To: Isaac Castro
Environmental Professional
Marathon Oil Company - Permian Asset
4111 S. Tidwell Road
Carlsbad, NM 88220
Cell: (575) 988-0561

On August 28th, 2019 Penta Resources was called to Ender Wiggins Well located approximately at 32.131362, -103.447685 for a spill that had occurred on August 23rd, 2019. Penta Resources was tasked with preforming analytical analysis of the spill to determine contamination levels. Penta was also tasked with gathering all prudent data for the Oil Conservation Division's release report C-141. Upon arriving on site Penta collected 8 samples. 1 sample was taken outside of the spill area to determine a baseline and 7 samples we taken within the spill area along the entire length of the spill.

Remediation efforts had been carried out prior to the arrival of Penta Resources and the soil appeared to be unsaturated and disturbed. Penta Resources cleared any disturbed earth until reached compacted soil and then retrieved samples 6"-12" below surface.

Using Oil Conservation Divisions rule 19.15.29, Penta Resources preformed analytics for Chloride, TPH, and BTEX. Sample result were observed, and conclusions were made due to ground water depths exceeding 100 feet.

Attached to this report is all information gathered from the spill report, historical data, and topographic maps using Google Earth services. From gathered data and analytic reports the spill appears to be contained and no contamination had reached below the surface of the spill area.

The following includes:

- Spill Incident Report
- Spill Report Photos
- SDSs
- Site Location
- Spill Location
- Sample Location
- Analytical Data
- USGS ground water data
- C-141 form for OCD report partly completed
- Remediation Details

If there is any other concerns or questions, please contact:

Timothy Freeman
HSE Director
Penta Resources LLC
11205 WCR 72
Midland, TX 79707
(801) 680-5338

Table of Contents

ATTACHMENT #1

A. Spill Incident Report
B. Photos
C. SDSs

Elite Well Services LLC

Spill Incident Report

To be completed by Incident Spill Responder or designee immediately following all hazardous/non-hazardous spill response

Section A: Contact Information

Last Name: Dixon	**First Name:** Barry	
Department: Health, Safety, and Environmental	**Supervisor:** David Janssen	**Extension:**

Section B: Description of the Event:

Date of Spill: 8/23/2019	**Time of Spill:** 3:30 ☐ AM ☒ PM	**Date Reported:** 8/28/2019
Location: Marathon Ender Wiggins	**Well Number:**	

Medium or Media into which the release occurred:

Air ☐	Land ☒	Sewer ☐	Building or Room: ☐

Spill location (be specific, for example outside containment, into live vegetation, road, stream, etc.):

Actuator on tub inlet valve failed causing approximately 64 bbls of liquid to spill into containment while 49 bbls breached containment and spill onto compacted mat of frac location where it expanded ruffly 10 feet wide and proceeded south by south west up to 300 feet

What were the circumstances causing the spill?

A step rate test was being preformed when an actuator on an inlet valve failed

List any existing or potential hazards that either caused or resulted from the incident:

A total of 113 bbls poured out of inlet within 3 minutes. Speed and force of release potentially could have been dangerous but all precautions were followed and no employee was in direct vicinity of failure

What was the duration of the spill? Approximately 3 minutes

Section C: Spill Response Action Taken

Details of Containment & Clean Up Efforts:

Spill liquid contained 3.75 gallons of HiFlow 5, 1.25 gallons of Microbiocide, 1.25 gallons of Scaleblok 10, and the remainder of the 4,738 gallons fresh water. Please review SDS's attached to this report to see hazards of mentioned products. Clean up was an instant response with Stop Work on site. Material was vacuumed up and some earth removal a long entire length of contaminates that breached secondary containment.

Who completed the response?
Name: Marathon Oil representatives Date: 8/23/2019

Were the contaminated articles used for clean up properly disposed of?

Yes ☒ No ☐

Section D: Hazardous Material Information

Material(s) Spilled: Fresh Water, HiFlow 5, Microbiocide, and Scalebok 10	Quantity Spilled: FW:**4,738** gal,HiFlow 5:**3.75** gal Micro: **1.25** gal, Scale: **1.25** gal

SDS Attached: Yes ☒ No ☐ Not Controlled ☐	CAS #'s:	

Section E: Spill Kit Information:

Was a spill kit used/available:

Yes ☐ No ☒ Unsure ☐

Supplies to be Restocked:

N/A

Section F: Occupational Health and Safety

Any first aid or medical attention resulting from the spill incident must be reported **WITHIN 24 HOURS** by the supervisor by filing out an **ACCIDENT/INCIDENT REPORT** and submitting the form to the Safety Coordinator: ***(Add contact information here)***

Section G: Preventative and Corrective Actions Resulting from Incident Investigation

#	Action	Person Responsible	Completion Date	Verified by
1	**Air actuator failure caused fluid to continue to enter the "tub" but stuck closed on the discharge side of the tub over-flowing the tub**	**Air Actuator gave no sign of failure previously. Actuator replaced by maintenance personnel**	**8/23/2019**	
2	**Immediate, Actuator communication with on-site supervisor must be carried out on all issues**	**Concise communication will be emphasized at tower briefings, and pre-job meetings**		
3	**Stop Work authority, will be emphasized. Prioritizing safety and/or environmental awareness when needed for immediate shut down**	**SWA is already emphasized, but adding the need for immediate shut down in the event of environmental issues will be stressed**		
4				

Have the above items been communicated to the person responsible?

Yes ☒	No ☐	Date:

Section H: Chemical Control Centre Notes on Incident Investigation

Assessment of Clean-Up Effort:

On 8/23 when spill occurred Marathon reacted instantly and began vacuuming spill and contained material that breached secondary containment. Compacted earth was broken to removed any saturated soils and material was vacuumed by Marathon contract and sent to disposal. On 8/28, Penta Resources arrived on site and took samples of entire length of spill. A sample at initial point of containment breach was taken along with 5 addition samples were taken along the path of spilled material. An additional sample was taken outside of spilled area to establish a base line for spill.

Analytics were preformed according to Oil Conservation Division of NM rule 19.15.29. Please see attached for results but no high level of contamination of soil was observe and no further recommended remediation of the area appears to be required. This does not hinder OCD from making further recommendations

Closure of Incident Date:	Signature:

Section I: Signatures

Completed By:	**Title:**

Signature:	**Extension:**	**Date:**
Supervisor Name:	**Signature:**	**Date:**
Director of Operations:	**Signature:**	**Date:**

Section J : Form Submission

This form must be forwarded to the Director of Operations or Safety & Compliance Coordinator within 24 hours.

PHOTOS


DEF
ONLY


CLARKE

SDSs

HiFlow 5

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	HiFlow 5
Chemical Family:	Anionic Polyacrylamide
Application:	Friction Reducer: For Industrial use
Company Name:	Downhole Chemical Solutions, L.L.C.
Address:	2770 Main Street #161
	Frisco, TX 75033
Company Telephone:	214-945-5910
Emergency Telephone:	1-888-255-3924 (ChemTel)

2. HAZARDS IDENTIFICATION

OSHA Classification 29CFR 1910.1200

Health	**Physical**
Skin Corrosion/Irritation- Category 2 Eye Corrosion/Irritation- Category 2B	

Hazard Symbols

Skin/eye corrosion/irritation

Hazard Statements: WARNING!
Causes skin and eye irritation.

Precautionary Statements			
Prevention	**Response**	**Storage**	**Disposal**
Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/ clothing. Do not breathe dust/fume/ gas/mist/vapor/spray. Use in well ventilated area or use approved NIOSH respirator. Keep in original container. Keep away from heat.	If swallowed get medical attention. Rinse mouth. Do Not induce vomiting. If on skin or eyes flush immediately for 15 minutes. Remove all contaminated clothing and wash before reuse or discard. If inhaled, remove person to fresh air and keep comfortable for breathing. In case of fire, use CO2, water, foam or dry chemical to extinguish. If skin/eye irritation occurs get medical attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	Keep container tightly closed. Keep Cool. Store away from oxidants.	Consult local, state or federal agencies for acceptable disposal.

3. COMPOSITION INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Weight %
Petroleum Distillate Hydrotreated Light	64742-47-8	20-28

* Composition/specific chemical identities are withheld as a trade secret under the provisions of OSHA hazard communication standard 29 CFR 1910.1200

4. FIRST AID MEASURES

Inhalation:	Remove person to fresh air. If not breathing, give artificial respiration. Seek immediate medical attention.
Skin:	Wash with soap and water. Get medical attention if irritation develops or persist.
Eyes:	Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention, if irritation persists.
Ingestion:	Get medical attention immediately. Do not give anything by mouth to an unconscious person. Place victim on left side with head down to prevent aspiration into lungs. Call a physician or poison control center immediately for advice on inducing vomiting.
Caution:	Not available

Notes to Physician:	No specific antidote. Treat based on interaction with patient.

5. FIRE FIGHTING MEASURES

Fire Extinguishing Media:	Water, CO2, Dry Chemical, foam.
Special Exposure Hazards:	Containers can build up pressure if exposed to heat (fire). Apply alcohol-type foam or all purpose foam manufacturers recommended techniques for large fires. Use carbon dioxide or dry chemical for small fires. Use water spray to keep containers cool. Spills produce extremely slippery surfaces.
Special Protective Equipment for Fire Fighters:	Fire fighters should wear full protective gear including self containing breathing equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures:	Where exposure level is not known, wear approved, positive pressure, self contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/ Personal Protection)
Environmental Precautionary Measures:	Prevent entry into sewers or streams, dike if necessary. Consult local authorities.
Procedure for Cleaning / Absorption:	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. (See exposure controls / personal protection section) Spilled material should be disposed of according to applicable regulations. Do not contaminate water.

7. HANDLING AND STORAGE

Handling Precautions:	Avoid contact with skin and eyes. When preparing the working solution ensure there is adequate ventilation. When using do not smoke.
Explosion Hazards:	Not Determined
Storage Information:	Keep away from heat, sparks, and flames. Keep container closed when not in use. Store in a cool, dry, well ventilated place away from incompatible materials. Freezing will affect the physical condition and may damage the material. Store at 0-30 ℃.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:	Local exhaust ventilation may be necessary to control any air contaminants to within their exposure limits.
Respiratory Protection:	If exposure exceeds exposure limits use an approved NIOSH respirator.

Hand Protection:	Wear chemical resistant gloves.
Skin Protection:	Wear suitable protective clothing to ensure skin contact does not occur.
Eye Protection:	Wear safety glasses with side shields or goggles. Face shield required if splash hazard exists.
Other Precautions:	Ensure eyewash stations and safety showers are in the area.
Exposure limits:	**Material** **CAS#** **List** **Type** **Value** Petroleum Distillate Hydrotreated Light 64742-47-8 OSHA TWA 500 ppm (PEL)
Hygienic Practices:	Wash hands before eating. Wash contaminated areas with soap and water. Flush thoroughly with water.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Viscous Liquid
Color	Off White
Odor:	Slightly organic
Odor Threshold	Not Available
pH:	4-5(5g/L in water @ 25 ℃)
Freezing Point, ℃ / ℉	-15/0
Initial Boiling Point, ℃ / ℉	Not Available
Boiling Point Range, ℃ / ℉	Not Available
Flash Point, ℃ / ℉	>93/>200
Flash Point Method	Pensky Marten Closed Cup
Evaporation Rate (Butyl Acetate = 1)	Not Available
Flammability: Lower %	Not Available
Flammability: Upper %	Not Available
Vapor Pressure @20 ℃ (mm Hg)	Not Available
Vapor Density @ 20 ℃	Not Available
Relative Density @ 20 ℃ (lbs/gal)	Not Available

Solubility in Water:	Limited by Viscosity
Solubility in Solvents:	Not Available
Partition coefficient: n-octanol/water	Not Available
Autoignition Temperature, ℃ / ℉	Not Available
Decomposition temperature, ℃ / ℉	Not Available
Viscosity, Dynamic @ 20 ℃, cPs	Not Available
Viscosity, Dynamic @ 20 ℃, cstks	Not Available
Specific Gravity @ 20 ℃ (Water = 1)	Not Available

10. STABILITY AND REACTIVITY

Stability Data:	This product is stable under normal storage conditions.
Hazardous Polymerization:	Will not occur under normal use and storage conditions.
Conditions to Avoid:	Avoid temperature extremes.
Incompatibility (Materials to Avoid):	This material reacts slowly with iron, copper and aluminum, resulting in corrosion and product degradation. Avoid strong oxidizing agents.
Hazardous Decomposition:	Thermal decomposition will produce carbon monoxide, carbon dioxide, oxides of nitrogen and sulfur oxides.
Additional Guidelines:	N/A

11. TOXICOLOGICAL INFORMATION

Principal Route of Exposure:	
Inhalation:	Not Principal route
Skin Contact:	Causes severe irritation with pain, severe excess redness and swelling with chemical burns, blister formation and possible tissue destruction.
Eye Contact:	Causes severe eye irritation,burns, corneal damage and blindness.
Ingestion:	Moderately toxic. May cause burns of mouth throat, esophagus and stomach. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury. May cause liver and kidney damage.
Aggravated Medical Conditions:	Existing dermatitis. asthama and inflammatory or fibrotic pulmonary disease.

Chronic Effects:	Not Determined
Acute Toxicity Tests:	
Oral Toxicity:	**Material** Petroleum Distillate Hydrotreated Light — **CAS#** 64742-47-8 — **LD50(rat)** > 2000 mg/kg
Dermal Toxicity:	Not Determined
Inhalation Toxicity:	Not Determined
Primary Irritation Effect:	Not Determined
Carcinogenicity:	Not listed as a carcinogen by NTP, IARC or OSHA.
Reproductive Organ / Developmental Toxicity:	Not Determined
Chronic Toxicity Remarks:	Not Determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air):	Not Determined.
Persistence/Degradability:	Material is not readily biodegradable.
Bioaccumulation:	This product is not expected to bioaccumalate.
Ecotoxicological Information	
Acute Fish Toxicity:	**Petroleum Distillate Hydrotreated Light** **CAS 64742-47-8** LC50/Danio rerio/96 hr > 100 mg/L (OECD 203) (Based on the toxicity of the components using the Conventional Method.)
Acute Crustaceans Toxicity:	**Petroleum Distillate Hydrotreated Light** **CAS 64742-47-8** EC50/Daphnia magna/48 hr > 100 mg/L (OECD 202) (Based on the toxicity of the components using the Conventional Method.)
Acute Algae Toxicity:	**Petroleum Distillate Hydrotreated Light** **CAS 64742-47-8** IC50/Scenedesmus subspicatus/72 hr > 100 mg/L (OECD 201)(Based on the toxicity of the components using the Conventional Method.)
Chemical Fate Information:	Not Determined.

Other Information:	No adverse environmental effects are expected with proper use and disposal of this product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal:	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
Disposal Method:	Consult local, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations. Disposal in streams or sewers may be prohibited by federal, state, and local regulations.
Storage Information:	Keep away from heat, sparks, and flames. Keep container closed when not in use. Store in a cool, dry, well ventilated place away from incompatible materials.

14. TRANSPORT INFORMATION

DOT	**US DOT(NON-BULK SHIPMENTS)** **PROPER SHIPPING NAME:** Not regulated **TECHNICAL NAME:** N/A **HAZARD CLASS:** N/A **HAZARD SUBCLASS:** N/A **UN NUMBER:** N/A **PACKING GROUP:** N/A **RESP. GUIDE PAGE:** N/A **US DOT(BULK SHIPMENTS)** **PROPER SHIPPING NAME:** Not regulated **TECHNICAL NAME:** N/A **HAZARD CLASS:** N/A **HAZARD SUBCLASS:** N/A **UN NUMBER:** N/A **PACKING GROUP:** N/A **RESP. GUIDE PAGE:** N/A
Canadian	**PROPER SHIPPING NAME:** Not regulated **TECHNICAL NAME:** N/A **HAZARD CLASS:** N/A **HAZARD SUBCLASS:** N/A **UN NUMBER:** N/A **PACKING GROUP:** N/A **RESP. GUIDE PAGE:** N/A

15. REGULATORY INFORMATION

US Regulations: Consult Federal, State and local regulations for specific requirements.	**Clean Air Act - Hazardous Air Pollutants (HAP):** This product contains no Hazardous Air Pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40CFR61). **Clean Air Act - Ozone Depleting Substances (ODS)** This product neither contains, nor was manufactured with, a Class I or Class II ozone depleting substance (ODS), as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A+B) **Clean Water Act - Priority Pollutants (PP)** This product does not contain any priority pollutants listed under the U.S. Clean Water Act Section 307(2)(1) Priority Pollutant List (40 CFR 401.15).
US TSCA Inventory	**TSCA Section 8(b) Inventory Status:** All component(s) comprising this product are either exempt or listed on the TSCA inventory. **TSCA Significant New Use Rule (SNUR):** This product is not subject to a Significant New Use Rule (SNUR). **TSCA Section 5(f):** This product is not subject to a Section 5(f)/6(a) rule. **TSCA Section 12(b) Export Notification:** This product does not contain any component(s) that are subject to Section 12(b) Export Notification

EPA LIST OF LISTS: Reference EPA document for specific requirements.

CAS# Material	Section 302 EHS(TPQ)	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA Code	CAA 112(r) TQ
None						

SARA Title III Section 311/312 (40CFR 370) Hazard Categories:	**Immediate (Acute) Hazard: X** **Delayed (Chronic) Hazard:** **Fire Hazard:** **Pressure Hazard:** **Reactivity Hazard:**
California Proposition 65:	The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains a chemical(s) known to the State of California to cause cancer : residual acrylamide.
PA Right-to-Know Law:	None
Canadian DSL Inventory:	All components either exempt or listed on the DSL.
WHMIS Hazard Class:	D2B: Skin irritant

16. OTHER INFORMATION

NFPA		HMIS
2	HEALTH	2
1	FLAMMABILITY	1
0	REACTIVITY	0
	PERSONAL PROTECTION	B

The information and recommendations contained herein are, to the best of Downhole Chemical Solutions, L.L.C. knowledge and belief, accurate and reliable as of the last revision date. This document is offered in good faith. The information relates to the specific material designated, and may not be valid for such material used in combination with any other materials, in any process, or if used in a matter other than for which it is intended.

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Signed: WC
Date: November 14, 2015
Revised: November 14 2015

MBC 12.3 Microbicide

Nashville Chemical
Redefining Water Treatment Services

SAFETY DATA SHEET

1. Identification

Product identifier **MBC 12:3**

Other means of identification

Product code MBC 12:3

Recommended use Microbiocide

Recommended restrictions For Industrial Use Only.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Nashville Chemical & Equipment Company

Address 7001 Westbelt Drive
Nashville, TN 37209
United States

Telephone 1-615-350-7070

E-mail info@nashchem.com

Emergency phone number 1-800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, oral	Category 4
Acute toxicity, dermal	Category 5
Acute toxicity, inhalation	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Sensitization, skin	Category 1A

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Harmful if swallowed. May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Toxic if inhaled.

Precautionary statement

Prevention Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Glutaraldehyde		111-30-8	12.0 - 12.4
Didecyl dimethyl ammonium chloride		7173-51-5	1.75 - 2.00
Alkyl dimethyl benzyl ammonium chloride (C 12-16)		68424-85-1	1.20 - 1.30
Ethanol		64-17-5	< 1.0
Other components below reportable levels			> 83

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician.

Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. Get medical advice/attention if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media
Not applicable, non-combustible. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media
Not applicable.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
Move containers from fire area if you can do so without risk.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors and spray mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not taste or swallow. Avoid inhalation of vapors and spray mists. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethanol (CAS 64-17-5)	PEL	1900 mg/m3 1000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Glutaraldehyde (CAS 111-30-8)	Ceiling	0.05 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3 1000 ppm
Glutaraldehyde (CAS 111-30-8)	Ceiling	0.8 mg/m3 0.2 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Chemical respirator with organic vapor cartridge.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Colorless to light yellow.
Odor	Distinct Odor.
Odor threshold	Not available.
pH	2.5 - 4.0
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	8.57 lbs/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	1.029

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Amines.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled.
Skin contact	May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.

Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity Toxic if inhaled. Harmful if swallowed. May be harmful in contact with skin.

Components	Species	Test Results
Didecyl dimethyl ammonium chloride (CAS 7173-51-5)		
Acute		
Dermal		
LD50	Rat	> 1000 mg/kg
Oral		
LD50	Rat	84 mg/kg
Ethanol (CAS 64-17-5)		
Acute		
Oral		
LD50	Rat	1187 - 2769 mg/kg
Glutaraldehyde (CAS 111-30-8)		
Acute		
Dermal		
LD50	Rabbit	250 mg/kg, 24 Hours
Oral		
LD50	Rat	96.1 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

ACGIH sensitization

GLUTARALDEHYDE, ACTIVATED AND INACTIVATED (CAS 111-30-8)	Dermal sensitization
	Respiratory sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Ethanol	-0.31

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN1903

UN proper shipping name DISINFECTANTS, LIQUID, CORROSIVE, N.O.S. (GLUTARALDEHYDE, QUATERNARY AMMONIUM COMPOUND)

Transport hazard class(es)

Class 8

Subsidiary risk -

Label(s) 8 - CORROSIVE

Packing group III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

DOT

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethanol (CAS 64-17-5) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Ethanol (CAS 64-17-5) Low priority

FIFRA Information This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and it's components are either listed on the U.S. Toxic Substance Control Act (TSCA) Inventory or they are exempt from listing.

Signal word DANGER

Hazard statement Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed or absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Do not get in eyes, on skin, or on clothing. Avoid breathing (vapor or spray mists). Wear goggles or face shield and rubber gloves when handling. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet.

US state regulations WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Glutaraldehyde (CAS 111-30-8)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 06-28-2017

Version # 01

HMIS® ratings	Health: 2 Flammability: 0 Physical hazard: 0 Personal protection: H
Disclaimer	Nashville Chemical & Equipment Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Scaleblok 10

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
ScaleBlok 10

Chemical Family
polymer.

Product Use
Industrial.

Restrictions on Use
For specific use instructions, see your local Downhole Chemical Solutions sales representative. Actual usage of this product depends on many conditions, which can be reviewed with you. This product is to be used in industrial applications. DO NOT USE for any other purposes. Use care when mixing this product with any other chemical(s) or product(s).

Manufacturer Information

Downhole Chemical Solutions, LLC
2770 Main Street #161
Frisco, TX 75034

Emergency Phone Number: 800-255-3924 (ChemTel)
Emergency Phone #: 214-945-5910
E-mail: wayne@stimchems.com

Section 2 - HAZARDS IDENTIFICATION

GHS Label Elements

Symbol(s)
None needed according to classification criteria

Signal Word
None needed according to classification criteria

Hazard Statement(s)
None needed according to classification criteria

Precautionary Statement(s)

Prevention

None needed according to classification criteria

Response
None needed according to classification criteria

Storage
None needed according to classification criteria

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
Proprietary	Anionic Polymer	15-25

Section 4 - FIRST AID MEASURES

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Skin
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.

Most Important Symptoms/Effects

Acute
None Known.

Delayed
none noticeable.

Note to Physicians
Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media
In case of fire, use water (flood with water), dry chemical, CO2, or alcohol foam.

Special Hazards Arising from the Chemical
None.

Hazardous Combustion Products
Carbon dioxide, Carbon monoxide.

Special Protective Equipment and Precautions for Firefighters
In case of fire: Wear self-contained breathing apparatus.

Fire Fighting Measures
Use water spray/stream to protect personnel and to cool endangered containers.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Use personal protection equipment.

Environmental Precautions
Cover with absorbent or flush with water. Prevent runoff. Collect and dispose. Observe government regulations.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Keep container tightly closed. Open and handle container with care.

Conditions for Safe Storage, Including any Incompatibilities
None needed according to classification criteria

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

ACGIH, NIOSH, EU, OSHA (US) and Mexico have not developed exposure limits for any of this product's components

Biological limit value

There are no biological limit values for any of this product's components.

Engineering Controls
Maintain ventilation sufficient to reduce defined level(s) for any hazardous ingredient.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection
Wear eye protection/face protection.

Respiratory Protection
In case of inadequate ventilation wear respiratory protection.

Glove Recommendations
Wear protective gloves and protective clothing.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Not available	**Physical State**	liquid
Odor	sweet	**Color**	Colorless to Light Yellow
Odor Threshold	Not available	**pH**	5 - 6
Melting Point	Not available	**Boiling Point**	Not available
Freezing point	Not available	**Evaporation Rate**	Not available
Boiling Point Range	Not available	**Flammability (solid, gas)**	Not available
Autoignition	Not available	**Flash Point**	>200 °F
Lower Explosive Limit	Not available	**Decomposition**	Not available
Upper Explosive Limit	Not available	**Vapor Pressure**	Not available
Vapor Density (air=1)	Not available	**Specific Gravity (water=1)**	1.03 g/cm3
Water Solubility	Soluble	**Partition coefficient: n-octanol/water**	Not available

Viscosity	Not available	**Solubility (Other)**	Not available
Density	8.59 #/gal		

Section 10 - STABILITY AND REACTIVITY

Reactivity
None Known.

Chemical Stability
The product is stable under storage at normal ambient temperatures.

Possibility of Hazardous Reactions
None Known.

Conditions to Avoid
Strong oxidizing agents and high temperatures.

Incompatible Materials
Strong acids, strong oxidizers.

Hazardous decomposition products
Carbon dioxide, Carbon monoxide.

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and no selected endpoints have been identified

Immediate Effects
No information on significant adverse effects.

Delayed Effects
No information on significant adverse effects.

Irritation/Corrosivity Data
No data available.

Respiratory Sensitization
No data available.

Dermal Sensitization
No data available.

Component Carcinogenicity
None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

Germ Cell Mutagenicity
No data available.

Reproductive Toxicity
No data available.

Specific Target Organ Toxicity - Single Exposure
No data available.

Specific Target Organ Toxicity - Repeated Exposure
No data available.

Aspiration hazard
No data available.

Medical Conditions Aggravated by Exposure
No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity
No LOLI ecotoxicity data are available for this product's components

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Component Waste Numbers
The U.S. EPA has not published waste numbers for this product's components

Section 14 - TRANSPORT INFORMATION

US DOT Information:
UN/NA #: DOT NOT REGULATED

TDG Information:
UN#: DOT NOT REGULATED

IATA Information:
No Classification assigned.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations
None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.
SARA Section 311/312 (40 CFR 370 Subparts B and C)
Acute Health: No **Chronic Health:** No **Fire:** No **Pressure:** No **Reactivity:** No

U.S. State Regulations
None of this product's components are listed on the state lists from CA, MA, MN, NJ or PA

Not listed under California Proposition 65

Component Analysis - Inventory

U.S. Inventory (TSCA)
All ingredients are on the TSCA list.

Section 16 - OTHER INFORMATION

HMIS Rating

Health: 1 Fire: 1 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings

Health: 1 Fire: 1 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Key / Legend
ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and

Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:
The safety information of this product is provided to assist our customers in assessing compliance with health, safety and environmental regulations. The information contained herein is based on data available to us and is believed to be accurate, although no guarantee or warranty is provided by the company in this respect. Since the use of this product is within the exclusive control of the user, it is the user's obligation to determine the conditions of safe use of this product. Such conditions should comply with all federal regulations concerning the product.

ATTACHMENT #2

Site Location


Approximate Location of Site
32.13010, -103.44801
Jal
Jal Lake Park
128
2
7
10
12
13
14
16
18
6A
4
5
205


Site Map

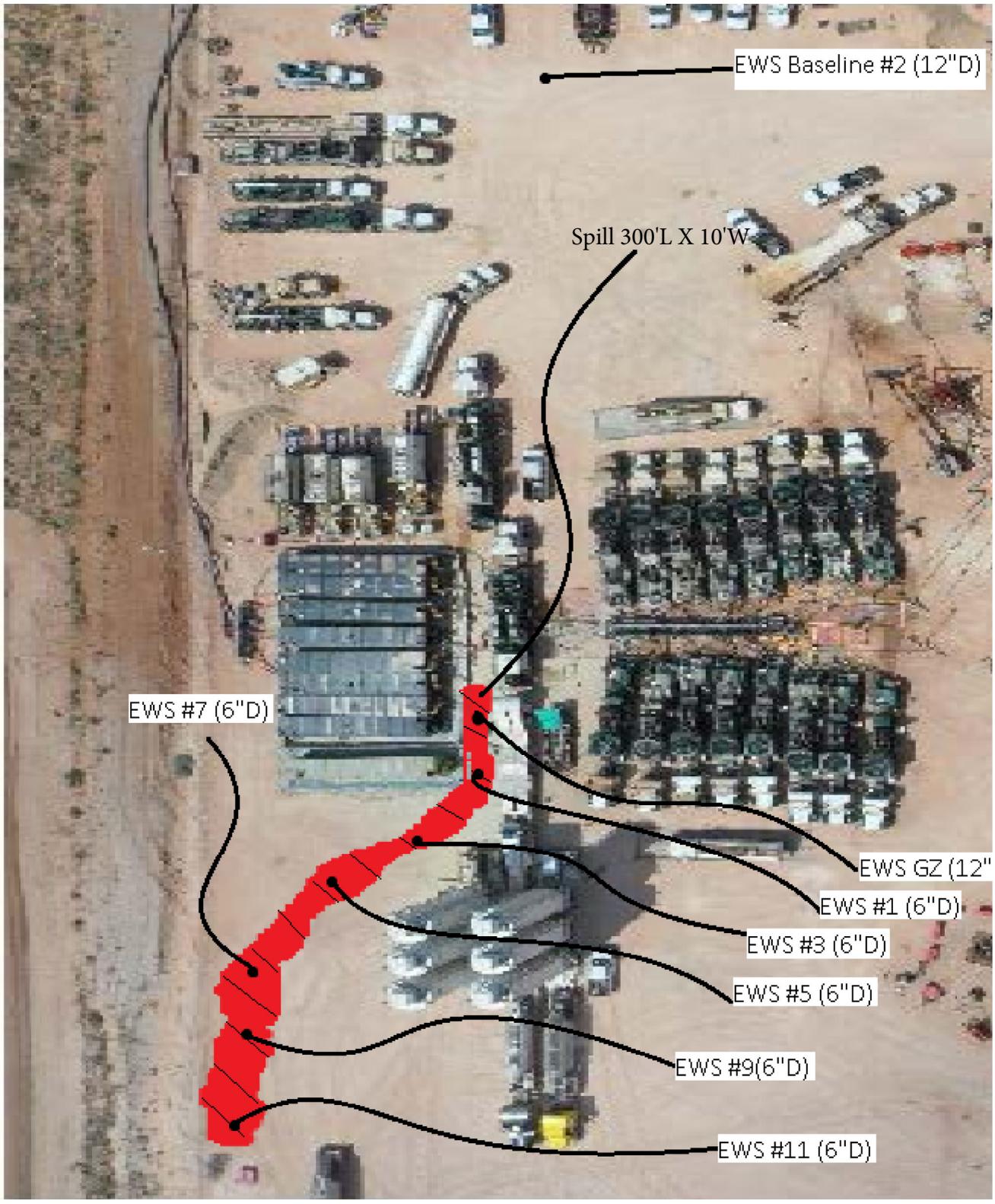
ATTACHMENT #3

Sample Locations

Ender Wiggins Spill (EWS) Sample Data Sheet

Sample Designation	Date/Time Sample Taken	Depth	Latitude	Longitude
EWS Baseline #2	8/28 @ 2134	6 inches	32.131362	-103.44769
EWS Ground Zero	8/28 @ 2154	12 inches	32.130708	-103.44791
EWS #1	8/28 @ 2205	6 inches	32.130589	-103.44784
EWS #3	8/28 @ 2231	6 inches	32.130553	-103.44804
EWS #5	8/28 @ 2258	6 inches	32.130436	-103.44802
EWS #7	8/28 @ 2333	6 inches	32.130245	-103.44807
EWS #9	8/28 @ 2350	6 inches	32. 13014	-103.44808
EWS #11	8/29 @ 0013	6 inches	32.129941	-103.44807

END of REPORT


EWS Baseline #2 (12"D)
Spill 300'L X 10'W
EWS #7 (6"D)
EWS GZ (12"
EWS #1 (6"D)
EWS #3 (6"D)
EWS #5 (6"D)
EWS #9(6"D)
EWS #11 (6"D)

ATTACHMENT #4

Analytical Data

Certificate of Analysis Summary 635486

Penta Resources, Midland, TX

Project Name: Ender Wiggins Spill

Project Id:
Contact: Timothy Freeman
Project Location:

Date Received in Lab: Thu Aug-29-19 11:23 am
Report Date: 04-SEP-19
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	635486-001		635486-002		635486-003		635486-004		635486-005		635486-006	
	Field Id:	EWS Baseline #1		EWS Ground Zero		EWS #1		EWS #3		EWS #5		EWS #7	
	Depth:	12- In		12- In		6- In		6- In		6- In		6- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-27-19 21:36		Aug-27-19 21:54		Aug-27-19 22:05		Aug-27-19 22:31		Aug-27-19 22:58		Aug-27-19 23:33	
BTEX by EPA 8021B	***Extracted:***	Aug-29-19 15:00		Aug-29-19 15:00		Aug-29-19 15:00		Aug-29-19 15:00		Aug-29-19 15:00		Aug-29-19 15:00	
	Analyzed:	Aug-30-19 15:07		Aug-30-19 15:27		Aug-30-19 15:47		Aug-30-19 16:07		Aug-30-19 16:27		Aug-30-19 16:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Aug-29-19 13:40		Aug-29-19 13:40		Aug-29-19 13:40		Aug-29-19 13:40		Aug-29-19 13:40		Aug-29-19 13:40	
	Analyzed:	Aug-29-19 16:56		Aug-29-19 17:31		Aug-29-19 17:38		Aug-29-19 17:44		Aug-29-19 17:50		Aug-29-19 18:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		35.1	4.98	172	5.02	543	4.99	155	4.95	119	4.95	139	4.95
TPH By SW8015 Mod	***Extracted:***	Aug-29-19 14:00		Aug-29-19 14:00		Aug-29-19 14:00		Aug-29-19 14:00		Aug-29-19 14:00		Aug-29-19 14:00	
	Analyzed:	Aug-29-19 21:35		Aug-29-19 21:55		Aug-29-19 22:14		Aug-29-19 22:33		Aug-29-19 22:53		Aug-29-19 23:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<49.8	49.8	<50.0	50.0	777	50.0	<49.9	49.9	154	49.9	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Total TPH		<49.8	49.8	<50.0	50.0	777	50.0	<49.9	49.9	154	49.9	<50.0	50.0

Holly Taylor
Project Manager

Certificate of Analysis Summary 635486

Penta Resources, Midland, TX

Project Name: Ender Wiggins Spill

Project Id:
Contact: Timothy Freeman
Project Location:

Date Received in Lab: Thu Aug-29-19 11:23 am
Report Date: 04-SEP-19
Project Manager: Holly Taylor

Analysis Requested									
	Lab Id:	635486-007		635486-008					
	Field Id:	EWS #9		EWS #11					
	Depth:	6- In		6- In					
	Matrix:	SOIL		SOIL					
	Sampled:	Aug-27-19 23:50		Aug-28-19 00:13					
BTEX by EPA 8021B	***Extracted:***	Aug-29-19 15:00		Aug-29-19 15:00					
	Analyzed:	Aug-30-19 17:08		Aug-30-19 17:28					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	Aug-29-19 13:40		Aug-29-19 13:40					
	Analyzed:	Aug-29-19 18:16		Aug-29-19 18:22					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		563	4.95	106	5.01				
TPH By SW8015 Mod	***Extracted:***	Aug-29-19 14:00		Aug-29-19 14:00					
	Analyzed:	Aug-29-19 23:31		Aug-29-19 23:51					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.0	50.0				
Diesel Range Organics (DRO)		<49.8	49.8	54.8	50.0				
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.0	50.0				
Total TPH		<49.8	49.8	54.8	50.0				

Holly Taylor
Project Manager

Analytical Report 635486

for

Penta Resources

Project Manager: Timothy Freeman

Ender Wiggins Spill

04-SEP-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

04-SEP-19

Project Manager: **Timothy Freeman**
Penta Resources
11205 WCR 72
Midland, TX 79707

Reference: XENCO Report No(s): **635486**
Ender Wiggins Spill
Project Address:

Timothy Freeman:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 635486. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 635486 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Holly Taylor

Holly Taylor
Project Manager

Sample Cross Reference 635486

Penta Resources, Midland, TX

Ender Wiggins Spill

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EWS Baseline #1	S	08-27-19 21:36	12 In	635486-001
EWS Ground Zero	S	08-27-19 21:54	12 In	635486-002
EWS #1	S	08-27-19 22:05	6 In	635486-003
EWS #3	S	08-27-19 22:31	6 In	635486-004
EWS #5	S	08-27-19 22:58	6 In	635486-005
EWS #7	S	08-27-19 23:33	6 In	635486-006
EWS #9	S	08-27-19 23:50	6 In	635486-007
EWS #11	S	08-28-19 00:13	6 In	635486-008

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3100245 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 635486

Penta Resources, Midland, TX

Ender Wiggins Spill

Sample Id:	**EWS Baseline #1**	Matrix:	Soil	Date Received:	08.29.19 11.23
Lab Sample Id:	635486-001	Date Collected:	08.27.19 21.36	Sample Depth:	12 In

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.29.19 13.40	Basis:	Wet Weight
Seq Number:	3100122				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**35.1**	4.98	mg/kg	08.29.19 16.56		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.19 14.00	Basis:	Wet Weight
Seq Number:	3100186				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	08.29.19 21.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	08.29.19 21.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	08.29.19 21.35	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	08.29.19 21.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	08.29.19 21.35	
o-Terphenyl	84-15-1	93	%	70-135	08.29.19 21.35	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	08.29.19 15.00	Basis:	Wet Weight
Seq Number:	3100245				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.30.19 15.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	08.30.19 15.07	
4-Bromofluorobenzene	460-00-4	97	%	70-130	08.30.19 15.07	

Certificate of Analytical Results 635486

Penta Resources, Midland, TX

Ender Wiggins Spill

Sample Id:	**EWS Ground Zero**	Matrix:	Soil	Date Received:	08.29.19 11.23
Lab Sample Id:	635486-002	Date Collected:	08.27.19 21.54	Sample Depth:	12 In

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.29.19 13.40	Basis:	Wet Weight
Seq Number:	3100122				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**172**	5.02	mg/kg	08.29.19 17.31		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.19 14.00	Basis:	Wet Weight
Seq Number:	3100186				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.29.19 21.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.29.19 21.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.29.19 21.55	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.29.19 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.29.19 21.55	
o-Terphenyl	84-15-1	90	%	70-135	08.29.19 21.55	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	08.29.19 15.00	Basis:	Wet Weight
Seq Number:	3100245				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.30.19 15.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	08.30.19 15.27	
4-Bromofluorobenzene	460-00-4	96	%	70-130	08.30.19 15.27	

Certificate of Analytical Results 635486

Penta Resources, Midland, TX

Ender Wiggins Spill

Sample Id:	**EWS #1**	Matrix:	Soil	Date Received:	08.29.19 11.23
Lab Sample Id:	635486-003	Date Collected:	08.27.19 22.05	Sample Depth:	6 In

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.29.19 13.40	Basis:	Wet Weight
Seq Number:	3100122				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**543**	4.99	mg/kg	08.29.19 17.38		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.19 14.00	Basis:	Wet Weight
Seq Number:	3100186				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.29.19 22.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	**777**	50.0	mg/kg	08.29.19 22.14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.29.19 22.14	U	1
Total TPH	PHC635	**777**	50.0	mg/kg	08.29.19 22.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.29.19 22.14	
o-Terphenyl	84-15-1	114	%	70-135	08.29.19 22.14	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	08.29.19 15.00	Basis:	Wet Weight
Seq Number:	3100245				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.30.19 15.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.30.19 15.47	
4-Bromofluorobenzene	460-00-4	104	%	70-130	08.30.19 15.47	

Certificate of Analytical Results 635486

Penta Resources, Midland, TX

Ender Wiggins Spill

Sample Id:	**EWS #3**	Matrix:	Soil	Date Received:	08.29.19 11.23
Lab Sample Id:	635486-004	Date Collected:	08.27.19 22.31	Sample Depth:	6 In

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.29.19 13.40	Basis:	Wet Weight
Seq Number:	3100122				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**155**	4.95	mg/kg	08.29.19 17.44		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.19 14.00	Basis:	Wet Weight
Seq Number:	3100186				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	08.29.19 22.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	08.29.19 22.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	08.29.19 22.33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	08.29.19 22.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.29.19 22.33	
o-Terphenyl	84-15-1	90	%	70-135	08.29.19 22.33	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	08.29.19 15.00	Basis:	Wet Weight
Seq Number:	3100245				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.30.19 16.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	08.30.19 16.07	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.30.19 16.07	

Certificate of Analytical Results 635486

Penta Resources, Midland, TX

Ender Wiggins Spill

Sample Id:	**EWS #5**	Matrix:	Soil	Date Received:	08.29.19 11.23
Lab Sample Id:	635486-005	Date Collected:	08.27.19 22.58	Sample Depth:	6 In

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.29.19 13.40	Basis:	Wet Weight
Seq Number:	3100122				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**119**	4.95	mg/kg	08.29.19 17.50		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.19 14.00	Basis:	Wet Weight
Seq Number:	3100186				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	08.29.19 22.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	**154**	49.9	mg/kg	08.29.19 22.53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	08.29.19 22.53	U	1
Total TPH	PHC635	**154**	49.9	mg/kg	08.29.19 22.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.29.19 22.53	
o-Terphenyl	84-15-1	107	%	70-135	08.29.19 22.53	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	08.29.19 15.00	Basis:	Wet Weight
Seq Number:	3100245				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.30.19 16.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	08.30.19 16.27	
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.30.19 16.27	

Certificate of Analytical Results 635486

Penta Resources, Midland, TX

Ender Wiggins Spill

Sample Id:	**EWS #7**	Matrix:	Soil	Date Received:	08.29.19 11.23
Lab Sample Id:	635486-006	Date Collected:	08.27.19 23.33	Sample Depth:	6 In

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.29.19 13.40	Basis:	Wet Weight
Seq Number:	3100122				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**139**	4.95	mg/kg	08.29.19 18.09		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.19 14.00	Basis:	Wet Weight
Seq Number:	3100186				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.29.19 23.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.29.19 23.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.29.19 23.12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.29.19 23.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	08.29.19 23.12	
o-Terphenyl	84-15-1	97	%	70-135	08.29.19 23.12	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	08.29.19 15.00	Basis:	Wet Weight
Seq Number:	3100245				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.30.19 16.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	08.30.19 16.48	
4-Bromofluorobenzene	460-00-4	113	%	70-130	08.30.19 16.48	

Certificate of Analytical Results 635486

Penta Resources, Midland, TX

Ender Wiggins Spill

Sample Id:	**EWS #9**	Matrix:	Soil	Date Received:	08.29.19 11.23
Lab Sample Id:	635486-007	Date Collected:	08.27.19 23.50	Sample Depth:	6 In

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.29.19 13.40	Basis:	Wet Weight
Seq Number:	3100122				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**563**	4.95	mg/kg	08.29.19 18.16		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.19 14.00	Basis:	Wet Weight
Seq Number:	3100186				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	08.29.19 23.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	08.29.19 23.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	08.29.19 23.31	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	08.29.19 23.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	08.29.19 23.31	
o-Terphenyl	84-15-1	98	%	70-135	08.29.19 23.31	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	08.29.19 15.00	Basis:	Wet Weight
Seq Number:	3100245				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.30.19 17.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.30.19 17.08	
4-Bromofluorobenzene	460-00-4	113	%	70-130	08.30.19 17.08	

Certificate of Analytical Results 635486

Penta Resources, Midland, TX

Ender Wiggins Spill

Sample Id:	**EWS #11**	Matrix:	Soil	Date Received:	08.29.19 11.23
Lab Sample Id:	635486-008	Date Collected:	08.28.19 00.13	Sample Depth:	6 In

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.29.19 13.40	Basis:	Wet Weight
Seq Number:	3100122				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**106**	5.01	mg/kg	08.29.19 18.22		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.19 14.00	Basis:	Wet Weight
Seq Number:	3100186				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.29.19 23.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	**54.8**	50.0	mg/kg	08.29.19 23.51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.29.19 23.51	U	1
Total TPH	PHC635	**54.8**	50.0	mg/kg	08.29.19 23.51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	08.29.19 23.51	
o-Terphenyl	84-15-1	98	%	70-135	08.29.19 23.51	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	08.29.19 15.00	Basis:	Wet Weight
Seq Number:	3100245				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.30.19 17.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	08.30.19 17.28	
4-Bromofluorobenzene	460-00-4	108	%	70-130	08.30.19 17.28	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 635486

Penta Resources

Ender Wiggins Spill

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100122 Matrix: Solid Date Prep: 08.29.19
MB Sample Id: 7685280-1-BLK LCS Sample Id: 7685280-1-BKS LCSD Sample Id: 7685280-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	244	98	243	97	90-110	0	20	mg/kg	08.29.19 16:44	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100122 Matrix: Soil Date Prep: 08.29.19
Parent Sample Id: 634892-001 MS Sample Id: 634892-001 S MSD Sample Id: 634892-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	190	252	435	97	436	98	90-110	0	20	mg/kg	08.29.19 18:47	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100122 Matrix: Soil Date Prep: 08.29.19
Parent Sample Id: 635486-001 MS Sample Id: 635486-001 S MSD Sample Id: 635486-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	35.1	249	278	98	278	98	90-110	0	20	mg/kg	08.29.19 17:03	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3100186 Matrix: Solid Date Prep: 08.29.19
MB Sample Id: 7685286-1-BLK LCS Sample Id: 7685286-1-BKS LCSD Sample Id: 7685286-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1040	104	1010	101	70-135	3	20	mg/kg	08.29.19 16:47	
Diesel Range Organics (DRO)	<25.0	1000	974	97	951	95	70-135	2	20	mg/kg	08.29.19 16:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		125		120		70-135	%	08.29.19 16:47
o-Terphenyl	93		110		104		70-135	%	08.29.19 16:47

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 635486

Penta Resources

Ender Wiggins Spill

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3100186 Matrix: Soil Date Prep: 08.29.19
Parent Sample Id: 635303-001 MS Sample Id: 635303-001 S MSD Sample Id: 635303-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	983	98	969	97	70-135	1	20	mg/kg	08.29.19 17:45	
Diesel Range Organics (DRO)	<25.0	999	948	95	932	93	70-135	2	20	mg/kg	08.29.19 17:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		120		70-135	%	08.29.19 17:45
o-Terphenyl	96		96		70-135	%	08.29.19 17:45

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3100245 Matrix: Solid Date Prep: 08.29.19
MB Sample Id: 7685326-1-BLK LCS Sample Id: 7685326-1-BKS LCSD Sample Id: 7685326-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0988	99	0.0922	92	70-130	7	35	mg/kg	08.30.19 08:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		101		70-130	%	08.30.19 08:47
4-Bromofluorobenzene	100		112		116		70-130	%	08.30.19 08:47

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3100245 Matrix: Soil Date Prep: 08.29.19
Parent Sample Id: 635303-001 MS Sample Id: 635303-001 S MSD Sample Id: 635303-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0793	80	0.0876	88	70-130	10	35	mg/kg	08.30.19 09:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	08.30.19 09:27
4-Bromofluorobenzene	119		117		70-130	%	08.30.19 09:27

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: 635484

www.xenco.com Page _____ of _____

Project Manager:	Tim Freeman	Bill to: (if different)	
Company Name:	Penta Resources	Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Ender Wiggins Spill	Turn Around	
Project Number:		Routine ☑	
P.O. Number:		Rush:	
Sampler's Name:	M. Teasley	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.3 | 0.1	Thermometer ID	
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Chloride	TPH (8015)	BTEX / Benzene	Sample Comments
EWS Baseline #1	S	8/28	2136	12"	1	✓	✓	✓	8/27 Samples Taken
EWS Ground Zero	S	8/28	2154	12"	1	✓	✓	✓	Expedite G.Z.
EWS #1	S	8/28	2205	6"	1	✓	✓	✓	8/27 Sample Taken
EWS #3	S	8/28	2231	6"	1	✓	✓	✓	8/27 Sample Taken
EWS #5	S	8/28	2258	6"	1	✓	✓	✓	8/27 Sample Taken
EWS #7	S	8/28	2333	6"	1	✓	✓	✓	8/27 Sample Taken
EWS #9	S	8/28	2350	6"	1	✓	✓	✓	8/27 Sample Taken
EWS #11	S	8/29	0013	6"	1	✓	✓	✓	8/28 Sample Taken

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010:** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 M. Teasley		8/29 1123	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 18 of 19

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Penta Resources

Date/ Time Received: 08/29/2019 11:23:00 AM

Work Order #: 635486

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.1	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	TPH in bulk jar
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**N/A**	
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 08/29/2019

Brianna Teel

Checklist reviewed by: Holly Taylor Date: 08/30/2019

Holly Taylor

ATTACHMENT #5

Water Table Data

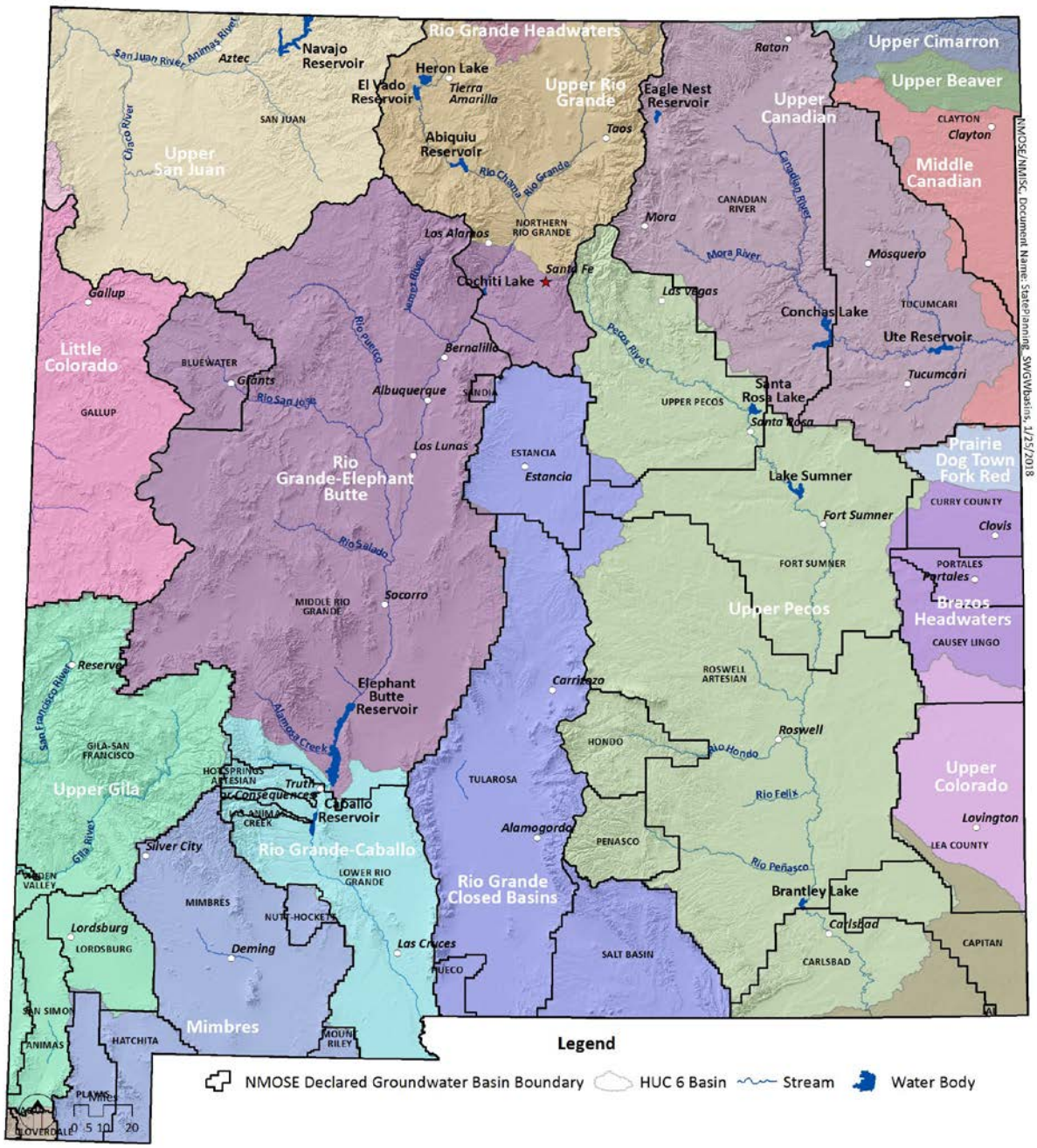


Figure 3-7. Surface Water Basins, Declared Groundwater Basins in New Mexico.

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

USGS 320738103270501 25S.34E.15.24234

Available data for this site SUMMARY OF ALL AVAILABLE DATA ▼ GO

Well Site

DESCRIPTION:
Latitude 32°07'57.1", Longitude 103°27'02.4" NAD83
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 168 feet
Land surface altitude: 3,345.00 feet above NGVD29.
Well completed in "Ogallala Formation" (121OGLL) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1954-07-23	2013-01-16	7
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:
Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02314	CUB	LE	2	4	2	15	25S	34E	646170	3556243*	389	175	135	40
C 02315	CUB	LE	2	4	2	15	25S	34E	646170	3556243*	389	175	135	40
C 02299	CUB	LE	4	4	2	24	25S	34E	649417	3554478*	3315	350	300	50
C 02296	CUB	LE	1	3	2	18	25S	35E	650398	3556305*	3944	300	230	70
C 02401	CUB	LE	2	2	1	01	25S	34E	648534	3559896*	4418	275	260	15

Average Depth to Water: **212 feet**

Minimum Depth: **135 feet**

Maximum Depth: **300 feet**

Record Count: 5

UTMNAD83 Radius Search (in meters):

Easting (X): 646466.39 **Northing (Y):** 3555990.66 **Radius:** 5000

***UTM location was derived from PLSS - see Help**


Spill Location
Ground Water Measurement
168 ft
Jal
Jal Lake Park
Bennett
128
10
13
16
18
6A
205
2
3
4
5

ATTACHMENT #6

C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	1RP-5739
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Isaac Castro	Contact Telephone 575-988-0561
Contact email icastro@marathonoil.com	Incident # *(assigned by OCD)*
Contact mailing address 4111 S. Tidwell Rd., Carlsbad, NM 88220	

Location of Release Source

Latitude 32.13102489 Longitude -103.44741084
(NAD 83 in decimal degrees to 5 decimal places)

Site Name ENDER WIGGINS 14 WA FEDERAL COM #001H	Site Type Oil and gas drilling facility
Date Release Discovered 8/23/19	API# *(if applicable)* 30-025-45187

Unit Letter	Section	Township	Range	County
E	14	25S	34E	Lea

Surface Owner: ☐ State ☑ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☑ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☑ Other (describe)	Volume/Weight Released (provide units) 113 bbls of frac fluid	Volume/Weight Recovered (provide units) 100 bbls

Cause of Release

Completions reported a spill due to the actuator on the tub inlet valve failing. Fresh water continued into the tub causing the water to spray out. A total of 113 bbls of frac fluid was released (49 bbls was released onto the engineered pad and 64 bbls was released inside the secondary containment for the tub). Vacuum trucks were already on site and were able to recover 100 bbls total (inside secondary containment and from the engineered pad).

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5739
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☑ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? This was a major release as defined by NMAC 19.15.29.7(A) based on volume of material released.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Yes, 8/28/2019 email sent by Isaac Castro to EMNRD District 1, Jim Griswold, and Jim Amos

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☑ The source of the release has been stopped.
- ☑ The impacted area has been secured to protect human health and the environment.
- ☑ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☑ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Isaac Castro Title: Environmental Professional

Signature: Isaac Castro Date: 10/9/2019

email: icastro@marathonoil.com Telephone: 575-988-0561

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5739
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5739
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Timothy M Freeman Title: HSE Director / Penta Resources LLC

Signature: [signature] Date: 10/22/19

email: tfreeman@pentaresourcesllc.com Telephone: (801) 680 - 5338

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5739
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

☒ Detailed description of proposed remediation technique
☒ Scaled sitemap with GPS coordinates showing delineation points
☒ Estimated volume of material to be remediated
☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: ISAAC CASTRO Title: ENVIRONMENTAL PROFESSIONAL

Signature: Isaac Castro Date: 10-22-19

email: ICASTRO@MARATHONOIL.COM Telephone: 575-988-0561

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5739
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: ISAAC CASTRO Title: ENVIRONMENTAL PROFESSIONAL

Signature: Isaac Castro Date: 10-22-19

email: ICASTRO@MARATHONOIL.COM Telephone: 575-988-0561 .

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT #7

Remediation Details

Elite
Well Services LLC

On August 23, 2019, after spilled material was neutralized, a crew began vacuuming up all material saturated by the spill. Soil was broken up until there was no evidence of saturated material, about six inches of material was removed throughout. Material was then hauled to disposal by Marathon contractor. Please view truck ticket. Material was not replaced due to the material being within the boundaries of the frac operating area. It is expected that the operating area will be scrapped of four to six inches at the conclusion of the frac operation.
Samples taken from the spill area showed there were no dangerous levels of contamination and operations can continue without any concern that underground water ways will be impacted.

Barry Dixon
Elite Safety Manager
barrydixon@elitewells..com

LIONS TRANSPORT CORP.

LION'S TRANSPORT CORP
12210 Montwood Dr.
Ste. 103-631 El Paso, TX 79928
lionstransport@yahoo.com

FIELD ORDER NUMBER № 105763

BILL TO: Marathon oil permian LLC

TICKET NUMBER	105763	MANIFEST #	
A.F.E. NUMBER		DATE	8/23/19
REQ. OR PURCHASE ORDER NUMBER		ORDERED BY	

DELIVERED FROM: TO

LOCATION: Ender Wiggins 2H 2H 3H WELL OR RIG NO.

TRUCK OR UNIT NO.	CAPACITY	AMOUNT HAULED	TIME IN	TIME OUT	HOURS CRGED	DELIVERED BY
49	130	100	5:30 ○a.m. ○p.m.	3:00 ○a.m. ○p.m.		

DESCRIPTION	○HR ○BBL		RATE	AMOUNT
Working to location at 6:30pm	9:5	Hrs.		
	100	bbls		
Waiting for order to load more water		#KCL		
Problems with bration machine spun worbs		Disp.		
		Disp.		
		Loads		
		Yards		

Terms: _____

Thank You!

SUB-TOTAL
TAX
TOTAL

Esau Beltran
OPERATOR or DRIVER

AUTHORIZED BY: