0700	0.212	1	09/07/2018 05:14	WG1161077
Dicamba	U		0.0476	0.0700	0.212	1	09/07/2018 05:14	WG1161077
Dichloroprop	U		0.0742	0.0700	0.212	1	09/07/2018 05:14	WG1161077
Dinoseb	U	J3 J4	0.0211	0.0700	0.212	1	09/07/2018 05:14	WG1161077
MCPA	U		1.34	6.50	19.7	1	09/07/2018 05:14	WG1161077

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
MCPP	U		1.11	6.50	19.7	1	09/07/2018 05:14	WG1161077
2,4,5-T	U		0.0258	0.0700	0.212	1	09/07/2018 05:14	WG1161077
2,4,5-TP (Silvex)	U		0.0324	0.0700	0.212	1	09/07/2018 05:14	WG1161077
(S) 2,4-Dichlorophenyl Acetic Acid	*49.5*				*22.0-132*		*09/07/2018 05:14*	WG1161077

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00409	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Alpha BHC	U		0.00412	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Beta BHC	U		0.00485	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Delta BHC	U		0.00433	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Gamma BHC	U		0.00439	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Chlordane	U		0.118	0.200	0.606	1	09/05/2018 15:37	WG1161301
4,4-DDD	U		0.00472	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
4,4-DDE	U		0.00466	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
4,4-DDT	U		0.00606	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Dieldrin	U		0.00460	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Endosulfan I	U		0.00451	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Endosulfan II	U		0.00485	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Endosulfan sulfate	U		0.00457	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Endrin	U		0.00476	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Endrin aldehyde	U		0.00391	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Endrin ketone	U		0.00500	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Heptachlor	U		0.00466	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Heptachlor epoxide	U		0.00488	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Hexachlorobenzene	U		0.00376	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Methoxychlor	U		0.00539	0.0200	0.0606	1	09/05/2018 15:37	WG1161301
Toxaphene	U		0.109	0.400	1.21	1	09/05/2018 15:37	WG1161301
(S) Decachlorobiphenyl	*60.9*				*10.0-135*		*09/05/2018 15:37*	WG1161301
(S) Tetrachloro-m-xylene	*61.0*				*10.0-139*		*09/05/2018 15:37*	WG1161301

Polychlorinated Biphenyls (GC) by Method 8082

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.0106	0.0170	0.0515	1	09/05/2018 12:34	WG1161301
PCB 1221	U		0.0163	0.0170	0.0515	1	09/05/2018 12:34	WG1161301
PCB 1232	U		0.0126	0.0170	0.0515	1	09/05/2018 12:34	WG1161301
PCB 1242	U		0.00962	0.0170	0.0515	1	09/05/2018 12:34	WG1161301
PCB 1248	U		0.00953	0.0170	0.0515	1	09/05/2018 12:34	WG1161301
PCB 1254	U		0.0143	0.0170	0.0515	1	09/05/2018 12:34	WG1161301
PCB 1260	U		0.0150	0.0170	0.0515	1	09/05/2018 12:34	WG1161301
(S) Decachlorobiphenyl	*50.9*				*10.0-135*		*09/05/2018 12:34*	WG1161301
(S) Tetrachloro-m-xylene	*66.8*				*10.0-139*		*09/05/2018 12:34*	WG1161301

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.0194	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Acenaphthylene	U		0.0203	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Anthracene	U		0.0191	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Benzidine	U	J4	0.193	0.333	1.01	1	09/07/2018 03:08	WG1161580
Benzo(a)anthracene	0.0500	J	0.0130	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Benzo(b)fluoranthene	0.129		0.0210	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Benzo(k)fluoranthene	0.0539	J	0.0176	0.0330	0.0999	1	09/07/2018 03:08	WG1161580

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	0.0366	J	0.0218	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Benzo(a)pyrene	0.0669	J	0.0166	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Bis(2-chlorethoxy)methane	U		0.0233	0.333	1.01	1	09/07/2018 03:08	WG1161580
Bis(2-chloroethyl)ether	U		0.0271	0.333	1.01	1	09/07/2018 03:08	WG1161580
Bis(2-chloroisopropyl)ether	U		0.0230	0.333	1.01	1	09/07/2018 03:08	WG1161580
4-Bromophenyl-phenylether	U		0.0345	0.333	1.01	1	09/07/2018 03:08	WG1161580
2-Chloronaphthalene	U		0.0194	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
4-Chlorophenyl-phenylether	U		0.0190	0.333	1.01	1	09/07/2018 03:08	WG1161580
Chrysene	0.0972	J	0.0168	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Dibenz(a,h)anthracene	U		0.0249	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
3,3-Dichlorobenzidine	U		0.240	0.333	1.01	1	09/07/2018 03:08	WG1161580
2,4-Dinitrotoluene	U		0.0184	0.333	1.01	1	09/07/2018 03:08	WG1161580
2,6-Dinitrotoluene	U		0.0223	0.333	1.01	1	09/07/2018 03:08	WG1161580
Fluoranthene	0.166		0.0150	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Fluorene	U		0.0207	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Hexachlorobenzene	U		0.0259	0.333	1.01	1	09/07/2018 03:08	WG1161580
Hexachloro-1,3-butadiene	U		0.0303	0.333	1.01	1	09/07/2018 03:08	WG1161580
Hexachlorocyclopentadiene	U		0.178	0.333	1.01	1	09/07/2018 03:08	WG1161580
Hexachloroethane	U		0.0406	0.333	1.01	1	09/07/2018 03:08	WG1161580
Indeno(1,2,3-cd)pyrene	1.01		0.0234	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Isophorone	U		0.0158	0.333	1.01	1	09/07/2018 03:08	WG1161580
Naphthalene	U		0.0269	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Nitrobenzene	U		0.0210	0.333	1.01	1	09/07/2018 03:08	WG1161580
n-Nitrosodimethylamine	U		0.196	0.333	1.01	1	09/07/2018 03:08	WG1161580
n-Nitrosodiphenylamine	U		0.273	0.333	1.01	1	09/07/2018 03:08	WG1161580
n-Nitrosodi-n-propylamine	U		0.0274	0.333	1.01	1	09/07/2018 03:08	WG1161580
Phenanthrene	0.0345	J	0.0160	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
Benzylbutyl phthalate	U		0.0312	0.333	1.01	1	09/07/2018 03:08	WG1161580
Bis(2-ethylhexyl)phthalate	0.0482	J	0.0363	0.333	1.01	1	09/07/2018 03:08	WG1161580
Di-n-butyl phthalate	U		0.0330	0.333	1.01	1	09/07/2018 03:08	WG1161580
Diethyl phthalate	U		0.0209	0.333	1.01	1	09/07/2018 03:08	WG1161580
Dimethyl phthalate	U		0.0164	0.333	1.01	1	09/07/2018 03:08	WG1161580
Di-n-octyl phthalate	U		0.0275	0.333	1.01	1	09/07/2018 03:08	WG1161580
Pyrene	0.103		0.0373	0.0330	0.0999	1	09/07/2018 03:08	WG1161580
1,2,4-Trichlorobenzene	U		0.0265	0.333	1.01	1	09/07/2018 03:08	WG1161580
4-Chloro-3-methylphenol	U		0.0144	0.333	1.01	1	09/07/2018 03:08	WG1161580
2-Chlorophenol	U		0.0252	0.333	1.01	1	09/07/2018 03:08	WG1161580
2,4-Dichlorophenol	U		0.0226	0.333	1.01	1	09/07/2018 03:08	WG1161580
2,4-Dimethylphenol	U		0.143	0.333	1.01	1	09/07/2018 03:08	WG1161580
4,6-Dinitro-2-methylphenol	U		0.376	0.333	1.01	1	09/07/2018 03:08	WG1161580
2,4-Dinitrophenol	U		0.297	0.333	1.01	1	09/07/2018 03:08	WG1161580
2-Nitrophenol	U		0.0394	0.333	1.01	1	09/07/2018 03:08	WG1161580
4-Nitrophenol	U		0.159	0.333	1.01	1	09/07/2018 03:08	WG1161580
Pentachlorophenol	U		0.145	0.333	1.01	1	09/07/2018 03:08	WG1161580
Phenol	U		0.0210	0.333	1.01	1	09/07/2018 03:08	WG1161580
2,4,6-Trichlorophenol	U		0.0236	0.333	1.01	1	09/07/2018 03:08	WG1161580
(S) 2-Fluorophenol	*57.4*				*12.0-120*		*09/07/2018 03:08*	WG1161580
(S) Phenol-d5	*50.9*				*10.0-120*		*09/07/2018 03:08*	WG1161580
(S) Nitrobenzene-d5	*44.7*				*10.0-122*		*09/07/2018 03:08*	WG1161580
(S) 2-Fluorobiphenyl	*52.3*				*15.0-120*		*09/07/2018 03:08*	WG1161580
(S) 2,4,6-Tribromophenol	*76.0*				*10.0-127*		*09/07/2018 03:08*	WG1161580
(S) p-Terphenyl-d14	*77.3*				*10.0-120*		*09/07/2018 03:08*	WG1161580

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	30.4		1	09/06/2018 14:09	WG1161816

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.0871		0.00920	0.0200	0.0657	1	09/04/2018 09:12	WG1160907

Metals (ICPMS) by Method 6020

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	7.69		0.0411	0.100	1.64	5	09/05/2018 16:09	WG1160936
Barium	140		0.526	0.200	3.29	5	09/05/2018 16:09	WG1160936
Cadmium	0.624	J	0.263	0.100	1.64	5	09/05/2018 16:09	WG1160936
Chromium	28.6		0.887	0.200	3.29	5	09/05/2018 16:09	WG1160936
Lead	29.7		0.394	0.100	1.64	5	09/05/2018 16:09	WG1160936
Selenium	2.01		0.624	0.100	1.64	5	09/05/2018 16:09	WG1160936
Silver	U		0.509	0.100	1.64	5	09/05/2018 16:09	WG1160936

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	0.572		0.0558	0.0250	0.102	1.24	09/05/2018 16:54	WG1161718
Acrylonitrile	U		0.00774	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
Benzene	U		0.00163	0.00100	0.00407	1.24	09/05/2018 16:54	WG1161718
Bromobenzene	U		0.00428	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
Bromodichloromethane	U		0.00321	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Bromoform	U		0.0244	0.0250	0.102	1.24	09/05/2018 16:54	WG1161718
Bromomethane	U		0.0151	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
n-Butylbenzene	U		0.0156	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
sec-Butylbenzene	U		0.0103	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
tert-Butylbenzene	U		0.00632	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
Carbon tetrachloride	U		0.00440	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
Chlorobenzene	U		0.00233	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Chlorodibromomethane	U		0.00183	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Chloroethane	U		0.00440	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
Chloroform	U		0.00169	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Chloromethane	U		0.00566	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
2-Chlorotoluene	U		0.00375	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
4-Chlorotoluene	U		0.00460	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
1,2-Dibromo-3-Chloropropane	U		0.0208	0.0250	0.102	1.24	09/05/2018 16:54	WG1161718
1,2-Dibromoethane	U		0.00214	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Dibromomethane	U		0.00407	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
1,2-Dichlorobenzene	U		0.00591	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
1,3-Dichlorobenzene	U		0.00693	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
1,4-Dichlorobenzene	U		0.00803	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
Dichlorodifluoromethane	U		0.00333	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
1,1-Dichloroethane	U		0.00234	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
1,2-Dichloroethane	U		0.00194	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
1,1-Dichloroethene	U		0.00204	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
cis-1,2-Dichloroethene	U		0.00281	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
trans-1,2-Dichloroethene	U		0.00583	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
1,2-Dichloropropane	U		0.00517	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
1,1-Dichloropropene	U		0.00285	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
1,3-Dichloropropane	U		0.00713	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
cis-1,3-Dichloropropene	U		0.00276	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
trans-1,3-Dichloropropene	U		0.00623	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
2,2-Dichloropropane	U		0.00323	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Di-isopropyl ether	U		0.00143	0.00100	0.00407	1.24	09/05/2018 16:54	WG1161718
Ethylbenzene	0.00227	J	0.00216	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Hexachloro-1,3-butadiene	U		0.0517	0.0250	0.102	1.24	09/05/2018 16:54	WG1161718
Isopropylbenzene	U		0.00352	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
p-Isopropyltoluene	U		0.00949	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
2-Butanone (MEK)	0.122		0.0509	0.0250	0.102	1.24	09/05/2018 16:54	WG1161718
Methylene Chloride	U		0.0271	0.0250	0.102	1.24	09/05/2018 16:54	WG1161718
4-Methyl-2-pentanone (MIBK)	0.0409	J	0.0407	0.0250	0.102	1.24	09/05/2018 16:54	WG1161718
Methyl tert-butyl ether	U		0.00120	0.00100	0.00407	1.24	09/05/2018 16:54	WG1161718
Naphthalene	U		0.0127	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
n-Propylbenzene	U		0.00481	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
Styrene	U		0.0111	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
1,1,1,2-Tetrachloroethane	U		0.00204	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
1,1,2,2-Tetrachloroethane	U		0.00159	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
1,1,2-Trichlorotrifluoroethane	U		0.00275	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Tetrachloroethene	U		0.00285	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Toluene	0.0129	J	0.00509	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
1,2,3-Trichlorobenzene	U		0.00255	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
1,2,4-Trichlorobenzene	U		0.0196	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
1,1,1-Trichloroethane	U		0.00112	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
1,1,2-Trichloroethane	U		0.00360	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Trichloroethene	U		0.00163	0.00100	0.00407	1.24	09/05/2018 16:54	WG1161718
Trichlorofluoromethane	U		0.00204	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
1,2,3-Trichloropropane	U		0.0208	0.0125	0.0509	1.24	09/05/2018 16:54	WG1161718
1,2,4-Trimethylbenzene	0.00520	J	0.00473	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
1,2,3-Trimethylbenzene	0.0148	J	0.00469	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
1,3,5-Trimethylbenzene	U		0.00440	0.00500	0.0204	1.24	09/05/2018 16:54	WG1161718
Vinyl chloride	U		0.00278	0.00250	0.0102	1.24	09/05/2018 16:54	WG1161718
Xylenes, Total	U		0.0195	0.00650	0.0265	1.24	09/05/2018 16:54	WG1161718
(S) Toluene-d8	*90.1*				*75.0-131*		*09/05/2018 16:54*	WG1161718
(S) Dibromofluoromethane	*96.5*				*65.0-129*		*09/05/2018 16:54*	WG1161718
(S) 4-Bromofluorobenzene	*102*				*67.0-138*		*09/05/2018 16:54*	WG1161718

Semi-Volatile Organic Compounds (GC) by Method TX 1005

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH C6 - C12	U		49.3	50.0	164	1	09/05/2018 05:56	WG1160915
TPH C12 - C28	51.3	J	49.3	50.0	164	1	09/05/2018 05:56	WG1160915
TPH C28 - C35	U		49.3	50.0	164	1	09/05/2018 05:56	WG1160915
TPH C6 - C35	51.3	J	49.3	50.0	164	1	09/05/2018 05:56	WG1160915
(S) o-Terphenyl	*106*				*70.0-130*		*09/05/2018 05:56*	WG1160915

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.139	0.0700	1.38	6.01	09/08/2018 00:55	WG1162626
Dalapon	U		0.223	0.0700	1.38	6.01	09/08/2018 00:55	WG1162626
2,4-DB	U		0.587	0.0700	1.38	6.01	09/08/2018 00:55	WG1162626
Dicamba	U		0.310	0.0700	1.38	6.01	09/08/2018 00:55	WG1162626
Dichloroprop	U		0.484	0.0700	1.38	6.01	09/08/2018 00:55	WG1162626
Dinoseb	U	J3	0.138	0.0700	1.38	6.01	09/08/2018 00:55	WG1162626
MCPA	U		8.75	6.50	128	6.01	09/08/2018 00:55	WG1162626

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
MCPP	U		7.25	6.50	128	6.01	09/08/2018 00:55	WG1162626
2,4,5-T	U		0.168	0.0700	1.38	6.01	09/08/2018 00:55	WG1162626
2,4,5-TP (Silvex)	U	J3	0.211	0.0700	1.38	6.01	09/08/2018 00:55	WG1162626
(S) 2,4-Dichlorophenyl Acetic Acid	*68.7*				*22.0-132*		*09/08/2018 00:55*	WG1162626

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00444	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Alpha BHC	U		0.00447	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Beta BHC	U		0.00526	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Delta BHC	U		0.00470	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Gamma BHC	U		0.00476	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Chlordane	U		0.128	0.200	0.657	1	09/05/2018 15:50	WG1161301
4,4-DDD	U		0.00513	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
4,4-DDE	U		0.00506	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
4,4-DDT	U		0.00657	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Dieldrin	U		0.00499	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Endosulfan I	U		0.00490	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Endosulfan II	U		0.00526	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Endosulfan sulfate	U		0.00496	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Endrin	U		0.00516	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Endrin aldehyde	U		0.00424	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Endrin ketone	U		0.00542	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Heptachlor	U		0.00506	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Heptachlor epoxide	U		0.00529	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Hexachlorobenzene	U		0.00407	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Methoxychlor	U		0.00585	0.0200	0.0657	1	09/05/2018 15:50	WG1161301
Toxaphene	U		0.118	0.400	1.31	1	09/05/2018 15:50	WG1161301
(S) Decachlorobiphenyl	*57.0*				*10.0-135*		*09/05/2018 15:50*	WG1161301
(S) Tetrachloro-m-xylene	*60.2*				*10.0-139*		*09/05/2018 15:50*	WG1161301

Polychlorinated Biphenyls (GC) by Method 8082

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.0115	0.0170	0.0559	1	09/05/2018 12:50	WG1161301
PCB 1221	U		0.0176	0.0170	0.0559	1	09/05/2018 12:50	WG1161301
PCB 1232	U		0.0137	0.0170	0.0559	1	09/05/2018 12:50	WG1161301
PCB 1242	U		0.0104	0.0170	0.0559	1	09/05/2018 12:50	WG1161301
PCB 1248	U		0.0103	0.0170	0.0559	1	09/05/2018 12:50	WG1161301
PCB 1254	U		0.0155	0.0170	0.0559	1	09/05/2018 12:50	WG1161301
PCB 1260	U		0.0162	0.0170	0.0559	1	09/05/2018 12:50	WG1161301
(S) Decachlorobiphenyl	*48.3*				*10.0-135*		*09/05/2018 12:50*	WG1161301
(S) Tetrachloro-m-xylene	*68.8*				*10.0-139*		*09/05/2018 12:50*	WG1161301

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.422	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Acenaphthylene	U		0.441	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Anthracene	U		0.415	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Benzidine	U	J4	4.19	0.333	21.9	20	09/09/2018 21:10	WG1161580
Benzo(a)anthracene	0.430	J	0.281	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Benzo(b)fluoranthene	1.21	J	0.457	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Benzo(k)fluoranthene	U		0.382	0.0330	2.17	20	09/09/2018 21:10	WG1161580

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.474	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Benzo(a)pyrene	0.549	J	0.360	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Bis(2-chlorethoxy)methane	U		0.506	0.333	21.9	20	09/09/2018 21:10	WG1161580
Bis(2-chloroethyl)ether	U		0.589	0.333	21.9	20	09/09/2018 21:10	WG1161580
Bis(2-chloroisopropyl)ether	U		0.499	0.333	21.9	20	09/09/2018 21:10	WG1161580
4-Bromophenyl-phenylether	U		0.749	0.333	21.9	20	09/09/2018 21:10	WG1161580
2-Chloronaphthalene	U		0.420	0.0330	2.17	20	09/09/2018 21:10	WG1161580
4-Chlorophenyl-phenylether	U		0.412	0.333	21.9	20	09/09/2018 21:10	WG1161580
Chrysene	0.693	J	0.365	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Dibenz(a,h)anthracene	U		0.540	0.0330	1.08	20	09/09/2018 21:10	WG1161580
3,3-Dichlorobenzidine	U		5.22	0.333	21.9	20	09/09/2018 21:10	WG1161580
2,4-Dinitrotoluene	U		0.399	0.333	21.9	20	09/09/2018 21:10	WG1161580
2,6-Dinitrotoluene	U		0.484	0.333	21.9	20	09/09/2018 21:10	WG1161580
Fluoranthene	1.44	J	0.326	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Fluorene	U		0.448	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Hexachlorobenzene	U		0.563	0.333	21.9	20	09/09/2018 21:10	WG1161580
Hexachloro-1,3-butadiene	U		0.657	0.333	21.9	20	09/09/2018 21:10	WG1161580
Hexachlorocyclopentadiene	U		3.86	0.333	21.9	20	09/09/2018 21:10	WG1161580
Hexachloroethane	U		0.881	0.333	21.9	20	09/09/2018 21:10	WG1161580
Indeno(1,2,3-cd)pyrene	U	J	0.507	0.0330	1.08	20	09/09/2018 21:10	WG1161580
Isophorone	U		0.343	0.333	21.9	20	09/09/2018 21:10	WG1161580
Naphthalene	U		0.584	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Nitrobenzene	U		0.457	0.333	21.9	20	09/09/2018 21:10	WG1161580
n-Nitrosodimethylamine	U		4.25	0.333	21.9	20	09/09/2018 21:10	WG1161580
n-Nitrosodiphenylamine	U		5.91	0.333	21.9	20	09/09/2018 21:10	WG1161580
n-Nitrosodi-n-propylamine	U		0.595	0.333	21.9	20	09/09/2018 21:10	WG1161580
Phenanthrene	0.381	J	0.347	0.0330	2.17	20	09/09/2018 21:10	WG1161580
Benzylbutyl phthalate	U		0.677	0.333	21.9	20	09/09/2018 21:10	WG1161580
Bis(2-ethylhexyl)phthalate	U		0.789	0.333	21.9	20	09/09/2018 21:10	WG1161580
Di-n-butyl phthalate	U		0.716	0.333	21.9	20	09/09/2018 21:10	WG1161580
Diethyl phthalate	U		0.454	0.333	21.9	20	09/09/2018 21:10	WG1161580
Dimethyl phthalate	U		0.355	0.333	21.9	20	09/09/2018 21:10	WG1161580
Di-n-octyl phthalate	U		0.596	0.333	21.9	20	09/09/2018 21:10	WG1161580
Pyrene	0.841	J	0.808	0.0330	2.17	20	09/09/2018 21:10	WG1161580
1,2,4-Trichlorobenzene	U		0.576	0.333	21.9	20	09/09/2018 21:10	WG1161580
4-Chloro-3-methylphenol	U		0.313	0.333	21.9	20	09/09/2018 21:10	WG1161580
2-Chlorophenol	U		0.546	0.333	21.9	20	09/09/2018 21:10	WG1161580
2,4-Dichlorophenol	U		0.490	0.333	21.9	20	09/09/2018 21:10	WG1161580
2,4-Dimethylphenol	U		3.10	0.333	21.9	20	09/09/2018 21:10	WG1161580
4,6-Dinitro-2-methylphenol	U		8.15	0.333	21.9	20	09/09/2018 21:10	WG1161580
2,4-Dinitrophenol	U		6.44	0.333	21.9	20	09/09/2018 21:10	WG1161580
2-Nitrophenol	U		0.854	0.333	21.9	20	09/09/2018 21:10	WG1161580
4-Nitrophenol	U		3.45	0.333	21.9	20	09/09/2018 21:10	WG1161580
Pentachlorophenol	U		3.15	0.333	21.9	20	09/09/2018 21:10	WG1161580
Phenol	U		0.457	0.333	21.9	20	09/09/2018 21:10	WG1161580
2,4,6-Trichlorophenol	U		0.512	0.333	21.9	20	09/09/2018 21:10	WG1161580
(S) 2-Fluorophenol	*62.3*	J7			*12.0-120*		*09/09/2018 21:10*	WG1161580
(S) Phenol-d5	*49.2*	J7			*10.0-120*		*09/09/2018 21:10*	WG1161580
(S) Nitrobenzene-d5	*49.5*	J7			*10.0-122*		*09/09/2018 21:10*	WG1161580
(S) 2-Fluorobiphenyl	*61.9*	J7			*15.0-120*		*09/09/2018 21:10*	WG1161580
(S) 2,4,6-Tribromophenol	*60.7*	J7			*10.0-127*		*09/09/2018 21:10*	WG1161580
(S) p-Terphenyl-d14	*50.8*	J7			*10.0-120*		*09/09/2018 21:10*	WG1161580

Sample Narrative:

L1022277-03 WG1161580: Dilution due to matrix

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	74.7		1	09/06/2018 14:09	WG1161816

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.0227	J	0.00375	0.0200	0.0268	1	09/04/2018 09:15	WG1160907

Metals (ICPMS) by Method 6020

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	9.58		0.0167	0.100	0.669	5	09/05/2018 16:14	WG1160936
Barium	138		0.214	0.200	1.34	5	09/05/2018 16:14	WG1160936
Cadmium	0.346	J	0.107	0.100	0.669	5	09/05/2018 16:14	WG1160936
Chromium	22.8		0.361	0.200	1.34	5	09/05/2018 16:14	WG1160936
Lead	11.6		0.161	0.100	0.669	5	09/05/2018 16:14	WG1160936
Selenium	0.754		0.254	0.100	0.669	5	09/05/2018 16:14	WG1160936
Silver	U		0.207	0.100	0.669	5	09/05/2018 16:14	WG1160936

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	U		0.0183	0.0250	0.0335	1	09/05/2018 17:13	WG1161718
Acrylonitrile	U		0.00254	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
Benzene	U		0.000535	0.00100	0.00134	1	09/05/2018 17:13	WG1161718
Bromobenzene	U		0.00141	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
Bromodichloromethane	U		0.00105	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Bromoform	U		0.00800	0.0250	0.0335	1	09/05/2018 17:13	WG1161718
Bromomethane	U		0.00495	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
n-Butylbenzene	U		0.00514	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
sec-Butylbenzene	U		0.00339	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
tert-Butylbenzene	U		0.00207	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
Carbon tetrachloride	U		0.00145	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
Chlorobenzene	U		0.000767	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Chlorodibromomethane	U		0.000602	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Chloroethane	U		0.00145	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
Chloroform	U		0.000555	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Chloromethane	U		0.00186	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
2-Chlorotoluene	U		0.00123	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
4-Chlorotoluene	U		0.00151	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
1,2-Dibromo-3-Chloropropane	U		0.00683	0.0250	0.0335	1	09/05/2018 17:13	WG1161718
1,2-Dibromoethane	U		0.000703	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Dibromomethane	U		0.00134	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
1,2-Dichlorobenzene	U		0.00194	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
1,3-Dichlorobenzene	U		0.00228	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
1,4-Dichlorobenzene	U		0.00264	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
Dichlorodifluoromethane	U		0.00109	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
1,1-Dichloroethane	U		0.000769	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
1,2-Dichloroethane	U		0.000636	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
1,1-Dichloroethene	U		0.000669	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
cis-1,2-Dichloroethene	U		0.000923	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
trans-1,2-Dichloroethene	U		0.00191	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
1,2-Dichloropropane	U		0.00170	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
1,1-Dichloropropene	U		0.000937	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
1,3-Dichloropropane	U		0.00234	0.00500	0.00669	1	09/05/2018 17:13	WG1161718

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
cis-1,3-Dichloropropene	U		0.000907	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
trans-1,3-Dichloropropene	U		0.00205	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
2,2-Dichloropropane	U		0.00106	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Di-isopropyl ether	U		0.000468	0.00100	0.00134	1	09/05/2018 17:13	WG1161718
Ethylbenzene	U		0.000709	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Hexachloro-1,3-butadiene	U		0.0170	0.0250	0.0335	1	09/05/2018 17:13	WG1161718
Isopropylbenzene	U		0.00115	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
p-Isopropyltoluene	U		0.00312	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
2-Butanone (MEK)	U		0.0167	0.0250	0.0335	1	09/05/2018 17:13	WG1161718
Methylene Chloride	U		0.00889	0.0250	0.0335	1	09/05/2018 17:13	WG1161718
4-Methyl-2-pentanone (MIBK)	U		0.0134	0.0250	0.0335	1	09/05/2018 17:13	WG1161718
Methyl tert-butyl ether	U		0.000395	0.00100	0.00134	1	09/05/2018 17:13	WG1161718
Naphthalene	U		0.00418	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
n-Propylbenzene	U		0.00158	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
Styrene	U		0.00365	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
1,1,1,2-Tetrachloroethane	U		0.000669	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
1,1,2,2-Tetrachloroethane	U		0.000522	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
1,1,2-Trichlorotrifluoroethane	U		0.000903	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Tetrachloroethene	U		0.000937	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Toluene	0.00189	J	0.00167	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
1,2,3-Trichlorobenzene	U		0.000836	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
1,2,4-Trichlorobenzene	U		0.00645	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
1,1,1-Trichloroethane	U		0.000368	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
1,1,2-Trichloroethane	U		0.00118	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Trichloroethene	U		0.000535	0.00100	0.00134	1	09/05/2018 17:13	WG1161718
Trichlorofluoromethane	U		0.000669	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
1,2,3-Trichloropropane	U		0.00683	0.0125	0.0167	1	09/05/2018 17:13	WG1161718
1,2,4-Trimethylbenzene	U		0.00155	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
1,2,3-Trimethylbenzene	U		0.00154	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
1,3,5-Trimethylbenzene	U		0.00145	0.00500	0.00669	1	09/05/2018 17:13	WG1161718
Vinyl chloride	U		0.000914	0.00250	0.00335	1	09/05/2018 17:13	WG1161718
Xylenes, Total	U		0.00640	0.00650	0.00870	1	09/05/2018 17:13	WG1161718
(S) Toluene-d8	*90.3*				*75.0-131*		*09/05/2018 17:13*	WG1161718
(S) Dibromofluoromethane	*99.0*				*65.0-129*		*09/05/2018 17:13*	WG1161718
(S) 4-Bromofluorobenzene	*102*				*67.0-138*		*09/05/2018 17:13*	WG1161718

Semi-Volatile Organic Compounds (GC) by Method TX 1005

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH C6 - C12	U		20.1	50.0	66.9	1	09/05/2018 05:02	WG1160915
TPH C12 - C28	U		20.1	50.0	66.9	1	09/05/2018 05:02	WG1160915
TPH C28 - C35	U		20.1	50.0	66.9	1	09/05/2018 05:02	WG1160915
TPH C6 - C35	U		20.1	50.0	66.9	1	09/05/2018 05:02	WG1160915
(S) o-Terphenyl	*104*				*70.0-130*		*09/05/2018 05:02*	WG1160915

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.00939	0.0700	0.0937	1	09/08/2018 01:09	WG1162626
Dalapon	U		0.0151	0.0700	0.0937	1	09/08/2018 01:09	WG1162626
2,4-DB	U		0.0397	0.0700	0.0937	1	09/08/2018 01:09	WG1162626
Dicamba	U		0.0210	0.0700	0.0937	1	09/08/2018 01:09	WG1162626
Dichloroprop	U		0.0328	0.0700	0.0937	1	09/08/2018 01:09	WG1162626
Dinoseb	U	J3	0.00933	0.0700	0.0937	1	09/08/2018 01:09	WG1162626
MCPA	U		0.593	6.50	8.70	1	09/08/2018 01:09	WG1162626

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
MCPP	U		0.491	6.50	8.70	1	09/08/2018 01:09	WG1162626
2,4,5-T	U		0.0114	0.0700	0.0937	1	09/08/2018 01:09	WG1162626
2,4,5-TP (Silvex)	U	J3	0.0143	0.0700	0.0937	1	09/08/2018 01:09	WG1162626
(S) 2,4-Dichlorophenyl Acetic Acid	*66.9*				*22.0-132*		*09/08/2018 01:09*	WG1162626

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00181	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Alpha BHC	U		0.00182	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Beta BHC	U		0.00214	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Delta BHC	U		0.00191	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Gamma BHC	U		0.00194	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Chlordane	U		0.0522	0.200	0.268	1	09/05/2018 16:02	WG1161301
4,4-DDD	U		0.00209	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
4,4-DDE	U		0.00206	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
4,4-DDT	U	J3	0.00268	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Dieldrin	U		0.00203	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Endosulfan I	U		0.00199	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Endosulfan II	U		0.00214	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Endosulfan sulfate	U		0.00202	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Endrin	U		0.00210	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Endrin aldehyde	U		0.00173	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Endrin ketone	U		0.00221	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Heptachlor	U		0.00206	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Heptachlor epoxide	U		0.00215	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Hexachlorobenzene	U		0.00166	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Methoxychlor	U		0.00238	0.0200	0.0268	1	09/05/2018 16:02	WG1161301
Toxaphene	U		0.0482	0.400	0.535	1	09/05/2018 16:02	WG1161301
(S) Decachlorobiphenyl	*39.8*				*10.0-135*		*09/05/2018 16:02*	WG1161301
(S) Tetrachloro-m-xylene	*49.7*				*10.0-139*		*09/05/2018 16:02*	WG1161301

Polychlorinated Biphenyls (GC) by Method 8082

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.00469	0.0170	0.0228	1	09/05/2018 13:06	WG1161301
PCB 1221	U		0.00718	0.0170	0.0228	1	09/05/2018 13:06	WG1161301
PCB 1232	U		0.00558	0.0170	0.0228	1	09/05/2018 13:06	WG1161301
PCB 1242	U		0.00425	0.0170	0.0228	1	09/05/2018 13:06	WG1161301
PCB 1248	U		0.00421	0.0170	0.0228	1	09/05/2018 13:06	WG1161301
PCB 1254	U		0.00632	0.0170	0.0228	1	09/05/2018 13:06	WG1161301
PCB 1260	U		0.00661	0.0170	0.0228	1	09/05/2018 13:06	WG1161301
(S) Decachlorobiphenyl	*33.1*				*10.0-135*		*09/05/2018 13:06*	WG1161301
(S) Tetrachloro-m-xylene	*52.9*				*10.0-139*		*09/05/2018 13:06*	WG1161301

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00859	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Acenaphthylene	U		0.00898	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Anthracene	U		0.00846	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Benzidine	U	J4	0.0852	0.333	0.446	1	09/07/2018 03:31	WG1161580
Benzo(a)anthracene	U		0.00573	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Benzo(b)fluoranthene	U		0.00930	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Benzo(k)fluoranthene	U		0.00779	0.0330	0.0442	1	09/07/2018 03:31	WG1161580

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.00965	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Benzo(a)pyrene	U		0.00733	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Bis(2-chlorethoxy)methane	U		0.0103	0.333	0.446	1	09/07/2018 03:31	WG1161580
Bis(2-chloroethyl)ether	U		0.0120	0.333	0.446	1	09/07/2018 03:31	WG1161580
Bis(2-chloroisopropyl)ether	U		0.0102	0.333	0.446	1	09/07/2018 03:31	WG1161580
4-Bromophenyl-phenylether	U		0.0153	0.333	0.446	1	09/07/2018 03:31	WG1161580
2-Chloronaphthalene	U		0.00855	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
4-Chlorophenyl-phenylether	U		0.00839	0.333	0.446	1	09/07/2018 03:31	WG1161580
Chrysene	U		0.00743	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Dibenz(a,h)anthracene	U		0.0110	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
3,3-Dichlorobenzidine	U		0.106	0.333	0.446	1	09/07/2018 03:31	WG1161580
2,4-Dinitrotoluene	U		0.00812	0.333	0.446	1	09/07/2018 03:31	WG1161580
2,6-Dinitrotoluene	U		0.00986	0.333	0.446	1	09/07/2018 03:31	WG1161580
Fluoranthene	0.00687	J	0.00664	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Fluorene	U		0.00913	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Hexachlorobenzene	U		0.0115	0.333	0.446	1	09/07/2018 03:31	WG1161580
Hexachloro-1,3-butadiene	U		0.0134	0.333	0.446	1	09/07/2018 03:31	WG1161580
Hexachlorocyclopentadiene	U		0.0786	0.333	0.446	1	09/07/2018 03:31	WG1161580
Hexachloroethane	U		0.0179	0.333	0.446	1	09/07/2018 03:31	WG1161580
Indeno(1,2,3-cd)pyrene	U		0.0103	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Isophorone	U		0.00699	0.333	0.446	1	09/07/2018 03:31	WG1161580
Naphthalene	U		0.0119	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Nitrobenzene	U		0.00930	0.333	0.446	1	09/07/2018 03:31	WG1161580
n-Nitrosodimethylamine	U		0.0866	0.333	0.446	1	09/07/2018 03:31	WG1161580
n-Nitrosodiphenylamine	U		0.120	0.333	0.446	1	09/07/2018 03:31	WG1161580
n-Nitrosodi-n-propylamine	U		0.0121	0.333	0.446	1	09/07/2018 03:31	WG1161580
Phenanthrene	U		0.00707	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
Benzylbutyl phthalate	U		0.0138	0.333	0.446	1	09/07/2018 03:31	WG1161580
Bis(2-ethylhexyl)phthalate	0.482		0.0161	0.333	0.446	1	09/07/2018 03:31	WG1161580
Di-n-butyl phthalate	U		0.0146	0.333	0.446	1	09/07/2018 03:31	WG1161580
Diethyl phthalate	U		0.00925	0.333	0.446	1	09/07/2018 03:31	WG1161580
Dimethyl phthalate	U		0.00723	0.333	0.446	1	09/07/2018 03:31	WG1161580
Di-n-octyl phthalate	U		0.0121	0.333	0.446	1	09/07/2018 03:31	WG1161580
Pyrene	U		0.0165	0.0330	0.0442	1	09/07/2018 03:31	WG1161580
1,2,4-Trichlorobenzene	U		0.0117	0.333	0.446	1	09/07/2018 03:31	WG1161580
4-Chloro-3-methylphenol	U		0.00638	0.333	0.446	1	09/07/2018 03:31	WG1161580
2-Chlorophenol	U		0.0111	0.333	0.446	1	09/07/2018 03:31	WG1161580
2,4-Dichlorophenol	U		0.00998	0.333	0.446	1	09/07/2018 03:31	WG1161580
2,4-Dimethylphenol	U		0.0630	0.333	0.446	1	09/07/2018 03:31	WG1161580
4,6-Dinitro-2-methylphenol	U		0.166	0.333	0.446	1	09/07/2018 03:31	WG1161580
2,4-Dinitrophenol	U		0.131	0.333	0.446	1	09/07/2018 03:31	WG1161580
2-Nitrophenol	U		0.0174	0.333	0.446	1	09/07/2018 03:31	WG1161580
4-Nitrophenol	U		0.0703	0.333	0.446	1	09/07/2018 03:31	WG1161580
Pentachlorophenol	U		0.0642	0.333	0.446	1	09/07/2018 03:31	WG1161580
Phenol	U		0.00930	0.333	0.446	1	09/07/2018 03:31	WG1161580
2,4,6-Trichlorophenol	U		0.0104	0.333	0.446	1	09/07/2018 03:31	WG1161580
(S) 2-Fluorophenol	*53.2*				*12.0-120*		*09/07/2018 03:31*	WG1161580
(S) Phenol-d5	*45.6*				*10.0-120*		*09/07/2018 03:31*	WG1161580
(S) Nitrobenzene-d5	*44.5*				*10.0-122*		*09/07/2018 03:31*	WG1161580
(S) 2-Fluorobiphenyl	*51.2*				*15.0-120*		*09/07/2018 03:31*	WG1161580
(S) 2,4,6-Tribromophenol	*32.4*				*10.0-127*		*09/07/2018 03:31*	WG1161580
(S) p-Terphenyl-d14	*63.0*				*10.0-120*		*09/07/2018 03:31*	WG1161580

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	76.3		1	09/06/2018 14:09	WG1161816

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.0273		0.00367	0.0200	0.0262	1	09/04/2018 09:17	WG1160907

Metals (ICPMS) by Method 6020

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	10.9		0.0164	0.100	0.655	5	09/05/2018 16:18	WG1160936
Barium	154		0.210	0.200	1.31	5	09/05/2018 16:18	WG1160936
Cadmium	0.308	J	0.105	0.100	0.655	5	09/05/2018 16:18	WG1160936
Chromium	27.8		0.354	0.200	1.31	5	09/05/2018 16:18	WG1160936
Lead	15.6		0.157	0.100	0.655	5	09/05/2018 16:18	WG1160936
Selenium	0.765		0.249	0.100	0.655	5	09/05/2018 16:18	WG1160936
Silver	U		0.203	0.100	0.655	5	09/05/2018 16:18	WG1160936

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	0.0659		0.0179	0.0250	0.0327	1	09/05/2018 17:32	WG1161718
Acrylonitrile	U		0.00249	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
Benzene	U		0.000524	0.00100	0.00131	1	09/05/2018 17:32	WG1161718
Bromobenzene	U		0.00138	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
Bromodichloromethane	U		0.00103	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Bromoform	U		0.00783	0.0250	0.0327	1	09/05/2018 17:32	WG1161718
Bromomethane	U		0.00485	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
n-Butylbenzene	U		0.00503	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
sec-Butylbenzene	U		0.00331	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
tert-Butylbenzene	U		0.00203	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
Carbon tetrachloride	U		0.00141	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
Chlorobenzene	U		0.000751	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Chlorodibromomethane	U		0.000589	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Chloroethane	U		0.00141	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
Chloroform	U		0.000544	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Chloromethane	U		0.00182	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
2-Chlorotoluene	U		0.00121	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
4-Chlorotoluene	U		0.00148	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
1,2-Dibromo-3-Chloropropane	U		0.00668	0.0250	0.0327	1	09/05/2018 17:32	WG1161718
1,2-Dibromoethane	U		0.000688	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Dibromomethane	U		0.00131	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
1,2-Dichlorobenzene	U		0.00190	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
1,3-Dichlorobenzene	U		0.00223	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
1,4-Dichlorobenzene	U		0.00258	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
Dichlorodifluoromethane	U		0.00107	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
1,1-Dichloroethane	U		0.000753	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
1,2-Dichloroethane	U		0.000622	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
1,1-Dichloroethene	U		0.000655	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
cis-1,2-Dichloroethene	U		0.000904	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
trans-1,2-Dichloroethene	U		0.00187	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
1,2-Dichloropropane	U		0.00166	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
1,1-Dichloropropene	U		0.000917	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
1,3-Dichloropropane	U		0.00229	0.00500	0.00655	1	09/05/2018 17:32	WG1161718

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
cis-1,3-Dichloropropene	U		0.000888	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
trans-1,3-Dichloropropene	U		0.00200	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
2,2-Dichloropropane	U		0.00104	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Di-isopropyl ether	U		0.000458	0.00100	0.00131	1	09/05/2018 17:32	WG1161718
Ethylbenzene	U		0.000694	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Hexachloro-1,3-butadiene	U		0.0166	0.0250	0.0327	1	09/05/2018 17:32	WG1161718
Isopropylbenzene	U		0.00113	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
p-Isopropyltoluene	U		0.00305	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
2-Butanone (MEK)	U		0.0164	0.0250	0.0327	1	09/05/2018 17:32	WG1161718
Methylene Chloride	U		0.00870	0.0250	0.0327	1	09/05/2018 17:32	WG1161718
4-Methyl-2-pentanone (MIBK)	U		0.0131	0.0250	0.0327	1	09/05/2018 17:32	WG1161718
Methyl tert-butyl ether	U		0.000386	0.00100	0.00131	1	09/05/2018 17:32	WG1161718
Naphthalene	U		0.00409	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
n-Propylbenzene	U		0.00155	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
Styrene	U		0.00358	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
1,1,1,2-Tetrachloroethane	U		0.000655	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
1,1,2,2-Tetrachloroethane	U		0.000511	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
1,1,2-Trichlorotrifluoroethane	U		0.000884	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Tetrachloroethene	U		0.000917	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Toluene	U		0.00164	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
1,2,3-Trichlorobenzene	U		0.000819	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
1,2,4-Trichlorobenzene	U		0.00631	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
1,1,1-Trichloroethane	U		0.000360	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
1,1,2-Trichloroethane	U		0.00116	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Trichloroethene	U		0.000524	0.00100	0.00131	1	09/05/2018 17:32	WG1161718
Trichlorofluoromethane	U		0.000655	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
1,2,3-Trichloropropane	U		0.00668	0.0125	0.0164	1	09/05/2018 17:32	WG1161718
1,2,4-Trimethylbenzene	U		0.00152	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
1,2,3-Trimethylbenzene	U		0.00151	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
1,3,5-Trimethylbenzene	U		0.00141	0.00500	0.00655	1	09/05/2018 17:32	WG1161718
Vinyl chloride	U		0.000895	0.00250	0.00327	1	09/05/2018 17:32	WG1161718
Xylenes, Total	U		0.00626	0.00650	0.00851	1	09/05/2018 17:32	WG1161718
(S) Toluene-d8	*97.1*				*75.0-131*		*09/05/2018 17:32*	WG1161718
(S) Dibromofluoromethane	*98.1*				*65.0-129*		*09/05/2018 17:32*	WG1161718
(S) 4-Bromofluorobenzene	*93.2*				*67.0-138*		*09/05/2018 17:32*	WG1161718

Semi-Volatile Organic Compounds (GC) by Method TX 1005

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH C6 - C12	U		19.6	50.0	65.5	1	09/05/2018 05:15	WG1160915
TPH C12 - C28	U		19.6	50.0	65.5	1	09/05/2018 05:15	WG1160915
TPH C28 - C35	U		19.6	50.0	65.5	1	09/05/2018 05:15	WG1160915
TPH C6 - C35	U		19.6	50.0	65.5	1	09/05/2018 05:15	WG1160915
(S) o-Terphenyl	*107*				*70.0-130*		*09/05/2018 05:15*	WG1160915

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.00919	0.0700	0.0917	1	09/08/2018 01:23	WG1162626
Dalapon	U		0.0148	0.0700	0.0917	1	09/08/2018 01:23	WG1162626
2,4-DB	U		0.0389	0.0700	0.0917	1	09/08/2018 01:23	WG1162626
Dicamba	U		0.0206	0.0700	0.0917	1	09/08/2018 01:23	WG1162626
Dichloroprop	U		0.0321	0.0700	0.0917	1	09/08/2018 01:23	WG1162626
Dinoseb	U	J3	0.00913	0.0700	0.0917	1	09/08/2018 01:23	WG1162626
MCPA	U		0.580	6.50	8.51	1	09/08/2018 01:23	WG1162626

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
MCPP	U		0.481	6.50	8.51	1	09/08/2018 01:23	WG1162626
2,4,5-T	U		0.0112	0.0700	0.0917	1	09/08/2018 01:23	WG1162626
2,4,5-TP (Silvex)	U	J3	0.0140	0.0700	0.0917	1	09/08/2018 01:23	WG1162626
(S) 2,4-Dichlorophenyl Acetic Acid	*66.9*				*22.0-132*		*09/08/2018 01:23*	WG1162626

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00177	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Alpha BHC	U		0.00178	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Beta BHC	U		0.00210	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Delta BHC	U		0.00187	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Gamma BHC	U		0.00190	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Chlordane	U		0.0511	0.200	0.262	1	09/05/2018 16:40	WG1161301
4,4-DDD	U		0.00204	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
4,4-DDE	U		0.00202	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
4,4-DDT	U		0.00262	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Dieldrin	U		0.00199	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Endosulfan I	U		0.00195	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Endosulfan II	U		0.00210	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Endosulfan sulfate	U		0.00198	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Endrin	U		0.00206	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Endrin aldehyde	U		0.00169	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Endrin ketone	U		0.00216	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Heptachlor	U		0.00202	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Heptachlor epoxide	U		0.00211	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Hexachlorobenzene	U		0.00162	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Methoxychlor	U		0.00233	0.0200	0.0262	1	09/05/2018 16:40	WG1161301
Toxaphene	U		0.0472	0.400	0.524	1	09/05/2018 16:40	WG1161301
(S) Decachlorobiphenyl	*72.0*				*10.0-135*		*09/05/2018 16:40*	WG1161301
(S) Tetrachloro-m-xylene	*71.7*				*10.0-139*		*09/05/2018 16:40*	WG1161301

Polychlorinated Biphenyls (GC) by Method 8082

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.00459	0.0170	0.0223	1	09/05/2018 13:22	WG1161301
PCB 1221	U		0.00703	0.0170	0.0223	1	09/05/2018 13:22	WG1161301
PCB 1232	U		0.00546	0.0170	0.0223	1	09/05/2018 13:22	WG1161301
PCB 1242	U		0.00416	0.0170	0.0223	1	09/05/2018 13:22	WG1161301
PCB 1248	U		0.00412	0.0170	0.0223	1	09/05/2018 13:22	WG1161301
PCB 1254	U		0.00618	0.0170	0.0223	1	09/05/2018 13:22	WG1161301
PCB 1260	U		0.00647	0.0170	0.0223	1	09/05/2018 13:22	WG1161301
(S) Decachlorobiphenyl	*59.3*				*10.0-135*		*09/05/2018 13:22*	WG1161301
(S) Tetrachloro-m-xylene	*78.3*				*10.0-139*		*09/05/2018 13:22*	WG1161301

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.0168	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Acenaphthylene	U		0.0176	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Anthracene	U		0.0166	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Benzidine	U	J4	0.167	0.333	0.872	2	09/07/2018 05:51	WG1161580
Benzo(a)anthracene	U		0.0112	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Benzo(b)fluoranthene	0.0200	J	0.0182	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Benzo(k)fluoranthene	U		0.0152	0.0330	0.0864	2	09/07/2018 05:51	WG1161580

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0189	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Benzo(a)pyrene	U		0.0144	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Bis(2-chlorethoxy)methane	U		0.0202	0.333	0.872	2	09/07/2018 05:51	WG1161580
Bis(2-chloroethyl)ether	U		0.0235	0.333	0.872	2	09/07/2018 05:51	WG1161580
Bis(2-chloroisopropyl)ether	U		0.0199	0.333	0.872	2	09/07/2018 05:51	WG1161580
4-Bromophenyl-phenylether	U		0.0299	0.333	0.872	2	09/07/2018 05:51	WG1161580
2-Chloronaphthalene	U		0.0167	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
4-Chlorophenyl-phenylether	U		0.0164	0.333	0.872	2	09/07/2018 05:51	WG1161580
Chrysene	0.0151	J	0.0145	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Dibenz(a,h)anthracene	U		0.0215	0.0330	0.0432	2	09/07/2018 05:51	WG1161580
3,3-Dichlorobenzidine	U		0.208	0.333	0.872	2	09/07/2018 05:51	WG1161580
2,4-Dinitrotoluene	U		0.0159	0.333	0.872	2	09/07/2018 05:51	WG1161580
2,6-Dinitrotoluene	U		0.0193	0.333	0.872	2	09/07/2018 05:51	WG1161580
Fluoranthene	0.0333	J	0.0130	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Fluorene	U		0.0179	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Hexachlorobenzene	U		0.0224	0.333	0.872	2	09/07/2018 05:51	WG1161580
Hexachloro-1,3-butadiene	U		0.0262	0.333	0.872	2	09/07/2018 05:51	WG1161580
Hexachlorocyclopentadiene	U		0.154	0.333	0.872	2	09/07/2018 05:51	WG1161580
Hexachloroethane	U		0.0351	0.333	0.872	2	09/07/2018 05:51	WG1161580
Indeno(1,2,3-cd)pyrene	U		0.0202	0.0330	0.0432	2	09/07/2018 05:51	WG1161580
Isophorone	U		0.0137	0.333	0.872	2	09/07/2018 05:51	WG1161580
Naphthalene	U		0.0233	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Nitrobenzene	U		0.0182	0.333	0.872	2	09/07/2018 05:51	WG1161580
n-Nitrosodimethylamine	U		0.169	0.333	0.872	2	09/07/2018 05:51	WG1161580
n-Nitrosodiphenylamine	U		0.236	0.333	0.872	2	09/07/2018 05:51	WG1161580
n-Nitrosodi-n-propylamine	U		0.0237	0.333	0.872	2	09/07/2018 05:51	WG1161580
Phenanthrene	U		0.0138	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
Benzylbutyl phthalate	U		0.0270	0.333	0.872	2	09/07/2018 05:51	WG1161580
Bis(2-ethylhexyl)phthalate	0.0481	J	0.0314	0.333	0.872	2	09/07/2018 05:51	WG1161580
Di-n-butyl phthalate	0.0312	J	0.0286	0.333	0.872	2	09/07/2018 05:51	WG1161580
Diethyl phthalate	U		0.0181	0.333	0.872	2	09/07/2018 05:51	WG1161580
Dimethyl phthalate	U		0.0141	0.333	0.872	2	09/07/2018 05:51	WG1161580
Di-n-octyl phthalate	U		0.0238	0.333	0.872	2	09/07/2018 05:51	WG1161580
Pyrene	U		0.0322	0.0330	0.0864	2	09/07/2018 05:51	WG1161580
1,2,4-Trichlorobenzene	U		0.0229	0.333	0.872	2	09/07/2018 05:51	WG1161580
4-Chloro-3-methylphenol	U		0.0125	0.333	0.872	2	09/07/2018 05:51	WG1161580
2-Chlorophenol	U		0.0218	0.333	0.872	2	09/07/2018 05:51	WG1161580
2,4-Dichlorophenol	U		0.0195	0.333	0.872	2	09/07/2018 05:51	WG1161580
2,4-Dimethylphenol	U		0.123	0.333	0.872	2	09/07/2018 05:51	WG1161580
4,6-Dinitro-2-methylphenol	U		0.325	0.333	0.872	2	09/07/2018 05:51	WG1161580
2,4-Dinitrophenol	U		0.257	0.333	0.872	2	09/07/2018 05:51	WG1161580
2-Nitrophenol	U		0.0341	0.333	0.872	2	09/07/2018 05:51	WG1161580
4-Nitrophenol	U		0.138	0.333	0.872	2	09/07/2018 05:51	WG1161580
Pentachlorophenol	U		0.126	0.333	0.872	2	09/07/2018 05:51	WG1161580
Phenol	U		0.0182	0.333	0.872	2	09/07/2018 05:51	WG1161580
2,4,6-Trichlorophenol	U		0.0204	0.333	0.872	2	09/07/2018 05:51	WG1161580
(S) 2-Fluorophenol	*44.1*				*12.0-120*		*09/07/2018 05:51*	WG1161580
(S) Phenol-d5	*39.8*				*10.0-120*		*09/07/2018 05:51*	WG1161580
(S) Nitrobenzene-d5	*34.8*				*10.0-122*		*09/07/2018 05:51*	WG1161580
(S) 2-Fluorobiphenyl	*47.6*				*15.0-120*		*09/07/2018 05:51*	WG1161580
(S) 2,4,6-Tribromophenol	*83.1*				*10.0-127*		*09/07/2018 05:51*	WG1161580
(S) p-Terphenyl-d14	*78.7*				*10.0-120*		*09/07/2018 05:51*	WG1161580

Sample Narrative:

L1022277-05 WG1161580: Dilution due to matrix impact during extract concentration procedure

Method Blank (MB)

(MB) R3339930-1 09/06/18 14:09

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1022280-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1022280-01 09/06/18 14:09 • (DUP) R3339930-3 09/06/18 14:09

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	94.5	94.0	1	0.538		10

Laboratory Control Sample (LCS)

(LCS) R3339930-2 09/06/18 14:09

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3338869-1 09/04/18 08:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.00280	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3338869-2 09/04/18 08:32 • (LCSD) R3338869-3 09/04/18 08:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.320	0.336	107	112	80.0-120			4.63	20

L1022294-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1022294-01 09/04/18 08:37 • (MS) R3338869-4 09/04/18 08:39 • (MSD) R3338869-5 09/04/18 08:42

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.0536	0.348	0.345	98.1	97.2	1	75.0-125			0.783	20

Method Blank (MB)

(MB) R3339361-1 09/05/18 15:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.0125	0.500
Barium	U		0.160	1.00
Cadmium	U		0.0800	0.500
Chromium	U		0.270	1.00
Lead	U		0.120	0.500
Selenium	U		0.190	0.500
Silver	U		0.155	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3339361-2 09/05/18 15:18 • (LCSD) R3339361-3 09/05/18 15:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	97.7	93.4	97.7	93.4	80.0-120			4.50	20
Barium	100	92.2	91.4	92.2	91.4	80.0-120			0.779	20
Cadmium	100	94.1	93.9	94.1	93.9	80.0-120			0.215	20
Chromium	100	102	96.6	102	96.6	80.0-120			5.06	20
Lead	100	94.4	89.6	94.4	89.6	80.0-120			5.12	20
Selenium	100	95.0	90.1	95.0	90.1	80.0-120			5.29	20
Silver	20.0	20.6	20.4	103	102	80.0-120			0.909	20

L1022277-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1022277-01 09/05/18 15:27 • (MS) R3339361-6 09/05/18 15:41 • (MSD) R3339361-7 09/05/18 15:46

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	22.7	31.8	118	111	75.6	70.2	5	75.0-125		J6	5.34	20
Barium	22.7	272	182	239	0.000	0.000	5	75.0-125	J6	J3 J6	27.3	20
Cadmium	22.7	0.354	107	105	93.6	92.0	5	75.0-125			1.72	20
Chromium	22.7	13.8	126	121	99.0	94.7	5	75.0-125			3.93	20
Lead	22.7	8.01	111	111	91.2	90.6	5	75.0-125			0.626	20
Selenium	22.7	0.697	107	104	93.4	91.1	5	75.0-125			2.55	20
Silver	4.54	U	23.3	22.9	103	101	5	75.0-125			1.58	20

Method Blank (MB)

(MB) R3340102-2 09/05/18 13:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	U		0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250
Isopropylbenzene	U		0.000863	0.00250

Method Blank (MB)

(MB) R3340102-2 09/05/18 13:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	U		0.0125	0.0250
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Toluene	U		0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	U		0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,3-Trimethylbenzene	U		0.00115	0.00500
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*101*			*75.0-131*
(S) Dibromofluoromethane	*103*			*65.0-129*
(S) 4-Bromofluorobenzene	*93.3*			*67.0-138*

Laboratory Control Sample (LCS)

(LCS) R3340102-1 09/05/18 11:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.799	128	10.0-160	
Acrylonitrile	0.625	0.727	116	45.0-153	
Benzene	0.125	0.112	90.0	70.0-123	
Bromobenzene	0.125	0.118	94.8	73.0-121	
Bromodichloromethane	0.125	0.149	120	73.0-121	

Laboratory Control Sample (LCS)

(LCS) R3340102-1 09/05/18 11:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromoform	0.125	0.150	120	64.0-132	
Bromomethane	0.125	0.106	84.8	56.0-147	
n-Butylbenzene	0.125	0.118	94.0	68.0-135	
sec-Butylbenzene	0.125	0.113	90.2	74.0-130	
tert-Butylbenzene	0.125	0.118	94.5	75.0-127	
Carbon tetrachloride	0.125	0.141	113	66.0-128	
Chlorobenzene	0.125	0.130	104	76.0-128	
Chlorodibromomethane	0.125	0.128	102	74.0-127	
Chloroethane	0.125	0.129	103	61.0-134	
Chloroform	0.125	0.122	97.4	72.0-123	
Chloromethane	0.125	0.146	116	51.0-138	
2-Chlorotoluene	0.125	0.109	86.9	75.0-124	
4-Chlorotoluene	0.125	0.120	95.9	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.143	114	59.0-130	
1,2-Dibromoethane	0.125	0.120	95.7	74.0-128	
Dibromomethane	0.125	0.138	110	75.0-122	
1,2-Dichlorobenzene	0.125	0.116	93.0	76.0-124	
1,3-Dichlorobenzene	0.125	0.123	98.6	76.0-125	
1,4-Dichlorobenzene	0.125	0.117	93.5	77.0-121	
Dichlorodifluoromethane	0.125	0.119	95.1	43.0-156	
1,1-Dichloroethane	0.125	0.134	107	70.0-127	
1,2-Dichloroethane	0.125	0.134	107	65.0-131	
1,1-Dichloroethene	0.125	0.125	99.9	65.0-131	
cis-1,2-Dichloroethene	0.125	0.117	93.8	73.0-125	
trans-1,2-Dichloroethene	0.125	0.103	82.6	71.0-125	
1,2-Dichloropropane	0.125	0.121	97.0	74.0-125	
1,1-Dichloropropene	0.125	0.110	88.4	73.0-125	
1,3-Dichloropropane	0.125	0.122	97.8	80.0-125	
cis-1,3-Dichloropropene	0.125	0.124	99.2	76.0-127	
trans-1,3-Dichloropropene	0.125	0.141	113	73.0-127	
2,2-Dichloropropane	0.125	0.127	101	59.0-135	
Di-isopropyl ether	0.125	0.145	116	60.0-136	
Ethylbenzene	0.125	0.120	96.3	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.141	113	57.0-150	
Isopropylbenzene	0.125	0.114	90.9	72.0-127	
p-Isopropyltoluene	0.125	0.115	91.7	72.0-133	
2-Butanone (MEK)	0.625	0.835	134	30.0-160	
Methylene Chloride	0.125	0.108	86.6	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.870	139	56.0-143	
Methyl tert-butyl ether	0.125	0.128	103	66.0-132	

Laboratory Control Sample (LCS)

(LCS) R3340102-1 09/05/18 11:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Naphthalene	0.125	0.119	95.0	59.0-130	
n-Propylbenzene	0.125	0.111	89.1	74.0-126	
Styrene	0.125	0.116	92.4	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.134	107	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.122	97.5	68.0-128	
Tetrachloroethene	0.125	0.105	83.9	70.0-136	
Toluene	0.125	0.116	92.9	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.103	82.7	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.121	96.5	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.125	100	62.0-137	
1,1,1-Trichloroethane	0.125	0.133	106	69.0-126	
1,1,2-Trichloroethane	0.125	0.122	97.6	78.0-123	
Trichloroethene	0.125	0.130	104	76.0-126	
Trichlorofluoromethane	0.125	0.126	101	61.0-142	
1,2,3-Trichloropropane	0.125	0.128	102	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.117	94.0	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.121	96.9	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.114	91.5	73.0-127	
Vinyl chloride	0.125	0.133	106	63.0-134	
Xylenes, Total	0.375	0.367	97.9	72.0-127	
(S) Toluene-d8			*102*	*75.0-131*	
(S) Dibromofluoromethane			*101*	*65.0-129*	
(S) 4-Bromofluorobenzene			*96.3*	*67.0-138*	

L1022330-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1022330-03 09/05/18 18:28 • (MS) R3340102-3 09/05/18 22:15 • (MSD) R3340102-4 09/05/18 22:34

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.0826	1.40	0.874	170	102	1.24	10.0-160	J5	J3	46.4	40
Acrylonitrile	0.625	U	0.891	0.786	115	101	1.24	10.0-160			12.5	40
Benzene	0.125	U	0.0603	0.125	38.9	80.7	1.24	10.0-149		J3	69.8	37
Bromobenzene	0.125	U	0.102	0.152	66.0	98.2	1.24	10.0-156		J3	39.2	38
Bromodichloromethane	0.125	U	0.107	0.171	69.2	110	1.24	10.0-143		J3	45.8	37
Bromoform	0.125	U	0.149	0.166	96.0	107	1.24	10.0-146			11.1	36
Bromomethane	0.125	U	0.0346	0.0803	22.3	51.8	1.24	10.0-149		J3	79.5	38
n-Butylbenzene	0.125	U	0.0771	0.164	49.8	106	1.24	10.0-160		J3	71.9	40
sec-Butylbenzene	0.125	U	0.0660	0.147	42.5	95.0	1.24	10.0-159		J3	76.3	39
tert-Butylbenzene	0.125	U	0.0647	0.142	41.7	91.9	1.24	10.0-156		J3	75.1	39

L1022330-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1022330-03 09/05/18 18:28 • (MS) R3340102-3 09/05/18 22:15 • (MSD) R3340102-4 09/05/18 22:34

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon tetrachloride	0.125	U	0.0600	0.160	38.7	103	1.24	10.0-145		J3	90.8	37
Chlorobenzene	0.125	U	0.0904	0.162	58.3	105	1.24	10.0-152		J3	56.8	39
Chlorodibromomethane	0.125	U	0.123	0.167	79.6	108	1.24	10.0-146			29.9	37
Chloroethane	0.125	U	0.0256	0.0846	16.5	54.6	1.24	10.0-146		J3	107	40
Chloroform	0.125	U	0.0812	0.149	52.4	96.2	1.24	10.0-146		J3	58.9	37
Chloromethane	0.125	U	0.0365	0.0856	23.5	55.3	1.24	10.0-159		J3	80.5	37
2-Chlorotoluene	0.125	U	0.0740	0.142	47.7	91.8	1.24	10.0-159		J3	63.2	38
4-Chlorotoluene	0.125	U	0.0837	0.155	54.0	99.8	1.24	10.0-155		J3	59.5	39
1,2-Dibromo-3-Chloropropane	0.125	U	0.203	0.156	131	100	1.24	10.0-151			26.3	39
1,2-Dibromoethane	0.125	U	0.120	0.148	77.5	95.3	1.24	10.0-148			20.6	34
Dibromomethane	0.125	U	0.123	0.169	79.1	109	1.24	10.0-147			31.8	35
1,2-Dichlorobenzene	0.125	U	0.121	0.162	78.2	104	1.24	10.0-155			28.6	37
1,3-Dichlorobenzene	0.125	U	0.101	0.152	65.1	98.0	1.24	10.0-153		J3	40.3	38
1,4-Dichlorobenzene	0.125	U	0.104	0.160	67.0	103	1.24	10.0-151		J3	42.7	38
Dichlorodifluoromethane	0.125	U	0.0238	0.0731	15.4	47.1	1.24	10.0-160		J3	102	35
1,1-Dichloroethane	0.125	U	0.0702	0.143	45.3	92.3	1.24	10.0-147		J3	68.3	37
1,2-Dichloroethane	0.125	U	0.102	0.143	65.5	92.3	1.24	10.0-148			33.9	35
1,1-Dichloroethene	0.125	U	0.0388	0.112	25.1	72.1	1.24	10.0-155		J3	96.8	37
cis-1,2-Dichloroethene	0.125	U	0.0686	0.131	44.3	84.5	1.24	10.0-149		J3	62.5	37
trans-1,2-Dichloroethene	0.125	U	0.0381	0.101	24.6	65.0	1.24	10.0-150		J3	90.2	37
1,2-Dichloropropane	0.125	U	0.0876	0.141	56.5	91.0	1.24	10.0-148		J3	46.7	37
1,1-Dichloropropene	0.125	U	0.0446	0.122	28.8	79.0	1.24	10.0-153		J3	93.1	35
1,3-Dichloropropane	0.125	U	0.119	0.155	77.0	100	1.24	10.0-154			26.3	35
cis-1,3-Dichloropropene	0.125	U	0.0939	0.146	60.6	94.0	1.24	10.0-151		J3	43.2	37
trans-1,3-Dichloropropene	0.125	U	0.117	0.148	75.4	95.2	1.24	10.0-148			23.3	37
2,2-Dichloropropane	0.125	U	0.0577	0.141	37.2	91.2	1.24	10.0-138		J3	84.1	36
Di-isopropyl ether	0.125	U	0.0988	0.158	63.7	102	1.24	10.0-147		J3	46.3	36
Ethylbenzene	0.125	U	0.0755	0.152	48.7	98.3	1.24	10.0-160		J3	67.5	38
Hexachloro-1,3-butadiene	0.125	U	0.125	0.194	80.7	125	1.24	10.0-160		J3	43.3	40
Isopropylbenzene	0.125	U	0.0636	0.146	41.0	94.0	1.24	10.0-155		J3	78.4	38
p-Isopropyltoluene	0.125	U	0.0673	0.152	43.4	98.0	1.24	10.0-160		J3	77.2	40
2-Butanone (MEK)	0.625	U	0.960	0.906	124	117	1.24	10.0-160			5.81	40
Methylene Chloride	0.125	0.00679	0.0809	0.123	52.2	79.3	1.24	10.0-141		J3	41.2	37
4-Methyl-2-pentanone (MIBK)	0.625	0.0101	0.954	0.964	123	124	1.24	10.0-160			1.01	35
Methyl tert-butyl ether	0.125	U	0.108	0.134	69.9	86.4	1.24	11.0-147			21.1	35
Naphthalene	0.125	U	0.180	0.152	116	98.3	1.24	10.0-160			16.9	36
n-Propylbenzene	0.125	U	0.0614	0.143	39.6	91.9	1.24	10.0-158		J3	79.5	38
Styrene	0.125	U	0.0869	0.148	56.1	95.6	1.24	10.0-160		J3	52.1	40
1,1,1,2-Tetrachloroethane	0.125	U	0.103	0.175	66.6	113	1.24	10.0-149		J3	51.5	39
1,1,2,2-Tetrachloroethane	0.125	U	0.130	0.141	83.7	90.7	1.24	10.0-160			8.05	35

L1022330-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1022330-03 09/05/18 18:28 • (MS) R3340102-3 09/05/18 22:15 • (MSD) R3340102-4 09/05/18 22:34

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Tetrachloroethene	0.125	U	0.0544	0.126	35.1	81.4	1.24	10.0-156		J3	79.5	39
Toluene	0.125	U	0.0665	0.142	42.9	91.8	1.24	10.0-156		J3	72.5	38
1,1,2-Trichlorotrifluoroethane	0.125	U	0.0369	0.109	23.8	70.5	1.24	10.0-160		J3	99.1	36
1,2,3-Trichlorobenzene	0.125	U	0.130	0.157	84.1	101	1.24	10.0-160			18.3	40
1,2,4-Trichlorobenzene	0.125	U	0.188	0.167	121	108	1.24	10.0-160			11.6	40
1,1,1-Trichloroethane	0.125	U	0.0564	0.148	36.4	95.3	1.24	10.0-144		J3	89.5	35
1,1,2-Trichloroethane	0.125	U	0.121	0.154	77.8	99.5	1.24	10.0-160			24.4	35
Trichloroethene	0.125	U	0.0681	0.146	43.9	94.3	1.24	10.0-156		J3	72.9	38
Trichlorofluoromethane	0.125	U	0.0338	0.0939	21.8	60.6	1.24	10.0-160		J3	94.1	40
1,2,3-Trichloropropane	0.125	U	0.134	0.166	86.4	107	1.24	10.0-156			21.1	35
1,2,3-Trimethylbenzene	0.125	U	0.0894	0.148	57.7	95.4	1.24	10.0-160		J3	49.3	36
1,2,4-Trimethylbenzene	0.125	U	0.0815	0.154	52.6	99.1	1.24	10.0-160		J3	61.3	36
1,3,5-Trimethylbenzene	0.125	U	0.0759	0.151	49.0	97.6	1.24	10.0-160		J3	66.4	38
Vinyl chloride	0.125	U	0.0334	0.0946	21.5	61.0	1.24	10.0-160		J3	95.6	37
Xylenes, Total	0.375	U	0.237	0.473	51.0	102	1.24	10.0-160		J3	66.4	38
(S) Toluene-d8					*104*	*104*		*75.0-131*				
(S) Dibromofluoromethane					*98.8*	*95.5*		*65.0-129*				
(S) 4-Bromofluorobenzene					*93.2*	*91.9*		*67.0-138*				

Method Blank (MB)

(MB) R3340367-2 09/08/18 21:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	U		0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250
Isopropylbenzene	U		0.000863	0.00250

Method Blank (MB)

(MB) R3340367-2 09/08/18 21:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	U		0.0125	0.0250
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Toluene	U		0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	U		0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,3-Trimethylbenzene	U		0.00115	0.00500
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*103*			*75.0-131*
(S) Dibromofluoromethane	*98.6*			*65.0-129*
(S) 4-Bromofluorobenzene	*93.6*			*67.0-138*

Laboratory Control Sample (LCS)

(LCS) R3340367-1 09/08/18 20:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.615	98.5	10.0-160	
Acrylonitrile	0.625	0.645	103	45.0-153	
Benzene	0.125	0.105	84.2	70.0-123	
Bromobenzene	0.125	0.119	95.1	73.0-121	
Bromodichloromethane	0.125	0.146	117	73.0-121	

Laboratory Control Sample (LCS)

(LCS) R3340367-1 09/08/18 20:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromoform	0.125	0.141	113	64.0-132	
Bromomethane	0.125	0.103	82.6	56.0-147	
n-Butylbenzene	0.125	0.118	94.2	68.0-135	
sec-Butylbenzene	0.125	0.111	88.4	74.0-130	
tert-Butylbenzene	0.125	0.112	89.5	75.0-127	
Carbon tetrachloride	0.125	0.145	116	66.0-128	
Chlorobenzene	0.125	0.126	101	76.0-128	
Chlorodibromomethane	0.125	0.135	108	74.0-127	
Chloroethane	0.125	0.116	92.7	61.0-134	
Chloroform	0.125	0.118	94.3	72.0-123	
Chloromethane	0.125	0.123	98.4	51.0-138	
2-Chlorotoluene	0.125	0.109	86.9	75.0-124	
4-Chlorotoluene	0.125	0.117	93.3	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.134	107	59.0-130	
1,2-Dibromoethane	0.125	0.116	93.0	74.0-128	
Dibromomethane	0.125	0.128	102	75.0-122	
1,2-Dichlorobenzene	0.125	0.122	97.8	76.0-124	
1,3-Dichlorobenzene	0.125	0.116	93.1	76.0-125	
1,4-Dichlorobenzene	0.125	0.112	89.9	77.0-121	
Dichlorodifluoromethane	0.125	0.126	101	43.0-156	
1,1-Dichloroethane	0.125	0.116	92.9	70.0-127	
1,2-Dichloroethane	0.125	0.124	99.2	65.0-131	
1,1-Dichloroethene	0.125	0.113	90.1	65.0-131	
cis-1,2-Dichloroethene	0.125	0.107	85.6	73.0-125	
trans-1,2-Dichloroethene	0.125	0.103	82.3	71.0-125	
1,2-Dichloropropane	0.125	0.105	84.1	74.0-125	
1,1-Dichloropropene	0.125	0.108	86.7	73.0-125	
1,3-Dichloropropane	0.125	0.125	100	80.0-125	
cis-1,3-Dichloropropene	0.125	0.112	90.0	76.0-127	
trans-1,3-Dichloropropene	0.125	0.132	106	73.0-127	
2,2-Dichloropropane	0.125	0.130	104	59.0-135	
Di-isopropyl ether	0.125	0.123	98.0	60.0-136	
Ethylbenzene	0.125	0.125	99.7	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.147	117	57.0-150	
Isopropylbenzene	0.125	0.110	87.9	72.0-127	
p-Isopropyltoluene	0.125	0.112	89.8	72.0-133	
2-Butanone (MEK)	0.625	0.646	103	30.0-160	
Methylene Chloride	0.125	0.0985	78.8	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.755	121	56.0-143	
Methyl tert-butyl ether	0.125	0.125	99.9	66.0-132	

Laboratory Control Sample (LCS)

(LCS) R3340367-1 09/08/18 20:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Naphthalene	0.125	0.116	92.6	59.0-130	
n-Propylbenzene	0.125	0.106	85.2	74.0-126	
Styrene	0.125	0.109	87.5	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.138	111	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.109	87.4	68.0-128	
Tetrachloroethene	0.125	0.112	89.2	70.0-136	
Toluene	0.125	0.113	90.1	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.100	80.1	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.133	107	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.126	101	62.0-137	
1,1,1-Trichloroethane	0.125	0.126	101	69.0-126	
1,1,2-Trichloroethane	0.125	0.114	91.3	78.0-123	
Trichloroethene	0.125	0.123	98.4	76.0-126	
Trichlorofluoromethane	0.125	0.113	90.6	61.0-142	
1,2,3-Trichloropropane	0.125	0.124	99.4	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.112	89.8	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.119	95.2	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.109	87.0	73.0-127	
Vinyl chloride	0.125	0.124	99.0	63.0-134	
Xylenes, Total	0.375	0.363	96.8	72.0-127	
(S) Toluene-d8			*105*	*75.0-131*	
(S) Dibromofluoromethane			*101*	*65.0-129*	
(S) 4-Bromofluorobenzene			*94.6*	*67.0-138*	

Method Blank (MB)

(MB) R3339046-1 09/04/18 21:21

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH C6 - C12	U		15.0	50.0
TPH C12 - C28	U		15.0	50.0
TPH C28 - C35	U		15.0	50.0
TPH C6 - C35	U		15.0	50.0
(S) o-Terphenyl	*100*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3339046-2 09/04/18 21:35 • (LCSD) R3339046-3 09/04/18 21:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH C6 - C12	250	264	272	106	109	75.0-125			2.99	20
TPH C12 - C28	250	252	257	101	103	75.0-125			1.96	20
TPH C6 - C35	500	516	529	103	106	75.0-125			2.49	20
(S) o-Terphenyl				*114*	*117*	*70.0-130*				

L1021288-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1021288-04 09/04/18 22:57 • (MS) R3339046-4 09/04/18 23:10 • (MSD) R3339046-5 09/04/18 23:24

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH C6 - C12	345	U	360	377	104	109	1	75.0-125			4.49	20
TPH C12 - C28	345	U	364	378	106	110	1	75.0-125			3.72	20
TPH C6 - C35	690	U	725	755	105	109	1	75.0-125			4.10	20
(S) o-Terphenyl					*111*	*0.000*		*70.0-130*		J2		

Method Blank (MB)

(MB) R3339859-1 09/06/18 20:53

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,4-D	U		0.00702	0.0700
Dalapon	U		0.0113	0.0700
2,4-DB	U		0.0297	0.0700
Dicamba	U		0.0157	0.0700
Dichloroprop	U		0.0245	0.0700
Dinoseb	U		0.00697	0.0700
MCPA	U		0.443	6.50
MCPP	U		0.367	6.50
2,4,5-T	U		0.00852	0.0700
2,4,5-TP (Silvex)	U		0.0107	0.0700
(S) 2,4-Dichlorophenyl Acetic Acid	*75.4*			*22.0-132*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3339859-2 09/06/18 21:06 • (LCSD) R3339859-3 09/06/18 21:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4-D	0.167	0.120	0.115	71.9	68.9	40.0-120			4.26	20
Dalapon	0.167	0.0828	0.0801	49.6	48.0	15.0-120			3.31	27
2,4-DB	0.167	0.138	0.131	82.6	78.4	25.0-143			5.20	20
Dicamba	0.167	0.109	0.104	65.3	62.3	43.0-120			4.69	20
Dichloroprop	0.167	0.127	0.120	76.0	71.9	32.0-129			5.67	20
Dinoseb	0.167	0.0151	0.0548	9.04	32.8	10.0-120	J4	J3	114	40
MCPA	1.67	1.85	1.88	111	113	31.0-121			1.61	33
MCPP	1.67	0.859	0.930	51.4	55.7	28.0-133			7.94	33
2,4,5-T	0.167	0.102	0.110	61.1	65.9	41.0-120			7.55	20
2,4,5-TP (Silvex)	0.167	0.122	0.118	73.1	70.7	42.0-120			3.33	20
(S) 2,4-Dichlorophenyl Acetic Acid				*84.4*	*85.0*	*22.0-132*				

L1021632-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1021632-03 09/06/18 22:00 • (MS) R3339859-4 09/06/18 22:14 • (MSD) R3339859-5 09/06/18 22:27

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4-D	0.175	U	0.0758	0.0844	43.4	48.3	1	10.0-160			10.8	24
Dalapon	0.175	U	0.0433	0.0505	24.8	28.9	1	10.0-121			15.4	27
2,4-DB	0.175	U	0.111	0.109	63.5	62.3	1	10.0-160			1.90	22

L1021632-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1021632-03 09/06/18 22:00 • (MS) R3339859-4 09/06/18 22:14 • (MSD) R3339859-5 09/06/18 22:27

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dicamba	0.175	U	0.0849	0.0931	48.6	53.3	1	10.0-154			9.29	21
Dichloroprop	0.175	U	0.0842	0.0928	48.2	53.1	1	10.0-158			9.69	20
Dinoseb	0.175	U	0.0487	0.0554	27.8	31.7	1	10.0-120			12.9	40
MCPA	1.75	U	1.38	1.22	79.0	70.1	1	10.0-160			12.0	40
MCPP	1.75	U	0.527	0.790	30.2	45.2	1	10.0-160			39.9	40
2,4,5-T	0.175	U	0.0774	0.0861	44.3	49.3	1	10.0-157			10.6	20
2,4,5-TP (Silvex)	0.175	U	0.0766	0.0796	43.8	45.6	1	10.0-156			3.88	20
(S) 2,4-Dichlorophenyl Acetic Acid					*71.3*	*71.3*		*22.0-132*				

Method Blank (MB)

(MB) R3340481-1 09/08/18 00:15

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,4-D	U		0.00702	0.0700
Dalapon	U		0.0113	0.0700
2,4-DB	U		0.0297	0.0700
Dicamba	U		0.0157	0.0700
Dichloroprop	U		0.0245	0.0700
Dinoseb	U		0.00697	0.0700
MCPA	U		0.443	6.50
MCPP	U		0.367	6.50
2,4,5-T	U		0.00852	0.0700
2,4,5-TP (Silvex)	U		0.0107	0.0700
(S) 2,4-Dichlorophenyl Acetic Acid	*71.9*			*22.0-132*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3340481-2 09/08/18 00:28 • (LCSD) R3340481-3 09/08/18 00:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4-D	0.167	0.109	0.116	65.3	69.5	40.0-120			6.22	20
Dalapon	0.167	0.0787	0.0797	47.1	47.7	15.0-120			1.26	27
2,4-DB	0.167	0.118	0.130	70.7	77.8	25.0-143			9.68	20
Dicamba	0.167	0.103	0.107	61.7	64.1	43.0-120			3.81	20
Dichloroprop	0.167	0.116	0.122	69.5	73.1	32.0-129			5.04	20
Dinoseb	0.167	0.0210	0.0395	12.6	23.7	10.0-120		J3	61.2	40
MCPA	1.67	1.85	2.02	111	121	31.0-121			8.79	33
MCPP	1.67	0.823	0.972	49.3	58.2	28.0-133			16.6	33
2,4,5-T	0.167	0.104	0.117	62.3	70.1	41.0-120			11.8	20
2,4,5-TP (Silvex)	0.167	0.0886	0.119	53.1	71.3	42.0-120		J3	29.3	20
(S) 2,4-Dichlorophenyl Acetic Acid				*67.1*	*70.1*	*22.0-132*				

Method Blank (MB)

(MB) R3339282-3 09/05/18 13:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00135	0.0200
Alpha BHC	U		0.00136	0.0200
Beta BHC	U		0.00160	0.0200
Delta BHC	U		0.00143	0.0200
Gamma BHC	U		0.00145	0.0200
4,4-DDD	U		0.00156	0.0200
4,4-DDE	U		0.00154	0.0200
4,4-DDT	U		0.00200	0.0200
Dieldrin	U		0.00152	0.0200
Endosulfan I	U		0.00149	0.0200
Endosulfan II	U		0.00160	0.0200
Endosulfan sulfate	U		0.00151	0.0200
Endrin	U		0.00157	0.0200
Endrin aldehyde	U		0.00129	0.0200
Endrin ketone	U		0.00165	0.0200
Heptachlor	U		0.00154	0.0200
Heptachlor epoxide	U		0.00161	0.0200
Hexachlorobenzene	U		0.00124	0.0200
Methoxychlor	U		0.00178	0.0200
Chlordane	U		0.0390	0.200
Toxaphene	U		0.0360	0.400
(S) Decachlorobiphenyl	*84.2*			*10.0-135*
(S) Tetrachloro-m-xylene	*80.2*			*10.0-139*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3339282-1 09/05/18 13:03 • (LCSD) R3339282-2 09/05/18 13:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0666	0.0480	0.0534	72.1	80.2	34.0-136			10.7	38
Alpha BHC	0.0666	0.0515	0.0574	77.3	86.2	34.0-139			10.8	38
Beta BHC	0.0666	0.0468	0.0518	70.3	77.8	34.0-133			10.1	37
Delta BHC	0.0666	0.0461	0.0518	69.2	77.8	34.0-135			11.6	38
Gamma BHC	0.0666	0.0485	0.0538	72.8	80.8	34.0-136			10.4	38
4,4-DDD	0.0666	0.0551	0.0596	82.7	89.5	33.0-141			7.85	39
4,4-DDE	0.0666	0.0490	0.0533	73.6	80.0	34.0-134			8.41	38
4,4-DDT	0.0666	0.0530	0.0574	79.6	86.2	30.0-143			7.97	40
Dieldrin	0.0666	0.0560	0.0608	84.1	91.3	35.0-137			8.22	37
Endosulfan I	0.0666	0.0490	0.0532	73.6	79.9	34.0-134			8.22	37

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3339282-1 09/05/18 13:03 • (LCSD) R3339282-2 09/05/18 13:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Endosulfan II	0.0666	0.0482	0.0525	72.4	78.8	35.0-132			8.54	38
Endosulfan sulfate	0.0666	0.0518	0.0558	77.8	83.8	35.0-132			7.43	37
Endrin	0.0666	0.0547	0.0589	82.1	88.4	34.0-137			7.39	37
Endrin aldehyde	0.0666	0.0470	0.0545	70.6	81.8	23.0-121			14.8	39
Endrin ketone	0.0666	0.0606	0.0644	91.0	96.7	35.0-144			6.08	37
Heptachlor	0.0666	0.0541	0.0595	81.2	89.3	36.0-141			9.51	37
Heptachlor epoxide	0.0666	0.0518	0.0567	77.8	85.1	36.0-134			9.03	37
Hexachlorobenzene	0.0666	0.0486	0.0534	73.0	80.2	33.0-129			9.41	37
Methoxychlor	0.0666	0.0596	0.0621	89.5	93.2	28.0-150			4.11	38
(S) Decachlorobiphenyl				*82.9*	*83.0*	*10.0-135*				
(S) Tetrachloro-m-xylene				*75.1*	*79.1*	*10.0-139*				

L1022277-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1022277-04 09/05/18 16:02 • (MS) R3339282-4 09/05/18 16:15 • (MSD) R3339282-5 09/05/18 16:27

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0891	U	0.0755	0.0531	84.7	59.6	1	20.0-135			34.8	37
Alpha BHC	0.0891	U	0.0897	0.0681	101	76.4	1	27.0-140			27.3	35
Beta BHC	0.0891	U	0.0870	0.0678	97.6	76.1	1	23.0-141			24.7	37
Delta BHC	0.0891	U	0.0808	0.0616	90.7	69.1	1	21.0-138			27.1	35
Gamma BHC	0.0891	U	0.0838	0.0636	94.0	71.3	1	27.0-137			27.4	36
4,4-DDD	0.0891	U	0.0969	0.0704	109	79.0	1	15.0-152			31.7	39
4,4-DDE	0.0891	U	0.0767	0.0538	86.0	60.4	1	10.0-152			35.1	40
4,4-DDT	0.0891	U	0.0689	0.0458	77.3	51.4	1	10.0-151		J3	40.4	40
Dieldrin	0.0891	U	0.0915	0.0676	103	75.8	1	17.0-145			30.1	37
Endosulfan I	0.0891	U	0.0794	0.0593	89.0	66.5	1	20.0-137			29.0	36
Endosulfan II	0.0891	U	0.0819	0.0618	91.9	69.4	1	15.0-141			27.9	37
Endosulfan sulfate	0.0891	U	0.0879	0.0669	98.6	75.1	1	15.0-143			27.1	38
Endrin	0.0891	U	0.0898	0.0668	101	74.9	1	19.0-143			29.4	37
Endrin aldehyde	0.0891	U	0.0882	0.0672	98.9	75.4	1	10.0-139			27.0	40
Endrin ketone	0.0891	U	0.0990	0.0753	111	84.5	1	17.0-149			27.2	38
Heptachlor	0.0891	U	0.0828	0.0596	92.9	66.8	1	22.0-138			32.7	37
Heptachlor epoxide	0.0891	U	0.0848	0.0636	95.2	71.3	1	22.0-138			28.7	36
Hexachlorobenzene	0.0891	U	0.0759	0.0553	85.1	62.0	1	25.0-126			31.4	35
Methoxychlor	0.0891	U	0.0818	0.0577	91.7	64.7	1	10.0-159			34.5	40
(S) Decachlorobiphenyl					*65.0*	*46.8*		*10.0-135*				
(S) Tetrachloro-m-xylene					*71.8*	*51.4*		*10.0-139*				

Method Blank (MB)

(MB) R3339196-1 09/05/18 08:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
PCB 1016	U		0.00350	0.0170
PCB 1221	U		0.00537	0.0170
PCB 1232	U		0.00417	0.0170
PCB 1242	U		0.00318	0.0170
PCB 1248	U		0.00315	0.0170
PCB 1254	U		0.00472	0.0170
PCB 1260	U		0.00494	0.0170
(S) Decachlorobiphenyl	*69.4*			*10.0-135*
(S) Tetrachloro-m-xylene	*86.2*			*10.0-139*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3339196-2 09/05/18 09:10 • (LCSD) R3339196-3 09/05/18 09:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
PCB 1260	0.167	0.140	0.129	83.8	77.2	12.0-145			8.18	40
PCB 1016	0.167	0.154	0.139	92.2	83.2	13.0-144			10.2	40
(S) Decachlorobiphenyl				*70.0*	*65.2*	*10.0-135*				
(S) Tetrachloro-m-xylene				*87.1*	*80.5*	*10.0-139*				

L1022668-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1022668-02 09/05/18 09:41 • (MS) R3339196-4 09/05/18 09:57 • (MSD) R3339196-5 09/05/18 10:13

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
PCB 1260	0.203	U	0.131	0.113	64.7	55.6	1	10.0-160			15.0	38
PCB 1016	0.203	U	0.151	0.135	74.3	66.5	1	10.0-160			11.1	37
(S) Decachlorobiphenyl					*50.6*	*34.5*		*10.0-135*				
(S) Tetrachloro-m-xylene					*73.1*	*64.9*		*10.0-139*				

Method Blank (MB)

(MB) R3339638-3 09/06/18 10:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00642	0.0330
Acenaphthylene	U		0.00671	0.0330
Anthracene	U		0.00632	0.0330
Benzidine	U		0.0637	0.333
Benzo(a)anthracene	U		0.00428	0.0330
Benzo(b)fluoranthene	U		0.00695	0.0330
Benzo(k)fluoranthene	U		0.00582	0.0330
Benzo(g,h,i)perylene	U		0.00721	0.0330
Benzo(a)pyrene	U		0.00548	0.0330
Bis(2-chlorethoxy)methane	U		0.00770	0.333
Bis(2-chloroethyl)ether	U		0.00896	0.333
Bis(2-chloroisopropyl)ether	U		0.00760	0.333
4-Bromophenyl-phenylether	U		0.0114	0.333
2-Chloronaphthalene	U		0.00639	0.0330
4-Chlorophenyl-phenylether	U		0.00627	0.333
Chrysene	U		0.00555	0.0330
Dibenz(a,h)anthracene	U		0.00821	0.0330
3,3-Dichlorobenzidine	U		0.0794	0.333
2,4-Dinitrotoluene	U		0.00607	0.333
2,6-Dinitrotoluene	U		0.00737	0.333
Fluoranthene	U		0.00496	0.0330
Fluorene	U		0.00682	0.0330
Hexachlorobenzene	U		0.00856	0.333
Hexachloro-1,3-butadiene	U		0.0100	0.333
Hexachlorocyclopentadiene	U		0.0587	0.333
Hexachloroethane	U		0.0134	0.333
Indeno(1,2,3-cd)pyrene	U		0.00772	0.0330
Isophorone	U		0.00522	0.333
Naphthalene	U		0.00889	0.0330
Nitrobenzene	U		0.00695	0.333
n-Nitrosodimethylamine	U		0.0647	0.333
n-Nitrosodiphenylamine	U		0.0900	0.333
n-Nitrosodi-n-propylamine	U		0.00906	0.333
Phenanthrene	U		0.00528	0.0330
Benzylbutyl phthalate	U		0.0103	0.333
Bis(2-ethylhexyl)phthalate	U		0.0120	0.333
Di-n-butyl phthalate	U		0.0109	0.333
Diethyl phthalate	U		0.00691	0.333
Dimethyl phthalate	U		0.00540	0.333
Di-n-octyl phthalate	U		0.00907	0.333

Method Blank (MB)

(MB) R3339638-3 09/06/18 10:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Pyrene	U		0.0123	0.0330
1,2,4-Trichlorobenzene	U		0.00876	0.333
4-Chloro-3-methylphenol	U		0.00477	0.333
2-Chlorophenol	U		0.00831	0.333
2,4-Dichlorophenol	U		0.00746	0.333
2,4-Dimethylphenol	U		0.0471	0.333
4,6-Dinitro-2-methylphenol	U		0.124	0.333
2,4-Dinitrophenol	U		0.0980	0.333
2-Nitrophenol	U		0.0130	0.333
4-Nitrophenol	U		0.0525	0.333
Pentachlorophenol	U		0.0480	0.333
Phenol	U		0.00695	0.333
2,4,6-Trichlorophenol	U		0.00779	0.333
(S) Nitrobenzene-d5	*46.2*			*10.0-122*
(S) 2-Fluorobiphenyl	*48.6*			*15.0-120*
(S) p-Terphenyl-d14	*55.6*			*10.0-120*
(S) Phenol-d5	*46.2*			*10.0-120*
(S) 2-Fluorophenol	*52.3*			*12.0-120*
(S) 2,4,6-Tribromophenol	*47.3*			*10.0-127*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3339638-1 09/06/18 10:04 • (LCSD) R3339638-2 09/06/18 10:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.666	0.388	0.346	58.3	52.0	38.0-120			11.4	22
Acenaphthylene	0.666	0.387	0.341	58.1	51.2	40.0-120			12.6	22
Anthracene	0.666	0.356	0.344	53.5	51.7	42.0-120			3.43	20
Benzidine	0.666	ND	ND	0.000	0.000	1.00-120	J4	J4	0.000	40
Benzo(a)anthracene	0.666	0.388	0.398	58.3	59.8	44.0-120			2.54	20
Benzo(b)fluoranthene	0.666	0.394	0.393	59.2	59.0	43.0-120			0.254	22
Benzo(k)fluoranthene	0.666	0.364	0.372	54.7	55.9	44.0-120			2.17	21
Benzo(g,h,i)perylene	0.666	0.405	0.412	60.8	61.9	43.0-120			1.71	22
Benzo(a)pyrene	0.666	0.381	0.381	57.2	57.2	45.0-120			0.000	20
Bis(2-chlorethoxy)methane	0.666	0.283	0.239	42.5	35.9	20.0-120			16.9	23
Bis(2-chloroethyl)ether	0.666	0.346	0.268	52.0	40.2	16.0-120			25.4	31
Bis(2-chloroisopropyl)ether	0.666	0.353	0.277	53.0	41.6	23.0-120			24.1	30
4-Bromophenyl-phenylether	0.666	0.392	0.373	58.9	56.0	40.0-120			4.97	21
2-Chloronaphthalene	0.666	0.378	0.324	56.8	48.6	35.0-120			15.4	24

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3339638-1 09/06/18 10:04 • (LCSD) R3339638-2 09/06/18 10:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Chlorophenyl-phenylether	0.666	0.412	0.383	61.9	57.5	40.0-120			7.30	22
Chrysene	0.666	0.393	0.396	59.0	59.5	43.0-120			0.760	20
Dibenz(a,h)anthracene	0.666	0.391	0.395	58.7	59.3	44.0-120			1.02	22
3,3-Dichlorobenzidine	0.666	0.316	0.343	47.4	51.5	28.0-120			8.19	23
2,4-Dinitrotoluene	0.666	0.417	0.411	62.6	61.7	45.0-120			1.45	21
2,6-Dinitrotoluene	0.666	0.398	0.382	59.8	57.4	42.0-120			4.10	21
Fluoranthene	0.666	0.430	0.432	64.6	64.9	44.0-120			0.464	21
Fluorene	0.666	0.395	0.371	59.3	55.7	41.0-120			6.27	22
Hexachlorobenzene	0.666	0.417	0.398	62.6	59.8	39.0-120			4.66	21
Hexachloro-1,3-butadiene	0.666	0.344	0.281	51.7	42.2	15.0-120			20.2	28
Hexachlorocyclopentadiene	0.666	0.388	0.317	58.3	47.6	15.0-120			20.1	31
Hexachloroethane	0.666	0.343	0.266	51.5	39.9	17.0-120			25.3	31
Indeno(1,2,3-cd)pyrene	0.666	0.399	0.405	59.9	60.8	45.0-120			1.49	21
Isophorone	0.666	0.303	0.258	45.5	38.7	23.0-120			16.0	23
Naphthalene	0.666	0.317	0.266	47.6	39.9	18.0-120			17.5	24
Nitrobenzene	0.666	0.298	0.248	44.7	37.2	17.0-120			18.3	26
n-Nitrosodimethylamine	0.666	0.274	0.215	41.1	32.3	10.0-125			24.1	33
n-Nitrosodiphenylamine	0.666	0.364	0.349	54.7	52.4	40.0-120			4.21	21
n-Nitrosodi-n-propylamine	0.666	0.349	0.283	52.4	42.5	26.0-120			20.9	27
Phenanthrene	0.666	0.379	0.363	56.9	54.5	42.0-120			4.31	20
Benzylbutyl phthalate	0.666	0.320	0.331	48.0	49.7	40.0-120			3.38	21
Bis(2-ethylhexyl)phthalate	0.666	0.345	0.359	51.8	53.9	41.0-120			3.98	21
Di-n-butyl phthalate	0.666	0.398	0.398	59.8	59.8	43.0-120			0.000	20
Diethyl phthalate	0.666	0.393	0.383	59.0	57.5	43.0-120			2.58	21
Dimethyl phthalate	0.666	0.401	0.377	60.2	56.6	43.0-120			6.17	22
Di-n-octyl phthalate	0.666	0.372	0.381	55.9	57.2	40.0-120			2.39	21
Pyrene	0.666	0.356	0.361	53.5	54.2	41.0-120			1.39	21
1,2,4-Trichlorobenzene	0.666	0.335	0.275	50.3	41.3	17.0-120			19.7	26
4-Chloro-3-methylphenol	0.666	0.303	0.291	45.5	43.7	28.0-120			4.04	20
2-Chlorophenol	0.666	0.386	0.316	58.0	47.4	28.0-120			19.9	28
2,4-Dichlorophenol	0.666	0.346	0.300	52.0	45.0	25.0-120			14.2	21
2,4-Dimethylphenol	0.666	0.297	0.269	44.6	40.4	15.0-120			9.89	26
4,6-Dinitro-2-methylphenol	0.666	0.317	0.353	47.6	53.0	16.0-120			10.7	33
2,4-Dinitrophenol	0.666	0.220	0.262	33.0	39.3	10.0-120			17.4	40
2-Nitrophenol	0.666	0.337	0.282	50.6	42.3	20.0-120			17.8	25
4-Nitrophenol	0.666	0.322	0.336	48.3	50.5	27.0-120			4.26	24
Pentachlorophenol	0.666	0.401	0.418	60.2	62.8	29.0-120			4.15	25
Phenol	0.666	0.335	0.287	50.3	43.1	28.0-120			15.4	27
2,4,6-Trichlorophenol	0.666	0.369	0.347	55.4	52.1	37.0-120			6.15	24
(S) Nitrobenzene-d5				*45.9*	*37.8*	*10.0-122*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3339638-1 09/06/18 10:04 • (LCSD) R3339638-2 09/06/18 10:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(S) 2-Fluorobiphenyl				*58.0*	*49.2*	*15.0-120*				
(S) p-Terphenyl-d14				*62.2*	*58.0*	*10.0-120*				
(S) Phenol-d5				*54.2*	*44.3*	*10.0-120*				
(S) 2-Fluorophenol				*63.8*	*51.2*	*12.0-120*				
(S) 2,4,6-Tribromophenol				*61.0*	*59.0*	*10.0-127*				

L1022336-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1022336-01 09/07/18 03:54 • (MS) R3339893-1 09/07/18 04:18 • (MSD) R3339893-2 09/07/18 04:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.666	ND	0.301	0.407	45.2	61.1	1	18.0-120			29.9	32
Acenaphthylene	0.666	ND	0.306	0.403	45.9	60.5	1	25.0-120			27.4	32
Anthracene	0.666	ND	0.271	0.397	40.7	59.6	1	22.0-120		J3	37.7	29
Benzidine	0.666	ND	0.0785	0.155	11.8	23.3	1	1.00-120		J3	65.5	40
Benzo(a)anthracene	0.666	ND	0.268	0.454	40.2	68.2	1	25.0-120		J3	51.5	29
Benzo(b)fluoranthene	0.666	ND	0.308	0.449	46.2	67.4	1	19.0-122		J3	37.3	31
Benzo(k)fluoranthene	0.666	ND	0.276	0.460	41.4	69.1	1	23.0-120		J3	50.0	30
Benzo(g,h,i)perylene	0.666	ND	0.168	0.256	25.2	38.4	1	10.0-120		J3	41.5	33
Benzo(a)pyrene	0.666	ND	0.275	0.419	41.3	62.9	1	24.0-120		J3	41.5	30
Bis(2-chlorethoxy)methane	0.666	ND	0.290	0.380	43.5	57.1	1	10.0-120			26.9	34
Bis(2-chloroethyl)ether	0.666	ND	0.221	0.334	33.2	50.2	1	10.0-120		J3	40.7	40
Bis(2-chloroisopropyl)ether	0.666	ND	0.465	0.346	69.8	52.0	1	10.0-120			29.3	40
4-Bromophenyl-phenylether	0.666	ND	0.301	0.435	45.2	65.3	1	27.0-120		J3	36.4	30
2-Chloronaphthalene	0.666	ND	0.304	0.383	45.6	57.5	1	20.0-120			23.0	32
4-Chlorophenyl-phenylether	0.666	ND	0.307	0.457	46.1	68.6	1	24.0-120		J3	39.3	29
Chrysene	0.666	ND	0.266	0.450	39.9	67.6	1	21.0-120		J3	51.4	29
Dibenz(a,h)anthracene	0.666	ND	0.190	0.295	28.5	44.3	1	10.0-120		J3	43.3	32
3,3-Dichlorobenzidine	0.666	ND	0.292	0.443	43.8	66.5	1	10.0-120		J3	41.1	34
2,4-Dinitrotoluene	0.666	ND	0.305	0.472	45.8	70.9	1	30.0-120		J3	43.0	31
2,6-Dinitrotoluene	0.666	ND	0.302	0.452	45.3	67.9	1	25.0-120		J3	39.8	31
Fluoranthene	0.666	ND	0.331	0.501	49.7	75.2	1	18.0-126		J3	40.9	32
Fluorene	0.666	ND	0.300	0.429	45.0	64.4	1	25.0-120		J3	35.4	30
Hexachlorobenzene	0.666	ND	0.326	0.475	48.9	71.3	1	27.0-120		J3	37.2	28
Hexachloro-1,3-butadiene	0.666	ND	0.269	0.324	40.4	48.6	1	10.0-120			18.5	38
Hexachlorocyclopentadiene	0.666	ND	ND	0.160	0.000	24.0	1	10.0-120	J6	J3	200	40
Hexachloroethane	0.666	ND	2.80	2.50	420	375	1	10.0-120	E J5	E J5	11.3	40
Indeno(1,2,3-cd)pyrene	0.666	0.145	0.190	0.292	6.76	22.1	1	10.0-120	J6	J3	42.3	32
Isophorone	0.666	ND	0.287	0.385	43.1	57.8	1	13.0-120			29.2	34

L1022336-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1022336-01 09/07/18 03:54 • (MS) R3339893-1 09/07/18 04:18 • (MSD) R3339893-2 09/07/18 04:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.666	2.11	1.71	2.00	0.000	0.000	1	10.0-120	E J6	E J6	15.6	35
Nitrobenzene	0.666	ND	0.280	0.450	42.0	67.6	1	10.0-120		J3	46.6	36
n-Nitrosodimethylamine	0.666	ND	0.119	0.247	17.9	37.1	1	10.0-127		J3	69.9	40
n-Nitrosodiphenylamine	0.666	ND	0.281	0.405	42.2	60.8	1	17.0-120		J3	36.2	29
n-Nitrosodi-n-propylamine	0.666	ND	0.303	0.488	45.5	73.3	1	10.0-120		J3	46.8	37
Phenanthrene	0.666	ND	0.287	0.415	43.1	62.3	1	17.0-120		J3	36.5	31
Benzylbutyl phthalate	0.666	ND	0.198	0.331	29.7	49.7	1	23.0-120		J3	50.3	30
Bis(2-ethylhexyl)phthalate	0.666	ND	0.204	0.358	30.6	53.8	1	17.0-126		J3	54.8	30
Di-n-butyl phthalate	0.666	ND	0.281	0.434	42.2	65.2	1	30.0-120		J3	42.8	29
Diethyl phthalate	0.666	ND	0.309	0.449	46.4	67.4	1	26.0-120		J3	36.9	28
Dimethyl phthalate	0.666	ND	0.251	0.446	37.7	67.0	1	25.0-120		J3	56.0	29
Di-n-octyl phthalate	0.666	ND	0.225	0.393	33.8	59.0	1	21.0-123		J3	54.4	29
Pyrene	0.666	ND	0.235	0.389	35.3	58.4	1	16.0-121		J3	49.4	32
1,2,4-Trichlorobenzene	0.666	ND	0.241	0.289	36.2	43.4	1	12.0-120			18.1	37
4-Chloro-3-methylphenol	0.666	ND	0.237	0.398	35.6	59.8	1	15.0-120		J3	50.7	30
2-Chlorophenol	0.666	ND	0.245	0.341	36.8	51.2	1	15.0-120			32.8	37
2,4-Dichlorophenol	0.666	ND	0.304	0.369	45.6	55.4	1	20.0-120			19.3	31
2,4-Dimethylphenol	0.666	ND	0.105	0.509	15.8	76.4	1	10.0-120		J3	132	33
4,6-Dinitro-2-methylphenol	0.666	ND	0.235	0.346	35.3	52.0	1	10.0-120			38.2	39
2,4-Dinitrophenol	0.666	ND	0.184	0.269	27.6	40.4	1	10.0-121			37.5	40
2-Nitrophenol	0.666	ND	0.374	0.414	56.2	62.2	1	12.0-120			10.2	39
4-Nitrophenol	0.666	ND	0.367	0.520	55.1	78.1	1	10.0-137		J3	34.5	32
Pentachlorophenol	0.666	ND	0.394	0.608	59.2	91.3	1	10.0-160		J3	42.7	31
Phenol	0.666	ND	0.215	0.446	32.3	67.0	1	12.0-120		J3	69.9	38
2,4,6-Trichlorophenol	0.666	ND	0.292	0.377	43.8	56.6	1	19.0-120			25.4	32
(S) Nitrobenzene-d5					*44.1*	*50.8*		*10.0-122*				
(S) 2-Fluorobiphenyl					*47.7*	*59.2*		*15.0-120*				
(S) p-Terphenyl-d14					*41.7*	*71.5*		*10.0-120*				
(S) Phenol-d5					*26.7*	*58.4*		*10.0-120*				
(S) 2-Fluorophenol					*40.2*	*67.0*		*12.0-120*				
(S) 2,4,6-Tribromophenol					*52.6*	*78.1*		*10.0-127*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MQL (dry)	Method Quantitation Limit.
MQL	Method Quantitation Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
SDL (dry)	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

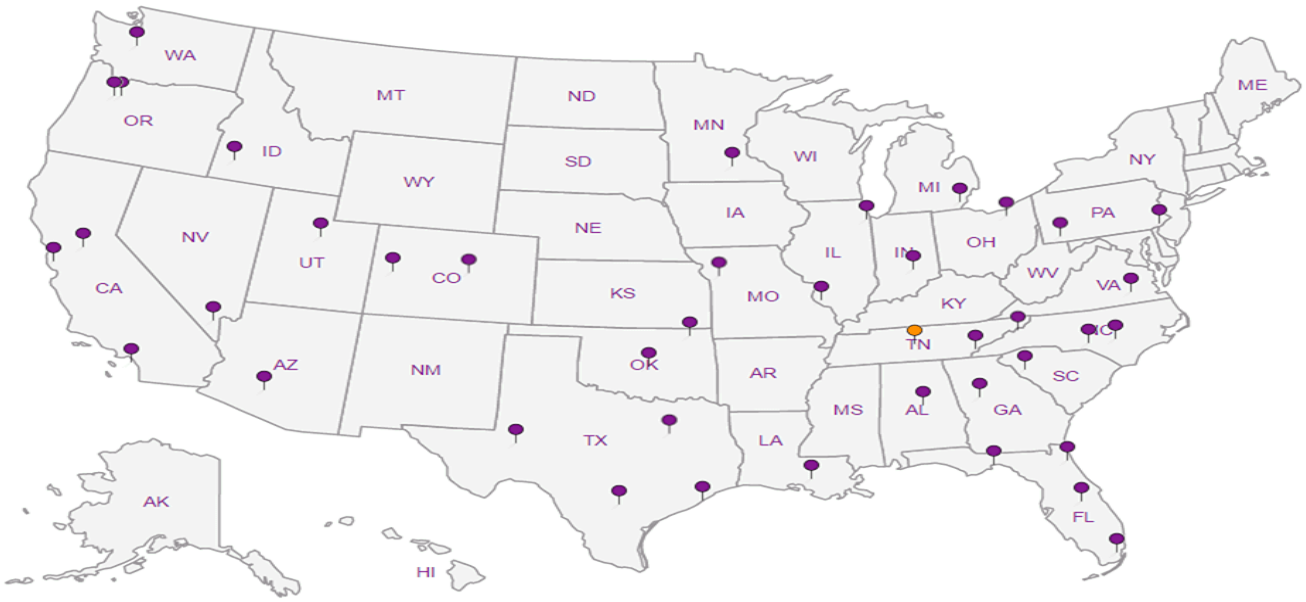
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



E120

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Laboratory: ESC
Address:
Phone:
Contact:
PO/SO #:

Office Location: Dallas
Project Manager: Mike Nibert

Sampler's Name: Payne Spudic
Sampler's Signature: [signature]

Project Number: 94185091
Project Name: Vitruvian Lake

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

ANALYSIS REQUESTED

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: VOA	4oz			VOCs 8260B	TPH TX1005	SVOCs 8270C	Herbicides 8151	Organochlorine PEST 8081	PCBs 8082	RCRA 8 Metals 6020	Lab Sample ID
S	8/28/18	12:35	X	X	S-1 (0-2)	0	2	3	3			X	X	X	X	X	X	X	L1022277-01
↓	↓	13:35	X	X	S-2 (0-2)	0	2	3	3			X	X	X	X	X	X	X	02
↓	↓	14:15	X	X	S-3 (0-2)	0	2	3	3			X	X	X	X	X	X	X	03
↓	↓	15:40	X	X	S-4 (0-2)	0	2	3	3			X	X	X	X	X	X	X	04
↓	↓	16:05	X	X	S-5 (0-2)	0	2	3	3			X	X	X	X	X	X	X	05

NFE

TURNAROUND TIME ☒ Normal ☐ 48-Hour Rush ☐ 24-Hour Rush TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
[signature]	8/29/18	9:00	[signature] 801	8/31/18	8:45

NOTES: 0.7 [illegible] COOL

RAD SCREEN: <0.5 mR/hr

619

Matrix: WW - Wastewater, W - Water, S - Soil, L - Liquid, A - Air Bag, C - Charcoal Tube, SL - Sludge, O - Oil
Container: VOA - 40 ml vial, A/G - Amber Glass 1 L, 250 ml = Glass wide mouth, P/O Plastic or other ______

5345 5514 4877

N:\Environmental\Forms
Rev. 6/30/2017

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	TERRADTX	SDG#	L1022277
Cooler Received/Opened On: 8/31 /18		Temperature:	0.7
Received By: Kevin Turner			
Signature:			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?		✓	
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

October 09, 2018

Terracon - Dallas, TX

Sample Delivery Group:	L1032085
Samples Received:	08/31/2018
Project Number:	94185091
Description:	Vitruvian Lake

Report To: Mike Nibert
8901 John W Carpenter Fwy, Ste 100
Dallas, TX 75247

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

S-2 (0-2) L1032085-01 Waste

Collected by	Collected date/time	Received date/time
Payne Spudic	08/28/18 13:35	08/31/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Preparation by Method 1311	WG1177275	1	10/07/18 10:04	10/07/18 10:04	TM
Metals (ICP) by Method 6010B	WG1177584	1	10/08/18 13:53	10/08/18 18:17	ST

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Project Manager

This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

R1 - Field chain-of-custody documentation;

R2 - Sample identification cross-reference;

R3 - Test reports (analytical data sheets) for each environmental sample that includes:

a. Items consistent with NELAC Chapter 5,

b. dilution factors,

c. preparation methods,

d. cleanup methods, and

e. if required for the project, tentatively identified compounds (TICs).

R4 - Surrogate recovery data including:

a. Calculated recovery (%R), and

b. The laboratory's surrogate QC limits.

R5 - Test reports/summary forms for blank samples;

R6 - Test reports/summary forms for laboratory control samples (LCSs) including:

a. LCS spiking amounts,

b. Calculated %R for each analyte, and

c. The laboratory's LCS QC limits.

R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a. Samples associated with the MS/MSD clearly identified,

b. MS/MSD spiking amounts,

c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d. Calculated %Rs and relative percent differences (RPDs), and

e. The laboratory's MS/MSD QC limits

R8 - Laboratory analytical duplicate (if applicable) recovery and precision:

a. The amount of analyte measured in the duplicate,

b. The calculated RPD, and

c. The laboratory's QC limits for analytical duplicates.

R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Mark W. Beasley
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/09/2018 21:08
Project Name: Vitruvian Lake	Laboratory Job Number: L1032085-01
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1177584 and WG1177275

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Supporting Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/09/2018 21:08
Project Name: Vitruvian Lake	Laboratory Job Number: L1032085-01
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1177584 and WG1177275

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?			X		
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: ESC Lab Sciences	LRC Date: 10/09/2018 21:08
Project Name: Vitruvian Lake	Laboratory Job Number: L1032085-01
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1177584 and WG1177275

ER #[1]	Description
	The Exception Report intentionally left blank, there are no exceptions applied to this SDG.

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		10/7/2018 10:04:04 AM	WG1177275
Fluid	2		10/7/2018 10:04:04 AM	WG1177275
Initial pH	8.17		10/7/2018 10:04:04 AM	WG1177275
Final pH	5.76		10/7/2018 10:04:04 AM	WG1177275

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MQL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Lead	ND		0.100	5	1	10/08/2018 18:17	WG1177584

Method Blank (MB)

(MB) R3348740-1 10/08/18 18:09

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Lead	U		0.0333	0.100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348740-2 10/08/18 18:11 • (LCSD) R3348740-3 10/08/18 18:14

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Lead	10.0	9.69	9.86	96.9	98.6	80.0-120			1.75	20

L1032085-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1032085-01 10/08/18 18:17 • (MS) R3348740-5 10/08/18 18:22 • (MSD) R3348740-6 10/08/18 18:25

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Lead	10.0	ND	9.71	9.82	97.1	98.2	1	75.0-125			1.15	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
MQL	Method Quantitation Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

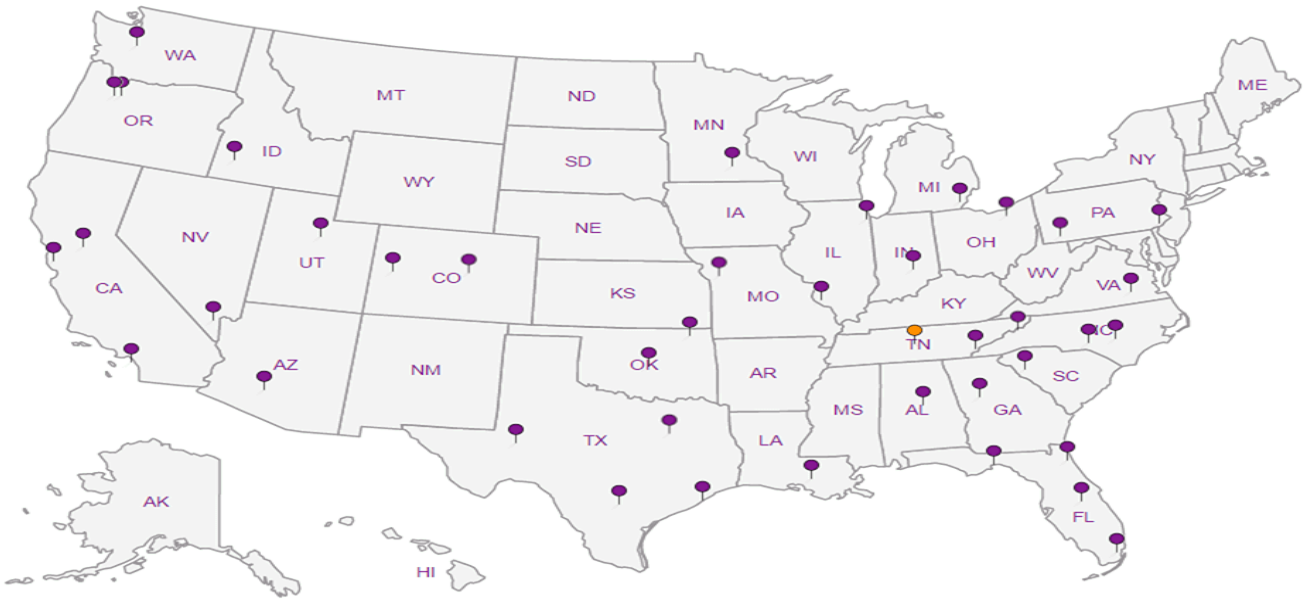
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



E120

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Laboratory: ESC
Address:
Phone:
Contact:
PO/SO #:

Office Location: Dallas
Project Manager: Mike Nibert

Sampler's Name: Payne Spudic
Sampler's Signature: [signature]

Project Number: 94185091
Project Name: Vitruvian Lake

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: VOA	4oz			VOCs 8260B	TPH TX1005	SVOCs 8270C	Herbicides 8151	Organochlorine PEST 8081	PCBs 8082	RCRA 8 Metals 6020	Lab Sample ID 1032085
S	8/28/18	12:35	X	X	S-1 (0-2)	0	2	3	3			X	X	X	X	X	X	X	L1032085-01
↓	↓	13:35	X	X	S-2 (0-2)	0	2	3	3			X	X	X	X	X	X	X	02
		14:15	X	X	S-3 (0-2)	0	2	3	3			X	X	X	X	X	X	X	03
		15:40	X	X	S-4 (0-2)	0	2	3	3			X	X	X	X	X	X	X	04
↓	↓	16:05	X	X	S-5 (0-2)	0	2	3	3			X	X	X	X	X	X	X	05

NFE

TURNAROUND TIME: ☒ Normal ☐ 48-Hour Rush ☐ 24-Hour Rush

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
[signature]	8/30/18	9:00	[signature] 8a	8/31/18	8:45
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES:
0.7 COC61

RAD SCREEN: <0.5 mR/hr

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Matrix: WW - Wastewater, W - Water, S - Soil, L - Liquid, A - Air Bag, C - Charcoal Tube, SL - Sludge, O - Oil
Container: VOA - 40 ml vial, A/G - Amber Glass 1 L, 250 ml = Glass wide mouth, P/O Plastic or other

5345 5514 4877

N:\Environmental\Forms
Rev. 6/30/2017

Matt Shacklock

From: Chris McCord
Sent: Friday, October 05, 2018 1:13 PM
To: Login; Sample Storage; Due Metals
Subject: L1022277 *TERRADTX* RUSH relog

Importance: High

Please relog L1022277-02 for TCLP PBICP. Log as R2 due 10/9.

Thanks,

Christopher McCord
Project Manager

Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
615.773.3281 | Cell 615.504.3183
cmccord@pacenational.com | pacenational.com

ESC Lab Sciences is now Pace Analytical National Center for Testing & Innovation! Please make note of my new email address and website.

From: Nibert, Mike [mailto:Mike.Nibert@terracon.com]
Sent: Friday, October 05, 2018 10:23 AM
To: Chris McCord
Cc: Spudic, Payne B; Ball, Shelby D
Subject: RE: Pace National Report & EDDs for 94185091 Vitruvian Lake L1022277

Hello Chris,
Can you please run TCLP lead analysis on S-2(0-2) and provide those results in a separate report. Expedited (as soon as possible) TAT. Thanks.

Mike