

# **RECLAMATION REQUEST REPORT**

Toro 22-3 Lea County, New Mexico Incident Number:

nOY1727952679

Prepared For: WPX Energy Permian, LLC 5315 Buena Vista Dr. Carlsbad, NM 88220

Carlsbad • Houston • Midland • San Antonio • Lubbock • Hobbs • Lafayette

#### **SYNOPSIS**

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of WPX Energy Permian, LLC (WPX), presents the following Reclamation Request Report (RRR) to document reclamation activities completed to date, for an inadvertent release of produced water at the Toro 22-3 (Site) (**Figure 1** in **Appendix A**). Based on the recently approved Closure Request Report (CRR) and completed Site restoration activities, WPX believes No Further Action (NFA) appears warranted until vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per NMAC 19.15.29.13 D.(3).

#### SITE BACKGROUND

Between August 22, 2023, and August 29, 2023, excavation activities were performed in adherence with an approved Remediation Work Plan (RWP). Approximately 281 cubic yards (CY) of impacted soil was removed from the Site and transported to a licensed and approved New Mexico landfill under WPX approved manifests. Laboratory analytical results for confirmation excavation soil samples indicated all analyzed concentrations were below the applicable Site Closure Criteria. Since initial response efforts, plugging and abandonment activities at the Site were completed on October 10, 2022.

On September 19, 2023, following the receipt of the laboratory analytical results for final confirmation excavation soil samples, a 20-mil impermeable liner was installed on the excavation floor at approximately 4 feet bgs as proposed in the approved RWP to act as a physical barrier and mitigate residual chloride impacts into the subsurface. Immediately following the liner installation, the excavation was backfilled with clean, locally sourced soil and the Site was restored to "as close to its original state" as possible. A CRR was prepared detailing the remediation summaries and was approved by the New Mexico Oil Conservation Division (NMOCD) on January 19, 2024.

#### **RECLAMATION ACTIVITIES**

Upon receipt of final laboratory analytical results for confirmation excavation soil samples, the excavation which measured approximately 1,895 square feet (sqft), was backfilled with approximately 281 cubic yards (CY) of clean, locally sourced soil to restore the Site to "as close to its original state" as possible (**Figure 2** in **Appendix A**). The final soil cover was contoured to match the Site's pre-existing grade to prevent ponding of water and erosion.

Following the CRR's approval from the NMOCD, the remaining facility underwent final reclamation by stripping and removing the top layer caliche and was re-seeded with Bureau of Land Management (BLM) Seed Mixture 2 (Sandy Sites). The entire facility was re-seeded via hand-broadcast method following BLM guidelines (**Appendix B**), which will provide the maximum results of vegetation regrowth and ground surface coverage to match pre-existing conditions at the Site.

On May 21, 2024, Etech assessed the backfill material used for the excavation and Site for its capacity to host vegetative growth. Two representative 5-point composite soil samples were collected via hand shovel from the soil cover within the excavation area (SC01 and SC02) and one discrete soil sample was collected via hand shovel from undisturbed native soil located outside of the excavation area (BG01) at 0.5-foot bgs. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips, and qualitatively evaluated for nutrient density of pH, Nitrogen (N), Phosphorus (P), and Potassium (K) utilizing a HoldAll® Soil Test Kit according to the operating manual, which is included in **Appendix C**.

Field screening results indicated the backfill material appears to correlate with surrounding soil conditions currently supporting native vegetative growth, as summarized in **Table 1** included in **Appendix D**. The

location of the restoration areas and field screened soil sample locations are shown in **Figure 2** in **Appendix A**. Photographic documentation of restoration activities is included in **Appendix E**.

#### **RECLAMATION APPROVAL REQUEST**

Based on the field assessment of the backfill activities, WPX believes the soil cover of the excavation area has been restored "as close to its original state" as possible to promote vegetative regrowth. Completed restoration activities meet requirements set forth in NMAC 19.15.29.13 regulations and WPX respectfully requests approval of this RRR associated with Incident Number nOY1727952679. As such, NFA appears warranted and a Revegetation Report will be submitted to the NMOCD once vegetation growth in the reclaimed excavation area has uniform vegetative cover that reflects a life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds, per NMAC 19.15.13 D.(3).

If you have any questions or comments, please do not hesitate to contact Joseph Hernandez at (432) 305-6413 or <u>joseph@etechenv.com</u> or Erick Herrera (432) 305-6416 or <u>erick@etechenv.com</u>. **Appendix F** provides correspondence email notification receipts associated with the subject releases. Referenced CRR associated with Incident Number nOY1727952679 is provided in **Appendix G**.

Sincerely, Etech Environmental and Safety Solutions, Inc.

Erich

Erick Herrera Project Geologist

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Joseph S. Hernandez Senior Managing Geologist

cc: Jim Raley, WPX New Mexico Oil Conservation Division Bureau of Land Management

#### Appendices:

- Appendix A: Figure 1: Site Map
  - Figure 2: Restoration Area
- Appendix B: BLM Seed Mixture 2, for Sandy Sites
- Appendix C: HoldAll© Operating Manual
- Appendix D: Tables
- Appendix E: Photographic Logs
- Appendix F: Correspondence & Notifications
- Appendix G: Archived Reports

# **APPENDIX A**

# Figures







## **APPENDIX B**

# BLM Seed Mixture 2 For Sandy Sites



#### Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

Species	l <u>b/acre</u>
Sand dropseed (Sporobolus cryptandrus) Sand love grass (Eragrostis trichodes)	1.0 1.0
Plains bristlegrass (Setaria macrostachya)	2.0

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

# APPENDIX C

# HoldAll© Operating Manual





SOIL TEST KIT





**Plants & Flowers** 

757860

Grasses & Lawns



**Fruits & Veggies** 



**Trees & Shrubs** 





# SOIL TEST KIT

## **Tests Your Soil for a Healthy Garden**

• pH • Nitrogen(N) • Phosphorus(P) • Potassium(K) •

# PREPARING YOUR SUIL SAMPLES

For lawns, annuals or house plants, take the soil sample from about 2-3" below the surface. For perennials especially shrubs, vegetables and fruit, the sample should be from 4" deep.

Avoid touching the soil with your hands. Test different areas of your soil, as it may differ according to past cultivation, underlying soil differences or a localized condition. It is preferable to make individual tests on several samples from different areas, than to mix the samples together.

Place your soil sample into a clean container. Break the sample up with the trowel or spoon and allow it to dry out naturally. This is not essential, however it makes working with the sample easier. Remove any small stones, organic material such as grass, weeds or roots and hard particles of lime. Then crumble the sample finely and mix it thoroughly. Tube caps and capsules are color-coded for simplicity:

Green = pH	Purple = Nitrogen
Blue = Phosphorus	Orange = Potash

#### pH TEST:

1. Remove cap from the green capped tube.

2. Fill tube with soil to the first line.

3. Carefully open a green capsule and pour powder into the tube.

4. Add water (preferably distilled) to the fourth line.

5. Cap tube and shake thoroughly.

**6.** Allow soil to settle and color to develop for about a minute.

**7.** Compare color of solution to the pH color chart. Repeat for remaining capsules.



# pH 7.5 - Alkaline pH 7.0 - Neutral pH 6.5 - Slight A pH 6.0 - Acid pH 5.5 - Acid pH 5.0 - Very Acid

#### NITROGEN, PHOSPHORUS & POTASH TESTS:

Fill a clean jar or can with 1 part soil and 5 parts water. Thoroughly shake or stir the soil and water together for at least one minute and then allow the mixture to stand undisturbed until it settles (30 minutes to 24 hours, dependent on soil). A fine clay soil will take much longer to settle out than a course sandy soil. The clarity of the solution will also vary, the clearer the better, however cloudiness will not affect the accuracy of the test.

PLANT FOOD CHART						
Nitrogen	Phosphorous	Potash				
High	High	High				
Medium	Medium	Medium				
Low	Low	Low				
Very Low	Very Low	Very Low				

**1.** Remove the cap from the tube. (Please note that the color of the capsules should match the color of the tube cap.) Using dropper provided, fill the tube to the fourth line with liquid from your soil mixture. Avoid disturbing the sediment

**2.** Carefully separate the two halves of one of the capsules. Pour the powder into the tube.

**3.** Cap the tube and shake thoroughly. Allow color to develop for 10 minutes.

**4.** Compare color of solution to the appropriate portion of the plant food color chart. For best results allow daylight, not direct sunlight, to illuminate the solution. Note your results. Repeat for remaining capsules.

Raising and lowering pH is not an exact science & most plants have a reasonably wide tolerance, certainly to within 1 pH point. Consult the pH Preference List and you will see that the majority can manage well on a pH around 6.5 but some need an alkaline soil and some a particularly acid soil. Altering pH takes time so do not expect rapid changes; rather, work steadily towards giving a plant its ideal conditions.

#### ADJUSTING pH

pH can be adjusted to provide more suitable growing conditions for the different plants you wish to grow. Or, you can leave the pH of the soil as it is and select plants that like the level revealed by your test. Once you have your pH reading, check the pH Preference List for the pH levels of over 450 popular plants, trees, shrubs, vegetables and fruits. If your pH reading differs significantly from the list's recommended levels, follow instructions below for adjusting soil pH. You can correct pH at any time of the year but it

#### **SOIL TYPES**

Sandy Soils: A light, coarse soil comprised of crumbling and alluvial debris. Loam Soils: A medium friable soil, consisting of a blend of coarse (sand) alluvium and fine (clay) particles mixed within fairly broad limits with a little lime and humus. Clay Soils: A heavy, clinging, impermeable is best to start in the Fall and check progress in the Spring. After working to adjust your soil, retest for pH level in 40-60 days. If results are still significantly off, retreat your soil, not exceeding recommended application levels. Allow one month to pass between adding lime and adding fertilizers.

soil, comprised of very fine particles with little lime and humus and tending to be waterlogged in winter and very dry in summer.

#### **ADJUSTING SOIL pH - HOW MUCH TO APPLY**

Material	phChange	Sandy	Loamy	Clay
Dolomitic or Calcic	+0.5 unit (0.5 pH)	2.5	2.5	2.5
Limestone	+1.0 unit (1.0 pH)	5.0	5.0	5.0
Hydrated Lime	+0.5 unit (0.5 pH)	1.25 - 2.0	1.25 - 2.0	1.25 - 2.0
	+1.0 unit (1.0 pH)	3.5 - 4.0	3.5 - 4.0	3.5 - 4.0
Iron Sulfate	-0.5 unit (0.5 pH)	0.75	0.75	0.75
	-1.0 unit (1.0 pH)	1.5	1.5	1.5
Aluminum Sulfate	-0.5 unit (0.5 pH)	0.5 - 0.75	0.5 - 0.75	0.5 - 0.75
	-1.0 unit (1.0 pH)	1 - 1.25	1 - 1.25	1 - 1.25

Amounts listed are pounds per 100 square feet. Do not add more than 5lbs. of lime or sulfur in one application.

#### FEEDING PRIOR TO PLANTING

Adequate reserves of plant food should be available in the soil before planting vegetables, preparing a seed or flower bed, sodding or seeding a lawn, or planting shrubs and trees. To make up any deficiencies, apply fertilizers from the following chart according to your soil test result.

TEST RESULTS	Very			
Nitrogen Fertilizers (%N)	Low	Low	Medium	High
Dried Blood (11%)	36	19	6	N/A
Nitrate of Soda (16%)	27	14	3	N/A
Phosphate Fertilizers (%P)				
Bone Meal (19%)	27	14	6	N/A
Triple Superphosphate (46%)	10.25	5.25-5.5	2.25	N/A
Potash Fertilizers (%K)				
Muriate of Potash (60%)	8.75-9	4.75-5	2.25-2.5	N/A
Amounts listed are ounces per 100 square feet (Ou	nees referred to are by weight)			

Amounts listed are ounces per 100 square feet. (Ounces referred to are by weight)

#### FEEDING ESTABLISHED PLANTS AND BEDS

Based on your test results, apply the appropriate fertilizer(s) in the amounts recommended in the following chart.

#### **RECOMMENDATIONS FOR N, P AND K RESULTS**

	Very Low			Low			Medium		
	N	P	К	N	Р	K	N	Р	K
Lawn	22.0-22.5	0.75-1.0	4.75-5.0	14.0-14.5	1.0-1.5	2.25-2.5	3.75-4.0	0	0
Fruit	14.0-14.5	6.5	13.5-14.0	7.75-8.0	4.0-4.25	8.75-9.0	3.75-4.0	2.25	4.75-5.0
Flower	14.0-14.25	6.5	13.5-14.0	7.75-8.0	4.0-4.25	8.75-9.0	3.75-4.0	2.25	4.75-5.0
Shrubs (flowering)	14.0-14.25	8.25-8.5	13.5-14.0	7.75-8.0	4.0-4.25	8.75-9.0	3.75-4.0	1.0-1.25	4.75-5.0
Shrubs (foliage)	22.0-22.5	10.5-10.75	8.75-9.0	14.0-14.5	5.25-5.5	4.75-5.0	3.75-4.0	2.25	2.25-2.5
Veggies (root)	14.0-14.25	12.0-12.25	8.75-9.0	14.0-14.5	5.25-5.5	4.75-5.0	3.75-4.0	3.0	2.25-2.5
Veggies (leafy)	28.25-29.0	10.25	8.75-9.0	14.0-14.5	5.25-5.5	4.75-5.0	7.75-8.0	2.25	2.25-2.5
Tree	14.0-14.5	10.25	8.75-9.0	7.75-8.0	5.25-5.5	4.75-5.0	3.75-4.0	2.25	2.25-2.5
General Feed	22.0-22.5	8.25-8.5	8.75-9.0	10.5-11.0	4.0-4.25	4.75-5.0	3.75-4.0	1.0-1.25	2.25-2.5

	High		
	Ν	Р	K
Lawn	N/A	N/A	N/A
Fruit	N/A	N/A	N/A
Flower	N/A	N/A	N/A
Shrubs (flowering)	N/A	N/A	N/A
Shrubs (foliage)	N/A	N/A	N/A
Veggies (root)	N/A	N/A	N/A
Veggies (leafy)	N/A	N/A	N/A
Tree	N/A	N/A	N/A
General Feed	N/A	N/A	N/A

The recommendations are based on the following fertilizers sources: Nitrate of Soda (16% N), Triple Superphosphate (46%P205) and Muriate of Potassium (60% K20). The amounts listed are in oz. /100 sq. ft. (Ounces referred to are by weight, not volume.) If you wish to use other fertilizer, simply check the package for the percentage of nutrients for N, P, & K and adjust the application level accordingly.

#### SPECIAL RECOMMENDATIONS FOR LAWNS

For a new lawn, pay special attention to soil preparation before planting. Proper soil preparation for any size lawn will have a significant impact on the amount of water and care it demands in the future. Till the soil to a depth of at least 12' and incorporate plenty of organic material (9' or more). Test your soil for pH and adjust to the levels recommended on pH Preference List for your type of grass. Refer to the Adjusting Soil pH chart for recommended lime or sulfate applications. For established lawns, Nitrogen is the most essential nutrient to promote lush growth and deep, green color. Phosphorus and Potassium, in lesser quantities, are also important for strong root formation and growth. Compound fertilizers will supply all 3 nutrients, or you can select an individual fertilizer, such as Nitrate of Soda. The following chart gives recommended application levels specifically for lawns, based on your Nitrogen soil test results.

#### **RECOMMENDATIONS FOR LAWNS**

ertilzer Type	Very Low	Low
24-4-4	4.0 lbs.	2.0 lbs.
24-3-4	3.1 lbs.	1.55 lbs.
30-4-4	3.0 lbs.	1.5 lbs.
04.4.4	Medium	High
24-4-4	Medium 1.0 lbs.	High N/A
24-4-4 24-3-4		

Amounts listed are pounds per 1000 square feet.

#### **SAFETY & HYGIENE**

Dispose of test solutions by rinsing down the sink. Empty gelatin capsules should be disposed of immediately with household waste. Wash the test tubes and caps in warm, soapy water immediately after each use. Make sure any sediment or color staining is removed. Rinse well and dry. Each bag of capsules should be stored inside the blister. Fit the caps on each test tube. Place all components back into the package. The blister pack has been specially designed to be reused as a storage container. Store your kit in clean, dry conditions, indoors. The powders are safe in normal domestic terms but like all chemicals and pharmaceuticals, they should be put away and kept out of reach of children. Try to avoid touching the powders. Always wash your hands thoroughly after making your tests. Do not eat, drink or smoke while using the soil test kit. Keep powders away from food, drink and animal feed. If taken internally, drink copious amounts of water and seek medical advice.

#### CAUTIONS

Where a lot of fertilizer is needed to correct one plant food, divide the applications over several weeks. Do not add lime and fertilizer together; lime first. Allow at least one month to pass before applying fertilizer. Retest 30 days after applying fertilizer. NAME

Black

Red

White

APPLE

APRICOT

AVOCADO

BLACKBERRY

CANTALOUPE

CRANBERRY

CURRANT:

DAMSON

GOOSEBERRY

GRAPEVINE

HAZELNUT

HOP

LEMON

LYCHEE

MANGO

MELON

PEACH

PEAR

PLUM

QUINCE

MULBERRY

NECTARINE

PINEAPPLE

RASPBERRY

STRAWBERRY

WATERMELON

ARTICHOKE

BEETROOT

BROCCOLI

CABBAGE

CARROT

CELERY

CHICORY

CHIVES

CRESS

FENNEL

GARLIC

GINGER

KOHLRABI

KALE

LEEK

LENTIL

LETTUCE

MARROW

MILLET

MINT

OLIVE

ONION

PAPRIKA

PARSLEY

PARSNIP

PEANUT

PEPPER

POTATO

PUMPKIN

ROSEMARY

RADISH

RICE

PEPPERMINT

POTATO - SWEET

PISTACHIO

PECAN

PEA

MAR.IORAM

MUSHROOM

MUSTARD

CALABRESE

CAULIFLOWER

CORN - SWEET

COURGETTES

HORSERADISH

CUCUMBER

CHINESE CABBAGE

BASIL

BEAN

ASPARAGUS

(Runner, Broad, French)

BRUSSELS SPROUTS

RHUBARB

POMEGRANATE

GRAPEFRUIT

HUCKLEBERRY

BLUEBERRY

BANANA

CHERRY

FRUIT

SAGE

SHALLOT

SORGHUM

SOYBEAN

SPINACH

SWEDE

THYME

TOMATO

ABUTILON

AECHMEA

AGLAONEMA

AMARYLIS

ANTHURIUM

ARAUCARIA

ASPIDISTRA

AZAELA

BEGONIA

APHELANDRA

ASPARAGUS FERN

BABY'S BREATH

BIRD OF PARADISE

BLACK-EYED SUSAN

BUTTERFLY FLOWER

BABY'S TEARS

BISHOP'S CAP

BOTTLEBRUSH

BOUGAINVILLEA

BLOOD LEAF

BOXWOOD

CACTI

BROMELIADS

CALCAOLARIA

CALADIUM

CALLA LILY

CAMPANULA

CARDINAL FLOWER

CASTOR OIL PLANT

CHINESE EVERGREEN

CHINESE PRIMROSE

CHRISTMAS CACTUS

CANTURY PLANT

CLERODENDRUM

COCKSCOMB

COFFEE PLANT

CORAL BERRY

CREEPING FIG

CROWN OF THORNS

CAPSICUM

CINERARIA

CLIVIA

COLEUS

COLUMNEA

CRASSULA

CROTON

CUPHEA

CYCLAMEN

DIPLADENIA

DRACAENA

EASTER LILY

FUONYMOUS

FPISCIA

FERNS:

FIG

FITTONIA

FREESIA

GARDENIA

ELEPHANT'S EAR

BIRD'S NEST

CHRISTMAS

HART'S TONGUE

MAIDENHAIR

SPLEENWORT

**RABBITS FOOT** 

BOSTON

BUTTON

CLOAK

HOLLY

FEATHER

DIZGOTHECA

DIEFFENBACHIA

CYPERUS

CAMELIA

ACORUS

WATER CRESS

AFRICAN VIOLET

TURNIP

SPEARMINT

pН

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VEGETABLES AND HERBS

NAME

VEGETABLES AND HERBS

HOUSE and GREENHOUSE PLANTS

pH

5.5 - 6.5

55-70

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60-75

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55-65

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60-75

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MYRTLE

OLEANDER

ORCHID

OXALIS

PALMS

PILEA

PANDANUS

PELLIONIA

PEPEROMIA

PLUMBAGO

PODACARPUS

POINTSETTIA

PRAYER PLANT

SANSERIERIA

SAXIFRAGA

SCINDAPSUS

SHRIMP PLANT

SPIDER PLANT

SUCCULENTS

SYNOGONIUM

TRADESCANTIA

UMBRELLA TREE

VENUS FLYTRAF

FLOWERS, TREES

AND SHRUBS

WEEPING FIG

TOLMIEA

YUCCA

ABELIA

ACACIA

ADONIS

AJUGA

ALTHEA

ALYSSUM

ANCHUSA

ANEMONE

ANTHYLLIS

ARBUTUS

ARENARIA

ARISTEA

ARMERIA

ARNICA

AMARANTHUS

ANDROSACE

ACANTHUS

ACONITUM

AGERATUM

AILANTHUS

ZEBRINA

SPANISH BAYONET

POLYSCIAS

POTHOS

PUNICA

PEACOCK PLANT

PHILODENDRON

OPLISMENUS

NEVER NEVER PLANT

NORFOLK ISLAND PINE

NICODEMIA (INDOOR OAK)

#### nt pH Preference List

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	Plant
NAME	pН
HOUSE and GREENHOUSE	
GENISTA	6.5 - 7.5
GERANIUM	6.0 - 8.0
GLOXINIA	5.5 - 6.5
GRAPE IVY	5.0 - 6.5
GRAPE HYACINTH	6.0 - 7.5
GREVILLEA	5.5 - 6.5
GYNURA	5.5 - 6.5
HEDERA (IVY)	6.0 - 8.0
HELIOTROPIUM	5.0 - 6.0
HENS AND CHICKENS	6.0 - 7.0
HERRINGBONE PLANT HIBISCUS PLANT	6.0 - 6.0
	6.0 - 8.0 5.0 - 6.5
HOYA IMPATIENS	5.5 - 6.5
IVY TREE	6.0 - 7.0
JACARANDA	6.0 - 7.0
JAPANESE SEDGE	6.0 - 8.0
JASMINUM	5.5 - 7.0
JERUSALEM CHERRY	5.5 - 6.5
JESSAMONE	5.0 - 6.0
KALANCHOE	6.0 - 7.5
KANGAROO THORN	6.0 - 8.0
KANGAROO VINE	5.0 - 6.5
LANTANA	5.5 - 7.0
LAURUS ( BAY TREE)	5.0 - 6.0
LEMON PLANT	6.0 - 7.5
MIMOSA	5.0 - 7.0
MIND YOUR OWN BUSINESS	5.0 - 5.5
MONSTERA	5.0 - 6.0

NAME FLOWERS, TRE AND SHRUBS	ES	
ASPERULA	6.0	
ASPHODOLINE ASTER	6.0 5.5	
AUBRITA	6.0	
AZALEA BALLOON FLOWER	4.5	
BAYBERRY	4.0	
BERGENIA	6.0	
BLEEDING HEART BLUEBELL	6.0	
BROOM	5.0	
BUDDLEIA BUPHTHALUM	6.0	
BUTTERFLY BUSH	4.0	
CALENDULA	5.5	
CAMASSIA CANDYTUFT	6.0	
CANNA	6.0	
CANTERBURY BELLS CARDINAL FLOWER	7.0	
CARNATION	6.0	
CATALPA	6.0	
CELOSIA CENTAUREA	6.0 5.0	
CERASTIUM	6.0	
CHRYSANTHEMUM	6.0	
CISSUS CISTUS	6.0	
CLARKIA	6.0	)
CLIANTHUS	6.0	
CLEMATIS COLCHICUM	5.5	
COLUMBINE	6.0	)
CONVOLVULUS	6.0 5.0	
CORONILLA	6.5	
CORYDALIS	6.0	
COSMOS COTTONEASTER	5.0	
CRAB APPLE	6.0	
CROCUS	6.0	
CYNOGLOSSUM DAFFODIL	6.0	
DAHLIA	6.0	)
DAY LILY DELPHINIUM	6.0	
DEUTZIA	6.0	
DIANTHUS	6.0	)
DOGWOOD EDELWEISS	5.0	
ELAEAGNUS	5.0	
ENKIANTHUS	5.0	
ERICA EUPHORBIA	4.5	
EVERLASTINGS	5.0	
FIRETHORN	6.0	
FORGET-ME-NOTS FORSYTHIA	6.0	
FOXGLOVE	6.0	)
FRITILLARIA FUCHSIA	6.0 5.5	
GAILLARDIA	6.0	
GAZANIA	5.5	
GENTIANA GEUM	5.0	
GLADIOILI	6.0	
GLOBULARIA GODETIA	5.5	
GOLDEN ROD	5.0	
GYPSOPHILIA	6.0	)
HAWTHORN HEATHER	6.0	
HELIANTHUS	5.0	
HELLEBORUS	6.0	
HOLLY HOLLYHOCK	5.0	
HONEYSUCKLE	6.0	)
HYACINTH	6.5	
HYDRANGEA (Blue) HYDRANGEA (Pink)	4.0	
HYDRANGEA (White)	6.5	5
HYPERICUM	5.5	
IRIS IVY	5.0	
JUNIPER	5.0	)
KALMIA	4.5	
KERRIA LABURNUM	6.0	

FLOWERS, TREES           LAUREL         6.5 - 7.5           LAUREL         6.5 - 7.5           LAVENDER         6.5 - 7.5           LIATRIS         5.5 - 7.5           LIGUSTRUM         5.0 - 7.5           LILAC         6.0 - 7.5           LILY OF THE VALLEY         4.5 - 6.0           LITHOSPERMUM         5.0 - 6.0           MARONIA         5.0 - 7.0           MARIGOLD         5.5 - 7.0           MARIGOLD         5.5 - 7.0           MORAEA         5.5 - 6.5           MORNING GLORY         6.0 - 7.5           MOSS         6.0 - 8.0           MOSS, SPHAGNUM         3.5 - 5.0           MOSS, SPHAGNUM         5.5 - 7.5           NICOTIANA         5.5 - 7.5           NICOTIANA         5.0 - 8.0           PAEONIA         6.0 - 7.5           PACHYSANDRA         5.0 - 6.0           PALOWNIA         6.0 - 7.5           PACHYSANDRA         5.0 - 7.5           PACONIA         6.0 - 7.5           PACHYSANDRA         5.0 - 7.5           PACHYSANDRA         5.0 - 7.5           PACHYSANDRA         5.0 - 7.5           PACHYSANDRA         5.0 - 7.5	NAME	pН
LAUREL         6.5 - 7.5           LAVENDER         6.5 - 7.5           LIATRIS         5.5 - 7.5           LILAC         6.0 - 7.5           LILAC         6.0 - 7.5           LILY OF THE VALLEY         4.5 - 6.0           LITHOSPERMUM         5.0 - 6.0           LUPINUS         5.5 - 7.0           MAGNOLIA         6.0 - 7.0           MARIGOLD         5.5 - 7.0           MORNING GLORY         6.0 - 7.0           MORAEA         5.5 - 6.5           MORNING GLORY         6.0 - 7.0           MARIGOLIA         5.0 - 6.0           MOSS, SPHAGNUM         3.5 - 5.0           MYOSOTIS         6.0 - 7.0           NARCISSUS         6.0 - 8.5           NASTURTIUM         5.5 - 7.0           PACHYSANDRA         5.0 - 8.0           PACHYSANDRA         5.0 - 7.0           PASSION FLOWER         6.0 - 8.0           PALONIA         6.0 - 7.5           PACHYSANDRA         5.0 - 7.0           PASSION FLOWER         6.0 - 7.5           PALOWNIA         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYANTHUS         6.0 - 7	FLOWERS, TREES AND SHRUBS	
LIATRIS         5.5 - 7.5           LIGUSTRUM         5.0 - 7.5           LILY OF THE VALLEY         4.5 - 6.0           LITHOSPERMUM         5.0 - 6.5           LOBELIA         6.5 - 7.5           LUPINUS         5.5 - 7.0           MARIGOLD         5.5 - 7.0           MARIGOLD         5.5 - 7.0           MOLINIA         4.0 - 5.0           MORAEA         5.5 - 6.5           MORNING GLORY         6.0 - 7.5           MOSS         6.0 - 8.0           MOSS, SPHAGNUM         3.5 - 5.0           MYOSOTIS         6.0 - 7.5           NICCTIANA         5.5 - 7.0           PAEONIA         6.0 - 7.5           NICOTIANA         5.5 - 7.0           PASUE FLOWER         6.0 - 8.0           PANSY         5.5 - 7.0           PASION FLOWER         6.0 - 7.5           PALOWINA         6.0 - 7.5           POLYSONUM         6.0 - 7.5           POLYONUM         6.0 - 7.5           POLYONUM         6.0 - 7.5           POLYONUM         6.0 - 7.5           POLYONUM         6.0 - 7.5           PORTULACA         5.5 - 7.0           PINKS         6.0 - 7.5 <t< td=""><td></td><td></td></t<>		
LIGUSTRUM         5.0 - 7.5           LILAC         6.0 - 7.5           LILY OF THE VALLEY         4.5 - 6.0           LITHOSPERMUM         5.0 - 7.5           LUPINUS         5.5 - 7.0           MAGNOLIA         5.0 - 7.0           MARIGOLD         5.5 - 7.0           MARIGOLD         5.5 - 7.0           MORNING GLORY         6.0 - 7.0           MORSS, SPHAGNUM         3.5 - 5.0           MOSS, SPHAGNUM         3.5 - 5.0           MOSS, SPHAGNUM         3.5 - 5.0           MYOSOTIS         6.0 - 8.0           MOSS, SPHAGNUM         5.5 - 7.0           NASTURTIUM         5.5 - 7.0           NASTURTIUM         5.5 - 7.0           NASTURTIUM         5.5 - 7.0           PASSION FLOWER         6.0 - 7.5           PALONIA         6.0 - 7.5           PANSY         5.5 - 7.0           PASSION FLOWER         5.0 - 6.0           PAULOWINIA         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMOSE         5.5 - 6.5           PRIMOSE         5.6 - 7.5           PORTULACA		
LILAC         6.0 - 7.5           LULY OF THE VALLEY         4.5 - 6.0           LITHOSPERMUM         5.0 - 6.5           LOBELIA         6.5 - 7.5           LUPINUS         5.5 - 7.0           MAGNOLIA         5.0 - 6.0           MAHONIA         6.0 - 7.0           MORAEA         5.5 - 6.5           MORNING GLORY         6.0 - 7.5           MOSS         6.0 - 8.0           MOSS, SPHAGNUM         3.5 - 5.0           MYOSOTIS         6.0 - 7.5           NICOTIANA         5.5 - 6.5           NARCISSUS         6.0 - 8.5           NASTURTIUM         5.5 - 7.0           PASSION FLOWER         6.0 - 7.5           PASSION FLOWER         6.0 - 7.5           PANSY         5.5 - 7.0           PASUE FLOWER         5.0 - 7.0           PASION FLOWER         6.0 - 7.5           PANSY         5.5 - 7.0           PASUE FLOWER         6.0 - 7.5           POLYONIM         6.0 - 7.5           POLYONIM         6.0 - 7.5           POLYONIM         6.0 - 7.5           PORTULACA         5.5 - 7.0           PARMINES         6.0 - 7.5           PORTULACA         5.5 - 7.0		
LITHOSPERMUM 5.0 - 6.5 LOBELIA 6.5 - 7.5 LUPINUS 5.5 - 7.0 MAGNOLIA 5.0 - 6.0 MAHONIA 6.0 - 7.0 MARIGOLD 5.5 - 7.0 MORIG LODY 6.0 - 7.5 MOSS 6.0 - 8.0 MOSS, SPHAGNUM 3.5 - 5.0 MYOSOTIS 6.0 - 7.0 NARCISSUS 6.0 - 8.5 NASTURTIUM 5.5 - 7.5 NICOTIANA 5.5 - 6.5 PACHYSANDRA 5.0 - 8.0 PAEONIA 6.0 - 7.5 PANSY 5.7.0 PASSION FLOWER 6.0 - 8.0 PASQUE FLOWER 5.0 - 6.0 PAULOWNIA 6.0 - 7.5 POLYGONUM 6.0 - 7.5 PETUNIA 6.0 - 7.5 POLYGONUM 6.0 - 7.5 PORTULACA 5.5 - 7.5 PRIMROSE 5.5 - 6.5 PRIMUEL 5.7 - 7.0 CLIMBING 6.0 - 7.5 RED HOT POKER 6.0 - 7.5 SEDUM 6.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 5.5 - 7.0 CLIMBING 6.0 - 7.5 SEDUM 6.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 5.5 - 7.0 VIDLA 6.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 5.5 - 7.0 VIDLA 6.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 5.0 - 7.0 SWEET PEA 6.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 5.5 - 7.5 VIDLA 6.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 5.5 - 7.5 VIDLA 6.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 5.5 - 7.5 VIDLA 6.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 5.5 - 7.5 VIDLA 6.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 6.0 - 7.5 SUMACK 6.0 - 7.5 SUMACK 6.0 - 7.5 SUMACK 6.0 - 7.5 SUMACK 6.0 - 7		
LOBELIA         6.5 - 7.5           LUPINUS         5.5 - 7.0           MAGNOLIA         5.0 - 6.0           MARIGOLD         5.5 - 7.0           MORNING GLORY         6.0 - 7.5           MOSS         6.0 - 8.0           MOSS, SPHAGNUM         3.5 - 5.0           MYOSOTIS         6.0 - 7.5           MOSS         6.0 - 8.5           NASTURTIUM         5.5 - 7.5           NICOTIANA         5.5 - 6.5           PACMYSANDRA         5.0 - 8.0           PASSION FLOWER         6.0 - 8.0           PASSION FLOWER         6.0 - 7.5           PASSION FLOWER         6.0 - 7.5           PASUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           POLYSONUM         6.0 - 7.5           POLYONUM         6.0 - 7.5           POLYONUM         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           PORTULACA         5.5 - 7.0           PRIMROSE         5.5 - 6.5           PRIMULA         6.0 - 7.5           PORTULACA         5.5 - 7.0           POLYANTHUS         6.0 - 7.5           PORUELA         6.0 - 7.5		
LUPINUS 5.5 - 7.0 MAGNOLIA 5.0 - 6.0 MAHONIA 6.0 - 7.0 MARIGOLD 5.5 - 7.0 MOLINIA 4.0 - 5.0 MORAEA 5.5 - 6.5 MORNING GLORY 6.0 - 7.5 MOSS 6.0 - 8.0 MOSS, SPHAGNUM 3.5 - 5.0 MYOSOTIS 6.0 - 7.0 NARCISSUS 6.0 - 8.5 NASTURTIUM 5.5 - 7.5 NICOTIANA 5.5 - 6.5 PACHYSANDRA 5.0 - 8.0 PAEONIA 6.0 - 7.5 PACHYSANDRA 5.0 - 8.0 PASQUE FLOWER 6.0 - 8.0 PASQUE FLOWER 5.0 - 6.0 PAULOWNIA 6.0 - 7.5 PATHYS 6.0 - 7.5 PINKS 6.0 - 7.5 PINKS 6.0 - 7.5 POLYGNUM 6.0 - 7.5 POLYGNUM 6.0 - 7.5 PORTULACA 5.5 - 7.5 PRIVET 5.0 - 6.5 PRIVET 5.0 - 7.5 PRIVET 5.0 - 7.5 SCABIOSA 5.0 - 7.5 SEDUM 6.0 - 7.5 SCABIOSA 5.0 - 7.5 SPRUCE 4.0 - 6.0 SOAPWORT 6.0 - 7.5 SPRUCE 4.0 - 6.0 SOAPWORT 6.0 - 7.5 SPRUCE 4.0 - 6.0 SUNFLOWER 5.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 5.0 - 7.5 SUMACK 5.0 - 7.5 SUMACK 5.0 - 6.5 SUNFLOWER 6.0 - 7.5 SUMACK 5.0 - 6.5 SUMACK 5.0 - 7.5 SUMACK 5.0 - 7.5 SUMACK		
MAGNOLIA         5.0 - 6.0           MAHONIA         6.0 - 7.0           MARIGOLD         5.5 - 7.0           MOLINIA         4.0 - 5.0           MORAEA         5.5 - 6.5           MORNING GLORY         6.0 - 7.5           MOSS         6.0 - 8.0           MOSS         6.0 - 7.0           NARCISSUS         6.0 - 8.5           NASTURTIUM         5.5 - 7.5           NICOTIANA         5.5 - 6.5           PACHYSANDRA         5.0 - 6.0           PASSION FLOWER         6.0 - 7.5           PASQUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           PETUNIA         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMIRUA         6.0 - 7.5           PORTULACA         5.5 - 7.0           PASONE         6.5 - 7.5           PRINULA         6.0 - 7.5           PRIVET         5.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNDELA         6.0 - 7.5           PRUNDELA         6.0 - 7.5		
MARIGOLD         5.5 - 7.0           MOLINIA         4.0 - 5.0           MORAEA         5.5 - 6.5           MORNING GLORY         6.0 - 7.5           MOSS         SPHAGNUM         3.5 - 5.0           MYOSOTIS         6.0 - 7.0           NARCISSUS         6.0 - 8.5           NASTURTIUM         5.5 - 7.5           NICOTIAN         5.5 - 6.5           PACHYSANDRA         5.0 - 8.0           PAEONIA         6.0 - 7.5           PASSION FLOWER         6.0 - 8.0           PASSION FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 7.5           PRIMCE         5.6 - 7.5           PRIMULA         6.0 - 7.5           PORTULACA         5.5 - 7.5           PRIMUS         6.5 - 7.5           PRIMUS         6.5 - 7.5           PRINUS         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRIMELA         6.0 - 7.5 <td></td> <td></td>		
MOLINIA         4.0 - 5.0           MORAEA         55 - 6.5           MORNING GLORY         6.0 - 7.5           MOSS         6.0 - 8.0           MOSS, SPHAGNUM         3.5 - 5.0           MYOSOTIS         6.0 - 7.5           NICCTIANA         5.5 - 7.5           NICOTIANA         5.5 - 7.0           PASUB FLOWER         6.0 - 8.0           PASNY         5.5 - 7.0           PASSION FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           PACHYSANDRA         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           PASQUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRINCE         5.5 - 6.5           PRINCE         5.5 - 7.0           PORTULACA         5.5 - 7.5           PRINELA         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           PRINUS         6.5 - 7.5           PRINUS         6.5 - 7.5           PRINDRAGON         5.5 - 7.0		
MORAEA         5.5 - 6.5           MORNING GLORY         6.0 - 7.5           MOSS         6.0 - 8.0           MOSS, SPHAGNUM         3.5 - 5.0           MYOSOTIS         6.0 - 8.5           NARCISSUS         6.0 - 8.5           NASTURTIUM         5.5 - 7.5           NICOTIANA         5.5 - 6.5           PACHYSANDRA         5.0 - 6.0           PASQUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           PASQUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           PETUNIA         6.0 - 7.5           PENSTEMON         5.5 0 7.0           PERWINKLE         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 7.5           PRIMROSE         5.5 - 6.5           PRIMULA         6.0 - 7.5           PORDY         6.0 - 7.5           PORTULACA         5.5 - 7.0           PRIMULA         6.0 - 7.5           PRIMULA         6.0 - 7.5           PRUNELLA         6.0 - 7.5           SCABIOSA         5.0 - 7.0           RAMBLING         5.5 - 7.0      <		
MOSS         6.0 - 8.0           MOSS, SPHAGNUM         3.5 - 6.0           MYOSOTIS         6.0 - 7.0           NARCISSUS         6.0 - 8.5           NASTURTIUM         5.5 - 7.5           NICOTIANA         5.5 - 6.5           PACHYSANDRA         5.0 - 8.0           PACHYSANDRA         5.0 - 8.0           PASQUE FLOWER         6.0 - 8.0           PASQUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           PAULOWNIA         6.0 - 7.5           PERIWINKLE         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMROSE         5.5 - 6.5           PRIMULA         6.0 - 7.5           PORTULACA         5.5 - 7.0           PRINOSE         5.5 - 6.5           PRINUS         6.5 - 7.5		
MOSS, SPHAGNUM         3.5 - 5.0           MYOSOTIS         6.0 - 7.0           NARCISSUS         6.0 - 8.5           NASTURTIUM         5.5 - 7.5           NICOTIANA         5.5 - 6.5           PACHYSANDRA         5.0 - 8.0           PAEONIA         6.0 - 7.5           PASQUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           PETUNIA         6.0 - 7.5           PETUNIA         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMROSE         5.5 - 6.5           PRIMULA         6.0 - 7.5           POLYB         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRINUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PRUNELA         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           SCABIOSA         5.0 - 7.0           SALVIA         6.0 - 7.5		
MYOSOTIS         6.0 - 7.0           NARCISSUS         6.0 - 8.5           NASTURTIUM         5.5 - 7.5           NICOTIANA         5.5 - 6.5           PACHYSANDRA         5.0 - 8.0           PASOUF         6.0 - 7.5           PANSY         5.5 - 7.0           PASSION FLOWER         6.0 - 8.0           PASUE FLOWER         5.0 - 6.0           PANLY         5.5 - 7.0           PENSTEMON         5.5 0 7.0           PERIWINKLE         6.0 - 7.5           POLLOWINA         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 7.5           PRIMROSE         5.5 - 6.5           PRIMULA         6.0 - 7.5           PORTULACA         5.5 - 7.0           PRIVET         5.0 - 7.5           PRIMOLA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.0           RED HOT POKER         6.0 - 7.5           RHODOENDREN         4.5 - 6.0           ROSCES:         HYBRID TEA         5.5 - 7.0           SALVIA         6.0 - 7.5 <td></td> <td></td>		
NARCISSUS         6.0 - 8.5           NASTURTIUM         5.5 - 7.5           NICOTIANA         5.5 - 6.5           PACHYSANDRA         5.0 - 8.0           PAEONIA         6.0 - 7.5           PANSY         5.5 - 7.0           PASSION FLOWER         6.0 - 8.0           PASUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           PERWINKLE         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMCE         5.0 - 7.5           PRIMULA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRIMULA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRUNELLA         6.0 - 7.5           PRUNUS         6.5 - 7.0           CLIMBING         5.5 - 7.0           RADDODENDREN         4.5 - 6.0           ROSOAPWORT         6.0 - 7.5           SNAPDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 7.5		
NICOTIANA         5.5 - 6.5           PACHYSANDRA         5.0 - 8.0           PAEONIA         6.0 - 7.5           PANSY         5.5 - 7.0           PASSION FLOWER         6.0 - 8.0           PASQUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 7.5           PENSTEMON         5.5 0 7.0           PERWINKLE         6.0 - 7.5           PETUNIA         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMULA         6.0 - 7.5           PORTULACA         5.5 - 7.5           PRIMROSE         5.5 - 6.5           PRIVET         5.0 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.0           CLIMBING         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           SCABIOSA         5.0 - 7.0           RAMBLING         5.5 - 7.0           CLIMBING         6.0 - 7.5           SEDUM         6.0 - 7.5           SPRUCE         4.0 - 5.0 <t< td=""><td></td><td>6.0 - 8.5</td></t<>		6.0 - 8.5
PACHYSANDRA         5.0 - 8.0           PAEONIA         6.0 - 7.5           PANSY         5.5 - 7.0           PASSION FLOWER         6.0 - 8.0           PASSION FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 8.0           PENSTEMON         5.5 0 7.0           PERSTEMON         5.5 0 7.0           PERSTEMON         5.5 0 7.0           PERSTEMON         5.5 0 7.0           PERSTEMON         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMULA         6.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           RHODDDENDREN         4.5 - 6.0           ROSES:         -           HYBRID TEA         5.5 - 7.0           SALVIA         6.0 - 7.5           SNAPDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 7.5 <td< td=""><td></td><td></td></td<>		
PAEONIA         6.0 - 7.5           PANSY         5.5 - 7.0           PANSY         5.5 - 7.0           PASSION FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 8.0           PENSTEMON         5.5 0 7.0           PERWINKLE         6.0 - 7.5           PINKS         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           PORYANTHUS         6.0 - 7.5           PORYANTHUS         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMOSE         5.5 - 6.5           PRIMOSE         5.5 - 6.5           PRIMOSE         5.5 - 7.5           PRINELA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRIMOSE         5.5 - 7.0           CLIMBING         6.5 - 7.5           PYRETHRUM         6.0 - 7.5           RADDENDEN         4.5 - 6.0           RODEDENDREN         4.5 - 6.0           RAMBLING         5.5 - 7.0           CLIMBING         6.0 - 7.5           SALVIA         6.0 - 7.5           SNAPDRAGON         5.5 - 7.0           S		
PASSION FLOWER         6.0 - 8.0           PASQUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 8.0           PENSTEMON         5.5 0 7.0           PERSTEMON         5.5 0 7.0           PERSTEMON         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 7.5           PRIMROSE         5.5 - 6.5           PRIMULA         6.0 - 7.5           PORTULACA         5.5 - 7.5           PRIMON         6.0 - 7.5           PRIVET         5.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PYRETHRUM         6.0 - 7.5           RHODODENDREN         4.5 - 6.0           ROSES:         HYBRID TEA         5.5 - 7.0           HYBRID TEA         5.5 - 7.0           SALVIA         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SPURAGON         5.5 - 7.0           SALVIA         6.0 - 7.5           SPIRAEA         6.0 - 7.5           SPIRAEA         6.0 - 7.5 <td></td> <td></td>		
PASQUE FLOWER         5.0 - 6.0           PAULOWNIA         6.0 - 8.0           PENSTEMON         5.5 0 7.0           PERWINKLE         6.0 - 7.5           PETUNIA         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           PORYULACA         5.5 - 6.5           PRIMROSE         5.5 - 6.5           PRIMULA         6.0 - 7.5           PRIMULA         6.0 - 7.5           PRINELLA         6.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRUNELA         6.0 - 7.5           PRUNUS         6.5 - 7.0           CLIMBING         6.0 - 7.5           SCABIOSA         5.0 - 7.0           SALVIA         6.0 - 7.5           SCABIOSA         5.0 - 7.0           SNOWDROP         6.0 - 7.5           SPUCE         4.0 - 6.0           SOAPWORT         6.0 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET		
PAULOWINIA         6.0 - 8.0           PENSTEMON         55 0 7.0           PERIWINKLE         6.0 - 7.5           PETUNIA         6.0 - 7.5           PINKS         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMULA         6.0 - 7.5           PRINUET         5.0 - 7.5           PRINUES         6.5 - 7.5           PRINUS         6.5 - 7.5           PRETHRUM         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           SCABIOSA         5.0 - 7.0           SALVIA         6.0 - 7.5           SEDUM         6.0 - 7.5           SPEDWELL         5.5 - 6.5           SOAPWORT         6.0 - 7.5           SPRUCE         4.0 - 6.0           SOAPWORT         6.0 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER		
PENSTEMON         5.5 0 7.0           PERWINKLE         6.0 - 7.5           PETUNIA         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYGONUM         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMROSE         5.5 - 6.5           PRIMULA         6.0 - 7.5           PORTULACA         5.5 - 7.5           PRIMROSE         5.5 - 6.5           PRIVET         5.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRED HOT POKER         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           SCABIOSA         5.0 - 7.0           SALVIA         6.0 - 7.5           SCABIOSA         5.0 - 7.0           SALVIA         6.0 - 7.5           SPRUCE         4.0 - 5.0           STOCK         6.0 - 7.5           SPRUCE         4.0 - 5.0           STOCK         6.0 - 7.5           SUMFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5		
PETUNIA         6.0 - 7.5           PINKS         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMOSE         5.5 - 6.5           PRIVET         5.0 - 7.5           PRUNELA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRIDNES         6.5 - 7.6           CROBES:		
PINKS         6.0 - 7.5           POLYGONUM         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMUCA         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMULA         6.0 - 7.5           PRIMULA         6.0 - 7.5           PRIMULA         6.0 - 7.5           PRUNET         5.0 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PRUDELA         6.0 - 7.5           PRUDELA         6.0 - 7.5           PRIDUS         6.5 - 7.0           CLIMBING         6.0 - 7.0           RAMBLING         5.5 - 7.0           CLIMBING         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5           SNAPDRAGON         5.5 - 6.5           SNAPDRAGON         5.5 - 6.5           SPRUCE         4.0 - 6.0           SOAPWORT         6.0 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER <t< td=""><td></td><td></td></t<>		
POLYGONUM         6.0 - 7.5           POLYANTHUS         6.0 - 7.5           POPPY         6.0 - 7.5           PORTULACA         5.5 - 6.5           PRIMROSE         5.5 - 6.5           PRIVET         5.0 - 7.5           PRUNES         6.5 - 7.5           PRUNET         5.0 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PRETHRUM         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           RHODOENDREN         4.5 - 6.0           ROSES:         -           HYBRID TEA         5.5 - 7.0           SALVIA         6.0 - 7.5           SEDUM         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SINAPDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 8.0           SOAPWORT         6.0 - 7.5           SPRUCE         4.0 - 5.0           STOCK         6.0 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET PEA         6.0 - 7.5           SWEET PEA		
POLYANTHUS         6.0 - 7.5           POPPY         6.0 - 7.5           PORTULACA         5.5 - 7.5           PRIMROSE         5.5 - 6.5           PRIMULA         6.0 - 7.5           PRIVET         5.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRETHRUM         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           RHODODENDREN         4.5 - 6.0           ROSES:         -           HYBRID TEA         5.5 - 7.0           CLIMBING         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SNAPDRAGON         5.5 - 6.5           SNAPDRAGON         5.5 - 6.5           SPRUCE         4.0 - 5.0           STONECROP         6.5 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.5           SWACK         5.0 - 6.5           SWEET PEA <td></td> <td></td>		
PORTULACA         5.5 - 7.5           PRIMROSE         5.5 - 6.5           PRIMROSE         5.5 - 6.5           PRIVET         5.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRUNELA         6.0 - 7.5           PRED HOT POKER         6.0 - 7.5           RHODDENDREN         4.5 - 6.0           ROSES:		6.0 - 7.5
PRIMROSE         5.5 - 6.5           PRINULA         6.0 - 7.5           PRIVET         5.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PRUNELLA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRURETHRUM         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           RHODODENDREN         4.5 - 6.0           ROSES:         -           HYBRID TEA         5.5 - 7.0           SALVIA         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5           SNAPDRAGON         5.5 - 7.0           SNAWDROP         6.0 - 8.0           SOAPWORT         6.0 7.5           SPRUCE         4.0 - 5.0           STONECROP         6.5 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.5           SUALUIM         5.0 - 6.5           SWEET PEA         6.0 - 7.0           SWEET PEA		
PRIMULA         6.0 - 7.5           PRIVET         5.0 - 7.5           PRUNELLA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PRUNUS         6.5 - 7.5           PYRETHRUM         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           RHODODENDREN         4.5 - 6.0           ROSES:		
PRUNELLA         6.0 - 7.5           PRUNUS         6.5 - 7.5           PYRETHRUM         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           RHODODENDREN         4.5 - 6.0           ROSES:         HYBRID TEA         5.5 - 7.0           LIMBING         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SCABIOSA         5.5 - 7.0           SNAWDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 7.5           SPEDWELL         5.5 - 6.5           SPRUCE         4.0 - 5.0           STOCK         6.0 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.5           SUMELOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           VIDERNUM         5.0 - 7.5           VIDLP         6.0 - 7.5           VIDLIP         6.0 - 7.5           VIDLIP         6.0 - 7.5		
PRUNUS         6.5 - 7.5           PYRETHRUM         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           RHODDENDREN         4.5 - 6.0           ROSES:         -           HYBRID TEA         5.5 - 7.0           CLIMBING         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5           SCABIOSA         5.5 - 7.0           SNAPDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 8.0           SOAPWORT         6.0 7.5           SPEDWELL         5.5 - 6.5           SPIRAEA         6.0 - 7.5           STONECROP         6.5 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.5           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         5.0 - 7.5           SWEET WILLIAM         5.0 - 7.5           VIRGINIA CREEPER         5.0 - 7.5           VIRGINIA CREEPER         5.0 - 7.5           WALFLOWER         5.5 - 7.5 <t< td=""><td></td><td></td></t<>		
PYRETHRUM         6.0 - 7.5           RED HOT POKER         6.0 - 7.5           RHODODENDREN         4.5 - 6.0           ROSES:         HYBRID TEA         5.5 - 7.0           CLIMBING         6.0 - 7.5           SALVIA         6.0 - 7.5           SALVIA         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5           SNAPDRAGON         5.5 - 7.0           SNAPDRAGON         5.5 - 7.0           SNAPDRAGON         5.5 - 7.5           SPEUM         6.0 - 7.5           SPREDWELL         5.5 - 6.5           SPIRAEA         6.0 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         5.0 - 7.5           SUNFLOWER         5.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           VIDLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           VIDLA         5.5 - 6.5           VIRGINIA CREEPE		
RED HOT POKER         6.0 - 7.5           RHODODENDREN         4.5 - 6.0           ROSES:         -           HYBRID TEA         5.5 - 7.0           CLIMBING         6.0 - 7.5           SCALVIA         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5           SEDUM         6.0 - 7.5           SNAUVIA         6.0 - 7.5           SEDUM         6.0 - 7.5           SPEDUM         6.0 - 7.5           SPEDWELL         5.5 - 6.5           SPRUCE         4.0 - 5.0           STONE COP         6.5 - 7.5           SUMACK         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SUNFLOWER         5.0 - 7.5           VIDERNUM         5.0 - 7.5           VIDLIUM         6.0 - 7.5           VIDERNUM         5.0 - 7.5           VIDLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           VIDLA         5.5 - 6.5           WEIGELIA		
ROSES:         HYBRID TEA         5.5 - 7.0 CLIMBING         6.0 - 7.0 RAMBLING         5.5 - 7.0 S. 7.0           SALVIA         6.0 - 7.5         SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5         SNAPDRAGON         5.5 - 7.0           SNAPDRAGON         5.5 - 7.0         SNAVDROP         6.0 - 8.0           SOAPWORT         6.0 7.5         SPEEDWELL         5.5 - 6.5           SPIRAEA         6.0 - 7.5         SPRUCE         4.0 - 5.0           STOCK         6.0 - 7.5         STONECROP         6.5 - 7.5           SUMACK         5.0 - 6.5         SUNFLOWER         5.0 - 7.0           SWEET VILLIAM         6.0 - 7.5         SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5         SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         5.0 - 6.5         TULIP         6.0 - 7.5           VIRGINIA CREEPER         5.0 - 7.5         WALFLOWER         5.5 - 7.5           VIRGINIA CREEPER         5.0 - 7.5         WALFLOWER         5.5 - 7.5           VIRTER LILY         5.5 - 6.5         WEITERIA         6.0 - 7.0           VINTARIA         6.0 - 8.0         2INNIA         5.5 - 6.5           BERMUDA         6.0 - 7.0         5.6 - 6.5 </td <td></td> <td></td>		
HYBRID TEA         5.5 - 7.0           CLIMBING         6.0 - 7.0           RAMBLING         5.5 - 7.0           SALVIA         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5           SNAPPRAGON         5.5 - 7.0           SNAPDRAGON         5.5 - 7.0           SNAPDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 7.5           SPEEDWELL         5.5 - 6.5           SPRUCE         4.0 - 5.0           STONECROP         6.5 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           VIDLP         6.0 - 7.5           VIDLP         6.0 - 7.5           VIDLIP         6.0 - 7.5           VIDLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           VIDLA         5.5 - 6.5           WEIGELIA         6.0 - 7.0           ZINNIA         5.5 - 6.5		4.5 - 6.0
CLIMBING         6.0 - 7.0           RAMBLING         5.5 - 7.0           SALVIA         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5           SEDUM         6.0 - 7.5           SNAPDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 8.0           SOAPWORT         6.0 - 7.5           SPEDWELL         5.5 - 6.5           SPRAEA         6.0 - 7.5           SPRUCE         4.0 - 5.0           STOCK         6.0 - 7.5           SUNACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           VALLFLOWER         5.5 - 7.5           WALFLOWER         5.5 - 7.5           WALFLOWER         5.5 - 7.5           WIRGINIA CREEPER         5.0 - 7.5           WIRGINIA CREEPER         5.0 - 7.5		5.5 - 7.0
SALVIA         6.0 - 7.5           SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5           SIAPDRAGON         5.5 - 7.0           SNAPDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 8.0           SOAPWORT         6.0 - 7.5           SPEEDWELL         5.5 - 6.5           SPIRAEA         6.0 - 7.5           SPRUCE         4.0 - 6.0           STOKCK         6.0 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         5.0 - 6.5           TRILLIUM         5.0 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           VIDLA         5.0 - 7.5           VIDLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WISTARIA         6.0 - 7.0           ZINNIA         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.5	CLIMBING	6.0 - 7.0
SCABIOSA         5.0 - 7.5           SEDUM         6.0 - 7.5           SIMAPDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 8.0           SOAPWORT         6.0 7.5           SPEDWELL         5.5 - 6.5           SPRUCE         4.0 - 5.0           STONECROP         6.5 - 7.5           SUMACK         5.0 - 7.0           SWET PEA         6.0 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           VIDLIP         6.0 - 7.5           VIDLA         5.5 - 8.5           VIDLA         5.5 - 7.5           VIDLA         5.5 - 7.5           WATER LILY         5.5 - 6.5           WEIGELIA         6.0 - 7.0           SINARIA         6.0 - 8.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES           BAHAI         6.5 - 7.5           BERMUDA         6.0 - 7.0           CANADA BLUE		
SEDUM         6.0 - 7.5           SNAPDRAGON         5.5 - 7.0           SNOWDROP         6.0 - 8.0           SOAPWORT         6.0 7.5           SPEEDWELL         5.5 - 6.5           SPIRAEA         6.0 - 7.5           SPRUCE         4.0 - 5.0           STOCK         6.0 - 7.5           SUNACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWET WILLIAM         6.0 - 7.5           SWET WILLIAM         6.0 - 7.5           TRILLIUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           VIATER LILY         5.5 - 6.5           WISTARIA         6.0 - 7.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES         BAHAI           BAHAI         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0		
SNOWDROP         6.0 - 8.0           SOAPWORT         6.0 7.5           SPEEDWELL         5.5 - 6.5           SPIRAEA         6.0 - 7.5           SPRUCE         4.0 - 5.0           STONECROP         6.5 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           VIDERNUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALFLOWER         5.5 - 7.5           WATER LILY         5.5 - 6.5           WISTARIA         6.0 - 8.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES           BAHAI         6.5 - 7.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.5           MADAS         6.0 - 7.5           PAMPAS         6.0 - 7.5           PAMPAS	SEDUM	
SOAPWORT         6.07.5           SPEEDWELL         55-6.5           SPIRAEA         6.0-7.5           SPRUCE         4.0-5.0           STOCK         6.0-7.5           STONECROP         6.57.5           SUMACK         5.0-6.5           SUNFLOWER         5.0-7.0           SWEET PEA         6.0-7.5           SWEET WILLIAM         6.0-7.5           TAMARIX         6.5-8.0           TRILLIUM         5.0-6.5           VIDERNUM         5.0-7.5           VIDERNUM         5.0-7.5           VIDERNUM         5.0-7.5           VIDLA         5.5-6.5           VIRGINIA CREEPER         5.0-7.5           WALLFLOWER         5.5-7.5           WALLFLOWER         5.5-7.5           WALLFLOWER         5.5-7.5           WALLFLOWER         5.5-7.5           WISTARIA         6.0-7.0           ZINNIA         5.5-7.5           TURF AND ORNAMENTAL GRASSES           BAHAI         6.5-7.5           BENT         5.5-6.5           BERMUDA         6.0-7.0           CANADA BLUE         4.5-6.4           CLOVER         6.0-7.5 <t< td=""><td></td><td></td></t<>		
SPEEDWELL         5.5 - 6.5           SPIRAEA         6.0 - 7.5           SPRUCE         4.0 - 5.0           STOCK         6.0 - 7.5           SUNECROP         6.5 - 7.5           SUNACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           TAMARIX         6.5 - 8.0           TRILLIUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALFLOWER         5.5 - 7.5           WATER LILY         5.5 - 6.5           WISTARIA         6.0 - 7.0           VIBERNUA         6.5 - 7.5           TURF AND ORNAMENTAL GRASSES         BAHAI           BAHAI         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 7.0		
SPRUCE         4.0 - 5.0           STOCK         6.0 - 7.5           STONECROP         6.5 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           TAMARIX         6.5 - 8.0           TRILLIUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WATER LILY         5.5 - 6.5           WISTARIA         6.0 - 7.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES           BAHAI         6.5 - 7.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 7.5           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE <td></td> <td></td>		
STOCK         6.0 - 7.5           STONECROP         6.5 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           TAMARIX         6.5 - 8.0           TRILLIUM         5.0 - 6.5           VIDLP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALLFLOWER         5.5 - 7.5           WALLFLOWER         5.5 - 7.5           WATER LILY         5.5 - 6.5           WEIGELIA         6.0 - 7.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES         BAHAI           BAHAI         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 7.5           PAMPAS         6.0 - 8.0           REYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5		
STONECROP         6.5 - 7.5           SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           TAMARIX         6.5 - 8.0           TRILLIUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALLFLOWER         5.5 - 7.5           WATER LILY         5.5 - 6.5           WIEGELIA         6.0 - 7.0           VIBERNUA         5.5 - 7.5           WATER LILY         5.5 - 6.5           WISTARIA         6.0 - 7.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES         BAHAI           BAHAI         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.0           RED TOP         6.0 - 6.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0		
SUMACK         5.0 - 6.5           SUNFLOWER         5.0 - 7.0           SWEET PEA         6.0 - 7.5           SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           TAMARIX         6.5 - 8.0           TRILLIUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALLFLOWER         5.5 - 6.5           WISTARIA         6.0 - 7.0           ZINNIA         5.5 - 6.5           BAHAI         6.0 - 7.0           ZINNIA         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
SWEET PEA         6.0 - 7.5           SWEET WILLIAM         6.0 - 7.5           TAMARIX         6.5 - 8.0           TRILLIUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALLFLOWER         5.5 - 6.5           WEIGELIA         6.0 - 7.5           WISTARIA         6.0 - 8.0           ZINNIA         5.5 - 6.5           BAHAI         6.5 - 7.5           BAHAI         6.5 - 7.5           COVER         6.0 - 7.0           CANADA BLUE         4.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 8.0           RED TOP         6.0 - 8.0           RED TOP         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
SWEET WILLIAM         6.0 - 7.5           TAMARIX         6.5 - 8.0           TRILLIUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALLFLOWER         5.5 - 6.5           WATER LILY         5.5 - 6.5           WISTARIA         6.0 - 7.5           JINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES         BAHAI           BAHAI         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
TAMARIX         6.5 - 8.0           TRILLIUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALLFLOWER         5.5 - 7.5           WATER LILY         5.5 - 6.5           WISTARIA         6.0 - 7.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES         BAHAI           BATAI         6.5 - 7.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.5           PAMPAS         6.0 - 7.5           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
TRILLIUM         5.0 - 6.5           TULIP         6.0 - 7.0           VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALFLOWER         5.5 - 7.5           WATER LILY         5.5 - 6.5           WEIGELIA         6.0 - 7.5           WISTARIA         6.0 - 8.0           ZINNIA         5.5 - 7.5           BAHAI         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 8.5           RYE         6.0 - 7.0           ST.AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
VIBERNUM         5.0 - 7.5           VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALLFLOWER         5.5 - 6.5           WATER LILY         5.5 - 6.5           WISTARIA         6.0 - 7.5           VINTARIA         6.0 - 7.5           TURF AND ORNAMENTAL GRASSES         BAHAI           BAHAI         6.5 - 7.5           TURF AND ORNAMENTAL GRASSES         BAHAI           CLOVER         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RED TOP         6.0 - 6.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		5.0 - 6.5
VIOLA         5.5 - 6.5           VIRGINIA CREEPER         5.0 - 7.5           WALLFLOWER         5.5 - 7.5           WATER LILY         5.5 - 6.5           WEIGELIA         6.0 - 7.5           WISTARIA         6.0 - 8.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES           BAHAI         6.5 - 7.5           DENT         5.5 - 6.5           BERT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
VIRGINIA CREEPER         5.0 - 7.5           WALLFLOWER         5.5 - 7.5           WATER LILY         5.5 - 6.5           WEIGELIA         6.0 - 7.5           WISTARIA         6.0 - 8.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES           BAHAI         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.5           MEADOW         6.0 - 7.5           MEADOW         6.0 - 8.0           RED TOP         6.0 - 8.0           REVE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
WATER LILY         5.5 - 6.5           WEIGELIA         6.0 - 7.5           WISTARIA         6.0 - 8.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES           BAHAI         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.5           MEADOW         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
WEIGELIA         6.0 - 7.5           WISTARIA         6.0 - 8.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES           BAHAI         6.5 - 7.5           BERM         6.5 - 7.5           COMPARTING         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
WISTARIA         6.0 - 8.0           ZINNIA         5.5 - 7.5           TURF AND ORNAMENTAL GRASSES           BAHAI         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 8.0           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
TURF AND ORNAMENTAL GRASSES           BAHAI         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           MEADOW         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
BAHAI         6.5 - 7.5           BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           MEADOW         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
BENT         5.5 - 6.5           BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           MEADOW         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
BERMUDA         6.0 - 7.0           CANADA BLUE         4.5 - 6.4           CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           MEADOW         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
CLOVER         6.0 - 7.0           KENTUCKY BLUE         6.0 - 7.5           MEADOW         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0	BERMUDA	6.0 - 7.0
KENTUCKY BLUE         6.0 - 7.5           MEADOW         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
MEADOW         6.0 - 7.5           PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
PAMPAS         6.0 - 8.0           RED TOP         6.0 - 6.5           RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
RYE         6.0 - 7.0           ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0	PAMPAS	6.0 - 8.0
ST. AUGUSTINE         6.5 - 7.5           TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
TALL FESCUE         6.0 - 7.0           VELVET BENT         5.0 - 6.0		
20YSIA 6.0 - 7.0		
	201514	0.0 - 7.0

#### Soil Test Kit Questions and Answers

# Question: I tested my soil, the pH test worked, but the rest of the results are clear. What's wrong?

- 1. An error has been made in the testing process.
- 2. Nutrient levels are too low for the test to indicate.
- 3. The capsules have absorbed too much moisture prior to being used. The reaction has already occurred within the capsule itself.

#### Question: My pH test result came out dark blue, there is no blue on the pH color chart.

- 1. The water being used to perform the test is alkaline. Recommend distilled water for the testing process.
- 2. The soil pH is higher than 7.5. The color results change from greens to blues to purples as the pH rises.

#### Question: I got results on all but the Nitrogen portion of the kit.

- 1. Nitrogen leaches out of the soil very quickly, especially in sandy soil.
- 2. The form of Nitrogen the kit tests for is Nitrate, the form used by plants. Nitrate is formed through the natural Nitrogen cycle within the soil. It is possible to have Nitrogen present in the soil in a non-testable form.

#### Question: I tested fertilizer with the kit and still got no reaction!

The kit detects only the form of the nutrient used by the plant. These nutrients must break down to the form tested for, through the natural bacterial action and decay processes in the soil. In most cases fertilizers will not test correctly.

# Question: I fertilized my soil as recommended in your instructions and then re-tested. My readings didn't change.

Because the nutrients need to break down, we recommend two to four weeks between fertilizing and retesting.

#### Question: My soil will not settle to the bottom in the soil/water solution I've mixed.

Although the directions read the soil and water should settle for at least 10 minutes before proceeding, there is no harm in letting the soil settle much longer. Suggest the consumer mix the soil and water the evening or even the day before testing. Some vary fine clay soil will not settle. For these few homeowners, the kit will not work.

#### Question: The testing capsule didn't dissolve.

The capsules must be opened and the testing powder poured into the test tube. There isn't enough water present to dissolve the capsule.

#### Question: The color result I got doesn't match any on the color chart.

- 1. If the result is the same "color" but a different "shade" it's a matter of a judgment decision between the different nutrient levels.
- 2. The consumer may have inadvertently used the wrong capsule for the test in question.

In most cases we offer to send the consumer additional reagent capsules for re-testing. If an error was made in the first testing process, it's generally corrected the second time through.



### **40 TESTS** DIRECTIONS INSIDE

# **SOLL TEST KIT** Tests Your Soil for a Healthy Garden • pH • Nitrogen(N) • Phosphorus(P) • Potassium(K) •

#### WHY TEST YOUR SOIL?

Plants need food (nutrients) for healthy growth. Nitrogen, Phosphorus and Potash (N, P and K for short), play a vital role in plant growth just as vitamins, minerals, carbohydrates and protein do in our health.

#### HOW TO TEST YOUR SOIL

For the new and experienced soil testers alike, you will appreciate this easy, fast and fun way to achieve better growing results from your gardening efforts!

Everything is color-coded, including the tubes and capsules. All you do is take a sample of soil, mix with water, add powder from capsule, shake and watch the color develop. Then, note your test results. Fast, easy and it only takes a few minutes!

#### WHEN TO TEST YOUR SOIL

Soil should be tested periodically throughout the growing season, but it is especially recommended to test before planting in Spring and when preparing beds in Fall. And, if you feel your plants are not growing well, a soil test may help.

#### Included in the kit are:

40 test capsules, 10 each for pH, N, P and K, Four (4) Color-coded Test Tubes, Test Tube Storage Dock, complete instructions for adjusting soil pH, fertilization guidelines and pH preference list for over 450 plants for the home, yard and garden.



60183L

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www.PanaceaProducts.com Assembled in USA from Foreign and Domestic parts





## APPENDIX D

# Tables



.

Table 1         FIELD SCREENING RESULTS         WPX Energy Permian, LLC         Toro 22-3         Lea County, New Mexico							
Sample I.D.	Sample Date	i i nitrogen i Potasn i Phosphorolis i					
Incident Number nOY1727952679							
SC01	05/21/2024	0.5	Very Low	Low	Low	7.00	168
SC02	05/21/2024	0.5	Low	Medium	Medium	7.00	124
BG01	05/21/2024	0.5	Very Low	High	High	7.50	<124

# APPENDIX E

# Photographic Logs





Photograph 3Date: 05/21/2024PiDescription: Evidence of re-seeding and vegetationDgrowth.gr

Photograph 4Date: 05/21/2024Description: Evidence of re-seeding and vegetation<br/>growth.



# APPENDIX F

# **Correspondence & Notifications**



#### **Erick Herrera**

Subject:

FW: [EXTERNAL] The Oil Conservation Division (OCD) has approved the application, Application ID: 267740

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us> Sent: Friday, January 19, 2024 9:24 AM To: Raley, Jim <<u>Jim.Raley@dvn.com</u>> Subject: [EXTERNAL] The Oil Conservation Division (OCD) has approved the application, Application ID: 267740

To whom it may concern (c/o James Raley for WPX Energy Permian, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nOY1727952679, with the following conditions:

• None

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you, Nelson Velez Environmental Specialist - Advanced 505-469-6146 Nelson.Velez@emnrd.nm.gov

#### New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

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#### **Erick Herrera**

From:	Wells, Shelly, EMNRD <shelly.wells@emnrd.nm.gov></shelly.wells@emnrd.nm.gov>
Sent:	Wednesday, August 23, 2023 5:01 PM
То:	Erick Herrera
Cc:	Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD
Subject:	RE: [EXTERNAL] WPX Site Sampling Activity Update (8/28 - 9/1)

Hi Erick,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

Shelly Wells \* Environmental Specialist-Advanced Environmental Bureau EMNRD-Oil Conservation Division 1220 S. St. Francis Drive|Santa Fe, NM 87505 (505)469-7520<u>|Shelly.Wells@emnrd.nm.gov</u> http://www.emnrd.state.nm.us/OCD/

From: Erick Herrera <erick@etechenv.com>
Sent: Wednesday, August 23, 2023 1:16 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; blm\_nm\_cfo\_spill@blm.gov
Cc: Raley, Jim <jim.raley@dvn.com>; Devon-Team <Devon-Team@etechenv.com>
Subject: [EXTERNAL] WPX Site Sampling Activity Update (8/28 - 9/1)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following site between August 28<sup>th</sup> through September 1<sup>st</sup>, 2023:

Proposed Date: August 28, 2023, August 29, 2023, August 30, 2023, August 31, 2023, September 1, 2023: Proposed Timeframe: 0800 – 1700 hrs. Site Name: Toro 22-3 Incident Number: nOY1727952679 API: 30-025-35253

Thank you,

Erick Herrera Staff Geologist

.

e Environmental & Safety Solutions, Inc.

Work: (432) 305-6416 Cell: (281) 777-4152

#### **Erick Herrera**

From:	Enviro, OCD, EMNRD <ocd.enviro@emnrd.nm.gov></ocd.enviro@emnrd.nm.gov>
Sent:	Tuesday, June 27, 2023 11:53 AM
То:	Erick Herrera
Cc:	Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD
Subject:	RE: [EXTERNAL] WPX Site Sampling Activity Update (6/29-6/30)

Erick,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon • Environmental Specialist Environmental Bureau EMNRD - Oil Conservation Division 1220 South St. Francis Drive | Santa Fe, NM 87505 (505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov http:// www.emnrd.nm.gov



From: Erick Herrera <erick@etechenv.com>
Sent: Monday, June 26, 2023 3:43 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Raley, Jim <jim.raley@dvn.com>; Devon-Team <Devon-Team@etechenv.com>
Subject: [EXTERNAL] WPX Site Sampling Activity Update (6/29-6/30)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon,

WPX also anticipates conducting confirmation soil sampling activities at the following site between June 29 – June 30, 2023.

Site Name: Toro 22-3 API: 30-025-35253 Incident Number: nOY1727952679

Thank you,

Erick Herrera Staff Geologist

.

e Environmental & Safety Solutions, Inc.

Work: (432) 305-6416 Cell: (281) 777-4152

#### **Joseph Hernandez**

From:	Joseph Hernandez
Sent:	Tuesday, June 27, 2023 10:12 AM
То:	Raley, Jim
Cc:	Anna Byers
Subject:	FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 219749

Joseph S. Hernandez Senior Managing Geologist



Work: (432) 305-6413 Cell: (281) 702-2329

From: Joseph Hernandez
Sent: Monday, June 26, 2023 5:36 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Anna Byers <anna@etechenv.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: Re: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 219749

Nelson,

We will proceed with your recommended approach with advancement to same total depth to confirm chloride concentrations. We will include that data in the revised report.

Thanks

Sent from my iPhone

On Jun 26, 2023, at 4:53 PM, Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>> wrote:

Hey Joe,

Thanks for the notification. Please keep a copy of this communication for inclusion within the appropriate report submittal.

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

Talked with my supervisor last week about the email write up you suggested and he directed me not to do so.

Please proceed with whatever approach you feel can adequately define the lateral and vertical extent of the impacts.

If you have any questions or concerns, please contact me via email or telephone #.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u> <u>http://www.emnrd.state.nm.us/OCD/</u> <Outlook-kagggro0.png>

From: Joseph Hernandez <joseph@etechenv.com>
Sent: Monday, June 26, 2023 3:09 PM
To: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Cc: Anna Byers <<u>anna@etechenv.com</u>>
Subject: RE: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application
ID: 219749

Hi Nelson,

We were going to perform the sampling as you requested this Thursday or Friday. Did you send the email with conditions/summary we discussed?

Thanks,

Joseph S. Hernandez Senior Managing Geologist <image001.png>

Work: (432) 305-6413 Cell: (281) 702-2329

From: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Sent: Wednesday, June 21, 2023 11:40 AM
To: Joseph Hernandez <<u>joseph@etechenv.com</u>>
Cc: Anna Byers <<u>anna@etechenv.com</u>>
Subject: Re: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application
ID: 219749

Joseph,

We can discuss tomorrow. Hrs. available between 8-10 am & 12:00-2:30 pm.

Let me know what time. Thanks.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u> <u>http://www.emnrd.state.nm.us/OCD/</u> <image002.png>

From: Joseph Hernandez <joseph@etechenv.com>
Sent: Wednesday, June 21, 2023 10:31 AM
To: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Cc: Anna Byers <<u>anna@etechenv.com</u>>
Subject: FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application
ID: 219749

Nelson,

I'm assisting Jim Raley with this project - do you have time tomorrow to discuss this denial?

Thanks,

Joseph S. Hernandez Senior Managing Geologist <image001.png>

Work: (432) 305-6413 Cell: (281) 702-2329

From: OCDOnline@state.nm.us < OCDOnline@state.nm.us>

Sent: Tuesday, June 20, 2023 2:12 PM

To: Raley, Jim <<u>Jim.Raley@dvn.com</u>>

**Subject:** [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 219749

To whom it may concern (c/o James Raley for WPX Energy Permian, LLC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nOY1727952679, for the following reasons:

for the following reasons:

1. Site assessment has not been fully delineated horizontally or vertically. 2. Site characterization data incomplete. Please provide supporting documentation for those items missing from the list on page 3 of Form C-141 in next submittal or final closure report. 3. Once bullet #1 has been achieved, operator is required to re-submit its revised remediation plan or final closure report. 4. Operator has 90 days (September 18, 2023) to fully delineate, re-submit its remediation plan, or submit final closure report.

 Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by either approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for "on-pad" releases to ensure the release did not extend to the "off-pad"/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 219749.

Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,

Nelson Velez Environmental Specialist - Advanced 505-469-6146

#### Nelson.Velez@emnrd.nm.gov

#### New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

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# APPENDIX G

# **Archived Reports**



State of New Mexico **Energy Minerals and Natural Resources** 

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

Form C-141 Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

**Release Notification and Corrective Action OPERATOR** Initial Report **Final Report** Name of Company: RKI Exploration / WPX Energy Contact: Karolina Blaney Address: 5315 Buena Vista Dr. Telephone No. 970 589 0743 Facility Name: Toro 22-3 Facility Type: Well Pad Surface Owner: Private Mineral Owner: Private API No. 30- 025-35253 LOCATION OF RELEASE Unit Letter Section Township Range Feet from the North/South Line Feet from the East/West Line County 19S 2130 FWL Κ 22 35E FSL 1650 Lee Latitude: 32.64457955 Longitude -103.44839217 NAD83

#### NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 120 bbls Volume Recovered 110 bbls
Source of Release:	Date and Hour of Occurrence Date and Hour of Discovery
flowline	9/21/17 9/21/2017 at 8:30 am
Was Immediate Notice Given?	If YES, To Whom?
☐ Yes ☐ No ☐ Not Required	NMOCD Olivia Yu
By Whom? Karolina Blaney	Date and Hour 9/21/17 at 12:23 pm
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.
🗌 Yes 🖾 No	
If a Watercourse was Impacted, Describe Fully.*	
	RECEIVED
N/A	
	By Olivia Yu at 10:28 am, Oct 06, 2017
Describe Cause of Problem and Remedial Action Taken.*	
	120 bbls of produced water were spilled inside dirt SPCC containment. 110 bbls
were recovered with a vac truck.	
Describe Area Affected and Cleanup Action Taken.*	
Describe Area Arrected and Cleanup Action Taken.	
The impacted area was immediately mapped with a Trimble to delineate the	he horizontal extent of the impacts. The compromised tank was removed and
	and was sampled for confirmation. The samples are being analyzed for TPH,
BTEX and Chlorides. The laboratory results will be submitted to OCD for	
I hereby certify that the information given above is true and complete to the	he best of my knowledge and understand that pursuant to NMOCD rules and
	otifications and perform corrective actions for releases which may endanger
	e NMOCD marked as "Final Report" does not relieve the operator of liability
	e contamination that pose a threat to ground water, surface water, human health
or the environment. In addition, NMOCD acceptance of a C-141 report d	oes not relieve the operator of responsibility for compliance with any other
federal, state, or local laws and/or regulations.	
11 1 21	OIL CONSERVATION DIVISION
Karolina Blaney	
Signature:	all
0	Approved by Environmental Specialist:
Printed Name: Karolina Blaney	
Timed Fune. Reforme Blancy	10/6/2017
Title: Environmental Specialist	Approval Date: Expiration Date:
E-mail Address: Karolina.blaney@wpxenergy.com	Conditions of Approval:
	Affached
Date: 10/5/17 Phone: 970 589 0743	see attached directive
Attach Additional Sheets If Necessary	
	IRP-4838 nOY1727952679
	pOY1727952902

Released to Imaging: 8/6/2024 2:03:02 PMM

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	nOY1727952679
District RP	
Facility ID	
Application ID	

### **Release Notification**

#### **Responsible Party**

Responsible Party: WPX Energy Permian, LLC	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: Jim.Raley@dvn.com	Incident # (assigned by OCD): nOY1727952679
Contact mailing address: 5315 Buena Vista Drive, Carlsbad NM	·

#### **Location of Release Source**

Latitude	32.64457	Longitude     -103.44839       (NAD 83 in decimal degrees to 5 decimal places)	
Site Name: Toro 22-3		Site Type: Well Pad	
Date Release Discovered	1: 9/21/2017	API# (if applicable): 30-025-35253	

Unit Letter	Section	Township	Range	County
K	22	19S	35E	Lea

Surface Owner: State Federal Tribal Private (Name:

#### Nature and Volume of Release

Materia	l(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): 120	Volume Recovered (bbls): 110
	Is the concentration of dissolved chloride 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)	Volume/Weight Recovered (provide units)

Cause of Release:

The cause of this spill is equipment failure; corroded tank. Approximately 120 bbls of produced water were spilled inside the dirt SPCC containment. 110 bbls were recovered with a vac truck.

 $bbl \ estimate = \frac{saturated \ soil \ volume \ (ft^3)}{4.21 \ (\frac{ft^3}{bbl \ equivalent})} * estimated \ porosity \ (\%) + recovered \ fluids \ (bbl)$ 

Oil Conservation Division

Incident ID	nOY1727952679
District RP	
Facility ID	
Application ID	

Page 36 of 250

Was this a major	If YES, for what reason(s) does the responsible party consider this a major release?	
release as defined by		
19.15.29.7(A) NMAC?	Unauthorized release of a volume, excluding gases, of 25 barrels or more.	
( )		
Xes 🗌 No		
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?		
Immediate notice was given by Karolina Blaney, to EMNRD Olivia Yu, on September 21, 2017 via email.		

#### **Initial Response**

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

 $\boxtimes$  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: Jim Raley	Title: Environmental Professional
Signature: fin Rely	Date:
email: Jim.Raley@dvn.com	Telephone:575-689-7597
OCD Only	
Received by:	Date:
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**Oil Conservation Division** 

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Incident ID	nOY1727952679
District RP	
Facility ID	
Application ID	

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## 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?	<u> &lt;50 (ft bgs)</u>
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 <b>not</b> 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 <sup>1</sup>/<sub>2</sub>-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- X 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.

Received by OCD: 7/2/202	4311:06:59 AMI State of New Mexico				_Page 38 of 25
				Incident ID	nOY1727952679
Page 4 Oil Conservation Div	Oil Conservation Division			District RP	
				Facility ID	
				Application ID	
regulations all operators are public health or the environ failed to adequately investig addition, OCD acceptance of and/or regulations.	rmation given above is true and complete to the required to report and/or file certain release not ment. The acceptance of a C-141 report by the gate and remediate contamination that pose a thr f a C-141 report does not relieve the operator of Raley	tifications an OCD does no eat to ground f responsibili _ Title: Date:7	d perform co ot relieve the lwater, surfa ty for compl Environt /26/2023	prective actions for rele e operator of liability shace water, human health	eases which may endanger ould their operations have or the environment. In
OCD Only Received by: <u>Shelly We</u>	lls	D	ate: <u>7/27/2</u>	2023	

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Detailed description of proposed remediation technique

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Oil Conservation Division

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

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## **Remediation Plan**

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: Jim Raley Title: \_\_\_\_\_ Environmental Professional fin Rold 7/26/2023 Signature: Date: email: Jim.Raley@dvn.com Telephone: 575-689-7597 **OCD Only** Received by: Shelly Wells Date: <u>7/27/2023</u> Approved Approved with Attached Conditions of Approval Denied Deferral Approved Nelson Velez Date: 07/31/2023 Signature:

Received by OCD: 7/2/2024 11:06:59 MM State of New Mexico

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Oil Conservation Division

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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.

<b><u>Closure Report Attachment Checklist</u></b> : Each of the following in	tems must be included in the closure report.				
A scaled site and sampling diagram as described in 19.15.29.1	1 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					
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of	nediate contamination that pose a threat to groundwater, surface water, a C-141 report does not relieve the operator of responsibility for tions. The responsible party acknowledges they must substantially nditions that existed prior to the release or their final land use in CD when reclamation and re-vegetation are complete. Title: <u>Environmental Professional</u>				
OCD Only					
Received by:	Date:				
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.				
Closure Approved by: <u>Nelson Velez</u> Printed Name: Nelson Velez	Date: 01/19/2024				
Printed Name: Nelson Velez	Environmental Specialist – Adv				



# **CLOSURE REQUEST REPORT**

Toro 22-3 Lea County, New Mexico Incident Number nOY1727952679

Prepared For: WPX Energy Permian, LLC 5315 Buena Vista Dr. Carlsbad, NM 88220

Carlsbad • Midland • San Antonio • Lubbock • Hobbs • Lafayette

#### **SYNOPSIS**

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of WPX Energy Permian, LLC (WPX), presents the following Closure Request Report (CRR) to detail corrective actions and soil sampling activities in accordance with an approved Remediation Work Plan (RWP), for an inadvertent release of produced water at the Toro 22-3 (Site). Based on completed remedial actions and laboratory analytical results from confirmation soil sampling activities, WPX is requesting No Further Action (NFA) at the Site.

#### SITE LOCATION AND RELEASE BACKGROUND

The Site is located in Unit K, Section 22, Township 19 South, Range 35 East, in Lea County, New Mexico (32.64457°, -103.44839°) and is associated with oil and gas exploration and production operations on Private Land (**Figure 1** in **Appendix A**).

On September 21, 2017, corrosion of a storage tank resulted in approximately 120 barrels (bbls) of produced water to be released into a tank battery earthen containment. Vacuum trucks were immediately dispatched and recovered approximately 110 bbls of the released fluids. WPX reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141), which was received by the NMOCD on October 6, 2017, and was subsequently assigned Incident Number nOY1727952679. WPX mapped the release extent utilizing a handheld Trimble® Global Positioning System (GPS) unit immediately after discovery and is presented as the Area of Concern (AOC) on **Figure 2** in **Appendix A**. The timeline of events associated with the release are as follows:

#### September 28 through October 2, 2017

WPX removed the production tanks and excavated the top 1-foot of impacted soil from the AOC to mitigate immediate impacts. A Closure Report was then submitted by WPX and denied due to incomplete soil characterization as a result of equipment refusal. The excavation was backfilled and recontoured to pre-existing conditions before returning the production tanks. Since initial response efforts, plugging and abandonment activities at the Site were completed in 2022.

#### January 4 and June 30, 2023

Delineation activities were conducted to attempt vertical delineation within the AOC. Once successful vertical delineation was achieved, an updated RWP was prepared to address action items requested by NMOCD for residual soil impacts exceeding the Site Closure Criteria based on laboratory analytical results from delineation activities and proposed:

- The top four feet of impacted soil to be excavated from the AOC;
- A 20-mil impermeable liner to be installed on the excavation floor;
- The excavation to extend laterally until confirmation soil sample results from the sidewalls of the excavation meet Closure Criteria and will provide horizontal delineation of the release; and
- No floor confirmation soil samples to be collected as delineation soil samples within the AOC defined residual chloride impacts left in place beneath the 20-mil impermeable liner.

The RWP was approved by the NMOCD on July 31, 2023. Previous remediation summaries can be referenced in the original reports submitted to the NMOCD.

#### SITE CHARACTERIZATION AND CLOSURE CRITERIA

As previously described in the approved RWP, the Site was characterized according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC) considering depth to groundwater and the proximity to:

Closure Request Report Incident Number nOY1727952679 Toro 22-3

- Any continuously flowing watercourse or any other significant watercourse;
- Any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark);
- An occupied permanent residence, school, hospital, institution or church;
- A spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes;
- Any freshwater well or spring;
- Incorporated municipal boundaries or a defined municipal fresh water well field covered under a municipal ordinance;
- A wetland;
- A subsurface mine;
- An unstable area (i.e. high karst potential); and
- A 100-year floodplain.

Based on the results from the desktop review and estimated regional depth to groundwater at the Site, the following Closure Criteria was applied:

Constituents of Concern (COCs)	Laboratory Analytical Method	Closure Criteria <sup>†</sup>
Chloride	Environmental Protection Agency (EPA) 300.0	600 milligram per kilogram (mg/kg)
TPH (Total Petroleum Hydrocarbon)	EPA 8015 M/D	100 mg/kg
Benzene	EPA 8021B	10 mg/kg
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA 8021B	50 mg/kg

<sup>†</sup>The reclamation concentration requirements of 600 mg/kg chloride and 100 mg/kg TPH apply to the top 4 feet of areas to be immediately reclaimed following remediation pursuant to NMAC 19.15.17.13.

The results of the approved Site characterization are reported on the Final Form C-141. Referenced well records are provided as **Appendix B**. Receptor details and sources used for the Site characterization are included in **Figure 1** in **Appendix A**.

#### **EXCAVATION SOIL SAMPLING ACTIVITIES**

From August 22 through August 29, 2023, Etech oversaw the excavation of identified impacts via mechanical equipment based on detailed corrective actions in the approved RWP, laboratory analytical results associated with delineation soil sampling activities and visual observation. As proposed, the excavation was vertically advanced to a depth of 4 feet below ground surface (bgs) and laterally driven by field screening soil for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips.

Following the removal of soil, Etech collected 5-point composite soil samples at a sampling frequency of 200 square feet from the excavation sidewalls. As per the approved RWP, confirmation excavation soil floor samples were not collected since the vertical extent of the AOC had been previously delineated. The 5-point composite soil samples were comprised of five equivalent aliquots homogenized in a 1-gallon, resealable plastic bag. The samples were then placed into lab provided pre-cleaned glass jars, packaged with minimal void space, labeled, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Envirotech, Inc. in Farmington, New Mexico, for analysis of COCs. The location of confirmation excavation soil samples is shown in **Figure 2** in **Appendix A**.

Closure Request Report Incident Number nOY1727952679 Toro 22-3 On September 19, 2023, following the receipt of the laboratory analytical results for final confirmation excavation soil samples, a 20-mil impermeable liner was installed on the excavation floor at approximately 4 feet bgs as proposed in the approved RWP to act as a physical barrier and mitigate residual chloride impacts into the subsurface. Immediately following the liner installation, the excavation was backfilled with clean, locally sourced soil and the Site was restored to "as close to its original state" as possible, and impacted soil was removed from the Site and transported to a licensed and approved New Mexico landfill under WPX approved manifests. The approximate excavation and liner extent are shown in **Figure 2** in **Appendix A**. Photographic documentation of excavation, liner installation and restoration activities are included in **Appendix C**.

#### LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all final confirmation excavation indicated all analyzed COCs were below the Site Closure Criteria. Laboratory analytical results are summarized in **Table 1** included in **Appendix D**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix E**.

#### **CLOSURE REQUEST**

Based on laboratory analytical results for confirmation excavation soil samples, WPX believes that residual soil impacts associated with the inadvertent release have been delineated, excavated and removed from the top 4 feet bgs at the Site. Concentrations of COCs for all final excavation confirmation soil samples were below the Site Closure Criteria. WPX believes the completed remedial actions have mitigated impacts at the Site and the requirements set forth in NMAC 19.15.29.13 regulations to be protective of human health, the environment and groundwater. As such, NFA appears warranted at this time and this CRR associated with Incident Number nOY1727952679 should be respectfully considered for Closure by the NMOCD.

If you have any questions or comments, please do not hesitate to contact Joseph Hernandez at (281) 702-2329 or joseph@etechenv.com or Anna Byers at (575) 200-6754 or anna@etechenv.com. **Appendix F** provides correspondence email notification receipts associated with the subject release. Previous remediation activities and soil sample analytical results for the subject release can be referenced in the original RWP in **Appendix G**.

Sincerely, Etech Environmental and Safety Solutions, Inc.

Inna Byers

Anna Byers Senior Geologist

Josep Ad

Joseph S. Hernandez Senior Managing Geologist

cc: Jim Raley, WPX New Mexico Oil Conservation Division

Closure Request Report Incident Number nOY1727952679 Toro 22-3

#### Appendices:

Appendix A:	Figure 1: Site Map
	Figure 2: Excavation Soil Sample Locations
Appendix B:	Referenced Well Records
Appendix C:	Photographic Log
Appendix D:	Tables
Appendix E:	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix F:	NMOCD Notifications
Appendix G:	Approved Remediation Work Plan

.

# **APPENDIX A**

# Figures

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213







# **APPENDIX B**

# **Referenced Well Records**

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213





National Water Information System: Web Interface USGS Water Resources USGS Home Contact USGS Search USGS

Data Category:		Geographic Area:		
Groundwater	~	United States	~	GO

#### Click to hideNews Bulletins

- Explore the <u>NEW USGS National Water Dashboard</u> interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News 🔕

Groundwater levels for the Nation

Important: <u>Next Generation Monitoring Location Page</u>

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 323832103264901

**Minimum number of levels =** 1 <u>Save file of selected sites</u> to local disk for future upload

#### USGS 323832103264901 19S.35E.22.14341

Lea County, New Mexico Latitude 32°38'32", Longitude 103°26'49" NAD27 Land-surface elevation 3,742 feet above NAVD88 The depth of the well is 45 feet below land surface. This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer. This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

**Output formats** 

<u>Table of data</u>

Tab-separated data

Graph of data

Reselect period

Date	Time	? Water- level date- time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water- level approval status
1963-03-19		D	62610		3723.94	NGVD29	1	Z			A
1963-03-19		D	62611		3725.50	NAVD88	1	Z			А
1963-03-19		D	72019	16.50			1	Z			А
1966-03-18		D	62610		3723.43	NGVD29	1	Z			А
1966-03-18		D	62611		3724.99	NAVD88	1	Z			А
1966-03-18		D	72019	17.01			1	Z			А
1971-01-27		D	62610		3723.76	NGVD29	1	Z			А
1971-01-27		D	62611		3725.32	NAVD88	1	Z			А
1971-01-27		D	72019	16.68			1	Z			А
1976-01-29		D	62610		3724.17	NGVD29	1	Z			А
1976-01-29		D	62611		3725.73	NAVD88	1	Z			А
1976-01-29		D	72019	16.27			1	Z			А
1981-01-23		D	62610		3723.90	NGVD29	1	Z			А
1981-01-23		D	62611		3725.46	NAVD88	1	Z			А
1981-01-23		D	72019	16.54			1	Z			А
1986-02-04		D	62610		3723.90	NGVD29	1	Z			А
1986-02-04		D	62611		3725.46	NAVD88	1	Z			А
1986-02-04		D	72019	16.54			1	Z			A
1991-04-17		D	62610		3723.62	NGVD29	1	Z			А
1991-04-17		D	62611		3725.18	NAVD88	1	Z			A
1991-04-17		D	72019	16.82			1	Z			А

#### Received by OCD: 7/2/2024311:06:599AM

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988

Released to Imaging: 8/6/2024 2903 302 PMM

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#### Received by OCD: 7/2/2024311:06:59%AMM

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Section	Code	Description
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	А	Approved for publication Processing and review completed.

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey Title: Groundwater for USA: Water Levels URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team Page Last Modified: 2023-05-11 16:40:27 EDT 0.29 0.26 nadww01



# WELL RECORD & LOG

### OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

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	E NO.	1515	5		POD NO.		TRN NO.	965		(3011 0 <del>4</del> /30/2019)
LO	CATION	15-7	35F-2		3.3.4	WELI	TAG ID NO.	SOF	そう	PAGE 2 OF 2



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Page 55 of 250

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V.

WR-15 IMPORTANT-READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM

## APPLICATION FOR PERMIT

To Appropriate the Underground Waters of the State of New Mexico

A	plication No. L-4290	Book L	<u>C-17</u>	Date Rece	ived Octo	<u>ber 2, 195</u>	9
1.	Name of applicantC.	W. TR	AINER		· <u> </u>		
	Postoffice addressP. 0.	Box 2	222 ,	City or T	own <u>Hobb</u>	<u>s</u>	
	County of Lea		,	State of _	New	Mexico	
2.	Source of water supply	shallo	<u>w grou</u>	nd wat	er basin		·
	located in	(state w)	bether artesis	in or shallow	ground water basis	n)	
	(nan	ne of undergr	round stream	, valley, arte	sian basin, etc.)		
3.	The well is to be located in the	<u>SW/4</u>	<u> </u>	S	Е/4	-4,NW/	4
	of section 22,						,
	on land owned by. State	e of No	ew Mex	<u>ico</u>			
4.	Description of well: driller Ed	Burke		D. No	<u>111 ; depth</u>	to be drilled	<u>50</u> f
	diamenter (outside) of casing	7		i	nches; type of p	ump and power pl	ant to be u
	Pump jack v	rith in	ndustr	<u>ial en</u>	gine		
		<u> </u>					
5.	Quantity of water to be appropri-	iated and	beneficiall	y used	<u>three</u> (	3) n or acre feet per acr	
	for <u>0il well di</u>				ficet dept	I OF ALLE TEEL PET ALL	
6.	Acreage to be irrigated No						
	located and described as follows (		- lv lands t	o be irriga	ted):	•	
					Acree		
	Subdivision	Sec.	Twp.	Bange	Irrigated	Own	oe <b>r</b>
							<u></u>
			·	<del>_</del> .			<u> </u>
				<b></b>	••••••••••••••••••••••••••••••••••••••	S S	(11) 
•	s., *						
	. <u></u>				. <u> </u>		20
					· ·		- 22-9
							<u> </u>
				·			
	(Note: location of we	il and acreag	e to be irrig	ated must be	shown on plat on	reverse side.)	** <b>1</b>
7.	Time required to commence consti	ruction	as s	oon as	<u>possible</u>		
	Time required to complete the wor	rka	<u>l ye</u> :	ar		<u> </u>	
	Time required to fully apply water	to benefici	al use	not	required		
8.	Additional statements or explanati				er water rights	appurtenant to ab	ove lands)
	Signal Sta	te No.	. 1				
	This_corre	cted /	Applic	tion_	is being	filed to	
		<u>.ocatic</u>	on of	the we	<u>ll in the</u>	proper pla	ace.
	· .						
	I. C. W. TRAI					y sworn upon m	
6.0	d say that I have carefully read the same are true to the best of my k				and all of the it	tems contained the	erein, and t
+34	Banne and that we the best of why w	Be .			VIII /2	and	
th					<u> </u>	ame	, applic
th							
		•					
	bscribed and sworn to before me th	i <u>, 171</u>		day of	Janua	ary	A. D., 19_6

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### APPROVAL OF THE STATE ENGINEER

Number of this permit	<u>L-4290</u>		·	_ Date rec	eived co	rrected_				<b>.</b>	
Recorded in Book	LC-17			- Publicat	ion of n	otice ord	er <del>e</del> d				
age	4290									<u> </u>	
pplication received	January 2										
Date returned for correction											_
This application is app					3					et of water p	
subject to all prior valid an					rs of sai	d under	round				
he applicant complies with											
This is a co											
actually dri	111ed.			• • •	· * :						
	·										
		\ ·			/						
										<u></u>	
Works shall be complete		a Al-2		-							
Works shall be complet											
Water shall be applied											
This is to certify that I											
f the State of New Mexic	co and hereby	y approve	the san	ae subject	to the f	oregoing	provisi	ons an	d conditie	) <b>11.0</b> .	
Witness my hand and	seal this_	Tatu		dow of		Janua	.ry		, A.D.	. 1 <u>9.61</u> .	
and and				ay or-							
Witness my hand and a	( )					S. E	. Rey	nold	<u>s</u>		
						<u> </u>	. Rey	nold	S State H	Engineer	
OCATE WELL AND ACH	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	nold	S State H	Engineer	
OCATE WELL AND ACH	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	nold	S State H	Engineer	
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OCATE WELL AND ACH	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	nold ON FO Eas	s state i sliowin t,	Engineer NG PLAT: N.M.P.M.	-
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OCATE WELL AND ACE	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	By	State F State State F State State St	MG PLAT: N.M.P.M.	<u>.</u>
OCATE WELL AND ACE	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	By	State F State State F State State St	MG PLAT: N.M.P.M.	<u></u>
OCATE WELL AND ACE ection 新)22	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	By	State F State State F State State St	MG PLAT: N.M.P.M.	
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OCATE WELL AND ACE	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	By	State F State State F State State St	MG PLAT: N.M.P.M.	<u>.</u>
OCATE WELL AND ACE ection 新)22	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	By	State F State State F State State St	MG PLAT: N.M.P.M.	
OCATE WELL AND ACH	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	By	State F State State F State State St	MG PLAT: N.M.P.M.	
LOCATE WELL AND ACE	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	By	State F State State F State State St	MG PLAT: N.M.P.M.	
LOCATE WELL AND ACE	REAGE TO B	E IRRIG	ATED A	S ACCUR	ATELY	<u> </u>	BIBLE	By	State F State State F State State St	MG PLAT: N.M.P.M.	

This form shall be executed, preferably typewritten, in triplicate and shall be accompanied by a filing fee of \$5.00. Each of triplicate copies must be properly signed and attested.

A separate application for permit must be filed for each well used.

Secs. 1-4-Fill out all blanks fully and accurately.

Sec. 5-Irrigation use shall be stated in feet depth or acre feet of water per acre to be applied on the land. If for domestic, municipal, or other purposes, state total quantity in acre feet to be used annually. Domestic use may include the irrigation of not more than one acre of lawn and garden for noncommercial use.

Sec. 6—Describe only the lands to be irrigated. If on unsurveyed lands describe by legal subdivision "as projected" from the nearest government survey corners, or describe by metes and bounds and tie survey to some permanent, easily located natural object. ·*`* 

Sec. 7-Estimate time reasonably required to commence and to complete project.

Sec. 8-If lands are irrigated from any other source, explain in this section. Give any other data necessary to fully describe water right sought.

N. 7

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

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IMPORTANT-READ INSTRUCTIONS ON BACK BEFORE FILLING OUT TH

## **APPLICATION FOR PERMIT**

Page-57 of 250

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To Appropriate the Underground Waters of the State of New Mexico

LEA COUNTY UNDERGROUND BASIN	, <b>X</b>
Application No. L-4290 Book LC-17 Date Received October 2, 1959	
L Name of applicant <u>G. W. Trainer</u>	
Postoffice address Box 2222 ; City or Town Hobbs	<del></del>
County of Lea	
Source of water supply	<u> </u>
located in Lea County Underground Basin	
(name of underground stream, valley, criesian basin, etc.)	:
The well is to be located in the SE ½, SW ½, NE	
of section 22 Township 19 South Range 35 East	
on land owned by State of New Mexico	
Description of well: driller Ed Burke ;WD. No. 111 ; depth to be drilled 50	
diamenter (outside) of casing7	
Pump jack with industrial engine	
Quantity of water to be appropriated and beneficially used three (3) (feet depth or acre feet per acre)	
forOil well drilling	purposes
Acreage to be irrigated none	acres
located and described as follows (describe only lands to be irrigated):	
Acros	
Subdivision Sec. Twp. Range Irrigated Owner	
AR OC	
<u> </u>	
(Note: location of well and acreage to be irrigated must be shown on past on reverse side.)	<u> </u>
Time required to commence construction as soon as possible	
Time required to complete the works year	
Time required to fully apply water to beneficial use. not required	
Additional statements or explanations (including data on any other water rights appurtenant to above l	ands)
Signal State No. 1	
	<u>_</u>
I. <u>C. W. Trainer</u> , being first duly sworn upon my oat	h, depose
d say that I have carefully read the foregoing statement and each and all of the items contained therein, a same are true to the best of my knowledge and belief.	and that
hv. Ed	applicant
Us cawara ( / ounce	are -
bscribed and sworn to before me this 22 day of September , AD.,	1059
and 12 2062 Geelin Rikg	LORT

My Commission expires April 13 1963

Page 58 of 250

APPROVAL	OF	THE	STATE	ENGINEER
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Number of this permit-	L-4290	Date received correcte	d	
		Publication of notice of		
Page	4290	Name of paper		······
Application received	October 2, 1959	Affidavit of publication	n filed	
Date returned for correction	n	Date of approval	October	5, 1959
This application is app	proved for	3		acre feet of water
subject to all prior valid an	nd existing rights to the	use of the waters of said und	lerground sou	rce and provided that
the applicant complies with	all rules and regulation	is of the State Engineer pertai	ning to the di	rilling of wells
(1) Casing not	to exceed 7 incl	h OD and depth not to	exceed d	epth of the

ogallala. (2) Appropriation not to exceed 3 acre feet per acre for

domestic and oil well drilling operations. (3) Well to be plugged upon completion of oil well drilling operations and plugging report to be filed on or before one year from the date of approval of this permit.

October 5, 1960

October

0

S. E. Reynolds

LOCATE WELL AND ACREAGE TO BE IRRIGATED AS ACCURATELY AS POSSIBLE ON FOLLOWING PLAT:

of the State of New Mexico and hereby approve the same subject to the foregoing provisions and conditions.

Section (s) \_\_\_\_\_ 22 \_\_\_\_, Township 19 South, Range 35 East , N.M.P.M.

This is to certify that I have examined the above application for permit to appropriate the underground waters

-day of \_\_\_\_

By <u>Aller M. M. M. Bon</u> Delbert W. Nelson Office Supervisor District II

0-well site

...., A. D., 19.59

State Engineer

#### INSTRUCTIONS

This form shall be executed, preferably typewritten, in triplicate and shall be accompanied by a filing fee of \$5.00. Each of triplicate copies must be properly signed and attested.

A separate application for permit must be filed for each well used.

Secs. 1-4-Fill out all blanks fully and accurately.

Plugging record to be filed on or before

Witness my hand and seal this <u>5th</u>

1

Water shall be applied to beneficial use and proofs filed on or before-

Sec. 5—Irrigation use shall be stated in feet depth or acre feet of water per acre to be applied on the land. If for domestic, municipal, or other purposes, state total quantity in acre feet to be used annually. Domestic use may include the irrigation of not more than one acre of lawn and garden for noncommercial use.

Sec. 6—Describe only the lands to be irrigated. If on unsurveyed lands describe by legal subdivision "as projected" from the nearest government survey corners, or describe by metes and bounds and tie survey to some permanent, easily located natural object.

Sec. 7-Estimate time reasonably required to commence and to complete project,

Sec. 8—If lands are irrigated from any other source, explain in this section. Give any other data necessary to fully describe water right sought.

ar Anna G

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

Received by OCD: 7/2/2024311:06:59%AM

Page 59 of 250

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OFFICE

WR-15 IMPORTANT\_BEAD INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM

## APPLICATION FOR PERMIT

To Appropriate the Underground Waters of the State of New Mexico

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LEA	COUNTY	UNDERGROUND	WATER	BASIN
-----	--------	-------------	-------	-------

An	plication No. L-42	90 <sub>r</sub>	LC	-17	Data Rate	ived J	anuary 9.	1961	·
1	Name of applicant							0	1961
<b>.</b> .	Postoffice address.				City or To		Hobbs	_ 2	<del></del>
	County of							63-1-	Jul .
•	Source of water supp								<u> </u>
2.			(state whet	ther artesis	wollada ro ni	ground water	besin)		÷−−07−−, ≦
	located in.	Les C	ounty I	under	ground , valley, artes	<u>basin</u>		اس میں سر سر است مر است ا	
3.	The well is to be loca							NW/4	<u> </u>
-	of section 22							1. V We	The second
	on land owned by								'*************************************
	Description of well: d								feet;
	diamenter (outside) o					-	-		
		- Proba							
	A.148. 12 441 W		<u> </u>	<u> </u>	<u> </u>				
	Quantity of water to				. 10	00 net	acre fe	et per s	nnum
э.						(		the bet were?	
	for <u>Water</u>			I Que	en Fiel	<u>ld - T-</u>	-195, R-3	<u>355</u>	. purposes.
6.	Acreage to be irrigat	ed	None						acres
	located and described	as follows (de	escribe only	7 lands t	o be irrigat	(ed):			
						Acres			
3	Subdivision	0	Sec.	Тур.	Range	Irrigated		Owner	
Ċ	<u> </u>		of New Mexi		<b>.</b>				
Ē				+	s under this fi	iling			
<i>i</i> O					ing been give				
التي. سخ					ions of the S $\mu g g$				
ž	μz		eby cancelle			July	······		196
			1966		0	····			
05.	3 6	<u>S. E. 2</u>	EYNOLDS, 7	State Eng	ineer				
		By	tran	Êr	5. 4	5			
	(N-4-4-	location of well	niet, Woter 1	Rights Div	ision	7			
					-	year	ie dia reverse siai		
7.	Time required to com	mence constru	iction			years			<del>] <b>??</b>;</del>
	Time required to com	plete the work							र्म किंग
	Time required to fully	apply water t	o beneficial	use	2	years	······································		• <u> </u>
8.	Additional statements			-	+				
	Ve have file				-				
	for this wat	er well (	and we	used	it for	r dr111	ing our	oil wel	ls on
	this same Se	stion.	Log is	on f	110.	<u></u>			
					<u>_</u> .				
	r. C. V	. TRAINE	<u>R</u>		,	being first	t duly sworn	upon my cai	th, depose
	say that I have caref			tatement	and each	and all of t	he items/cont	ained therein	, and that
	same are true to the	Dest of my kn	owiedge an	d Deitef.		[] [] [		<b>`</b>	
	N 1 44				(	$\mathcal{W}$	Indy	1lla,	applicant
	N STATE								
Sub	scribed and sworn to l	efore me this	<u>6th</u>		day of	Ja	nuary	, A. D.	, <u>19</u> 61
	en de la companya de La companya de la comp				ní:		S. J. J.	~	
Му	Commission expires	January	<u>23, 19(</u>	<u>83                                    </u>		J		Aotery	Public.
						/		v	

### APPROVAL OF THE STATE ENGINEER

Recorded in Book					Date rec Publicati				un. 19, 1961
Page				:	Name of	( paper-	Hobbs	Daily	News-Sun
									ruary 9, 1961
Date returned for corr									
This application is									acre feet of water
	· .						d underg	round so	urce and provided that
the applicant complies	with all 1	rules and	regulati	ons of th	e State E	ingineer	pertainin	g to the c	irilling of wells
1, Appropriation 1	limited	to 10	0 acr	<u>feet</u>	per an	10.000 To	<u>tom al</u> ]	EOUFC	es combined.
2. <u>A totalising s</u> readings shall					.,	· .			and the second se
			<u>د</u>		<u> </u>	<u> </u>			TOULT MODEL,
on or before t									share the use
3. Depth of well bed or other t	· · ·								Phote the led
								2	· · · · · · · · · · · · · · · · · · ·
Works shall be con									
Water shall be app									
						-		-	he underground waters
of the State of New 1									s and conditions. 
Witness my hand					-			<u> </u>	, A. D., 19
									State Engineer
TOCHER WELLAND	ACREAC	GE TO B	e irrio	ATED A	SACCUE	ATELY		SIBLE OF	N FOLLOWING PLAT:
			_, Town	ship_1			Range		Cast NM.P.M.
			_, Town	ship			Range		
			_, Town	ship			Range		
			_, Town	ship <u>1</u>			Range		
			_, Town	ship 1			Range		
			_, Town	ship 1			Range		BY J. C. Cray.
			_, Town	ship 1			Range		Baut, NM.P.M.
			_, Town	ship 1			Range		BY J. C. Cray.
			_, Town	ship <u>1</u>			Range		BY J. C. Cray.
Section (5) 2				ship 1			Range		BY J. C. Cray.
Section (5) 2				ship 1			Range		BY J. C. Cray.
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Section (5) 2				ship 1			Range		BY J. C. Cray.
Section (5) 2				ship 1			Range		BY J. C. Cray.

This form shall be executed, preferably typewritten, in triplicate and shall be accompanied by a filing fee of \$5.00. Each of triplicate copies must be properly signed and attested.

A separate application for permit must be filed for each well used.

Secs. 1-4--Fill out all blanks fully and accurately.

Sec. 5—Irrigation use shall be stated in feet depth or acre feet of water per acre to be applied on the land. If for domestic, municipal, or other purposes, state total quantity in acre feet to be used annually. Domestic use may include the irrigation of not more than one acre of lawn and garden for noncommercial use.

Sec. 6—Describe only the lands to be irrigated. If on unsurveyed lands describe by legal subdivision "as projected" from the nearest government survey corners, or describe by metes and bounds and tie survey to some permanent, easily located natural object.

Sec. ?-Estimate time reasonably required to commence and to complete project.

Sec. 8—If lands are irrigated from any other source, explain in this section. Give any other data necessary to fully describe water right sought.

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

Received by OCD: 7/2/2024311:06:599AMM

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MEMORANDUM OF RECOMMENDATIONS

FILE NO:	L-4290 DATE: May 13, 1966
TO:	Frank E. Irby, Chief, Water Rights Division
FROM:	Fred H. Hennighausen, Supervisor, District II
SUBJECT:	Cancellation of Permit No. L-4290
APPLICANT:	C. W. Trainer
WELL:	SUBDIVISIONSECTIONTOWNSHIPRANGESW2SE2NW2221935E.
USE:	Water flood of Pearl Queen Field in Township 19 South, Range 35 East.
REASON:	Applicant states: "I am going to let this expire on May 31."
CONSIDERATIONS:	Permit No. 1-4290 was approved May 21, 1962 for 100 acre feet to be used for the secondary recovery of oil.
	Well No. L-4290 was an existing well.
	The applicant returned our letter of April 8, 1966 with a notation that he will let the permit expire on May 31, 1966.
RECOMMENDATIONS:	It is recommended that Permit No. L-4290 be cancelled at the request of the applicant.

Fred H. Hennighausen District II Supervisor

ECB\*j1 enc1.

#### MEMORANDUM OF RECOMMENDATIONS

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FILE NO:	L-4290	DATE: May 18, 1962
TO:	Frank E. Irby, Chief, Water Righ	ts Division
FROM:	Fred H. Hennighausen, Supervisor	, District II
SUBJECT:	Application to appropriate shall flood purposes No. L-4290.	ow waters for water-
WELL:		WNSHIP RANGE 1975 35-E
REASON:	Water Flood of Pearl Queen Field Range 35 East.	- Township 19 South,
CONSIDERATIONS:	<ol> <li>According to the priority SM of available water, Township East has 133 acre feet of avai reservation for L-4290.</li> </ol>	19 South, Range 35
	2. Application L-4815 is also per application was filed after a There are no other application township and range.	application L-4290.
_	3. According to the attached int dated February 23, 1961, a we be expected to produce 10-150 which is sufficient for the a	ell in this area may O gallons per minute
	4: Affidavit of publication and warded to the Santa Fe office Engineering report previously included Files L-4577 through have been withdrawn, and the a new report for application	E February 29, 1961. y sent to Santa Fe h L-4577-X-3, which applicant has filed
	5. There are no other permits for ery of oil that include the W tion 22, Township 19 South, H	NANEZ & E2NW} of Sec-
RECOMMENDATIONS:	Approval is recommended.	

Fred H. Hennighausen Supervisor, District II

ECB\*jd encl.

#### C. W. TRAINER

P. J. 80X 2222

PHONE EX 7-1518 205 NORTH LINAM STREET

HOBBS, NEW MEXICO April 30, 1962

New Mexico State Engineer P. O. Box 1717 Roswell, New Mexico

Re: File L-4290 Your letter of April 27, 1962

Attention: E. C. Barry

Dear Mr. Barry:

I submit this engineering report to supplement my letter of April 27, 1961, as you requested. It is intended to limit and justify the 100 acre feet per annum for use on my four wells in the N/2, Sec. 22-19S-35E and any necessary offset wells to mine.

- 1. The anticipated quantity of oil that will be recovered from my four wells as a result of this flood is 400,000 barrels.
- The estimated quantity of water that will be required to complete 2. this waterflood is 900 acre feet.
- 3. There will probably be 2 injections wells on my lease and 4 offsets.
- 4. The maximum anticipated rate of injection per well is 620 barrels per day.
- The maximum estimated quantity of water to be used in a 12 month 5. period is 100 acre feet.
- 6. Estimated total water that will be recovered and reinjected is 150 acre feet.
- Pearl Queen only.
   My leases are E/2 NW/4 and W/2 NE/4, Sec. 22-19S-35E. Of course, offsetting injection wells must be considered.
- 9. The primary use of this water will be for my own leases and those adjacent to mine.
- 10. The nearest available salt water is 10 miles east, or perhaps 5 miles north.
- 11. Answered in 8 above.
- 12. None of this water is to be used for domestic purposes.

I trust this is the information you require.

Yours very truly œ

CWT:vp

October 17, 1961

Gene Gray

Fred H. Hennighausen

File No. L-4290

Field check of October 12, 1961, disclosed that Well L-4290 was not in use and that a steel cap has been welded over the well casing.

Fred H. Hennighausen Supervisor, District II

ECB\*jd

ROUTING SLIP

(Basin) or (County) To: Field Supervisor Applicant ann From: Land Location .9-61 0 Field Check Requested For the Following Reasons Date: Proof of Completion of Works..... Proof of Beneficial Use ..... Declaration..... Extension of Time..... . Illegal Irrigation.... Supplemental Well..... Leakage Test..... Cementing (water-oil).... Reduction from Irr. or Dom. Pressure Test..... Inspect Casing Mick . . . . Un 3 . . Sec. 22 T. 19 R.35 R. <u>35</u> Sec. 15 T. 19 240 SEqSh Old Well (plugged-retained-reduced) REMARKS: WILL 1240 ィ 4383 2 -500 as St. Date: Вy File No. Location No.

.

Page 66 of 250

WR-36

#### FIELD REPORT FOR CEMENTING OF WELLS

Name of Applicant	
Name of Well	
Driller's Name	
Drilling Method	
CASING DATA: Surfacefeet	ofinch. Grade
Inspected by	on
(Approved)(Rejected)	
	ofinch. Grade
Inspected by	on
(Approved)(Rejected)	<u> </u>
Oil stringfeet	ofinch. Grade
Inspected by	on
(Approved)(Rejected)	n and space a
CEMENTING PROGRAM: Cemented by	Supervised by
Type of shoe used	Float collar used
Bottom three joints weld	ledCement: around shoesks
around casingsl	Additives
	ze of casingsks. of cement required
Plug pumped down	(a.m.)(p.m.)
Plug pumped down Cement circulated	(a.m.)(p.m.) No. of sacks
Plug pumped down Cement circulated Temp. survey ran	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement at feet
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement atfeet (a.m.)(p.m.)Cement atfeet
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Cement at feet
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Supervised by
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Cement at feet
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used Checked for shut off	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Supervised by
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used Checked for shut off Method used	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Supervised by (a.m.) (p.m.)
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used Checked for shut off Method used REMARKS:	(a.m.)(p.m.)         No. of sacks         (a.m.)(p.m.)         Cement at         (a.m.)(p.m.)         Cement at         feet         (a.m.)(p.m.)         Supervised by         (a.m.) (p.m.)         Supervised by         Supervised by
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used Checked for shut off Method used REMARKS:	(a.m.)(p.m.)         No. of sacks         (a.m.)(p.m.)         Cement at         (a.m.)(p.m.)         Cement at         feet         (a.m.)(p.m.)         Supervised by         (a.m.) (p.m.)         Supervised by         Supervised by
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used Rethod used REMARKS:	(a.m.)(p.m.)         No. of sacks         (a.m.)(p.m.)         Cement at         feet         (a.m.)(p.m.)         Cement at         feet         (a.m.)(p.m.)         Supervised by         (a.m.) (p.m.)         Supervised by         Supervised by
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used REMARKS:	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Cement at feet (a.m.) (p.m.) Supervised by (a.m.) (p.m.) Supervised by
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used Checked for shut off Method used REMARKS:	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement at feet (a.m.)(p.m.) Cement at feet (a.m.) (p.m.) Supervised by (a.m.) (p.m.) Supervised by
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used Checked for shut off Method used REMARKS:	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) Cement atfeet (a.m.)(p.m.) Cement atfeet (a.m.) (p.m.) Supervised by (a.m.) (p.m.) Supervised by
Plug pumped down Cement circulated Temp. survey ran Temp. survey ran Checked for shut off Method used Checked for shut off Method used REMARKS:	(a.m.)(p.m.) No. of sacks (a.m.)(p.m.) (a.m.)(p.m.) (a.m.) (p.m.) Supervised by (a.m.) (p.m.) Supervised by

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C. W. TRAINER

1	an wijne in star	10.23 	APR CR	
2595 NORTH LINAM	<b>MT</b> 3555 5		· .	· · · ·
NOBBB, NEW M	EXIC	· · ·	÷.	
April 27,	1963	ſ	i tring i la	

State Engineer Office P. O. Box 810 Reswell, New Mexico

> Re: Files L-4290; L-4577; L-4577~X; L-4577-X-2; L-4577-X-3 Your letter of February 27, 1961

Attention: Mr. E. C. Barry

Gentlemen;

The following answers are submitted in answer to the questions asked in the captioned letter.

- 1. The anticipated quantity of oil that will be recovered as a result of this flood is 12,000,000 barrels.
- 2. The estimated quantity of water that will be required to complete this waterflood is 60,000,000 barrels or 7800 acrefeet.
- There will probably be about 65 injection wells ultimately.
   The maximum anticipated rate of injection per well is 620 barrels per day.
- 5. The maximum estimated quantity of water to be used in a 12 month period is 1940 acre feet. Since my applications only cover 600 acre feet, the answer to this question is 600 acre feet.
- 6. Estimated total water that will be recovered and reinjected is 10,000,000 barrels and this is really a guess. You can see from 5 above though that we will want to reuse all we can.
- 7. Pearl Queen only.
- 8. This field is located in Township 19-South, Range 35-East, Sections 15, 21, 22, 27, 28, 29, 30, 31, 32, 33, and 34; Township 19-South, Range 34-East, Sections 25 and 36; Township 20-South, Range 35-East, Sections 3, 4, 9, and 10.

Page -2-April 27, 1961 C. W. Trainer

làs.	
· - · · · · ·	

- 9. No commitments to date, but I have 8 producing wells in this field and plan to drill about 4 more this year. Shell is making a study now to determine when we should begin a pilot flood.
- 10. Shell is reinjecting their salt water new, about 500 barrels per day as a combination disposal corressuring project. The nearest available salt water in any quantity is in the Nonument Field about 10 miles cast of Pearl.
- 11. Answered in 8 above.
- 12. None of the water appropriated under these applications is to be used for domestic purposes.

I trust this answers all your questions. It i can be of any further help, please advise.

Yours very trains,

WT:vp

Original of Poor Quality

	1	Roswell , New Merico	WR-20 (Rev. 9/58)
Mr.	C. W. Trainer		(Rev. 97 )8)
	P. O. Box 2222		
	Hobbs, New Mexico		

# Dear Sir:

The following notice shall be published at applicant's expense once a week for three (3) consecutive weeks in the

Hobbs Flare or Hobbs Daily News-Sun

\_ a newspaper published at

Page 30 of 250

V.

Hobbs , New Mexico, or in any other newspaper of general circulation in the county wherein the proposed well will be located. First publication should be made within ten (10) days from the date hereon, Publisher's affidavit of proof of such publication must be filed with the State Engineer not later than ten (10) days from the date of last publication. Failure to file proof of publication within the time allowed will render the application subject to cancellation.

The accuracy as to the content of this Notice is the responsibility of the applicant and the State Engineer is not obligated for any additional expense incurred by the necessity of readvertisement.

Neither issuance of this Notice, nor lack of protest thereto, in any way indicates favorable action by the State Engineer or approval of the application as requested.

NOTE TO P	UBLISHER: Immediately after last pub	Basin Sup	ruested to file affidavit	of proof of such publi-
cation with t	he State Engineer, P. O. Box 810	R	oswell, New M	exico.
		NOTICE		
	Stat	e Engineer's Offic	e	
Number of A	pplication L-4290	Roswell	, N. M., Janua	<b>ry 19</b> , 19 <b>61</b>
Notice is he	reby given that on the9th	day of	January	, 19 <u>61 </u> , in
accordance v	with Chapter 131 of the Session Laws of	of 1931,	C. W. Trainer	·
of	Hobbs	County of	Lea	
State of	New Mexico	, mede a	plication to the State I	Sorineer of New Mexico

State of \_\_\_\_\_\_\_\_, made application to the State Engineer of New Mexico for a permit to appropriate 100 acre feet per annum of the Lea County Underground Water Basin by commencing the use of existing well No. L-4290 located at a point in the SWISEINWI of Section 22, Township 19 South, Range 35 East, N.M.P.M., to be used for the secondary recovery of oil by waterflooding in the Pearl Queen Field, Township 19 South, Range 35 East.

Any person, firm, association, corporation, the State of New Mexico or the United States of America, deeming that the granting of the above application will be truly detrimental to their rights in the waters of said surface and/or underground source, may protest in writing the State Engineer's granting approval of said application. The protest shall set forth all protestant's reasons why the application should not be approved and shall be accompanied by proof that a copy of the protest has been served upon the applicant. Said protest and proof of service must be filed with the State Engineer within ten (10) days after the date of the last publication of this notice. Unless protested, the application will be taken up for consideration by the State Engineer on that date, being on or about the

day of , 19		s.	E.	Reynolds		. State Engineer
-------------	--	----	----	----------	--	------------------

NOTE TO PUBLISHER: Fill in date to correspond to date 10 days after date of last (third) publication. Sundays and holidays not included if this date falls on one of them.



SILL

STATE ENGINEER OFFICE ÛĠ

### WELL RECORD

IGNAL

Page 72 of 250

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Decelou 1	Section	1
-----------	---------	---

Form WR-23

• \*

······································	(A) Owner of well <b>We at Trainer</b>	
	Street and Number Box 2222	
	City hobbs	State New Nexico
	Well was drilled under Permit No.	
	36 1/4 SW 1/4 NE 1/4 of Section 22	Twp. 193 Rge. 355
	(B) Drilling ContractorEd Burke	
	Street and Number Box 306	
	City	State New Mexico
	Drilling was commenced	
	Drilling was completed	September 22 19 59
(Plat of 640 acres)		,

(Plat of 640 acres)

State whether well is shallow or artesian Shallow Depth to water upon completion 18

Section 2 PRINCIPAL WATER-BEARING STRATA					
No.	Depth in Feet		Thickness in	Description of Water-Bearing Formation	
110.	From	To	Feet		
1	18	32	14	Gravel	
2					
3		1			
4	·]				
5					

Section 3	3		_	RECOR	D OF CAS	ING			
Dia Po	Pounds	Threads	Depth		Feet	Tuno Shee	Perforations		
in.	ft.	in	Top	Bottom	reel	Type Shoe	From	To	<u> </u>
6	17	8	0	40	40	open	10	40	
	-			-		· · · · · · · · · · · · · · · · · · ·			
					N. S.				<u> </u>

Section 4			RECORD	ECORD OF MUDDING AND CEMENTING					
Depth in Feet		Diameter	Tons Clay	No. Sacks of Cement	Methods Used				
From	From To Hole								
				· · :				• • • •	
								······································	
 					-	<u></u>			
Section 5			**	PLUGGING	RECO	RD		· · · · · · · · · · · · · · · · · · ·	
Name of Plugging Contractor					tyState				
Street and	l Numbe	r		City		······································	St	ate	
Tons of C	lay used	1	ons of Ro	ughage used			Type of r	oughage	
Plugging method used					Date Plugged19				
Plugging a	approved	by:				Cemen	t Plugs were	placed as follows:	
					No.	Depth of Plug			
Basîn Supervisor				rvisor	140.	From	То	No. of Sacks Used	
	FOR USE	OF STATE ENG	INEER ON	LY					
Date		STRING W	•						
87:8	WØ 6-	- 130 0CT -							

File No.
a	~
Sontion	6
Section	- 12
	-

#### LOG OF WELL

Depth	in Feet	Thickness	Color	Type of Material Encountered
From	То	in Feet	Color	Type of Material Encountered
0	2	2		Surface soil
2	15	13		Galiche
15	18	3		Sand Hock
18	32	14		Gravel (water)
32	45	19	ал төрдүлтөн каларын бар түүдөдөн көктүүлөлөн калдар саналас. Сон түүлөр	Red Clay
				1
				L S Elev     3 /4/8       Depth to K
				Listlev
	····			Elev of KTrc = 77.2
<del></del>				
			· · · · · · · · · · · · · · · · · · ·	Loc. No. 19.25.22. 1434+
				Hydro, SurveyField Check X
				SOURCE OF ALTITUDE GIVEN
				Interpolated from Topo. Sheet
·				Determined by Inst. Leveling
<u>.                                    </u>				
				l
				· · · · · · · · · · · · · · · · · · ·

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Column B Busko Well Driller

Released to Imaging: 8/6/2024 2:03:02 PMA

# APPENDIX C

# Photographic Log

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213





# APPENDIX D

# Tables

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213



•

e <sub>TEC</sub>	Table 1 SOIL SAMPLE ANALYTICAL RESULTS WPX Energy Permian, LLC Toro 22-3 Lea County, New Mexico										
Sample I.D.	Sample Date										
NMOCD Table I Closur Release (NMAC 19.15.2		s Impacted by a	10	50	NE	NE	NE	100	600		
			E	cavation Soil Samples	- Incident Number nO	Y1727952679					
SW01	08/29/2023	0-4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<50.0	213		
SW02	SW02 08/29/2023 0-4 <0.0250 <0.0500 <20.0 <25.0 <50.0 <50.0 212								212		
SW03	08/29/2023	0-4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<50.0	61.3		
SW04	08/29/2023	0-4	<0.0500	<0.100	<40.0	<25.0	<50.0	<50.0	74.4		

Notes:

bgs: below ground surface mg/kg: milligrams per kilogram BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes GRO: Gasoline Range Organics DRO: Diesel Range Organics ORO: Oil Range Organics TPH: Total Petroleum Hydrocarbon NMOCD: New Mexico Oil Conservation Division NMAC: New Mexico Odi Conservation Division NMAC: New Mexico Administrative Code Text in "grey" represents excavated soil samples Concentrations in **bold** exceed the NMOCD Table I Closure Criteria and/or Reclamation Standard for Soils Impacted by a Release

# APPENDIX E

Laboratory Analytical Reports & Chain-of-Custody Documentation

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213







5796 U.S. Hwy 64 Farmington, NM 87401

Phone: (505) 632-1881 Envirotech-inc.com





# envirotech

**Practical Solutions for a Better Tomorrow** 

## **Analytical Report**

## WPX Energy - Carlsbad

Project Name: Toro 22-3

Work Order: E309001

Job Number: 01058-0007

Received: 9/1/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 9/7/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise. Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc. Envirotech Inc, holds the Utah TNI certification NM00979 for data reported. Envirotech Inc, holds the Texas TNI certification T104704557 for data reported. Date Reported: 9/7/23

Anna Byers 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: Toro 22-3 Workorder: E309001 Date Received: 9/1/2023 5:45:00AM

Anna Byers,



Page 80 of 250

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 9/1/2023 5:45:00AM, under the Project Name: Toro 22-3.

The analytical test results summarized in this report with the Project Name: Toro 22-3 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman Laboratory Director Office: 505-632-1881 Cell: 775-287-1762 whinchman@envirotech-inc.com

Field Offices:

**Southern New Mexico Area Lynn Jarboe** Technical Representative/Client Services

Office: 505-421-LABS(5227) Cell: 505-320-4759 ljarboe@envirotech-inc.com

Released to Imaging: 8/6/2024 2903 302 PMM

Raina Schwanz Laboratory Administrator Office: 505-632-1881 rainaschwanz@envirotech-inc.com Alexa Michaels Sample Custody Officer Office: 505-632-1881 labadmin@envirotech-inc.com

West Texas Midland/Odessa Area Rayny Hagan Technical Representative Office: 505-421-LABS(5227)

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QC - Nonhalogenated Organics by EPA 8015D - GRO	10
QC - Nonhalogenated Organics by EPA 8015D - DRO/ORO	11
QC - Anions by EPA 300.0/9056A	12
Definitions and Notes	13
Chain of Custody etc.	14

## Sample Summary

## Page 82 of 250

		Sample Sum	lilal y		
WPX Energy - Carlsbad		Project Name: Toro 22-3			Reported:
5315 Buena Vista Dr		Project Number:	01058-0007		Reporteu.
Carlsbad NM, 88220		Project Manager:	Anna Byers		09/07/23 15:42
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW01	E309001-01A	Soil	08/29/23	09/01/23	Glass Jar, 2 oz.
SW02	E309001-02A	Soil	08/29/23	09/01/23	Glass Jar, 2 oz.
SW03	E309001-03A	Soil	08/29/23	09/01/23	Glass Jar, 2 oz.
SW04	E309001-04A	Soil	08/29/23	09/01/23	Glass Jar, 2 oz.



	0	ampie D	ala			
WPX Energy - Carlsbad	Project Name	e: Toro	0 22-3			
5315 Buena Vista Dr	Project Numb	ber: 010	58-0007			Reported:
Carlsbad NM, 88220	Project Mana	ger: Ann	a Byers			9/7/2023 3:42:42PM
		SW01				
		E309001-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	st: IY		Batch: 2336003
Benzene	ND	0.0250	1	09/05/23	09/06/23	
Ethylbenzene	ND	0.0250	1	09/05/23	09/06/23	
Foluene	ND	0.0250	1	09/05/23	09/06/23	
p-Xylene	ND	0.0250	1	09/05/23	09/06/23	
o,m-Xylene	ND	0.0500	1	09/05/23	09/06/23	
Fotal Xylenes	ND	0.0250	1	09/05/23	09/06/23	
Surrogate: 4-Bromochlorobenzene-PID		93.9 %	70-130	09/05/23	09/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: IY		Batch: 2336003
Gasoline Range Organics (C6-C10)	ND	20.0	1	09/05/23	09/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		86.1 %	70-130	09/05/23	09/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: JL		Batch: 2336013
Diesel Range Organics (C10-C28)	ND	25.0	1	09/05/23	09/06/23	
Dil Range Organics (C28-C36)	ND	50.0	1	09/05/23	09/06/23	
Surrogate: n-Nonane		91.4 %	50-200	09/05/23	09/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: BA		Batch: 2336046
Chloride	213	20.0	1	09/06/23	09/07/23	

## **Sample Data**



						0
	S	Sample D	ata			
WPX Energy - Carlsbad	Project Nam	ie: Tore	0 22-3			
5315 Buena Vista Dr	Project Num	ber: 010	58-0007			Reported:
Carlsbad NM, 88220	Project Mana	ager: Anr	a Byers			9/7/2023 3:42:42PM
		SW02				
		E309001-02				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	t: IY		Batch: 2336003
Benzene	ND	0.0250	1	09/05/23	09/06/23	
Ethylbenzene	ND	0.0250	1	09/05/23	09/06/23	
oluene	ND	0.0250	1	09/05/23	09/06/23	
-Xylene	ND	0.0250	1	09/05/23	09/06/23	
o,m-Xylene	ND	0.0500	1	09/05/23	09/06/23	
Total Xylenes	ND	0.0250	1	09/05/23	09/06/23	
Surrogate: 4-Bromochlorobenzene-PID		95.1 %	70-130	09/05/23	09/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst	t: IY		Batch: 2336003
Gasoline Range Organics (C6-C10)	ND	20.0	1	09/05/23	09/06/23	
				0.0 /0 # /0.0	0.0 /0.6 /0.0	

Gasonine Range Organies (CO-CTO)	ПЪ	20.0					
Surrogate: 1-Chloro-4-fluorobenzene-FID		84.6 %	70-130		09/05/23	09/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analy	yst: JL		Batch: 2336013
Diesel Range Organics (C10-C28)	ND	25.0		1	09/05/23	09/06/23	
Oil Range Organics (C28-C36)	ND	50.0		1	09/05/23	09/06/23	
Surrogate: n-Nonane		89.9 %	50-200		09/05/23	09/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analy	yst: BA		Batch: 2336046
Chloride	212	20.0		1	09/06/23	09/07/23	

	S	ample D	ata			6
WPX Energy - Carlsbad	Project Name	•	22-3			
5315 Buena Vista Dr	Project Numb		58-0007			Reported:
Carlsbad NM, 88220	Project Mana	ger: Ann	a Byers			9/7/2023 3:42:42PM
		SW03				
		E309001-03				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	: IY		Batch: 2336003
Benzene	ND	0.0250	1	09/05/23	09/06/23	
Ethylbenzene	ND	0.0250	1	09/05/23	09/06/23	
Toluene	ND	0.0250	1	09/05/23	09/06/23	
p-Xylene	ND	0.0250	1	09/05/23	09/06/23	
o,m-Xylene	ND	0.0500	1	09/05/23	09/06/23	
Total Xylenes	ND	0.0250	1	09/05/23	09/06/23	
Surrogate: 4-Bromochlorobenzene-PID		93.8 %	70-130	09/05/23	09/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst	: IY		Batch: 2336003
Gasoline Range Organics (C6-C10)	ND	20.0	1	09/05/23	09/06/23	

Gasonne Range Organics (Co-C10)	ND	20.0		1	07/03/25	07/00/25	
Surrogate: 1-Chloro-4-fluorobenzene-FID		86.8 %	70-130		09/05/23	09/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analys	st: JL		Batch: 2336013
Diesel Range Organics (C10-C28)	ND	25.0		1	09/05/23	09/06/23	
Oil Range Organics (C28-C36)	ND	50.0		1	09/05/23	09/06/23	
Surrogate: n-Nonane		88.4 %	50-200		09/05/23	09/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analys	st: BA		Batch: 2336046
Chloride	61.3	20.0		1	09/06/23	09/07/23	

	S	Sample D	ata			6
WPX Energy - Carlsbad	Project Name	e: Tore	0 22-3			
5315 Buena Vista Dr	Project Num	ber: 010	58-0007			Reported:
Carlsbad NM, 88220	Project Mana	ager: Ann	a Byers			9/7/2023 3:42:42PM
		SW04				
		E309001-04				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	:: IY		Batch: 2336003
Benzene	ND	0.0500	2	09/05/23	09/06/23	
Ethylbenzene	ND	0.0500	2	09/05/23	09/06/23	
Toluene	ND	0.0500	2	09/05/23	09/06/23	
p-Xylene	ND	0.0500	2	09/05/23	09/06/23	
o,m-Xylene	ND	0.100	2	09/05/23	09/06/23	
Total Xylenes	ND	0.0500	2	09/05/23	09/06/23	
Surrogate: 4-Bromochlorobenzene-PID		94.1 %	70-130	09/05/23	09/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	:: IY		Batch: 2336003
Gasoline Range Organics (C6-C10)	ND	40.0	2	09/05/23	09/06/23	

Surrogate: 1-Chloro-4-fluorobenzene-FID		86.1 %	70-130		09/05/23	09/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2336013
Diesel Range Organics (C10-C28)	ND	25.0		1	09/05/23	09/06/23	
Oil Range Organics (C28-C36)	ND	50.0		1	09/05/23	09/06/23	
Surrogate: n-Nonane		91.0 %	50-200		09/05/23	09/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2336046
Chloride	74.4	20.0		1	09/06/23	09/07/23	

## QC Summary Data

		QC DI		ll y Dat	"				
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:		oro 22-3 1058-0007					Reported:
Carlsbad NM, 88220		Project Manager:	A	nna Byers					9/7/2023 3:42:42PM
		Volatile O	rganics <b>k</b>	oy EPA 802	21B				Analyst: IY
Analyte		Reporting	Spike	Source		Rec		RPD	
	Result	Limit	Level	Result	Rec	Limits	RPD	Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2336003-BLK1)							Prepared: 0	9/05/23 A	nalyzed: 09/06/23
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.62		8.00		95.3	70-130			
LCS (2336003-BS1)							Prepared: 0	9/05/23 A	analyzed: 09/06/23
Benzene	4.72	0.0250	5.00		94.4	70-130			
Ethylbenzene	4.59	0.0250	5.00		91.8	70-130			
Toluene	4.76	0.0250	5.00		95.2	70-130			
p-Xylene	4.74	0.0250	5.00		94.8	70-130			
p,m-Xylene	9.47	0.0500	10.0		94.7	70-130			
Total Xylenes	14.2	0.0250	15.0		94.7	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.72		8.00		96.5	70-130			
Matrix Spike (2336003-MS1)				Source:	E309001-	02	Prepared: 0	9/05/23 A	analyzed: 09/06/23
Benzene	4.66	0.0250	5.00	ND	93.2	54-133			
Ethylbenzene	4.54	0.0250	5.00	ND	90.8	61-133			
Toluene	4.71	0.0250	5.00	ND	94.1	61-130			
o-Xylene	4.67	0.0250	5.00	ND	93.5	63-131			
p,m-Xylene	9.38	0.0500	10.0	ND	93.8	63-131			
Total Xylenes	14.1	0.0250	15.0	ND	93.7	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.64		8.00		95.5	70-130			
Matrix Spike Dup (2336003-MSD1)				Source:	E309001-	02	Prepared: 0	9/05/23 A	analyzed: 09/06/23
Benzene	4.50	0.0250	5.00	ND	90.0	54-133	3.52	20	
Ethylbenzene	4.38	0.0250	5.00	ND	87.6	61-133	3.52	20	
Toluene	4.54	0.0250	5.00	ND	90.7	61-130	3.67	20	
o-Xylene	4.51	0.0250	5.00	ND	90.2	63-131	3.60	20	
p,m-Xylene	9.06	0.0500	10.0	ND	90.6	63-131	3.48	20	
Total Xylenes	13.6	0.0250	15.0	ND	90.5	63-131	3.52	20	
Surrogate: 4-Bromochlorobenzene-PID	7.63		8.00		95.4	70-130			



## QC Summary Data

		$\chi \circ \sim$		ing Duu					
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:		oro 22-3 .058-0007					Reported:
Carlsbad NM, 88220		Project Manager:	A	nna Byers					9/7/2023 3:42:42PM
	Noi	nhalogenated C	rganics	by EPA 801	15D - G	RO			Analyst: IY
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2336003-BLK1)							Prepared: 0	9/05/23 A	nalyzed: 09/06/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.86		8.00		85.7	70-130			
LCS (2336003-BS2)							Prepared: 0	9/05/23 A	analyzed: 09/06/23
Gasoline Range Organics (C6-C10)	42.8	20.0	50.0		85.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.92		8.00		86.5	70-130			
Matrix Spike (2336003-MS2)				Source:	E309001-	02	Prepared: 0	9/05/23 A	analyzed: 09/06/23
Gasoline Range Organics (C6-C10)	42.2	20.0	50.0	ND	84.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.89		8.00		86.1	70-130			
Matrix Spike Dup (2336003-MSD2)				Source:	E309001-	02	Prepared: 0	9/05/23 A	analyzed: 09/06/23
Gasoline Range Organics (C6-C10)	40.5	20.0	50.0	ND	81.0	70-130	4.01	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.91		8.00		86.4	70-130			



## QC Summary Data

		QC S	umma	iry Data	a				
WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220		Project Name: Project Number: Project Manager:	01	oro 22-3 058-0007 nna Byers					<b>Reported:</b> 9/7/2023 3:42:42PM
	Nonha	alogenated Orga	anics by	EPA 8015I	) - DRO	/ORO			Analyst: JL
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2336013-BLK1)							Prepared: 0	9/05/23 A	analyzed: 09/05/23
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	44.4		50.0		88.8	50-200			
LCS (2336013-BS1)							Prepared: 0	9/05/23 A	analyzed: 09/05/23
Diesel Range Organics (C10-C28)	244	25.0	250		97.4	38-132			
Surrogate: n-Nonane	43.1		50.0		86.3	50-200			
Matrix Spike (2336013-MS1)				Source:	E309011-	21	Prepared: 0	9/05/23 A	analyzed: 09/05/23
Diesel Range Organics (C10-C28)	239	25.0	250	ND	95.6	38-132			
Surrogate: n-Nonane	44.0		50.0		87.9	50-200			
Matrix Spike Dup (2336013-MSD1)				Source:	E309011-2	21	Prepared: 0	9/05/23 A	analyzed: 09/05/23
Diesel Range Organics (C10-C28)	240	25.0	250	ND	96.0	38-132	0.389	20	
Surrogate: n-Nonane	41.1		50.0		82.2	50-200			



## **QC Summary Data**

				J –					
WPX Energy - Carlsbad		Project Name:		oro 22-3					Reported:
5315 Buena Vista Dr		Project Number:	0	1058-0007					
Carlsbad NM, 88220		Project Manager	A	nna Byers					9/7/2023 3:42:42PM
		Anions	by EPA 🤅	300.0/9056	4				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2336046-BLK1)							Prepared: 0	9/06/23 A	analyzed: 09/07/23
Chloride	ND	20.0							
LCS (2336046-BS1)							Prepared: 0	9/06/23 A	analyzed: 09/07/23
Chloride	245	20.0	250		98.1	90-110			
Matrix Spike (2336046-MS1) Source: E308250-21 Prepared: 09								9/06/23 A	analyzed: 09/07/23
Chloride	247	20.0	250	ND	98.9	80-120			
Matrix Spike Dup (2336046-MSD1)				Source:	E308250-2	21	Prepared: 0	9/06/23 A	analyzed: 09/07/23
Chloride	248	20.0	250	ND	99.4	80-120	0.523	20	

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



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ſ	WPX Energy - Carlsbad	Project Name: Tor	ro 22-3	
	5315 Buena Vista Dr	Project Number: 010	058-0007	Reported:
	Carlsbad NM, 88220	Project Manager: An	na Byers	09/07/23 15:42

ND Analyte NOT DETECTED at or above the reporting limit
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- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Released

lient: W	/PX Energy Pe	rmian LLO	C.				Bill To		195	an a	La	b Use	On	lv	dan an Pa	1		TAT		FPA P	Page rogram
	Toro 22-3				At	tention: Jim R	alev		Lah	NO#	terror enterror et	and the second second	and the second	Numbe	r				Standard	CWA	SDWA
	Manager: Ann	a Byers					uena Vista Dr.		F	na	001	1 10	10	58-0	007				5 day TAT		
	13000 W Cou		00		transmitter and the second sec		Carlsbad, NM, 8822	0		~				sis and I			-		ALC: NO.		RCRA
ity, Sta	te, Zip_Odess	a,TX, 7970	65			one: 575-885				h	Ĩ	T	T		T	TT	T				
	575) 200-6754				En	ail: jim.raley(	@dvn.com		1	ORO			- 1							State	
mail: D	evon-team@e	etechenv.	com			3S: EE.151032			1	so/c	-			0		WN			NM CO		TX
ollecte	d by: Edyte Ko	nan				ident ID: nOY			1	J/DF	802	8260	5010	300	1			¥			
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID		Phone:         575-885-7502           Email:         jim.raley@dvn.com           WBS:         EE.151032.01.ABD           Incident ID:         nOY1727952679           Lab         Lab           Number         S012           S012         Lab				BGDOC		GDOC		Remarks							
11:30	8/29/2023	S	1			SW01			0-4'		5					X					
11:40	8/29/2023	S	1		SW02				0-4'							X					
11:50	8/29/2023	S	1	3		SW03		3	0-4'							X					
12:00	8/29/2023	S	1	1		SW04		4	0-4'							X					
						Jugt															
$\geq$													-				+		-		
, (field sam late or tim	e of collection is co	validity and nsidered frau	id and may b	e grounds for le	gal action.	Sar	or intentionally mislabelling npled by:	-								avg temp	o above	0 but les	ived on ice the da s than 6 °C on sub	S	pled or
			7:30	Received by: (	lee Cents	B-29.	23		BO		Rece	ived or	ice:	Lab Use Only Y/N							
M	ed by: (Signature	augh		31-33	1715	Andre	d by: (Signature) Date B.S			2	œ	2	1			<u>T2</u>			<u>T3</u>		
Relinquished by: (Signature) Date 9.1.23 O245 Carth Man						th Man	Pate //2	3	Time 5	:4:	5	AVG	Temp <sup>6</sup>	c_ 4	1						
ample Ma	trix: S - Soil, Sd - So	olid, Sg - Slud	ge, A - Aqueo	ous, O - Other				Containe	r Type	:g-g	lass,	p - po	y/pla	astic, ag	- amb	er glas	s, v -	VOA			

## **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Enui: analgerecherwoon Do Dor. 0908/2317:00 (4 day TAT)  Chain of Castrady (COC)  1. Does the sample ID match the COC? Yes  2. Does the number of samples per sampling site location match the COC 3. Were samples dropped of Dy client or carrier? Yes  3. Were samples coeleved of the holding time? Yes Nore: Analysis, such soft which should be conducted in the field, i.e. 15 minute hold time, are unitable to this disassion.  3. Sample Cooler received with holding time? Yes  5. Sample Cooler received minute in the field, i.e. 15 minute holding time? Yes  9. Wes the sample cooler received? Yes  9. Wes the sample cooler received? Yes  9. Wes the sample field in the disassion.  5. Sample Cooler received? Yes  9. Wes the sample field in the disassion.  1. If yes, were coulds/security scale present? Yes  9. Wes the sample field in the temperature. Actual sample temperature: 4?C  5. Sample Contater  14. Are algoous VOC analyse? Yes  15. Are VOC anaples collected? Yes  16. Sample Contater  17. Wes a tryp blank (FIB) included for VOC analyse? Yes  2. Are sample for ourded field and/se represerved? Yes  2. Are sample corrective? Yes  2. Are sample corrective? Yes  3. Are sample corrective? Yes  4. Are sample corrective? Yes  5. Sample Contater Yes	Client:	WPX Energy - Carlsbad D	ate Received:	09/01/23	05:45	Work Order ID:	E309001
Chain of Costody (COC)       Ves         Does the number of samples per sampling site location match the COC       Yes         2. Does the number of samples per sampling site location match the COC       Yes         3. Were samples dopped off by client or carrier?       Yes         4. Was the COC complex, i.e., signatures, dates/times, requested analyses?       Yes         5. Were all samples received within holding time?       Yes         Nore: Sample Conders on the ideal in the discussion.       Kes         6. Did the COC indicate standard TAT, or Expedited TAT?       Yes         8. Mark Cook conditions and that, i.e., not broken?       Yes         9. Was the sample received intict, i.e., not broken?       Yes         9. Was the sample received intict, i.e., not broken?       Yes         11. If yee, vere couldy/security seals present?       No         12. Was the sample received intict, i.e., not broken?       Yes         Note: Thermal preservation is not required. J framples are received vi 15       minutes of sampling         13. If no visible ice, record the temperature. Actual sample temperature: 4*C       Sample Context         Sample Context       No       No         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected?       Yes         16. Is the head space less than 6-8 mm (pea sized or less)?       Na </th <th>Phone:</th> <th>(575) 200-6754 D</th> <th>ate Logged In:</th> <th>09/01/23</th> <th>07:55</th> <th>Logged In By:</th> <th>Caitlin Mars</th>	Phone:	(575) 200-6754 D	ate Logged In:	09/01/23	07:55	Logged In By:	Caitlin Mars
1. Does the sample ID match the COC?     Yes       2. Does the number of samples per sampling site location match the COC     Yes       3. Were samples dropped 01 by client or carrie?     Yes       4. Was the COC complete, i.e., signatures, data-vitines, requested analyses?     Yes       5. Were all samples per service vidwinh bolding firm?     Yes       6. Did the COC indicate standard TAT, or Expedited TAT?     Yes       7. Was a sample cooler received?     Yes       9. Was the sample/by received induction?     Yes       9. Was the sample (coler received?)     Yes       9. Was the sample (coler received?)     Yes       10. Were custody/security seals present?     No       11. If yes, wree castody/security seals intact?     Na       12. Was the sample cooler received will be conducted then ji struct.     Yes       13. If no visible ice, record the temperature.     Actual sample temperature: struct.       14. Are aqueous VOC samples present?     No       15. Are VOC samples collected in VOA Vials?     NA       16. Is the head space less than 6-8 mm (pen sized or less)?     Na       18. Are non-VOC samples collected in the orange or sample containers collecte?     Yes       19. Is the appropriate volume/weight or number of sample containers collecte?     Yes       20. Were field tabel     Yes       21. Was at fine (Collectin the correct containers?     Yes	Email:	anna@etechenv.vom D	ue Date:	09/08/23	17:00 (4 day TAT)		
<ul> <li>2. Does the number of samples per sampling site location match the COC Yes</li> <li>3. Were samples dropped off by client or carrie? Yes</li> <li>4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes</li> <li>5. Were all samples received within holding time? Yes</li> <li>5. Wore and Around Time (TAD)</li> <li>6. Did the COC indicate standard TAT, or Espedited TAT? Yes</li> <li>5. Sample Cond-Round Time (TAD)</li> <li>7. Was a sample coeler received? Yes</li> <li>8. If yes, was coeler received? Yes</li> <li>8. If yes, was coeler received in good condition? Yes</li> <li>9. Was the sample(s) received intext, i.e., not broken? Yes</li> <li>9. Was the sample(s) received intext, i.e., not broken? Yes</li> <li>10. Over catadofyscurity seals intat? No</li> <li>11. If yes, were castody/security seals intat? No</li> <li>12. Was the sample tociced in its of required. If samples are received wit 15 minutes of sampling</li> <li>13. It no visible cover the temperature. 40C</li> <li>14. Are aqueous VOC samples present? No</li> <li>15. Are VOC samples present? No</li> <li>16. Is the head space less than 6-8 mm (pea sized or less)? NA</li> <li>17. Was at simple tociced in the orrect containers? Yes</li> <li>19. Is the sample tociced in the orrect containers? Yes</li> <li>19. Is the sample tables filled out with the minimum information: Sample containers on the sized or less)? NA</li> <li>19. Is the sample tables filled out with the minimum information: Sample tomperature? Yes</li> <li>20. Were field sample labels filled out with the minimum information: Sample tomperature? Yes</li> <li>21. Does the COC of field labels indicate the samples were preserved? No</li> <li>22. Are sample(s) correctly preserved? No</li> <li>23. Are sample(s) and the samples were preserved? No</li> <li>24. Does the COC of field labels indicate the samples were preserved? No</li> <li>25. Does the sample faber for the none phase, i.e., multiphase? No</li> <li>26. Does the COC of field labels indicate the samples were pre</li></ul>	Chain o	f Custody (COC)					
3. Were samples dropped off by client or enrire?     Yes     Carrier: Courier       4. Was the COC complete, i.e., signatures, dates/times, requested analyses?     Yes       9. Were all samples received within holding time?     Yes       Not:: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold inc.; nere on included in this dianession.     Comments/Resolution       Sample Cooler     T       7. Was a sample cooler received?     Yes       9. Was the sample cooler received?     Yes       9. Was the sample cooler received?     No       10. Were caustody/security seals inteat?     No       11. If yes, were caustody/security seals inteat?     No       12. Was the sample cooler neceived?     No       13. If no visible ice, record the temperature. Actual sample temperature: 4°C     Yes       Sample Container     No       14. Are aqueous VOC samples present?     No       15. Are VOC samples collected in VOA Vala?     Na       16. Is the head spece less thin 6.4 minum information:     Yes       Sample Container     Yes       17. Was a trip blank (TB) included for VOC analyses?     NA       18. Are non-VOC samples collected?     Yes       Sample ID?     Yes       Date? Time Collected?     Yes       Sample ID?     Yes       Sample ID?     Yes       Sample ID?	1. Does 1	the sample ID match the COC?		Yes			
<ul> <li>4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes Note: Analysis, such as pill which should be conduced in the field, i.e., 15 minute hold time, are not included in this diseasion.</li> <li>5. Samble Cond routing CTAD)</li> <li>6. Did the COC indicate standard TAT, or Expedited TAT? Yes</li> <li>5. Was a sample color received? Yes</li> <li>8. If yes, was color received? Yes</li> <li>8. If yes, was color received intact, i.e., not broken? Yes</li> <li>9. Was the sample(s) received intact, i.e., not broken? Yes</li> <li>9. Was the sample(s) received intact, i.e., not broken? Yes</li> <li>9. Was the sample color received? No</li> <li>10. Were custody/security seals intact? No</li> <li>11. If yes, were custody/security seals intact? No</li> <li>12. Was the sample received on is not required, if samples are received wip 15 minutes of sampling</li> <li>13. If no visible (or, record the temperature. Actual sample temperature: 4°C</li> <li>Sample Container</li> <li>14. Are auqueus VOC samples offected in VOA Vials? NA</li> <li>16. Is the head space less than 6-8 mm (pea sized or less)? NA</li> <li>17. Was a trip blank (TB) included for VOC analyses? Yes</li> <li>19. Is the appropriate volume/weight or number of sample containers outlette? Yes</li> <li>20. Were field sample labels filled out with the minimum information: Sample Cord field helds indicate the samples were preserve? No</li> <li>20. Were field sample labels filled out with the minimum information: Sample (S) correcity preserve? No</li> <li>20. Were field sample labels filled out with the minimum information: Sample (S) correcity preserve? No</li> <li>20. New for Cord field helds indicate the samples were preserve? No</li> <li>20. New field sample labels indicate the samples were preserve? No</li> <li>20. Are sample(s) correcity preserve? No</li> <li>21. Are samples Note Cord field helds indicate the samples were preserve? No</li> <li>22. Are samples required to a subcontract laborator? No</li> <li>23. Are samples requi</li></ul>	2. Does t	the number of samples per sampling site location match	the COC	Yes			
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes Nere all samples received within holding time? Yes Nere Analysis, such and Withis should be conducted in the field, i.e. 15 minue hold time, are not included in this discussion. Sample Curd Around Time (TAT) 6. Did the COC indicate standard TAT, or Espedited TAT? Yes 8. If yes, was cooler received? Yes 8. If yes, was cooler received? Yes 8. If yes, was cooler received in noci i.e., not broken? Yes 9. Was the sample (co) received into i.e., not broken? Yes 10. Were eutsody/security seals intact? No 11. If yes, were custody/security seals intact? No 12. If yes, the sample received on ice? If yes, the recorded temp is 4°C, i.e., 64°2°C Yes No No 13. If no visible (ex, record the temperature: Actual sample temperature: $\frac{4°C}{2}$ 5. Amaple Container 14. Are aqueous VOC samples or leaved? If yous, the recorded temp is 4°C, i.e., 64°2°C Yes 15. Are VOC samples collected in to OVA vials? No 16. Is the head space less than 6-8 mm (pea sized or less)? No 17. Was a trip blank (TB) included for VOC analyses? No 18. Are non-VOC samples collected in the correct containers? Yes 19. Is the appropriate volume/weight or number of sample containers collected? Yes 5. More Contailed in the correct containers? Yes 5. More Corr field label filled out with the minimum information: Sample Corr field labels indicate the sample were preserved? No 21. Are sample(s) correctly preserved? No 22. Are sample(s) correctly preserved? No 23. Are sample(s) correctly preserved? No 24. Are sample(s) correctly preserved? No 25. Are Some Correct and and received for dissolved metals? No 17. Ups, does the COC sprictly helps (is to be analyzed? No 27. Are sample(s) correctly preserved? No 27. Are sample(s) correctly nels solved metals? No 27. Are sample(s) correctly pres	3. Were	samples dropped off by client or carrier?		Yes	Carrier: Courier		
Note: Analysis, such as pill which absulds conducted in the field,       Comments/Resolution         Sample Corr       Yes         0. Did the COC indicate standard TAT, or Expedited TAT?       Yes         8. If yes, was cooler received?       Yes         8. If yes, was cooler received in good condition?       Yes         9. Was the sample specieved in disci, Lie, no broken?       Yes         10. Were custody/security seals present?       No         11. If yes, were custody/security seals intate?       NA         12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C       Yes         Note: Thermal preservation is not required. if samples are received wit 15       minutes of sampling         13. If no visible is crecord the temperature. Actual sample temperature: $\frac{4°C}{2°C}$ No         14. Are aqueous VOC samples of present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       Na         18. Are non-VOC samples collected in the drivent information:       Yes         10. Does the COC or field labels inflied out with the minimum information:       Yes         20. Were field sample laber filled out with the minimum information:       No         21. Are sample(s) correctly p	4. Was th	he COC complete, i.e., signatures, dates/times, requested	d analyses?	Yes			
6. Did the COC indicate standard TAT, or Expedited TAT?       Yes         Sample Cooler       Yes         9. Was a sample cooler received?       Yes         9. Was the sample cooler received in good condition?       Yes         9. Was the sample cooler received in good condition?       Yes         10. Were custody/security seals present?       No         11. If yes, were custody/security seals intat?       NA         12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C       Yes         Mote: Thermal preservation is not required, if samples are received wit 15 <minutes of="" sampling<="" td="">       NA         13. If no visible ice, record the temperature. Actual sample temperature: <math>\frac{4°C}{4°C}</math>       NA         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was at rip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected?       Yes         Date Time Collected?       Yes         Date Time Collected?       Yes         Date Time Collected?       Yes         Date Time Collected?       Yes         Collectors name?       Yes         Date Time Collected?       Yes</minutes>	5. Were	Note: Analysis, such as pH which should be conducted in th	e field,	Yes		Commen	ts/Resolution
Sample Cooler         7. Was a sample cooler received?       Yes         8. If yes, was cooler received intact, i.e., not broken?       Yes         10. Were custody/security seals present?       No         11. If yes, were custody/security seals intact?       No         12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C       Yes         Nort: Themal preservation is not required, if samples are received wil 15 minutes of sampling       Yes         13. If no visible ice, record the temperature. Actual sample temperature: $\frac{4°C}{2°C}$ Sample Container         14. Are aqueous VOC samples present?       No         15. Are violous VOC samples present?       No         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         Date/Time Collected?       Yes         Collectors name?       Yes         Date/Time Collected?       Yes         Collector?       No         21. Does the COCC or field labels indicate the samples were preserved?       No         21. Are sample(s) correctly preserved?       No         21. Are sample(s) correctly preserved?       No         21. Are sample(s) correctly preserved?	Sample '	<u>Turn Around Time (TAT)</u>					
7. Was a sample cooler received?       Yes         8. If yes, was cooler received in good condition?       Yes         9. Was the sample(s) received in act, i.e., not broken?       Yes         9. Was the sample (s) received in act, i.e., not broken?       No         11. If yes, were custody/security seals intact?       No         12. Was the sample received on ice?! If yes, the recorded temp is 4°C, i.e., 6°±2°C       Yes         Not: Themar preservation is not required, if samples are received wil 15       minutes of sampling         13. If no visible ice, record the temperature. Actual sample temperature: 4°C       Sample Container         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         Sample ID?       Yes         Collectors name?       Yes         Sample ID?       Yes         Date/Time Collected?       Yes         Collectors field labels indicate the samples were preserved?       No         21. Are sample(s) corretly preserved?       No         21. Are sample(s) corretly preserved?       No         21.	6. Did th	e COC indicate standard TAT, or Expedited TAT?		Yes			
8. If yes, was cooler received in good condition?       Yes         9. Was the sample(s) received intact, i.e., not broken?       Yes         10. Were custody/security seals present?       No         11. If yes, were custody/security seals intact?       NA         12. Was the sample received on ie?? If yes, the recorded temp is 4°C, i.e., 6°±2°C       Yes         Note: Thermal preservation is not required, if samples are received wit 15 minutes of sampling       NA         13. If no visible ice, record the temperature. Actual sample temperature: 4°C       Yes         Sample Container       No         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         FletLabel       Yes         20. Were field sample labels filled out with the minimum information:       Sample LD?         Sample LD?       Yes         Date/Time Collected?       Yes         Sample LOS: correctly preserved?       NA         21. Subs the COC or field labels indicate the samples were preserved?       NA         22. Are sample (s) correctly preserved?       NA	Sample	Cooler					
9. Was the sample(s) received intact, i.e., not broken?       Yes         10. Were custody/security seals present?       No         11. If yes, were custody/security seals intact?       NA         12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C       Yes         Not: Thermal preservation is not required, if samples are received wii 15 minutes of sampling       Yes         13. If no visible ice, record the temperature. Actual sample temperature: 4°C       Yes         Sample Container       No         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         19. Is the appropriate volume/weight or number of sample containers collected?       Yes         20. Were field sample labels filled out with the minimum information:       Sample ID?         20. Were field sample labels indicate the samples were preserved?       No         21. Does the COC or field labels indicate the samples were preserved?       No         21. Joses the COC specify preserved?       Na         24. Is lab filteration required and/or requested for dissolved metals?       No	7. Was a	sample cooler received?		Yes			
10. Were custody/security seals present?       No         11. If yes, were custody/security seals intact?       NA         12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C       Yes         Not: Thermal preservation is not required, if samples are received wi 15 minutes of sampling       The visible ice, record the temperature. Actual sample temperature: 4°C         Sample Container       I       I         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         Field Label       20. Were field sample labels filled out with the minimum information:       Yes         Sample D?       Yes         Collectors name?       Yes         Sample Preservation       No         21. Are sample foc) correcity preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No         24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix       No         26. Does the Sample Matrix       No         20. Does the COC spec	8. If yes,	, was cooler received in good condition?		Yes			
11. If yes, were custody/security seals intact?       NA         12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received wil 15 minutes of sampling       Yes         13. If no visible ice, record the temperature. Actual sample temperature: <u>4°C</u> Yes         Sample Container       No         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         9. Is the appropriate volume/weight or number of sample containers collected?       Yes         Date/Time Collected?       Yes         Date/Time Collected?       Yes         Collectors name?       Yes         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       No         23. Los the COC or specify which phase(s) is to be analyzed?       No         24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix       No         26. Does the Sample Matrix       No         26. Does the	9. Was th	he sample(s) received intact, i.e., not broken?		Yes			
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C       Yes         Note: Thermal preservation is not required, if samples are received wii 15       minutes of sampling         13. If no visible ice, record the temperature. Actual sample temperature: <u>4°C</u> Sample Container         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was at rip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         19. Is the appropriate volume/weight or number of sample containers collected?       Yes         Collectors name?       Yes         Date/Time Collected?       Yes         Collectors name?       Yes         Collectors name?       Yes         Date/Time Collected for dissolved metals?       No         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       No         23. Los bus be COC specify which phase(s) is to be analyzed?       No         24. Is lab filteration required and/or requested for dissolved metals?       No         23. The yes, does the COC specify which phase(s) is to be analyzed?       Na	10. Were	e custody/security seals present?		No			
Note: Thermal preservation is not required, if samples are received wit 15         minutes of sampling         13. If no visible ice, record the temperature. Actual sample temperature: $\frac{4^{\circ}C}{4^{\circ}C}$ Sample Container         14. Are aqueous VOC samples present?       No         15. Are vOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pas aized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         19. Is the appropriate volume/weight or number of sample containers collected?       Yes         Field Label       Yes         20. Were field sample labels filled out with the minimum information:       Yes         Sample ID?       Yes         Date/Time Collected?       Yes         Collectors name?       Yes         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       Na         24. Is lab filteration required and/or requested for dissolved metals?       No         26. Does the COC specify which phase(s) is to be analyzed?       Na         26. Does the sample Matrix       No         26. Does the sche COC specify which phase(s) is to be analyzed?       Na <t< td=""><td>11. If ye</td><td>s, were custody/security seals intact?</td><td></td><td>NA</td><td></td><td></td><td></td></t<>	11. If ye	s, were custody/security seals intact?		NA			
13. If no visible ice, record the temperature. Actual sample temperature: 4°C         Sample Container         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         19. Is the appropriate volume/weight or number of sample containers collected?       Yes         Field Label       Yes         20. Were field sample labels filled out with the minimum information:       Yes         Sample ID?       Yes         Other Trime Collected?       Yes         Collectors name?       Yes         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No         25. Are sample Matrix       No         26. Does the COC specify which phase(s) is to be analyzed?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       Na         28. Are samples required to get sent to a subco	12. Was t	Note: Thermal preservation is not required, if samples are re		Yes			
Sample Container         14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         9. Is the appropriate volume/weight or number of sample containers collected?       Yes         Field Label       Yes         20. Were field sample labels filled out with the minimum information:       Yes         Sample Time Collected?       Yes         Collectors name?       Yes         Sample for Gorrectly preserved?       No         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix       26         26. Does the sample have more than one phase, i.e., multiphase?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       No         28. Are samples required to get sent to a subcontract laboratory?       No	13 Ifno		mperature: 4 <sup>c</sup>	C			
14. Are aqueous VOC samples present?       No         15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         19. Is the appropriate volume/weight or number of sample containers collected?       Yes         Field Label       Yes         20. Were field sample labels filled out with the minimum information: Sample ID? Collected?       Yes         21. Does the COIC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       No         23. Are sample have more than one phase, i.e., multiphase?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       NA         28. Are samples heave to get sent to a subcontract laboratory?       No			<u></u>	<u> </u>			
15. Are VOC samples collected in VOA Vials?       NA         16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         19. Is the appropriate volume/weight or number of sample containers collected?       Yes         Field Label       Yes         20. Were field sample labels filled out with the minimum information:       Yes         Sample ID?       Yes         Date/Time Collected?       Yes         Collectors name?       Yes         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       Na         24. Is lab filteration required and/or requested for dissolved metals?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       Na         28. Are samples required to get sent to a subcontract laboratory?       No				No			
16. Is the head space less than 6-8 mm (pea sized or less)?       NA         17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         19. Is the appropriate volume/weight or number of sample containers collected?       Yes         Field Label       Yes         20. Were field sample labels filled out with the minimum information:       Sample ID?         Sample ID?       Yes         Ollectors name?       Yes         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix       Yes         26. Does the sample have more than one phase, i.e., multiphase?       No         77. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       No         28. Are samples required to get sent to a subcontract laboratory?       No							
17. Was a trip blank (TB) included for VOC analyses?       NA         18. Are non-VOC samples collected in the correct containers?       Yes         19. Is the appropriate volume/weight or number of sample containers collected?       Yes         Field Label       Yes         20. Were field sample labels filled out with the minimum information:       Yes         Sample ID?       Yes         Ollectors name?       Yes         Collectors name?       Yes         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix       Yes         26. Does the sample have more than one phase, i.e., multiphase?       No         7. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       No         28. Are samples required to get sent to a subcontract laboratory?       No		-					
18. Are non-VOC samples collected in the correct containers?       Yes         19. Is the appropriate volume/weight or number of sample containers collected?       Yes <b>Field Label</b> Yes         20. Were field sample labels filled out with the minimum information:       Sample ID?         Sample ID?       Yes         Date/Time Collected?       Yes         Collectors name?       Yes         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No <b>Multiphase Sample Matrix</b> Yos         26. Does the sample have more than one phase, i.e., multiphase?       No         71. If yes, does the COC specify which phase(s) is to be analyzed?       NA <b>Subcontract Laboratory</b> No         28. Are samples required to get sent to a subcontract laborator?       No		· · · ·					
19. Is the appropriate volume/weight or number of sample containers collected?       Yes         Field Label       20. Were field sample labels filled out with the minimum information:         Sample ID?       Yes         Date/Time Collected?       Yes         Collectors name?       Yes         Sample Preservation       Yes         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix       Yes         26. Does the sample have more than one phase, i.e., multiphase?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       NA         28. Are samples required to get sent to a subcontract laboratory?       No							
Field Label         20. Were field sample labels filled out with the minimum information:         Sample ID?         Date/Time Collected?         Collectors name?         Yes         Collectors name?         Yes         Sample Preservation         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix       No         26. Does the sample have more than one phase, i.e., multiphase?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       No         28. Are samples required to get sent to a subcontract laboratory?       No		-	s collected?				
20. Were field sample labels filled out with the minimum information:       Yes         Sample ID?       Yes         Date/Time Collected?       Yes         Collectors name?       Yes         Sample Preservation       Yes         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix       Yes         26. Does the sample have more than one phase, i.e., multiphase?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       NA         28. Are samples required to get sent to a subcontract laboratory?       No							
Sample ID?YesDate/Time Collected?YesCollectors name?YesSample PreservationYes21. Does the COC or field labels indicate the samples were preserved?No22. Are sample(s) correctly preserved?NA24. Is lab filteration required and/or requested for dissolved metals?NoMultiphase Sample MatrixYes26. Does the sample have more than one phase, i.e., multiphase?No27. If yes, does the COC specify which phase(s) is to be analyzed?NASubcontract LaboratoryYes28. Are samples required to get sent to a subcontract laboratory?No			nation:				
Collectors name?YesSample PreservationYes21. Does the COC or field labels indicate the samples were preserved?No22. Are sample(s) correctly preserved?NA24. Is lab filteration required and/or requested for dissolved metals?NoMultiphase Sample Matrix		-		Yes			
Sample Preservation       No         21. Does the COC or field labels indicate the samples were preserved?       No         22. Are sample(s) correctly preserved?       NA         24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix       No         26. Does the sample have more than one phase, i.e., multiphase?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       NA         28. Are samples required to get sent to a subcontract laboratory?       No	I	Date/Time Collected?		Yes			
21. Does the COC or field labels indicate the samples were preserved?No22. Are sample(s) correctly preserved?NA24. Is lab filteration required and/or requested for dissolved metals?NoMultiphase Sample Matrix				Yes			
22. Are sample(s) correctly preserved?NA24. Is lab filteration required and/or requested for dissolved metals?NoMultiphase Sample Matrix			10	<b>.</b> -			
24. Is lab filteration required and/or requested for dissolved metals?       No         Multiphase Sample Matrix			erved?				
Multiphase Sample Matrix       No         26. Does the sample have more than one phase, i.e., multiphase?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       28. Are samples required to get sent to a subcontract laboratory?         No       No			1.0				
26. Does the sample have more than one phase, i.e., multiphase?       No         27. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       28. Are samples required to get sent to a subcontract laboratory?         No       No			ais?	No			
27. If yes, does the COC specify which phase(s) is to be analyzed?       NA         Subcontract Laboratory       NA         28. Are samples required to get sent to a subcontract laboratory?       No							
Subcontract Laboratory         28. Are samples required to get sent to a subcontract laboratory?       No				No			
28. Are samples required to get sent to a subcontract laboratory? No	27. If ye	s, does the COC specify which phase(s) is to be analyze	d?	NA			
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA	28. Are s	samples required to get sent to a subcontract laboratory?	,	No			
	29. Was	a subcontract laboratory specified by the client and if so	who?	NA	Subcontract Lab: NA		

Signature of client authorizing changes to the COC or sample disposition.



envirotech Inc.

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# APPENDIX F

# **NMOCD** Notifications

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213



#### **Erick Herrera**

From:	Enviro, OCD, EMNRD <ocd.enviro@emnrd.nm.gov></ocd.enviro@emnrd.nm.gov>
Sent:	Tuesday, June 27, 2023 11:53 AM
То:	Erick Herrera
Cc:	Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD
Subject:	RE: [EXTERNAL] WPX Site Sampling Activity Update (6/29-6/30)

Erick,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon • Environmental Specialist Environmental Bureau EMNRD - Oil Conservation Division 1220 South St. Francis Drive | Santa Fe, NM 87505 (505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov http:// www.emnrd.nm.gov



From: Erick Herrera <erick@etechenv.com>
Sent: Monday, June 26, 2023 3:43 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Raley, Jim <jim.raley@dvn.com>; Devon-Team <Devon-Team@etechenv.com>
Subject: [EXTERNAL] WPX Site Sampling Activity Update (6/29-6/30)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon,

WPX also anticipates conducting confirmation soil sampling activities at the following site between June 29 – June 30, 2023.

Site Name: Toro 22-3 API: 30-025-35253 Incident Number: nOY1727952679

Thank you,

Erick Herrera Staff Geologist

.

e Environmental & Safety Solutions, Inc.

Work: (432) 305-6416 Cell: (281) 777-4152

## **Joseph Hernandez**

From:	Joseph Hernandez
Sent:	Tuesday, June 27, 2023 10:12 AM
То:	Raley, Jim
Cc:	Anna Byers
Subject:	FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 219749

Joseph S. Hernandez Senior Managing Geologist



Work: (432) 305-6413 Cell: (281) 702-2329

From: Joseph Hernandez
Sent: Monday, June 26, 2023 5:36 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Anna Byers <anna@etechenv.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: Re: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 219749

Nelson,

We will proceed with your recommended approach with advancement to same total depth to confirm chloride concentrations. We will include that data in the revised report.

Thanks

Sent from my iPhone

On Jun 26, 2023, at 4:53 PM, Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>> wrote:

Hey Joe,

Thanks for the notification. Please keep a copy of this communication for inclusion within the appropriate report submittal.

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

Talked with my supervisor last week about the email write up you suggested and he directed me not to do so.

Please proceed with whatever approach you feel can adequately define the lateral and vertical extent of the impacts.

If you have any questions or concerns, please contact me via email or telephone #.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u> <u>http://www.emnrd.state.nm.us/OCD/</u> <Outlook-kagggro0.png>

From: Joseph Hernandez <joseph@etechenv.com>
Sent: Monday, June 26, 2023 3:09 PM
To: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Cc: Anna Byers <<u>anna@etechenv.com</u>>
Subject: RE: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application
ID: 219749

Hi Nelson,

We were going to perform the sampling as you requested this Thursday or Friday. Did you send the email with conditions/summary we discussed?

Thanks,

Joseph S. Hernandez Senior Managing Geologist <image001.png>

Work: (432) 305-6413 Cell: (281) 702-2329

From: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Sent: Wednesday, June 21, 2023 11:40 AM
To: Joseph Hernandez <<u>joseph@etechenv.com</u>>
Cc: Anna Byers <<u>anna@etechenv.com</u>>
Subject: Re: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application
ID: 219749

Joseph,

We can discuss tomorrow. Hrs. available between 8-10 am & 12:00-2:30 pm.

Let me know what time. Thanks.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u> <u>http://www.emnrd.state.nm.us/OCD/</u> <image002.png>

From: Joseph Hernandez <joseph@etechenv.com>
Sent: Wednesday, June 21, 2023 10:31 AM
To: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Cc: Anna Byers <<u>anna@etechenv.com</u>>
Subject: FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application
ID: 219749

Nelson,

I'm assisting Jim Raley with this project - do you have time tomorrow to discuss this denial?

Thanks,

Joseph S. Hernandez Senior Managing Geologist <image001.png>

Work: (432) 305-6413 Cell: (281) 702-2329

From: OCDOnline@state.nm.us < OCDOnline@state.nm.us>

Sent: Tuesday, June 20, 2023 2:12 PM

To: Raley, Jim <<u>Jim.Raley@dvn.com</u>>

**Subject:** [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 219749

To whom it may concern (c/o James Raley for WPX Energy Permian, LLC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nOY1727952679, for the following reasons:

for the following reasons:

1. Site assessment has not been fully delineated horizontally or vertically. 2. Site characterization data incomplete. Please provide supporting documentation for those items missing from the list on page 3 of Form C-141 in next submittal or final closure report. 3. Once bullet #1 has been achieved, operator is required to re-submit its revised remediation plan or final closure report. 4. Operator has 90 days (September 18, 2023) to fully delineate, re-submit its remediation plan, or submit final closure report.

 Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by either approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for "on-pad" releases to ensure the release did not extend to the "off-pad"/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 219749.

Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,

Nelson Velez Environmental Specialist - Advanced 505-469-6146

#### Nelson.Velez@emnrd.nm.gov

#### New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

Confidentiality Warning: This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation or other use of all or any portion of this message and any attachments is strictly prohibited. If you are not the intended recipient, please notify the sender immediately by return e-mail, and delete this message and any attachments from your system.

# APPENDIX G

# Approved Remediation Work Plan

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213



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	nOY1727952679
District RP	
Facility ID	
Application ID	

## **Release Notification**

## **Responsible Party**

Responsible Party: WPX Energy Permian, LLC	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: Jim.Raley@dvn.com	Incident # (assigned by OCD): nOY1727952679
Contact mailing address: 5315 Buena Vista Drive, Carlsbad NM	·

## **Location of Release Source**

Latitude <u>32</u>	.64457 (NA	Longitude     -103.44839       4D 83 in decimal degrees to 5 decimal places)	
Site Name: Toro 22-3		Site Type: Well Pad	
Date Release Discovered: 9/	/21/2017	API# (if applicable): 30-025-35253	

Unit Letter	Section	Township	Range	County
K	22	19S	35E	Lea

Surface Owner: State Federal Tribal Private (Name:

## Nature and Volume of Release

Materia	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): 120	Volume Recovered (bbls): 110			
	Is the concentration of dissolved chloride 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)	Volume/Weight Recovered (provide units)			

Cause of Release:

The cause of this spill is equipment failure; corroded tank. Approximately 120 bbls of produced water were spilled inside the dirt SPCC containment. 110 bbls were recovered with a vac truck.

 $bbl \ estimate = \frac{saturated \ soil \ volume \ (ft^3)}{4.21 \ (\frac{ft^3}{bbl \ equivalent})} * estimated \ porosity \ (\%) + recovered \ fluids \ (bbl)$ 

Oil Conservation Division

Incident ID	nOY1727952679	
District RP		
Facility ID		
Application ID		

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Was this a major	If YES, for what reason(s) does the responsible party consider this a major release?			
release as defined by				
19.15.29.7(A) NMAC?	Unauthorized release of a volume, excluding gases, of 25 barrels or more.			
🗙 Yes 🗌 No				
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?				
Immediate notice was given by Karolina Blaney, to EMNRD Olivia Yu, on September 21, 2017 via email.				

## **Initial Response**

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

 $\square$  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: Jim Raley	Title: Environmental Professional
Signature:	Date:
email:Jim.Raley@dvn.com	Telephone:575-689-7597
OCD Only	
Received by:	Date:

Page 3

Oil Conservation Division

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Incident ID	nOY1727952679	
District RP		
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?	<u> &lt;50 (ft bgs)</u>
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 <b>not</b> 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 <sup>1</sup>/<sub>2</sub>-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.

Received by OCD: 7/2/2024	State of New Mexico				Page 105 of 250
101111 (-141				Incident ID	nOY1727952679
Page 4	Oil Conservation Division		District RP		
				Facility ID	
				Application ID	
regulations all operators are a public health or the environm failed to adequately investiga		ifications and OCD does no eat to ground f responsibili _ Title: Date:7	d perform cc ot relieve the lwater, surfa ty for compl <u>Environ</u>	prrective actions for rele operator of liability sh ce water, human health iance with any other fe <u>mental Professional</u>	eases which may endanger ould their operations have or the environment. In
OCD Only Received by: <u>Shelly Well</u>	ls	D	ate: <u>7/27/2</u>	2023	

Detailed description of proposed remediation technique

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Oil Conservation Division

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

	Incident ID	nOY1727952679	
	District RP		
	Facility ID		
Ī	Application ID		

## **Remediation Plan**

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: \_\_\_\_\_ Jim Raley Title: Environmental Professional fin Roly 7/26/2023 Signature: Date: email: \_\_\_\_\_Jim.Raley@dvn.com Telephone: 575-689-7597 **OCD Only** Received by: Shelly Wells Date: <u>7/27/2023</u> Approved Approved with Attached Conditions of Approval Denied Deferral Approved Nelson Velez Date: 07/31/2023 Signature:



# **REMEDIATION WORK PLAN**

Toro 22-3

Lea County, New Mexico Incident Number nOY1727952679

Prepared for: WPX Energy Permian, LLC

Carlsbad • Midland • San Antonio • Lubbock • Hobbs • Lafayette



#### **SYNOPSIS**

In response to a meeting with New Mexico Oil and Conservation Division (NMOCD) for the denial of a Remediation Work Plan (RWP), Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of WPX Energy Permian, LLC (WPX), presents the following updated RWP detailing additional delineation soil sampling activities at the Toro 22-3 (Site) associated with an inadvertent release of produced water. The previous RWP was denied on June 20, 2023, due to the following reasons:

"1. Site assessment has not been fully delineated horizontally or vertically. 2. Site characterization data incomplete. Please provide supporting documentation for those items missing from the list on page 3 of Form C-141 in next submittal or final closure report. 3. Once bullet #1 has been achieved, operator is required to re-submit its revised remediation plan or final closure report. 4. Operator has 90 days (September 18, 2023) to fully delineate, re-submit its remediation plan, or submit final closure report.

• Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by either approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for "on-pad" releases to ensure the release did not extend to the "off-pad"/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation."

Etech met with Mr. Nelson Velez from NMOCD on June 22, 2023, following the denial to discuss the Site and recommended action items in an updated report. This updated RWP details the summary of remedial actions that will be completed in accordance with communication and requests from Mr. Nelson Velez:

- Mr. Velez requested the advancement of two additional delineation points within the Area of Concern (AOC) to confirm if the variance requested chloride concentration of 654 milligram per kilogram (mg/kg) for PH01 was representative of that depth. Mr. Velez instructed to advance to the same total depth of 21 feet below ground surface (bgs);
- Mr. Velez agreed that horizontal delineation of the subject release can be defined via sidewall confirmation sidewall sampling; and
- Mr. Velez confirmed that if concentrations were below 600 mg/kg at 21 feet bgs for additional both samples collected, Etech could resubmit an updated RWP with the original proposed work plan which detailed: the removal of the top four feet of impacted soil within the AOC, achieving lateral delineation via sidewall confirmation sampling, installing a 20-mil liner at the base of the 4 foot excavation, and backfilling with clean topsoil.

#### SITE LOCATION AND RELEASE BACKGROUND

The Site is located in Unit K, Section 22, Township 19 South, Range 35 East, in Lea County, New Mexico (32.64457°, -103.44839°) and is associated with oil and gas exploration and production operations on Private Land (**Figure 1** in **Appendix A**).

On September 21, 2017, corrosion of a storage tank resulted in approximately 120 barrels (bbls) of produced water to be released into a tank battery earthen containment. Vacuum trucks were immediately dispatched and recovered approximately 110 bbls of the released fluids. WPX reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141), which was received by the NMOCD on October 6, 2017, and was subsequently assigned Incident Number nOY1727952679. WPX mapped the release extent utilizing a handheld Trimble® Global Positioning System (GPS) unit immediately after discovery and is presented as the AOC on **Figure 2** in **Appendix A**.


Between September 28 and October 2, 2017, WPX removed the production tanks and excavated the top 1-foot of impacted soil from the AOC to mitigate immediate impacts. A Closure Report was then submitted by WPX and denied due to incomplete soil characterization as a result of equipment refusal. The excavation was backfilled and recontoured to pre-existing conditions before returning the production tanks. On June 12, 2018, Souder Miller & Associates (SMA) conducted continued characterization activities to evaluate soil impacts within the AOC. Based on the data summary from those events, additional delineation activities appeared warranted. Previous remediation summaries can be referenced in the original reports submitted to the NMOCD. Since initial response efforts, plugging and abandonment activities at the Site were completed in 2022.

### SITE CHARACTERIZATION AND CLOSURE CRITERIA

Etech characterized the Site according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC) considering depth to groundwater and the proximity to:

- Any continuously flowing watercourse or any other significant watercourse;
- Any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark);
- An occupied permanent residence, school, hospital, institution or church;
- A spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes;
- Any freshwater well or spring;
- Incorporated municipal boundaries or a defined municipal fresh water well field covered under a municipal ordinance;
- A wetland;
- A subsurface mine;
- An unstable area (i.e. high karst potential); and
- A 100-year floodplain.

The initial desktop review referencing the *NMOCD Oil and Gas Map* and/or the *USGS National Water Information System: Mapper* indicated the nearest permitted groundwater well with available data was United States Geological Survey (USGS) well 323832103264901. The location of the well was approximately 675 feet south of the Site and is approximately 4 feet lower in elevation. The most recent depth to groundwater measurement from 1991 was documented at 16.82 feet bgs. However, further review of aerial imagery revealed that the well did not appear to be located at the GPS location designated by USGS (32.6423, -103.4474). As a result, Etech conducted a field verification survey for the well that included walking 50-meter transects within a 500-foot radius of the coordinates. No visual evidence of USGS well 323832103264901 was found. The walking path during field verification was mapped via Trimble® and is included in **Figure 2** in **Appendix A.** Photographic documentation during field verification activities is included in **Appendix B**.

Another water well identified during the desktop review was New Mexico Office of the State Engineer (NMOSE) well L-04290, located approximately 917 feet north of the Site. Depth to groundwater was documented at 18 feet bgs in 1959. However, records indicate the well was permitted for "secondary recovery of oil" via "water flooding" and has since been capped and is no longer in use. As such, NMOSE well L-04290 appeared to be restricted to oil and gas operations and never used as a "fresh water" well, therefore, the proximity of the well to the Site alone does not deem the well protectable.

The next closest water well with data is NMOSE well L-15155 POD 1, located approximately 1,445 feet south of the Site and approximately 5 feet lower in elevation. The well has a reported depth to groundwater of 35 feet bgs from 2021. Based on this information and findings from the regional water well review, groundwater depth at the Site is estimated to be less than 50 feet bgs. All well records referenced for depth to groundwater determination are included in **Appendix C**.



All other potential receptors are not within the established buffers in NMAC 19.15.29.12. Receptor details and sources used to determine the site characterization are included in **Figure 1** in **Appendix A**.

Based on the results from the desktop review and estimated regional depth to groundwater at the Site, the following Closure Criteria was applied:

Constituents of Concern (COCs)	Laboratory Analytical Method	Closure Criteria
Chloride	Environmental Protection Agency (EPA) 300.0	600 mg/kg
Total Petroleum Hydrocarbon (TPH)	EPA 8015 M/D	100 mg/kg
Benzene	EPA 8021B	10 mg/kg
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA 8021B	50 mg/kg

### **DELINEATION SOIL SAMPLING ACTIVITIES**

On January 4, 2023, a third-party environmental contractor was retained to reassess the Site based on information provided by WPX and continue vertical delineation activities within the AOC. Mechanical equipment advanced one pothole (PH01) to a total depth of 21 feet bgs, which was driven by field screening soil samples for volatile organic compounds (VOCs) using a photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Soil samples were collected for laboratory analysis at 5-foot intervals starting at 0.5-foot bgs through 20 feet bgs and 21 feet bgs, where mechanical equipment limitations restricted further advancement. Field screening results and soil descriptions were denoted on a soil sampling log, which is included as **Attachment D**. The location of the delineation soil samples is shown in **Figure 3** in **Appendix A**. Photographic documentation during delineation activities is included in **Attachment B**.

On June 30, 2023, following the meeting and denial issued by NMOCD, Etech advanced two additional potholes (PH02 and PH03) with mechanical equipment equipped with greater vertical reach to further investigate vertical delineation within the AOC. Both potholes were advanced to a total depth of 21 feet bgs, which was driven by field screening soil samples for VOCs and chloride as previously described. Soil samples were collected for laboratory analyses representing the highest observed field screened concentrations and the greatest depth. Field screening results and soil descriptions were denoted on a soil sampling log, which is included as **Attachment D**. The location of the delineation soil samples was added to **Figure 3** in **Appendix A**. Photographic documentation during delineation activities is included in **Attachment B**.

Delineation soil samples were placed directly into lab provided pre-cleaned glass jars, packaged with minimal void space, labeled, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures, to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of COCs.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for PH01 and PH02 indicated BTEX and TPH concentrations were below the Site Closure Criteria. BTEX concentrations were also below the Site Closure Criteria for PH03. TPH concentrations exceeded Site Closure Criteria for the soil sample collected at 0.5-foot bgs from sampling location PH03.

Chloride concentrations for PH01 peaked at 15 feet bgs (1,940 mg/kg) and decreased more than 65 percent (%) with further advancement. Chloride concentrations for PH02 and PH03 peaked at 10 feet bgs (1,040 mg/kg and 975 mg/kg, respectively) and decreased below the Site Closure Criteria threshold with advancement.



Laboratory analytical results are summarized in Table 1 as **Attachment E**, and the complete laboratory reports with chain-of-custody documentation is included as **Attachment F**.

### PROPOSED REMEDIATION WORK PLAN

Based on the delineation soil sampling results, the following conclusions regarding the release are presented:

- Based on laboratory analytical results, TPH concentrations exceeded Site Closure Criteria at 0.5-foot bgs from the area associated with PH03 location (302 mg/kg) but were below the laboratory detection threshold for soil samples collected below 4 feet bgs; and
- In general, chloride concentrations from delineation soil samples increased with depth between 10 and 15 feet bgs, then decreased with depth to 21 feet bgs where concentrations were below or slightly greater than Site Closure Criteria based on laboratory analytical results.
- BTEX and benzene concentrations were below the laboratory reporting limit for all analyzed soil samples.

Based on the conclusions drawn above, WPX proposes the following remedial corrective actions:

- WPX initially requested a variance to accept chloride concentrations from PH01 at 20 feet (624 mg/kg) and 21 feet bgs (654 mg/kg) for vertical delineation in the original RWP. Due to the minimal difference between the applied Closure Criteria for chloride and concentrations at the terminus of PH01 (elevated by 24 mg/kg and 54 mg/kg, respectively)
- WPX believes that the current delineation is equally protective to groundwater and human health as it would be otherwise, for the following reasons:
  - i) WPX requests a variance to leave chloride impacts between 4 feet and 21 feet bgs in place, where concentrations are characterized between 1,940 mg/kg and 676 mg/kg. If WPX were to excavate to Closure Criteria with a potentially known shallow groundwater table, an excavation at such a depth could serve as a conduit to groundwater throughout the advancement of the excavation. The nearest permitted water well is NMOSE well L-15155 POD 1, located approximately 1,445 feet south of the Site, with a reported depth to groundwater of 35 feet bgs from 2021.
  - ii) Two additional potholes to the east and west of PH01 were advanced to 21 feet bgs and provide further evidence of vertical delineation within the AOC. With similar soil profiles and chloride concentration trends with depth to PH01, chloride concentrations at PH02 and PH03 increased with depth to approximately 10 feet bgs before decreasing with depth. Chloride concentrations for both PH02 and PH03 terminus soil samples were below the Site Closure Criteria. Chloride concentration for PH01 terminus soil sample uncharacteristically increased from 624 mg/kg to 654 mg/kg, which may be attributed to cross contamination from the pothole sidewalls from shallow areas.
  - iii) Additionally, the excavation footprint could potentially go beyond the proposed excavation extent to facilitate the proper safety measures required to excavate to Closure Criteria. As a result, un-impacted grounds would be excavated leading to a greater disruption of surface vegetation.
  - iv) To minimize soil disturbance in order to mitigate impacts to groundwater and vegetation, WPX requests that the top four feet of impacted soil be excavated from the AOC and a 20-mil impermeable liner installed on the excavation floor. The liner will act as a physical barrier to mitigate further migration of chloride impacts into the subsurface. Removal



of the top four feet will address any hydrocarbon exceedances from PH03. The proposed excavation is presented on **Figure 4** in **Appendix A**. The excavation will extend laterally until confirmation soil sample results from the sidewalls of the excavation meet Closure Criteria and will provide horizontal delineation of the release. Confirmation sidewall soil samples will represent a maximum of 200 square feet per soil sample. Samples will be submitted for laboratory analyses of chloride, TPH and BTEX. Residual chloride impacts within the subject release area are defined by samples collected from PH01, PH02, and PH03 from depths ranging from 4 feet to 18 feet bgs. As a result, confirmation floor soil samples will not be collected.

v) Due to the proximity of the AOC to the southern pasture, there is potential for the lateral excavation extent to extend beyond the pad boundary. In such a case, access for remediation or disturbance that occurs offsite will require landowner approval with additional coverage. WPX will prepare and submit documentation for additional work areas before initiating corrective actions.

Once remediation is complete and receipt of soil confirmation results indicates impacted soil is removed, the excavation will be backfilled with clean, locally sourced soil and restored to "as close to its original state" as possible.

If you have any questions or comments, please do not hesitate to contact Joseph Hernandez at (281) 702-2329 or joseph@etechenv.com or Anna Byers at (575) 200-6754 or anna@etechenv.com.

Sincerely,

eTECH Environmental and Safety Solutions, Inc.

Inna Byers

Anna Byers Senior Geologist

Joseph S. Hernandez Senior Managing Geologist

cc: Jim Raley, Devon New Mexico Oil Conservation Division



### Appendices:

Appendix A	Figure 1: Site Map
	Figure 2: Groundwater Well Field Verification
	Figure 3: Delineation Soil Sample Locations
	Figure 4: Proposed Excavation Area
Appendix B	Photographic Log
Appendix C	Referenced Well Records
Appendix D	Lithologic Sampling Logs
Appendix E	Tables
Appendix F	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix G	NMOCD Correspondence

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# **APPENDIX A**

# Figures

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213











# **APPENDIX B**

# Photographic Log

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213







Photograph 1Date: 01/04/2023Description: View of the Site during delineation<br/>activies.



Photograph 3Date: 01/04/2023Description: View of the Site following delineation<br/>activites.

PHOTOGRAPHIC LOG WPX Energy Permian, LLC Site Name: Toro 22-3 Incident Number: nOY1727952679



Photograph 2Date: 01/04/2023Description: View of the Site during delineation<br/>activites.



Photograph 4Date: 06/30/2023Description: View of the Site during delineation<br/>activities.



# APPENDIX C

# **Referenced Well Records**

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213





**National Water Information System: Web Interface USGS Water Resources** 

Contact USGS Search USGS

**USGS Home** 

Geographic Area: Data Category: ✓ GO ✓ United States Groundwater

#### Click to hideNews Bulletins

- Explore the NEW USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- 🔹 Full News 🔕

Groundwater levels for the Nation

Important: <u>Next Generation Monitoring Location Page</u>

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 323832103264901

Minimum number of levels = 1Save file of selected sites to local disk for future upload

#### USGS 323832103264901 19S.35E.22.14341

Lea County, New Mexico Latitude 32°38'32", Longitude 103°26'49" NAD27 Land-surface elevation 3,742 feet above NAVD88 The depth of the well is 45 feet below land surface. This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer. This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aguifer.

**Output formats** 

Table of data

Tab-separated data

Graph of data

Reselect period

Date	Time	? Water- level date- time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water- level approval status
1963-03-19		D	62610		3723.94	NGVD29	1	Z			A
1963-03-19		D	62611		3725.50	NAVD88	1	Z			А
1963-03-19		D	72019	16.50			1	Z			А
1966-03-18		D	62610		3723.43	NGVD29	1	Z			А
1966-03-18		D	62611		3724.99	NAVD88	1	Z			А
1966-03-18		D	72019	17.01			1	Z			А
1971-01-27		D	62610		3723.76	NGVD29	1	Z			А
1971-01-27		D	62611		3725.32	NAVD88	1	Z			А
1971-01-27		D	72019	16.68			1	Z			А
1976-01-29		D	62610		3724.17	NGVD29	1	Z			А
1976-01-29		D	62611		3725.73	NAVD88	1	Z			А
1976-01-29		D	72019	16.27			1	Z			А
1981-01-23		D	62610		3723.90	NGVD29	1	Z			А
1981-01-23		D	62611		3725.46	NAVD88	1	Z			A
1981-01-23		D	72019	16.54			1	Z			A
1986-02-04		D	62610		3723.90	NGVD29	1	Z			A
1986-02-04		D	62611		3725.46	NAVD88	1	Z			A
1986-02-04		D	72019	16.54			1	Z			A
1991-04-17		D	62610		3723.62	NGVD29	1	Z			A
1991-04-17		D	62611		3725.18	NAVD88	1	Z			A
1991-04-17		D	72019	16.82			1	Z			A

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## Page 124 of 250

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988

Released to Imaging: 8/6/2024 2503502 PMM

#### Received by OCD: 7/2/2024311:06:599AMM

#### Page 125 of 250

Section	Code	Description
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	А	Approved for publication Processing and review completed.

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey Title: Groundwater for USA: Water Levels URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team Page Last Modified: 2023-05-11 16:40:27 EDT 0.29 0.26 nadww01



# WELL RECORD & LOG

## OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

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# APPLICATION FOR PERMIT

To Appropriate the Underground Waters of the State of New Mexico

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## APPROVAL OF THE STATE ENGINEER

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LOCATE WELL AND A ection \$\$)	CREAGE TO B	E IRRIG	ATED A	S ACCUE	ATELY	<u> </u>	SIBLE (	DON FO	state : State : Sta	Engibeer NG PLAT: N.M.P.M. t W. Nels Supervis	

This form shall be executed, preferably typewritten, in triplicate and shall be accompanied by a filing fee of \$5.00. Each of triplicate copies must be properly signed and attested.

A separate application for permit must be filed for each well used.

Secs. 1-4-Fill out all blanks fully and accurately.

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Sec. 6—Describe only the lands to be irrigated. If on unsurveyed lands describe by legal subdivision "as projected" from the nearest government survey corners, or describe by metes and bounds and tie survey to some permanent, easily located natural object. ·*`* 

Sec. 7-Estimate time reasonably required to commence and to complete project.

Sec. 8-If lands are irrigated from any other source, explain in this section. Give any other data necessary to fully describe water right sought.

. N. -

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

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205634

WR-15

IMPORTANT-READ INSTRUCTIONS ON BACK BEFORE FILLING OUT TH

# **APPLICATION FOR PERMIT**

Page 130 of 250

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To Appropriate the Underground Waters of the State of New Mexico

<u> </u>	OUNTY UN	DERGRO	<u>dund f</u>	<u>BASTN</u>			- Cy	ζ.
Application No1-4290	Book LC-1	.7D	ate Rece	ived	October	2, 19:	59	
L Name of applicant <u>C. W. T</u>								
Postoffice address Box 2222								<del></del>
County of Lea	<u>de la construcción de la</u>	, s	tate of _	New	r Mexic	0	·	<u>.</u> ,
8. Source of water supply	shallo	w grow	ind wa	ter ba	isin /			
located in Lea Coun	(state wheth	er artesian	or shallow 1 Rosi	ground water	basin)	5	. * .	
(па	une of undergrour	nd stream, w	alley, crtes	ian basin, et	c.)	· · · ·		;
. The well is to be located in the_					•			
of section 22				•	-			
on land owned by Stat	e of New	Mexic	:o	· · · · · · · · · ·				
Description of well: driller Ed								
diamenter (cutside) of casing	. 7		in	ches; type	of pump a	nd power	plant to	be used
Pump jack wit	<u>h indust</u>	rial (	engine	2				
	iline	·				····		
Quantity of water to be approp	riated and be	neficially	used	three	(3)			
forOil well dril				(feet	depth or ac	-		
Acreage to be irrigated	0						<u> </u>	purposes.
								acreș
located and described as follows	(describe only	lands to	be irrigat	ed):				
Subdivision	Sec.	Twp.	Range	Acres Irrigated		0	wner	
			8.	<b>-</b>		ľs.	6	
· · · · · · · · · · · · · · · · · · ·	<u> </u>					- N	8	
ε τ <u>ε τ</u>		· · · · · ·					0	
Г	<u> </u>			·	- <u></u>	NO		
					<del>.</del>	HA		
	<u> </u>			<u></u>	- <u></u>			
					<del></del>			
· · · · · · · · · · · · · · · · · · · ·		·		<u> </u>	<u> </u>		<u> </u>	
							<u>ω</u>	
(Note: location of w	ell and acreage to	be irrigate	d must be	shown on pis	t on reverse	side.)		
Time required to commence cons	truction	<del>as so</del> (	m as	possit	10			;
Time required to complete the wo	orks	l year	•					
Time required to fully apply water	to beneficial	use	not r	equire	d			
Additional statements or explanat								
Signal State								
	1							<b>-</b> -
, , , , , , , , , , , , , , , , ,								
	~^							
I. <u>C. W. Traine</u> ad say that I have carefully read th								
te same are true to the best of my i					· · ·			
	· .	_	C M	Train	or	•	*	pplicant
		by: E	dura	d (	7. /	Su	he	
ibscribed and sworn to before me ti		• •••••••	dans at	Sept	ombar		A.D.,	50
INDUALDER MARTER WUTLE CD DEIQFD ALS LI				2.0	()	2nº	mar.	10mm
Commission expires April 1	3, 1963_		60	my	n_+	+JU	Notery F	WLA
-		-		$\mathcal{O}$	$\mathcal{O}$		70	

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Page 131 of 250

APPROVAL OF 7	THE STATE ENGINEER
Number of this permitL-4290	Date received corrected
	Publication of notice ordered
age 4290	Name of paper
pplication received October 2, 1959	Affidavit of publication filed
	Date of approval October 5, 1959
	acre feet of wate
(1) Casing not to exceed 7 inch (	of the State Engineer pertaining to the drilling of wells OD and depth not to exceed depth of the
ogallala. (2) Appropriation not	to exceed 3 acre feet per acre for
domestic and oil well drilling of	perations. (3) Well to be plugged upon
completion of oil well drilling of	operations and plugging report to be
filed on or before one year from	the date of approval of this permit.
Plugging record to be filed on or be	fore October 5, 1960

Water shall be applied to beneficial use and proofs filed on or before

This is to certify that I have examined the above application for permit to appropriate the underground waters

of the State of New Mexico and hereby approve the same subject to the foregoing provisions and conditions. Witness my hand and seal this <u>5th</u> day of <u>October</u>, A.D., 19<u>59</u> S.E. Reynolds

LOCATE WELL AND ACREAGE TO BE IRRIGATED AS ACCURATELY AS POSSIBLE ON FOLLOWING PLAT: Section (s)\_\_\_\_\_\_22\_\_\_\_, Township\_\_\_\_19\_South\_, Range\_\_\_\_35\_East\_\_\_\_, N.M.P.M.

0

By <u>Aller M. Melsen</u> Delbert W. Nelson Office Supervisor District II

0-well site

State Engineer

#### INSTRUCTIONS

This form shall be executed, preferably typewritten, in triplicate and shall be accompanied by a filing fee of \$5.00. Each of triplicate copies must be properly signed and attested.

A separate application for permit must be filed for each well used.

Secs. 1-4-Fill out all blanks fully and accurately.

Sec. 5—Irrigation use shall be stated in feet depth or acre feet of water per acre to be applied on the land. If for domestic, municipal, or other purposes, state total quantity in acre feet to be used annually. Domestic use may include the irrigation of not more than one acre of lawn and garden for noncommercial use.

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Sec. 7-Estimate time reasonably required to commence and to complete project,

Sec. 8—If lands are irrigated from any other source, explain in this section. Give any other data necessary to fully describe water right sought.

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If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

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Page 132 of 250

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OFFICE

WR-15 IMPORTANT\_BEAD INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM

# APPLICATION FOR PERMIT

To Appropriate the Underground Waters of the State of New Mexico

1120

LEA	COUNTY	UNDERGROUND	WATER	BASIN
-----	--------	-------------	-------	-------

4	plication No. L-4290	) Book	LC-17	Det. Beader	d January	9. 1961	
Ар	Name of applicant			-Date Mecelve	<u>a</u>	<i>C</i> 2	19
1,					Uabb	- 70	- 27
	Postoffice address						3
	County of						
2.	Source of water supply		Shallow.	an or shallow gro	und water basin)	ر باز المسلم با المسلم. مربعا الرباني مربعا الرباني المسلم.	<del>.</del>
	located in.	Les Cour	ty under	ground b	asin		
				a, valley, artesian		NUT	2 <b>0</b>
3.	The well is to be locate	d in the OW	<u>4                                    </u>	<u></u>	<b>3.</b> ¼,%,%		×.
	of section 22						N.M.P.M.
	on land owned by						
4.	Description of well: dri	ller Ed Bur	<u>'k</u> ı	VD. No. 11	depth to be	drilled 45	feet;
	diamenter (outside) of	casing	7*	inch	es; type of pump s	nd power plant	to be used
	Turbine	- Probably	with el	<u>ectric</u> m	otor		
					· <u>-</u>		
5.	Quantity of water to i	e appropriated	and beneficial	ly used 100	net acre	f <mark>eet</mark> per :	annum
	for Water 1				(1000 Webuil of we	a were bet were?	
				011 2 2 0 2 4	- 1-100, 1		purposes.
6.	Acreage to be irrigated						acres
	located and described a	s follows (descri	be only lands	to be irrigated	):		
ŝ	jui ⊡	<b>6</b> -0	<b>.</b>		Acres	•	
1		Sec. State of Ne	-	Range I	rrigated	Owner	
Ċ?			Male Engineer	<b></b>	<b></b>		,
<u> </u>				ts under this filin	• .		
ĝ				ing been given o			
یم ج			tes and Regula hts permit No. 4	ions of the Stat	e		
2			cancelled this		ly		35
с,	5. 5	A. D	,		·	199 in 199 1999 in 19	<u> </u>
g	3 6	S. E. REYN	DLDS. State Eng	ineer	/		
		By	ant	5. 1	<b>b</b>	1	
	(Note: k	eation of well and a	Woter Rights Di creage to be irrig	vision	wn en plat on reverse	side.)	1
_	Time required to comm			*	ear		
7.					ears		
	Time required to comple			^ 	· · · · · · · · · · · · · · · · · · ·		
	Time required to fully a				<del>eers</del>		
8.	Additional statements of		-	+			
	Ve have filed			-			
	for this water				arilling of	ar oll we	LIS ON
	this same Sect	tion. Log	<u>; is on f</u>	110.			
				<u></u>		<b>_</b> _	
			<u></u>				<u> </u>
	E. V.	TRAINER		, be	ing first duly swo	rn upon my ca	th, depose
	(asy that I have careful	· · ·	oing statemen	t and each and			
	same are true to the be	st of my knowle	dge and belief.		1 [] []	~	
			_	(	W Ind	Una	applicant
	$\sim$ $\leq$ $\sim$						<del>_</del>
Sub	scribed and sworn to be	fore me this	6th	day of	January	A D	19 <mark>61</mark>
	an a			-	nia A.	~ ·	•
Му	Commission expires J	<u>nuary 23,</u>	1963	q	ma d.	Adders	Public.
						U	

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## APPROVAL OF THE STATE ENGINEER

Recorded in Book	Number of this permit				Date received corrected Jan. 19, 1961 — Publication of notice ordered Jan. 19, 1961				
PageApplication received January 9, 1961				N	- Name of paper Hobbs Daily News-Sun				
									1962
	-1								urce and provided that
-									trilling of wells
1. Appropriation	limited	i to 10	0 acre	feet p	or an	in fr	<u>on all</u>	BOURC	es combined.
2. A totalising :					.,				and the second se
readings shall	l be su	ibmitte	d to th	e Rosw	e11 0	fice	for es	ch cal	ender month,
on or before t	the 30t	h day	of the	101100	ing m	mth.		· · · ·	
3. Depth of well									
bed or other a	underly	ing fo	prestion	•	<u></u>	··· • •		ji c	
Works shall be con	mpleted a	nd proof:	filed on or	before	<u> </u>			2	
Water shall be app	plied to b	eneficial	use and pr	oofs filed	on or	efore —	May 31	, 1966	
									he underground waters
of the State of New 1	Mexico ar	nd hereby	y approve (	he same	subject	to the fo	regoing	provision	s and conditions.
Witness my hand	and seal	this	21st	d	ay of	Ma y			, A.D., 19
e e se jar				_	<u>s. z.</u>	Reyno	1ds		State Engineer
Section (5)			_, Townshi	p		<u>~~</u> , .	tange		Baut, N.M.P.M.
		<b>!</b>							Dian
		•			,		<b>f</b>		
				1					BY J. E. Eran
		, , ,							D. E. Gray, Enginee
									BY G. C. Cray. D. E. Gray, Enginee Water Bights Divisi
	·					······································			D. E. Gray, Enginee
17 0444	· · · · · · · · · · · · · · · · · · ·								D. E. Gray, Enginee
11 Site	· · · · · · · · · · · · · · · · · · ·		0						D. E. Gray, Enginee
all Site	· · · · · · · · · · · · · · · · · · ·		0						D. E. Gray, Enginee
11 Site	· · · · · · · · · · · · · · · · · · ·		0						D. E. Gray, Enginee
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all Site			0						D. E. Gray, Enginee
11 Site			0						D. E. Gray, Enginee
All Site			0						D. E. Gray, Enginee

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If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

Received by OCD: 7/2/2024311:06:599AMM

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MEMORANDUM OF RECOMMENDATIONS

FILE NO:	L-4290	DATE:	May 13, 1966
TO:	Frank E. Irby, Chief, Water Ri	ights Di	vision
FROM:	Fred H. Hennighausen, Supervis	sor, Dis	trict II
SUBJECT:	Cancellation of Permit No. L-4	4290	
APPLICANT:	C. W. Trainer		
WELL:	SUBDIVISION SECTION SWESEENWE 22	TOWNSHI 19 S.	
USE:	Water flood of Pearl Queen Field South, Range 35 East.	eld in T	cownship 19
REASON:	Applicant states. "I am going on May 31."	g to let	this expire
CONSIDERATIONS:	Permit No. 1-4290 was approved acre feet to be used for the s oil. Well No. L-4290 was an existin	secondar	y recovery of
Æ	The applicant returned our let with a notation that he will 1 on May 31, 1966.		- /
RECOMMENDATIONS:	It is recommended that Permit at the request of the applicar		290 be cancelled

Fred H. Hennighausen District II Supervisor

ECB\*j1 enc1.

### MEMORANDUM OF RECOMMENDATIONS

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FILE NO:	L-4290	DATE: May 18, 1962				
TO:	Frank E. Irby, Chief, Water Right	s Division				
FROM:	Fred H. Hennighausen, Supervisor,	District II				
SUBJECT:	Application to appropriate shallow waters for wate flood purposes No. L-4290.					
WELL:		VNSHIP RANCE 19 <b>-5</b> 35-E				
REASON:	Water Flood of Pearl Queen Field Range 35 East.	- Township 19 South,				
CONS IDERATIONS :	<ol> <li>According to the priority she of available water, Township East has 133 acre feet of ava reservation for L-4290.</li> <li>Application L-4815 is also pe application was filed after a There are no other application township and range.</li> <li>According to the attached int dated February 23, 1961, a we be expected to produce 10-150 which is sufficient for the a</li> </ol>	19 South, Range 35 milable water before ending, however, this application L-4290. ons pending in this cer-office memorandum all in this area may gallons per minute				
	<ul> <li>4: Affidavit of publication and warded to the Santa Fe office Engineering report previously included Files L-4577 through have been withdrawn, and the a new report for application</li> <li>5. There are no other permits fo ery of oil that include the W tion 22, Township 19 South, R</li> </ul>	February 29, 1961. sent to Santa Fe L-4577-X-3, which applicant has filed L-4290. the secondary recov- \$NE\$ & E\$NW\$ of Sec-				
RECOMMENDATIONS :	Approval is recommended.					

Fred H. Hennighausen Supervisor, District II

•

ECB\*jd encl.

#### C. W. TRAINER

P. J. 80X 2222

PHONE EX 7-1518 205 NORTH LINAM STREET

HOBBS, NEW MEXICO April 30, 1962

New Mexico State Engineer P. 0. Box 1717 Roswell, New Mexico

Re: File L-4290 Your letter of April 27, 1962

Attention: E. C. Barry

Dear Mr. Barry:

I submit this engineering report to supplement my letter of April 27, 1961, as you requested. It is intended to limit and justify the 100 acre feet per annum for use on my four wells in the N/2, Sec. 22-19S-35E and any necessary offset wells to mine.

- 1. The anticipated quantity of oil that will be recovered from my four wells as a result of this flood is 400,000 barrels.
- The estimated quantity of water that will be required to complete 2. this waterflood is 900 acre feet.
- 3. There will probably be 2 injections wells on my lease and 4 offsets.
- 4. The maximum anticipated rate of injection per well is 620 barrels per day.
- The maximum estimated quantity of water to be used in a 12 month 5. period is 100 acre feet.
- 6. Estimated total water that will be recovered and reinjected is 150 acre feet.
- Pearl Queen only.
   My leases are E/2 NW/4 and W/2 NE/4, Sec. 22-19S-35E. Of course, offsetting injection wells must be considered.
- 9. The primary use of this water will be for my own leases and those adjacent to mine.
- 10. The nearest available salt water is 10 miles east, or perhaps 5 miles north.
- 11. Answered in 8 above.
- 12. None of this water is to be used for domestic purposes.

I trust this is the information you require.

Yours very truly œ

CWT:vp

October 17, 1961

Gene Gray

Fred H. Hennighausen

File No. L-4290

Field check of October 12, 1961, disclosed that Well L-4290 was not in use and that a steel cap has been welded over the well casing.

Fred H. Hennighausen Supervisor, District II

ECB\*jd

ROUTING SLIP

(Basin) or (County) To: Field Supervisor Applicant ann From: Land Location .9-61 0 Field Check Requested For the Following Reasons Date: Proof of Completion of Works..... Proof of Beneficial Use..... Declaration..... Extension of Time..... . Illegal Irrigation.... Supplemental Well..... Leakage Test..... Cementing (water-oil).... Reduction from Irr. or Dom. Pressure Test..... Inspect Casing Check . . . . Ur 3 . . Sec. 22 T. 19 R.35 R. <u>35</u> Sec. 15 T. 19 74 D SEqSh Old Well (plugged-retained-reduced) REMARKS: WILL 1240 ィ 4383 2 -500 as St. Date: Вy File No. Location No.

.

Page 139 of 250

WR-36

### FIELD REPORT FOR CEMENTING OF WELLS

Name of Applicant
Name of Well
Driller's Name
Drilling Method
CASING DATA: Surfacefeet ofinch. Grade
Inspected byon
(Approved)(Rejected)
Water stringfeet ofinch. Grade
Inspected by on
(Approved)(Rejected)
Oil stringfeet ofinch. Grade
Inspected byon
(Approved)(Rejected)
CEMENTING PROGRAM: Cemented by Supervised by
Type of shoe used Float collar used
Bottom three joints weldedCement: around shoesks
around casingsksAdditives
Size of holeSize of casingsks. of cement required
Size of hole       Size of casing       sks. of cement required         Plug pumped down       (a.m.)(p.m.)
Plug pumped down (a.m.)(p.m.)
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet
Plug pumped down     (a.m.)(p.m.)       Cement circulated     No. of sacks       Temp. survey ran     (a.m.)(p.m.)       Cement at     feet
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Checked for shut off       (a.m.) (p.m.)
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         Checked for shut off       (a.m.) (p.m.)
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         Method used       Supervised by
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         Checked for shut off       (a.m.) (p.m.)         Rethod used       Supervised by         REMARKS:
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         REMARKS:
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         Checked for shut off       (a.m.) (p.m.)         Rethod used       Supervised by         REMARKS:
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         REMARKS:
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         REMARKS:
Plug pumped down       (a.m.)(p.m.)         Cement circulated       No. of sacks         Temp. survey ran       (a.m.)(p.m.)         Cement at       feet         Temp. survey ran       (a.m.)(p.m.)         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         Checked for shut off       (a.m.) (p.m.)         Method used       Supervised by         REMARKS:

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C. W. TRAINCE

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2000 NORTH LINAH ST	<b>1</b>	· . 1	<b>-</b>	
NOBBB, NEW MEX	ICI:	•• •	: .	
April 27, 19	<b>16</b> ]	ſ	n ann a chuirean a' chuirean an a	•

State Engineer Office P. O. Box 810 Reswell, New Mexico

> Re: Files L=4290; L=4577; L=4577~X; L=4577-X=2; L=4577=X=3 Your letter of February 27, 1961

Attention: Mr. E. C. Barry

Gentlemen;

The following answers are submitted in answer to the questions asked in the captioned letter.

- 1. The anticipated quantity of oil that will be recovered as a result of this flood is 12,000,000 barrels.
- 2. The estimated quantity of water that will be required to complete this waterflood is 60,000,000 barrels or 7800 acrefeet.
- There will probably be about 65 injection wells ultimately.
   The maximum anticipated rate of injection per well is 620 barrels per day.
- 5. The maximum estimated quantity of water to be used in a 12 month period is 1940 acre feet. Since my applications only cover 600 acre feet, the answer to this question is 600 acre feet.
- 6. Estimated total water that will be recovered and reinjected is 10,000,000 barrels and this is really a guess. You can see from 5 above though that we will want to reuse all we can.
- 7. Pearl Queen only.
- 8. This field is located in Township 19-South, Range 35-East, Sections 15, 21, 22, 27, 28, 29, 30, 31, 32, 33, and 34; Township 19-South, Range 34-East, Sections 25 and 36; Township 20-South, Range 35-East, Sections 3, 4, 9, and 10.

Page -2-April 27, 1961 C. W. Trainer

1921	
· - · · · · ·	

- 9. No commitments to date, but I have 8 producing wells in this field and plan to drill about 4 more this year. Shell is making a study now to determine when we should begin a pilot flood.
- 10. Shell is reinjecting their salt water new, about 500 barrels per day as a combination disposal corressuring project. The nearest available salt water in any quantity is in the Nonument Field about 10 miles cast of Pearl.
- 11. Answered in 8 above.
- 12. None of the water appropriated under these applications is to be used for domestic purposes.

I trust this answers all your questions. It i can be of any further help, please advise.

Yours very trains,

WT:vp

Original of Poor Quality

	┍ ┛_	Roswell , New	Mexico	₩R-20
Mr. C. W. Tr	ainer			(Rev. 9/58)
Mr. <u>C. W. 11</u> P. O. Bo	× 2222	·····		
Hobbs, N	ew Mexico			

# Dear Sir:

The following notice shall be published at applicant's expense once a week for three (3) consecutive weeks in the

Hobbs Flare or Hobbs Daily News-Sun

\_ a newspaper published at

Page 143 of 250

Hobbs , New Mexico, or in any other newspaper of general circulation in the county wherein the proposed well will be located. First publication should be made within ten (10) days from the date hereon, Publisher's affidavit of proof of such publication must be filed with the State Engineer not later than ten (10) days from the date of last publication. Failure to file proof of publication within the time allowed will render the application subject to cancellation.

The accuracy as to the content of this Notice is the responsibility of the applicant and the State Engineer is not obligated for any additional expense incurred by the necessity of readvertisement.

Neither issuance of this Notice, nor lack of protest thereto, in any way indicates favorable action by the State Engineer or approval of the application as requested.

NOTE TO P	UBLISHER: Immediately after last pub	lication, publisher is re-	Basin Supervisor on, publisher is requested to file affidavit of proof of such publi- Roswell , New Mexico.			
cation with t	he State Engineer, P. O. Box <u>810</u>					
		NOTICE				
	Stat	Engineer's Offic	e			
Number of A	pplication L-4290	Roswell	, N. M., _Janua	n <b>ry 19</b> , 19 <u>61</u>		
Notice is he	reby given that on the 9th	day of	January	, 19 <u>61 </u> , in		
accordance v	with Chapter 131 of the Session Laws o	f 1931,	C. W. Trainer	·		
of	Hoppa	County of	Lea			
State of	New Mexico	mede a	plication to the State I	Engineer of New Mexico		

State of \_\_\_\_\_\_\_\_, made application to the State Engineer of New Mexico for a permit to appropriate 100 acre feet per annum of the Lea County Underground Water Basin by commencing the use of existing well No. L-4290 located at a point in the SWISEINWI of Section 22, Township 19 South, Range 35 East, N.M.P.M., to be used for the secondary recovery of oil by waterflooding in the Pearl Queen Field, Township 19 South, Range 35 East.

Any person, firm, association, corporation, the State of New Mexico or the United States of America, deeming that the granting of the above application will be truly detrimental to their rights in the waters of said surface and/or underground source, may protest in writing the State Engineer's granting approval of said application. The protest shall set forth all protestant's reasons why the application should not be approved and shall be accompanied by proof that a copy of the protest has been served upon the applicant. Said protest and proof of service must be filed with the State Engineer within ten (10) days after the date of the last publication of this notice. Unless protested, the application will be taken up for consideration by the State Engineer on that date, being on or about the

\_\_\_\_\_ day of \_\_\_\_\_\_, 19 \_\_\_\_\_, State Engineer

NOTE TO PUBLISHER: Fill in date to correspond to date 10 days after date of last (third) publication. Sundays and holidays not included if this date falls on one of them.

V .


Form WR-23

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STATE ENGINEER OFFICE

#### WELL RECORD

IGNAL

Page 145 of 250

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1	(A) Owner of well C. Trainer	
	Street and Number Box 2222 City Hobbs	
	Well was drilled under Permit No. <u>35 14 SW 14 NE 14</u> of Section 22	
	(B) Drilling ContractorEd Burke Street and Number Box 306	
	City City City Drilling was commenced	
	Drilling was completed	

(Plat of 640 acres)

Total depth of well 45 Elevation at top of casing in feet above sea level..... Shallow Depth to water upon completion 18 State whether well is shallow or artesian\_\_\_\_\_

Section	2		PRIN	ICIPAL WATER-BEARING STRATA
 No.	Depth	in Feet	Thickness in	Description of Water-Bearing Formation
110.	From	To	Feet	
1	18	32	14	Gravel.
2				
3				
4		1		
5				

Section 3	3		_	RECOR	D OF CAS	ING			
Dia	Pounds	Threads	D D	epth	Feet	Tuno Shee	Perforations		
in.	ft.	in	Top	Bottom	reet	Type Shoe	From	То	
6	17	8	0	40	40	open	10	40	
				-					
						· · · · · · · · · · · · · · · · · · ·			

Section 4			RECORD		AND		ING			
Depth i		Diameter	Tons	No. Sacks of	Methods Head					
From	To	Hole in in.	Clay	Cement						
				-:				• · · · · ·		
				· · · · · · · · · · · · · · · · · · ·				and the second sec		
Section 5				PLUGGING	RECO	RD	,			
Name of 1	Plugging	Contractor					L	icense No		
Street and	Numbe	r		City	/	· · · · · · · · · · · · · · · · · · ·	St	icense No ate		
Tons of Cl	ay used.	ī	ons of Ro	ughage used			Type of r	oughage		
Plugging r	nethod u	ised				Date	Plugged	19		
Plugging a	pproved	by:				Cement	Plugs were	placed as follows:		
					No.	Depth	of Plug			
			Basin Supe	rvisor	110.	From	То	No. of Sacks Used		
X	FOR USE	OF STATE ENG	SINEER ON	LY						
Date R		ATRIO D	<u>م</u>							
87:8	WØ 6-	FSTATE ENG 1959 OCT								

Use a W.D.

Location No. 19.35.22.

File No <u>- 4290</u>

~				~
· ·	ഫറ	**	$\mathbf{n}$	6
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				-

#### LOG OF WELL

Depth	in Feet	Thickness	Color	Turns of Matarial Encountered
From	То	in Feet	Color	Type of Material Encountered
0	2	2		Surface poil
2	15	13		Galiche
15	18	3		Sand Hock
18	32	14		Gravel (water)
32	45	13	<u></u>	Rod Clay
				•
			1	
				1         3         74/8           Depth to K         Trc         1           Elev of K         Trc         1
				Denth to KTrc
			· · · · · · · · · · · · · · · · · · ·	Elev of KTrc = //
<del></del> ····				1
				Loc. No. 19.25.22, 14344 Hydro. Survey
				Hydro, Survey Field Check
				SOURCE OF ALTITUDE GIVEN
				Interpolated from Topo. Sheet
•				Determined by Inst. Leveling
	<u> </u>	[		
	· ·			
- <u> </u>				
	1 .	1		

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Column B Busko Well Driller

Released to Imaging: 8/6/2024 2:03:02 PMM

## APPENDIX D

## Lithologic Sampling Logs

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213



									Sample Name: PH01	Date: 01/04/2023	
				<b>n</b> n					Sample Name: Toro 22-3	Date: 01/04/2023	
				H					Incident Number: nOY172795	2670	
									Job Number: 18136		
			<u> </u>					•		Mathadu DC 240 L C Tradit Llag	
0:42 0 2							IG LOG	7	Logged By: Edyte Konan	Method: PC 210 LC Track Hoe	
	ordinates:						Chlorido	Toot Strip	Hole Diameter: N/A	Total Depth: 21 feet (ft) oor, respectively. Chloride test	
									s and FID for chlonde and vap ow ground surface	or, respectively. Chionde test	
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth	(teet bgs)	Depth (feet bgs)	USCS/Rock Symbol	-	escriptions/Notes	
						+		SW/SM		, well graded with little silt and	
						+	-		gravel, fine to coarse, no st	taining, no odor	
Dry	<168	0.3	No	PH01	0.5		0.5		@ 20 ft and 21 ft bgs: som	e silt, no staining, no odor	
Dry	1831.2	0.1	No	PH01	5		5				
Dry	772.8	0.4	No	PH01	10		10				
Dry	1960	0.1	No	PH01	15		15				
Dry	700	0.1	No	PH01	20		20				
Dry	515.2	0.1	No	PH01	21	+	21				
							Tota	al Depth:	21 ft bgs		
						_					

								Sample Name: PH02	Date: 06/30/2023	
				<b>1</b>				Site Name: Toro 22-3		
	- 11-18							Incident Number: nOY172795	52679	
								Job Number: 18136		
	LITHO				SAMPLI		2	Logged By: Edyte Konan	Method: 336E Track Hoe	
Site Cor	ordinates:						•	Hole Diameter: N/A	Total Depth: 21 feet (ft)	
						H Chloride	Test Strip		por, respectively. Chloride test	
								ow ground surface		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol		escriptions/Notes	
	1100	0.0	N -		o		SW/SM		n, well graded with little silt and	
Dry	<168	0.0	NO	PH02	0.5 _	0.5		gravel, fine to coarse, no s	taining, no odor	
Dry	330.4	0.1	No	-	1 – -	- 1 - 1 -		@ 20 ft and 21 ft bgs: som	e silt, no staining, no odor	
Dry	-	-	No	-	2	2				
Dry	-	-	No	-	3	- 3 -				
Dry	918.4	0.0	No	-	4 _ //	- - 4 - 1				
Dry	918.4	0.0	No	PH02	10 _	- 10 - 10				
Dry	772.8	0.0	No	PH02	18 _ -	- 18 - 18				
Dry	-	-	No	-	 19	19 19				
Dry	-	-	No	-	 20	20				
Dry	470.4	0.0	No	PH02	21 -	– 21 Tota	al Depth:	21 ft bas		
						1012				

								Sample Name: PH03	Date: 06/30/2023	
E								Site Name: Toro 22-3		
		-(						Incident Number: nOY17279	52679	
				U				Job Number: 18136		
	LITHO		<u>c / </u>		SAMDI	NG LOG	2	Logged By: Edyte Konan	Method: 336E Track Hoe	
Site Co	ordinates:						,	Hole Diameter: N/A	Total Depth: 21 feet (ft)	
						H Chloride	Test Strip		por, respectively. Chloride test	
								ow ground surface		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol		escriptions/Notes	
	201.2	0.0	Na				SW/SM		n, well graded with little silt and	
Dry	291.2	0.0		PH03	0.5 _	0.5		gravel, fine to coarse, no s	staining, no odor	
Dry	151.2	0.0	No	-	1.	1				
					-	Γ		@ 20 ft and 21 ft bgs: son	ne silt, no staining, no odor	
					-	<b>↓</b>				
Dry			No		2.	2				
Diy	-	-		-	- <sup>-</sup>	<u> </u>				
						t				
					-	T .				
Dry	-	-	No	-	3_	3				
						+				
					-	┢				
Dry	700	0.0	No	-	4	4				
						<u> </u>				
					4	Ψ				
Dry	1,080.8	0.0	No	PH03	10	10				
Diy	1,000.0	0.0		11100	- 10					
						₩				
						Γ				
Dry	772.8	0.0	No	PH03	18 _	18				
					.	ł				
					-	┢				
Dry	-	-	No	-	19 <sup>.</sup>	19				
					-	Γ				
					-	L.				
Dry		_	No	_	20	20				
		-		-	- 20	<u>+</u> 20				
						t_				
					.	Į.				
Dry	291.2	0.0	No	PH03	21	21				
						l ota	al Depth:	∠int bgs		

.



## Tables

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213



e <sub>TE</sub>	Table 1 SOIL SAMPLE ANALYTICAL RESULTS WPX Energy Permian, LLC Toro 22-3 Lea County, New Mexico												
Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)				
NMOCD Table I Closure Criteria for Soils Impacted by a Release (NMAC 19.15.29)			10	50	NE	NE	NE	100	600				
			Deli	neation Soil Sample	s - Incident Number	nOY1727952679	<u> </u>	<u> </u>	1				
PH01	01/04/2023	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	18.4				
PH01	01/04/2023	5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	1,290				
PH01	01/04/2023	10	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	731				
PH01	01/04/2023	15	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	1,940				
PH01	01/04/2023	20	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	624				
PH01	01/04/2023	21	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	654				
PH02	06/30/2023	0.5	<0.0250	<0.0500	<20.0	51.9	<100	51.9	77.8				
PH02	06/30/2023	10	<0.0250	<0.0500	<20.0	<25.0	<50.0	<50.0	1,040				
PH02	06/30/2023	18	<0.0250	<0.0500	<20.0	<25.0	<50.0	<50.0	676				
PH02	06/30/2023	21	<0.0250	<0.0500	<20.0	<25.0	<50.0	<50.0	254				
PH03	06/30/2023	0.5	<0.0250	<0.0500	<20.0	161	141	302	267				
PH03	06/30/2023	10	<0.0250	<0.0500	<20.0	<25.0	<50.0	<50.0	975				
PH03	06/30/2023	18	<0.0250	<0.0500	<20.0	<25.0	<50.0	<50.0	802				
PH03	06/30/2023	21	<0.0250	<0.0500	<20.0	<25.0	<50.0	<50.0	287				

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria and/or Reclamation Standard for Soils Impacted by a Release

## APPENDIX F

# Laboratory Analytical Reports & Chain-of-Custody Documentation

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213



5 6

Received by OCD: 7/2/2024311:06:599AM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Devon Team Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 1/6/2023 4:23:10 PM

## JOB DESCRIPTION

Toro 22-3H SDG NUMBER 03A1987030

## **JOB NUMBER**

890-3770-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220







Received by OCD: 7/2/2024311:0061599AMM

## **Eurofins Carlsbad**

**Job Notes** 

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization

RAMER

Generated 1/6/2023 4:23:10 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Laboratory Job ID: 890-3770-1 SDG: 03A1987030

Page 156 of 250

## **Table of Contents**

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Surrogate Summary	11
QC Sample Results	12
QC Association Summary	16
Lab Chronicle	18
Certification Summary	20
Method Summary	21
Sample Summary	22
Chain of Custody	23
Receipt Checklists	24

#### Definitions/Glossary

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	Definitions/Glossary	
Client: Ensolur Project/Site: To		
Qualifiers		_
GC VOA		
Qualifier	Qualifier Description	
 F1	MS and/or MSD recovery exceeds control limits.	_
U	Indicates the analyte was analyzed for but not detected.	
GC Semi VOA		
Qualifier	Qualifier Description	
S1+	Surrogate recovery exceeds control limits, high biased.	_
U	Indicates the analyte was analyzed for but not detected.	
HPLC/IC		
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	_
	, <u> </u>	
Glossary		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CFU	Colony Forming Unit	
CNF	Contains No Free Liquid	
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL	Detection Limit (DoD/DOE)	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision Level Concentration (Radiochemistry)	
EDL	Estimated Detection Limit (Dioxin)	
LOD	Limit of Detection (DoD/DOE)	
LOQ	Limit of Quantitation (DoD/DOE)	
MCL	EPA recommended "Maximum Contaminant Level"	
MDA	Minimum Detectable Activity (Radiochemistry)	
MDC	Minimum Detectable Concentration (Radiochemistry)	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
MPN	Most Probable Number	
MQL	Method Quantitation Limit	
NC	Not Calculated	
ND	Not Detected at the reporting limit (or MDL or EDL if shown)	
NEG POS	Negative / Absent Positive / Present	
PQL	Prostive / Present	
PRES	Presumptive	
QC	Quality Control	
RER	Relative Error Ratio (Radiochemistry)	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Vacion (Dioxin)	

Eurofins Carlsbad

4

#### Job ID: 890-3770-1 SDG: 03A1987030

#### Job ID: 890-3770-1

Client: Ensolum Project/Site: Toro 22-3H

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-3770-1

#### Receipt

The samples were received on 1/5/2023 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3770-1), PH01 (890-3770-2), PH01 (890-3770-3), PH01 (890-3770-4), PH01 (890-3770-5) and PH01 (890-3770-6).

#### GC VOA

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-43267 and analytical batch 880-43325 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-43343 and analytical batch 880-43315 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

RL

0.00200

MDL Unit

mg/Kg

D

Prepared

01/05/23 13:12

01/05/23 13:12

01/05/23 13:12

01/05/23 13:12

01/05/23 13:12

01/05/23 13:12

Prepared

01/05/23 13:12

01/05/23 13:12

Job ID: 890-3770-1 SDG: 03A1987030

#### **Client Sample ID: PH01**

Date Collected: 01/04/23 13:10

Sample Depth: 0.5'

Project/Site: Toro 22-3H

Client: Ensolum

Analyte

Benzene

Lab Sample ID: 890-3770-1

Analyzed

01/06/23 13:22

01/06/23 13:22

01/06/23 13:22

01/06/23 13:22

01/06/23 13:22

01/06/23 13:22

Analyzed

01/06/23 13:22

01/06/23 13:22

Lab Sample ID: 890-3770-2

Matrix: Solid

Matrix: Solid

. 00114	
	5
Dil Fac	
1	
1	
1	
1	
1	8
1	0
Dil Fac	9
1 1	
Dil Fac	
1	
Dil Fac	13
1	

Date Received: 01/05/23 10:30

		Qualifier	RI	MDI Unit
_ Method: TAL SOP Total BTEX	- Total BTEX Cald	ulation		
1,4-Difluorobenzene (Surr)	96		70 - 130	
4-Bromofluorobenzene (Surr)	118		70 - 130	
Surrogate	%Recovery	Qualifier	Limits	
Xylenes, Total	<0.00401	U	0.00401	mg/Kg
o-Xylene	<0.00200	U	0.00200	mg/Kg
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg
Ethylbenzene	<0.00200	U	0.00200	mg/Kg
Toluene	<0.00200	U	0.00200	mg/Kg
Toluene	<0.00200	11	0 00200	

Result Qualifier

<0.00200 U

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/06/23 15:30	1

#### Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/06/23 16:56	1

#### Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 14:02	1
(GRO)-C6-C10									
Diesel Range Organics (Over	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 14:02	1
C10-C28)									
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 14:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	126		70 - 130				01/06/23 08:58	01/06/23 14:02	1
o-Terphenyl	130		70 - 130				01/06/23 08:58	01/06/23 14:02	1

Method: MCAWW 300.0 - Anions, lo	on Chromato	graphy - So	oluble						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.4		5.04		mg/Kg			01/06/23 14:42	1

#### **Client Sample ID: PH01** Date Collected: 01/04/23 13:40 Date Received: 01/05/23 10:30

Sample Depth: 5'

Method: SW846 8021B - Volati	le Organic Comp	ounds (GC)	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 13:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 13:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 13:43	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/05/23 13:12	01/06/23 13:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 13:43	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/05/23 13:12	01/06/23 13:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130				01/05/23 13:12	01/06/23 13:43	1

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#### Released to Imaging: 8/6/2024 2:03:02 PMM

#### **Client Sample Results**

Job ID: 890-3770-1 SDG: 03A1987030

Matrix: Solid

Lab Sample ID: 890-3770-2

Lab Sample ID: 890-3770-3

Matrix: Solid

#### Client Sample ID: PH01

Date Collected: 01/04/23 13:40 Date Received: 01/05/23 10:30

Sample Depth: 5'

Project/Site: Toro 22-3H

Client: Ensolum

#### Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	95		70 - 130				01/05/23 13:12	01/06/23 13:43	1
Method: TAL SOP Total BTE>	C - Total BTEX Calo	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00399	U	0.00399	· · · · · · · · ·	mg/Kg			01/06/23 15:30	1
Apolyto									
Method: SW846 8015 NM - Di									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte Total TPH	Result <49.9			MDL	mg/Kg	D	Prepared	Analyzed 01/06/23 16:56	Dil Fac
Total TPH	<49.9	U	49.9	MDL		<u> </u>	Prepared		Dil Fac 1
Total TPH Method: SW846 8015B NM - I	<49.9 Diesel Range Orga	U	49.9			<u>D</u>	Prepared Prepared		Dil Fac
Total TPH Method: SW846 8015B NM - I Analyte	<49.9 Diesel Range Orga	U nics (DRO) Qualifier	49.9 (GC)		mg/Kg			01/06/23 16:56	1
	<49.9 Diesel Range Orga Result	U nics (DRO) Qualifier	49.9 (GC) RL		mg/Kg Unit		Prepared	01/06/23 16:56	1

Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg	01/06/23 08:58	01/06/23 14:23	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130		01/06/23 08:58	01/06/23 14:23	1
o-Terphenyl	116		70 - 130		01/06/23 08:58	01/06/23 14:23	1

#### Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1290		5.00		mg/Kg			01/06/23 14:57	1

#### Client Sample ID: PH01

C10-C28)

Date Collected: 01/04/23 14:10 Date Received: 01/05/23 10:30 Sample Depth: 10'

#### Method: SW846 8021B - Volatile Organic Compounds (GC) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Benzene <0.00199 U 0.00199 mg/Kg 01/05/23 13:12 01/06/23 14:03 Toluene <0.00199 U 0.00199 01/05/23 13:12 01/06/23 14:03 mg/Kg 1 Ethylbenzene <0.00199 U 0.00199 mg/Kg 01/05/23 13:12 01/06/23 14:03 0.00398 01/05/23 13:12 01/06/23 14:03 m-Xylene & p-Xylene <0.00398 U mg/Kg 1 o-Xylene <0.00199 U 0.00199 mg/Kg 01/05/23 13:12 01/06/23 14:03 1 Xylenes, Total <0.00398 U 0.00398 mg/Kg 01/05/23 13:12 01/06/23 14:03 1 %Recovery Qualifier Limits Dil Fac Surrogate Prepared Analyzed 70 - 130 01/05/23 13:12 4-Bromofluorobenzene (Surr) 118 01/06/23 14:03 1 1,4-Difluorobenzene (Surr) 99 70 - 130 01/05/23 13:12 01/06/23 14:03 1 Method: TAL SOP Total BTEX - Total BTEX Calculation Analyte **Result Qualifier** RL MDL Unit D Dil Fac Prepared Analyzed Total BTEX <0.00398 U 0.00398 01/06/23 15:30 mg/Kg 1 Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL U	Init	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	n	ng/Kg			01/06/23 16:56	1

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#### **Client Sample Results**

Job ID: 890-3770-1 SDG: 03A1987030

Matrix: Solid

Lab Sample ID: 890-3770-3

#### **Client Sample ID: PH01**

Date Collected: 01/04/23 14:10 Date Received: 01/05/23 10:30

Sample Depth: 10'

Project/Site: Toro 22-3H

Client: Ensolum

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 14:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 14:45	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 14:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130				01/06/23 08:58	01/06/23 14:45	1
o-Terphenyl	118		70 - 130				01/06/23 08:58	01/06/23 14:45	1

#### Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	731		5.00		mg/Kg			01/06/23 15:02	1

#### **Client Sample ID: PH01**

#### Date Collected: 01/04/23 14:40

#### Date Received: 01/05/23 10:30

Sample Depth: 15'

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 14:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 14:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 14:24	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/05/23 13:12	01/06/23 14:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 14:24	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/05/23 13:12	01/06/23 14:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130				01/05/23 13:12	01/06/23 14:24	1
1,4-Difluorobenzene (Surr)	102		70 - 130				01/05/23 13:12	01/06/23 14:24	1
	<0.00399		0.00399		mg/Kg			01/06/23 15:30	
								01/00/20 10:00	I
 Method: SW846 8015 NM - Diese	el Range Organ			MDL	Unit	D	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte	el Range Organ	<mark>ics (DRO) (</mark> Qualifier	GC)	MDL		D	Prepared		Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	el Range Organ Result <49.8	ics (DRO) ( Qualifier U	GC) 	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	el Range Organ Result <49.8 sel Range Orga	ics (DRO) ( Qualifier U	GC) 		Unit	<u>D</u> 	Prepared	Analyzed	1
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	el Range Organ Result <49.8 sel Range Orga	ics (DRO) ( Qualifier U nnics (DRO) Qualifier	GC) <u>RL</u> 49.8 (GC)		Unit mg/Kg	<u> </u>		Analyzed 01/06/23 16:56	1
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10	el Range Organ Result 49.8 sel Range Orga Result	ics (DRO) ( Qualifier U mics (DRO) Qualifier U	GC) <u>RL</u> 49.8 (GC) <u>RL</u>		Unit mg/Kg Unit	<u> </u>	Prepared	Analyzed 01/06/23 16:56 Analyzed	1
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	el Range Organ Result <49.8 sel Range Orga Result <49.8	ics (DRO) ( Qualifier U mics (DRO) Qualifier U	GC) <u>RL</u> 49.8 (GC) <u>RL</u> 49.8		Unit mg/Kg Unit mg/Kg	<u> </u>	Prepared 01/06/23 08:58	Analyzed 01/06/23 16:56 Analyzed 01/06/23 15:06	1 Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <49.8 sel Range Orga Result <49.8	ics (DRO) ( Qualifier U mics (DRO) Qualifier U U	GC) <u>RL</u> 49.8 (GC) <u>RL</u> 49.8		Unit mg/Kg Unit mg/Kg	<u> </u>	Prepared 01/06/23 08:58	Analyzed 01/06/23 16:56 Analyzed 01/06/23 15:06	1 Dil Fac
Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	el Range Organ Result <49.8 sel Range Orga Result <49.8 <49.8	ics (DRO) ( Qualifier U mics (DRO) Qualifier U U U	GC) <u>RL</u> 49.8 (GC) <u>RL</u> 49.8 49.8		Unit mg/Kg Unit mg/Kg mg/Kg	<u> </u>	Prepared 01/06/23 08:58 01/06/23 08:58	Analyzed 01/06/23 16:56 Analyzed 01/06/23 15:06 01/06/23 15:06	1 <b>Dil Fac</b> 1

01/06/23 15:06

01/06/23 08:58

o-Terphenyl

70 - 130

117

1

		Clie	nt Sample R	esults	;				
Client: Ensolum								Job ID: 890	-3770-1
Project/Site: Toro 22-3H								SDG: 03A1	1987030
Client Sample ID: PH01							Lab Sar	nple ID: 890-	3770-4
Date Collected: 01/04/23 14:40								-	x: Solid
Date Received: 01/05/23 10:30									
Sample Depth: 15'									
_									
Method: MCAWW 300.0 - Anions				MDI	11		Dremered	Analyzed	
Analyte Chloride		Qualifier	<b>RL</b> 	MDL	Unit mg/Kg	<u> </u>	Prepared	Analyzed 01/06/23 15:07	Dil Fac
-									
Client Sample ID: PH01							Lab San	nple ID: 890-	
Date Collected: 01/04/23 15:10								Matri	x: Solid
Date Received: 01/05/23 10:30									
Sample Depth: 20'									
- Method: SW846 8021B - Volatile	Organic Comp	ounds (G0	2)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00199	U	0.00199		mg/Kg		01/05/23 13:12	01/06/23 14:45	· · ·
Toluene	<0.00199	U	0.00199		mg/Kg		01/05/23 13:12	01/06/23 14:45	
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/05/23 13:12	01/06/23 14:45	
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/05/23 13:12	01/06/23 14:45	
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/05/23 13:12	01/06/23 14:45	
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/05/23 13:12	01/06/23 14:45	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)		Quanner	70 - 130				01/05/23 13:12	01/06/23 14:45	
1,4-Difluorobenzene (Surr)	101		70 - 130				01/05/23 13:12	01/06/23 14:45	
			10 - 100				0	0	
Method: TAL SOP Total BTEX -	Total BTEX Calo	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/06/23 15:30	1
_ Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO)	(GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<50.0	U	50.0		mg/Kg			01/06/23 16:56	
-									
Method: SW846 8015B NM - Die				MDI	11		Description	A	
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<50.0	0	50.0		mg/Kg		01/06/23 08:58	01/06/23 15:28	·
Diesel Range Organics (Over	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 15:28	
C10-C28)									
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 15:28	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1-Chlorooctane			70 - 130				01/06/23 08:58	01/06/23 15:28	
o-Terphenyl	112		70 - 130				01/06/23 08:58	01/06/23 15:28	
_ Method: MCAWW 300.0 - Anions	s Ion Chromato	oranhy - 9	Soluble						
Allons	, ion onionate								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

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Job ID: 890-3770-1 SDG: 03A1987030

#### Client Sample ID: PH01

Date Collected: 01/04/23 15:40 Date Received: 01/05/23 10:30

Sample Depth: 21'

Project/Site: Toro 22-3H

Client: Ensolum

3DG. 03A19870

## Lab Sample ID: 890-3770-6

Matrix: Solid

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Method: SW846 8021B - Volatile	Organic Comp	ounds (GC)	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	< 0.00201	U	0.00201		mg/Kg		01/05/23 13:12	01/06/23 15:05	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/05/23 13:12	01/06/23 15:05	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/05/23 13:12	01/06/23 15:05	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/05/23 13:12	01/06/23 15:05	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/05/23 13:12	01/06/23 15:05	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/05/23 13:12	01/06/23 15:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130				01/05/23 13:12	01/06/23 15:05	1
1,4-Difluorobenzene (Surr)	97		70 - 130				01/05/23 13:12	01/06/23 15:05	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cal	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/06/23 15:30	1
_ Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/06/23 16:56	1
 Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 16:11	1
(GRO)-C6-C10									
Diesel Range Organics (Over	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 16:11	1
C10-C28)									
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/06/23 08:58	01/06/23 16:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130				01/06/23 08:58	01/06/23 16:11	1
o-Terphenyl	117		70 - 130				01/06/23 08:58	01/06/23 16:11	1
– Method: MCAWW 300.0 - Anions	s, Ion Chromato	ography - So	oluble						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

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#### Method: 8021B - Volatile Organic Compounds (GC) Matrix: Solid

Percent Surrogate Recovery (Acceptance Limits) BFB1 DFBZ1 Lab Sample ID Client Sample ID (70-130) (70-130) 880-23201-A-1-H MS Matrix Spike 102 96 880-23201-A-1-I MSD Matrix Spike Duplicate 99 92 890-3770-1 PH01 118 96 PH01 95 890-3770-2 112 890-3770-3 PH01 118 99 PH01 890-3770-4 120 102 890-3770-5 PH01 124 101 890-3770-6 PH01 126 97 LCS 880-43267/1-A Lab Control Sample 95 95 LCSD 880-43267/2-A Lab Control Sample Dup 97 96 MB 880-43267/5-A Method Blank 102 87 Surrogate Legend BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

#### Matrix: Solid

				Percent Surrogate Recovery (Acceptance
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3758-A-101-D MS	Matrix Spike	101	96	
890-3758-A-101-E MSD	Matrix Spike Duplicate	102	98	
390-3770-1	PH01	126	130	
90-3770-2	PH01	105	116	
90-3770-3	PH01	106	118	
90-3770-4	PH01	105	117	
90-3770-5	PH01	101	112	
00-3770-6	PH01	103	117	
CS 880-43343/2-A	Lab Control Sample	128	117	
CSD 880-43343/3-A	Lab Control Sample Dup	125	123	
MB 880-43343/1-A	Method Blank	150 S1+	137 S1+	

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

#### Job ID: 890-3770-1 SDG: 03A1987030

Prep Type: Total/NA

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#### **QC Sample Results**

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43267	/ <b>5-A</b>						Client Sa	mple ID: Metho	d Blank
Matrix: Solid								Prep Type: 1	Total/NA
Analysis Batch: 43325								Prep Batch	n: <b>43267</b>
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 10:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 10:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 10:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/05/23 13:12	01/06/23 10:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/05/23 13:12	01/06/23 10:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/05/23 13:12	01/06/23 10:51	1
	МВ	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130				01/05/23 13:12	01/06/23 10:51	1
1,4-Difluorobenzene (Surr)	87		70 - 130				01/05/23 13:12	01/06/23 10:51	1

#### Lab Sample ID: LCS 880-43267/1-A Matrix: Solid

#### Analysis Batch: 43325

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1011		mg/Kg		101	70 - 130	
Toluene	0.100	0.09684		mg/Kg		97	70 - 130	
Ethylbenzene	0.100	0.08911		mg/Kg		89	70 - 130	
m-Xylene & p-Xylene	0.200	0.1927		mg/Kg		96	70 - 130	
o-Xylene	0.100	0.09524		mg/Kg		95	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

#### Lab Sample ID: LCSD 880-43267/2-A

#### Matrix: Solid

Analysis Batch: 43325							Prep	Batch:	43267
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1062		mg/Kg		106	70 - 130	5	35
Toluene	0.100	0.1022		mg/Kg		102	70 - 130	5	35
Ethylbenzene	0.100	0.09183		mg/Kg		92	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1960		mg/Kg		98	70 - 130	2	35
o-Xylene	0.100	0.09738		mg/Kg		97	70 - 130	2	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

#### Lab Sample ID: 880-23201-A-1-H MS

#### Matrix: Solid aluaia Batahi 42225

Analysis Batch: 43325									Prep	Batch: 43267
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U	0.0998	0.08556		mg/Kg		85	70 - 130	
Toluene	<0.00199	U	0.0998	0.07942		mg/Kg		80	70 - 130	

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Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 43267

Job ID: 890-3770-1 SDG: 03A1987030 Client: Ensolum

Project/Site: Toro 22-3H

#### Job ID: 890-3770-1 SDG: 03A1987030

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-23201-A-1	-H MS											Client S	Sample ID:		
Matrix: Solid													Prep Ty	/pe: To	tal/N/
Analysis Batch: 43325													Prep	Batch:	4326
	Sample	Samp	ble	Spike		MS	MS						%Rec		
Analyte	Result	Quali	fier	Added	F	Result	Qualif	ier	Unit		D	%Rec	Limits		
Ethylbenzene	<0.00199	U F1		0.0998	0.	06868	F1		mg/Kg			69	70 - 130		
m-Xylene & p-Xylene	<0.00398	U		0.200	C	0.1508			mg/Kg			76	70 - 130		
o-Xylene	<0.00199	U		0.0998	0.	07521			mg/Kg			75	70 - 130		
	MS	MS													
Surrogate	%Recovery	Qual	ifier	Limits											
4-Bromofluorobenzene (Surr)	102			70 - 130											
1,4-Difluorobenzene (Surr)	96			70 - 130											
Lab Sample ID: 880-23201-A-1	-I MSD									Clie	nt Sa	mple ID:	Matrix Spi	ike Dup	olicat
Matrix: Solid												-	Prep Ty		
Analysis Batch: 43325														Batch:	
-	Sample	Samp	ole	Spike		MSD	MSD						%Rec		RP
Analyte	Result	Quali	fier	Added	F	Result	Qualif	ier	Unit		D	%Rec	Limits	RPD	Lim
Benzene	<0.00199	U		0.100	0.	09575			mg/Kg		_	95	70 - 130	11	3
Toluene	<0.00199	U		0.100	0.	08902			mg/Kg			89	70 - 130	11	З
Ethylbenzene	<0.00199	U F1		0.100	0.	07687			mg/Kg			77	70 - 130	11	З
m-Xylene & p-Xylene	<0.00398	U		0.200	C	0.1675			mg/Kg			84	70 - 130	10	3
o-Xylene	<0.00199	U		0.100	0.	08216			mg/Kg			81	70 - 130	9	3
	MSD	MSD													
Surrogate	%Recovery	Qual	ifier	Limits											
4-Bromofluorobenzene (Surr)	99			70 - 130											
1,4-Difluorobenzene (Surr)	92			70 - 130											
lethod: 8015B NM - Diese	I Range O	rgan	ics (DR	O) (GC)											
Lab Sample ID: MB 880-43343												Client Sa	mple ID: N	lethod	Blan
Matrix: Solid													Prep Ty		
Analysis Batch: 43315														Batch:	
		мв	мв												
Analyte	R		Qualifier		RL		MDL U	Jnit		D	Р	repared	Analyze	d	Dil Fa
Gasoline Range Organics		<50.0			50.0			ng/Kg		_		6/23 08:18	01/06/23 0		
(GRO)-C6-C10		-50.0			50.0						04/0	C/00 00-40	04/00/00 0	0.00	
Diesel Range Organics (Over C10-C28)	< 1	<50.0	U		50.0		r	ng/Kg			01/0	6/23 08:18	01/06/23 0	8:29	
010 020)															

	МВ	МВ	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	150	S1+	70 - 130
o-Terphenyl	137	S1+	70 - 130

#### Lab Sample ID: LCS 880-43343/2-A Matrix: Solid

Analysis Batch: 43315							Prep	Batch: 43343
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1055		mg/Kg		106	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	1009		mg/Kg		101	70 - 130	
C10-C28)								

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Prep Type: Total/NA

Prepared	Analyzed	Dil Fac
01/06/23 08:18	01/06/23 08:29	1
01/06/23 08:18	01/06/23 08:29	1

**Client Sample ID: Lab Control Sample** 

#### **QC Sample Results**

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Method: 8015B NM - Dies	sei Kalige Ol	games (L		Sommue	u)							
Lab Sample ID: LCS 880-433	343/2-A						Client	Sample	e ID: Lab C			
Matrix: Solid										уре: То		
Analysis Batch: 43315									Prep	Batch:	43343	
	LCS	LCS										
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	128		70 - 130									
o-Terphenyl	117		70 - 130									
												7
Lab Sample ID: LCSD 880-4	3343/3-A					Clie	nt Sam	ple ID:	Lab Contro			
Matrix: Solid										ype: To		
Analysis Batch: 43315										Batch:		
			Spike		LCSD		_		%Rec		RPD	9
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10			1000	994.1		mg/Kg		99	70 - 130	6	20	
Diesel Range Organics (Over			1000	1020		mg/Kg		102	70 - 130	1	20	
C10-C28)												
	LCSD	LCSD										
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	125		70 - 130									
o-Terphenyl	123		70 - 130									1
Lab Sample ID: 890-3758-A-	101-D MS							Client	Sample ID	: Matrix	Spike	
Matrix: Solid										ype: To		
Analysis Batch: 43315										Batch:		
	Sample	Sample	Spike	MS	MS				%Rec			
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits			
Gasoline Range Organics	<49.9	U	998	1138		mg/Kg		112	70 - 130			
(GRO)-C6-C10												
Diesel Range Organics (Over	90.7		998	1021		mg/Kg		93	70 - 130			
C10-C28)												
	MS	MS										
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	101		70 - 130									
o-Terphenyl	96		70 _ 130									
Lab Sample ID: 890-3758-A-						c	liont S	amplo II	D: Matrix S	oiko Dur	alicato	
						U	nent 3	ampie IL				
Matrix: Solid										ype: To		
Analysis Batch: 43315	<b>.</b> .	0	o "		MOD					Batch:		
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 _ 130
o-Terphenyl	98		70 - 130

## Limit 20

Job ID: 890-3770-1 SDG: 03A1987030 Client: Ensolum

Project/Site: Toro 22-3H

#### **QC Sample Results**

Job ID: 890-3770-1 SDG: 03A1987030

### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43379/1-A											Client S	ample ID:	Method	Blank
Matrix: Solid												Prep	Type: S	oluble
Analysis Batch: 43414														
		MB MB												
Analyte	R	esult Qualifier		RL		MDL	Unit		<u>D</u>	Pr	epared	Analy	zed	Dil Fac
Chloride	<	5.00 U		5.00			mg/Kg					01/06/23	13:58	-
Lab Sample ID: LCS 880-43379/2-A									Clie	ent	Sample	ID: Lab C	ontrol S	ample
Matrix: Solid												Prep	Type: S	oluble
Analysis Batch: 43414														
			Spike		LCS	LCS						%Rec		
Analyte			Added		Result	Quali	fier	Unit		D	%Rec	Limits		
Chloride			250		244.0			mg/Kg			98	90 _ 110		
Lab Sample ID: LCSD 880-43379/3-/	4							Cli	ient Sa	amı	ple ID: I	_ab Contr	ol Sampl	le Dur
Matrix: Solid												Prep	Type: S	oluble
Analysis Batch: 43414														
			Spike		LCSD	LCSD	)					%Rec		RPD
Analyte			Added		Result	Quali	fier	Unit		D	%Rec	Limits	RPD	Limi
Chloride			250		245.1			mg/Kg			98	90 - 110	0	20
Lab Sample ID: 890-3769-A-1-E MS											Client	Sample ID	): Matrix	Spike
Matrix: Solid												Prep	Type: S	oluble
Analysis Batch: 43414														
	Sample	Sample	Spike		MS	MS						%Rec		
Analyte	Result	Qualifier	Added		Result	Quali	fier	Unit		D	%Rec	Limits		
Chloride	<5.02	U	251		254.6			mg/Kg			101	90 _ 110		
Lab Sample ID: 890-3769-A-1-F MSI	2								Client	Sa	mple ID	: Matrix S	pike Dur	olicate
Matrix: Solid											•		Type: S	
Analysis Batch: 43414														
-	Sample	Sample	Spike		MSD	MSD						%Rec		RPD
Analyte	Result	Qualifier	Added		Result	Quali	fier	Unit		D	%Rec	Limits	RPD	Limi
Chloride	<5.02		251		256.2			mg/Kg			101	90 - 110	1	20

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#### Received by OCD: 7/2/2024311:06:599AMM

**QC Association Summary** 

Client: Ensolum Project/Site: Toro 22-3H

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Job ID: 890-3770-1 SDG: 03A1987030

#### **GC VOA**

#### Prep Batch: 43267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3770-1	PH01	Total/NA	Solid	5035	
890-3770-2	PH01	Total/NA	Solid	5035	
890-3770-3	PH01	Total/NA	Solid	5035	
890-3770-4	PH01	Total/NA	Solid	5035	
890-3770-5	PH01	Total/NA	Solid	5035	
890-3770-6	PH01	Total/NA	Solid	5035	
MB 880-43267/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43267/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43267/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-23201-A-1-H MS	Matrix Spike	Total/NA	Solid	5035	
880-23201-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 43325

IVID 000-43207/5-A	Method Blank	Iotal/INA	Solid	5035		
LCS 880-43267/1-A	Lab Control Sample	Total/NA	Solid	5035		8
LCSD 880-43267/2-A	Lab Control Sample Dup	Total/NA	Solid	5035		
880-23201-A-1-H MS	Matrix Spike	Total/NA	Solid	5035		9
880-23201-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035		
Analysis Batch: 43325						10
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	11
890-3770-1	PH01	Total/NA	Solid	8021B	43267	
890-3770-2	PH01	Total/NA	Solid	8021B	43267	12
890-3770-3	PH01	Total/NA	Solid	8021B	43267	
890-3770-4	PH01	Total/NA	Solid	8021B	43267	4.2
890-3770-5	PH01	Total/NA	Solid	8021B	43267	13
890-3770-6	PH01	Total/NA	Solid	8021B	43267	
MB 880-43267/5-A	Method Blank	Total/NA	Solid	8021B	43267	14
LCS 880-43267/1-A	Lab Control Sample	Total/NA	Solid	8021B	43267	
LCSD 880-43267/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43267	
880-23201-A-1-H MS	Matrix Spike	Total/NA	Solid	8021B	43267	
880-23201-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43267	

#### Analysis Batch: 43425

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3770-1	PH01	Total/NA	Solid	Total BTEX	
890-3770-2	PH01	Total/NA	Solid	Total BTEX	
890-3770-3	PH01	Total/NA	Solid	Total BTEX	
890-3770-4	PH01	Total/NA	Solid	Total BTEX	
890-3770-5	PH01	Total/NA	Solid	Total BTEX	
890-3770-6	PH01	Total/NA	Solid	Total BTEX	

#### GC Semi VOA

#### Analysis Batch: 43315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3770-1	PH01	Total/NA	Solid	8015B NM	43343
890-3770-2	PH01	Total/NA	Solid	8015B NM	43343
890-3770-3	PH01	Total/NA	Solid	8015B NM	43343
890-3770-4	PH01	Total/NA	Solid	8015B NM	43343
890-3770-5	PH01	Total/NA	Solid	8015B NM	43343
890-3770-6	PH01	Total/NA	Solid	8015B NM	43343
MB 880-43343/1-A	Method Blank	Total/NA	Solid	8015B NM	43343
LCS 880-43343/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43343
LCSD 880-43343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43343
890-3758-A-101-D MS	Matrix Spike	Total/NA	Solid	8015B NM	43343
890-3758-A-101-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43343

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Released to Imaging: 8/6/2024/2503:02/PMM

### **QC Association Summary**

Client: Ensolum Project/Site: Toro 22-3H

#### Job ID: 890-3770-1 SDG: 03A1987030

#### GC Semi VOA Prep Batch: 43343

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3770-1	PH01	Total/NA	Solid	8015NM Prep	
890-3770-2	PH01	Total/NA	Solid	8015NM Prep	
890-3770-3	PH01	Total/NA	Solid	8015NM Prep	
890-3770-4	PH01	Total/NA	Solid	8015NM Prep	
890-3770-5	PH01	Total/NA	Solid	8015NM Prep	
890-3770-6	PH01	Total/NA	Solid	8015NM Prep	
MB 880-43343/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43343/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3758-A-101-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3758-A-101-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

890-3770-1         PH01         Total/N           890-3770-2         PH01         Total/N           890-3770-3         PH01         Total/N           890-3770-4         PH01         Total/N	A Solid		
890-3770-3         PH01         Total/N           890-3770-4         PH01         Total/N	, oolid	8015 NM	
890-3770-4 PH01 Total/N	A Solid	8015 NM	
	A Solid	8015 NM	
	A Solid	8015 NM	
890-3770-5 PH01 Total/N	A Solid	8015 NM	
890-3770-6 PH01 Total/N	A Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 43379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3770-1	PH01	Soluble	Solid	DI Leach	
890-3770-2	PH01	Soluble	Solid	DI Leach	
890-3770-3	PH01	Soluble	Solid	DI Leach	
890-3770-4	PH01	Soluble	Solid	DI Leach	
890-3770-5	PH01	Soluble	Solid	DI Leach	
890-3770-6	PH01	Soluble	Solid	DI Leach	
MB 880-43379/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43379/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43379/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3769-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3769-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 43414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3770-1	PH01	Soluble	Solid	300.0	43379
890-3770-2	PH01	Soluble	Solid	300.0	43379
890-3770-3	PH01	Soluble	Solid	300.0	43379
890-3770-4	PH01	Soluble	Solid	300.0	43379
890-3770-5	PH01	Soluble	Solid	300.0	43379
890-3770-6	PH01	Soluble	Solid	300.0	43379
MB 880-43379/1-A	Method Blank	Soluble	Solid	300.0	43379
LCS 880-43379/2-A	Lab Control Sample	Soluble	Solid	300.0	43379
LCSD 880-43379/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43379
890-3769-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	43379
890-3769-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43379

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Job ID: 890-3770-1 SDG: 03A1987030

#### Lab Sample ID: 890-3770-1 Matrix: Solid

Lab Sample ID: 890-3770-2

Lab Sample ID: 890-3770-3

Lab Sample ID: 890-3770-4

Matrix: Solid

Matrix: Solid

Date Collected: 01/04/23 13:10 Date Received: 01/05/23 10:30

**Client Sample ID: PH01** 

Client: Ensolum

Project/Site: Toro 22-3H

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	43267	01/05/23 13:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43325	01/06/23 13:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43425	01/06/23 15:30	SM	EET MID
Total/NA	Analysis	8015 NM		1			43445	01/06/23 16:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43343	01/06/23 08:58	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43315	01/06/23 14:02	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	43379	01/06/23 12:42	KS	EET MID
Soluble	Analysis	300.0		1			43414	01/06/23 14:42	СН	EET MID

#### Client Sample ID: PH01

#### Date Collected: 01/04/23 13:40

Date Received: 01/05/23 10:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	43267	01/05/23 13:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43325	01/06/23 13:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43425	01/06/23 15:30	SM	EET MID
Total/NA	Analysis	8015 NM		1			43445	01/06/23 16:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43343	01/06/23 08:58	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43315	01/06/23 14:23	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43379	01/06/23 12:42	KS	EET MID
Soluble	Analysis	300.0		1			43414	01/06/23 14:57	СН	EET MID

#### Client Sample ID: PH01

#### Date Collected: 01/04/23 14:10

Date Received: 01/05/23 10:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	43267	01/05/23 13:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43325	01/06/23 14:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43425	01/06/23 15:30	SM	EET MID
Total/NA	Analysis	8015 NM		1			43445	01/06/23 16:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43343	01/06/23 08:58	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43315	01/06/23 14:45	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43379	01/06/23 12:42	KS	EET MID
Soluble	Analysis	300.0		1			43414	01/06/23 15:02	СН	EET MID

#### Client Sample ID: PH01 Date Collected: 01/04/23 14:40 Date Received: 01/05/23 10:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	43267	01/05/23 13:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43325	01/06/23 14:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43425	01/06/23 15:30	SM	EET MID

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Matrix: Solid

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#### Released to Imaging: 8/6/2024 2:03:02 PMM

#### Lab Chronicle

Client: Ensolum Project/Site: Toro 22-3H

#### Client Sample ID: PH01

Date Collected: 01/04/23 14:40 Date Received: 01/05/23 10:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			43445	01/06/23 16:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	43343	01/06/23 08:58	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43315	01/06/23 15:06	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	43379	01/06/23 12:42	KS	EET MID
Soluble	Analysis	300.0		5			43414	01/06/23 15:07	СН	EET MID

#### Client Sample ID: PH01 Date Collected: 01/04/23 15:10

#### Date Received: 01/05/23 10:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	43267	01/05/23 13:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43325	01/06/23 14:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43425	01/06/23 15:30	SM	EET MID
Total/NA	Analysis	8015 NM		1			43445	01/06/23 16:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43343	01/06/23 08:58	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43315	01/06/23 15:28	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	43379	01/06/23 12:42	KS	EET MID
Soluble	Analysis	300.0		1			43414	01/06/23 15:12	СН	EET MID

#### **Client Sample ID: PH01**

Date Collected: 01/04/23 15:40 Date Received: 01/05/23 10:30 Lab Sample ID: 890-3770-6 Matrix: Solid

Lab Sample ID: 890-3770-5

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	43267	01/05/23 13:12	MNR	EET MIC
Total/NA	Analysis	8021B		1	5 mL	5 mL	43325	01/06/23 15:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43425	01/06/23 15:30	SM	EET MID
Total/NA	Analysis	8015 NM		1			43445	01/06/23 16:56	SM	EET MIC
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	43343	01/06/23 08:58	DM	EET MIC
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43315	01/06/23 16:11	SM	EET MIC
Soluble	Leach	DI Leach			5.02 g	50 mL	43379	01/06/23 12:42	KS	EET MIC
Soluble	Analysis	300.0		1			43414	01/06/23 15:17	СН	EET MID

#### Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Lab Sample ID: 890-3770-4 Matrix: Solid

Matrix: Solid

Job ID: 890-3770-1

SDG: 03A1987030

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

thority	F	rogram	Identification Number	Expiration Date
as	N	IELAP	T104704400-22-25	06-30-23
The following analytes	are included in this report. b	out the laboratory is not certif	ied by the governing authority. This list ma	av include analvtes for w
the agency does not o	fer certification.			, ,
the agency does not of Analysis Method	•	Matrix	Analyte	
the agency does not o	fer certification.			

10

Job ID: 890-3770-1

SDG: 03A1987030

Eurofins Carlsbad

#### **Method Summary**

Client: Ensolum Project/Site: Toro 22-3H Job ID: 890-3770-1 SDG: 03A1987030

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
SW846 =	= "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, Ma "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Ec = TestAmerica Laboratories, Standard Operating Procedure	•	
Laboratory R	eferences: = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

Eurofins Carlsbad

Released to Imaging: 8/6/2024 2:03:02 PMM

Client: Ensolum Project/Site: Toro 22-3H Job ID: 890-3770-1 SDG: 03A1987030

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth	
890-3770-1	PH01	Solid	01/04/23 13:10	01/05/23 10:30	0.5'	Λ
890-3770-2	PH01	Solid	01/04/23 13:40	01/05/23 10:30	5'	
890-3770-3	PH01	Solid	01/04/23 14:10	01/05/23 10:30	10'	5
890-3770-4	PH01	Solid	01/04/23 14:40	01/05/23 10:30	15'	
890-3770-5	PH01	Solid	01/04/23 15:10	01/05/23 10:30	20'	
890-3770-6	PH01	Solid	01/04/23 15:40	01/05/23 10:30	21'	
						8
						9
						12
						13
						1

	Xenco	ICO	Хелсо	0	EL P	aso, TX	432) /04 (915) 5	L-5440, San 85-3443, Lu	Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3354 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296				
					Hob	bs, NM (	(575) 39	2-7550, Car	Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199		www.xenco.com	om Page	ge 1 of 1
Project Manager: Gilbo	Gilbert Moreno				Bill to: (if different)	ent)	Jim Raley	aley			Work Ord	Work Order Comments	
	Ensolum			0	Company Name	ne:	WPX	WPX Energy		Program	Program: UST/PST [] PRP[] Brownfields [] RRC []	ownfields 🗌 RRC	Superfund
	3122 National Parks HWY	ırks HV	YY	1	Address:		5315	5315 Buena Vista Dr	3 Dr.	State of Project:	Project:		
e ZIP:	Carlsbad, NM 88220	220		0	City, State ZIP:		Carlst	Carlsbad, NM 88220	220	Reporting	Reporting: Level II Clevel III PST/UST TRRP	PST/UST	
	832-541-7719			Email: 0	Email: gmoreno@Ensolum.com,	nsolun	n.com,		im.raley@dvn.com	Deliverab	Deliverables: EDD AD	ADaPT Other:	13
Name:	Toro 22-3H			Turn	Turn Around				ANALYSIS	REQUEST		Preserva	Preservative Codes
Pr.	03A1987030			Routine	✓ Rush	Pres.						None: NO	DI Water: H <sub>2</sub> O
	Rural Lea, NM			Due Date:	24Hr TAT							Cool: Cool	MeOH: Me
	Yocoly Edyte Konan	lan		TAT starts the	TAT starts the day received by	~		• • • •	_			HCL: HC	HNO3: HN
	1061141201			the lab, if rece	lived by 4:30pm	1						H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na
SAMPLE RECEIPT	Temp Blank:	nk:	Yes No	Wet Ice:	Mes No	leter	0)					H <sub>3</sub> PO <sub>4</sub> : HP	
Samples Received Intact:	(Yes) No		Thermometer ID:		Inn D	ram	300.					NaHSO4: NABIS	IS
Cooler Custody Seals:	Yes No r	ATTA	Correction Factor:		-2.2	Pa	PA:		890-3770 Ch	hain of Custody		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	03
Sample Custody Seals:	No	T PUN	Temperature Reading	eading:	ND	1	S (E				-	Zn Acetate+NaOH: Zn	NOH: Zn
Total Containers:			Corrected Temperature:	perature:	Vic	1	IDE					NaUH+AScoloic Acid. SAPC	IC ACIO. SAFC
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth Grab/ Comp	p Cont		TPH (8				Sample	Sample Comments
PH01		S	1/4/2023	13:10 0	0.5' Grab/	0/ 1	×	××					
PH01		S	1/4/2023	13:40	5' Grab/	0/ 1	×	×					
PH01		S	1/4/2023	14:10	10' Grab/	2	×	××				Inci	Incident ID
PH01		S	1/4/2023	14:40	15' Grab/	0/ 1	×	××				n0Y17	nOY1727952679
PH01		S	1/4/2023	15:10	20' Grab/	0/1	×	××					
PH01		S	1/4/2023		21' Grab/	6/ 1	×	××					
				01-04-	2023	1							
						-							
Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	200.8 / 6020: etal(s) to be an	20: analyz		BRCRA 13PPM	RA 13PPM Texas 11 AI S	AI S	Sb As A Sb A	b As Ba Be B Sb As Ba Be	Cd Ca Cr Co Cu Fe Cd Cr Co Cu Pb Mn	Pb Mg Mn Mo Ni K Mo Ni Se Ag Ti U	K Se /	Ag SiO <sub>2</sub> Na Sr TI Sn U Hg:1631/245.1/7470/	J V Zn 17471
Notice: Signature of this docum of service. Eurofins Xenco will	ent and relinquis be liable only for charge of \$85.00	hment of the cost will be an	samples constitution of samples and solied to each pro-	utes a valid purc hall not assume piect and a chan	shase order from any responsibility ge of \$5 for each	client cc ity for an I sample	y losses submitte	o Eurofins X. or expenses d to Eurofins	Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins 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 service. Eurofins Xenco A minimum charge of \$55.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. A minimum charge of \$55.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. A minimum charge of \$55.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. But not analyzed. These terms will be enforced unless previously negotiations are applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco.	tors. It assigns states are due to circul terms will be enforce	tors. It assigns standard terms and conditions ses are due to circumstances beyond the control terms will be enforced unless previously negotiated	ed.	
Relinquished by: (Signature)	gnature)		Received	Received by: (Signature)	ule)		Date	Date/Time	Relinquished by: (Signature)	ignature)	Received by: (Signature)	ature)	Date/Time
1 Edyte Konan :	HH -	Ø		La X	Shif		6.2	BID	QE(				
<u>د</u>	-6			1	0				4				

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Chain of Custody

#### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3770 List Number: 1 Creator: Stutzman, Amanda

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Eurofins Carlsbad Released to Imaging: 8/6/2024 2:03:02 PMM 14

Job Number: 890-3770-1 SDG Number: 03A1987030

#### List Source: Eurofins Carlsbad

Job Number: 890-3770-1 SDG Number: 03A1987030

List Source: Eurofins Midland

List Creation: 01/06/23 11:27 AM

#### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3770 List Number: 2 Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

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5796 U.S. Hwy 64 Farmington, NM 87401

Phone: (505) 632-1881 Envirotech-inc.com





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## **Analytical Report**

## WPX Energy - Carlsbad

Project Name:

Toro 22-3H

Work Order: E307001

Job Number: 01058-0007

> Received: 7/5/2023

> > Revision: 1

**Report Reviewed By:** 

Walter Hinchman Laboratory Director 7/10/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise. Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc. Envirotech Inc, holds the Utah TNI certification NM00979 for data reported. Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/10/23

Anna Byers 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: Toro 22-3H Workorder: E307001 Date Received: 7/5/2023 8:15:00AM

Anna Byers,



Page 180 of 250

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/5/2023 8:15:00AM, under the Project Name: Toro 22-3H.

The analytical test results summarized in this report with the Project Name: Toro 22-3H apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman Laboratory Director Office: 505-632-1881 Cell: 775-287-1762 whinchman@envirotech-inc.com

Field Offices:

Southern New Mexico Area Lynn Jarboe

Technical Representative/Client Services Office: 505-421-LABS(5227) Cell: 505-320-4759 ljarboe@envirotech-inc.com

Raina Schwanz Laboratory Administrator Office: 505-632-1881 rainaschwanz@envirotech-inc.com Alexa Michaels Sample Custody Officer Office: 505-632-1881 labadmin@envirotech-inc.com

West Texas Midland/Odessa Area Rayny Hagan Technical Representative Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com
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		Sample Sum	mary		
WPX Energy - Carlsbad		Project Name:	Toro 22-3H		Reported:
5315 Buena Vista Dr		Project Number:	01058-0007		Keporteu.
Carlsbad NM, 88220		Project Manager:	Anna Byers		07/10/23 14:57
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
PH02 0.5'	E307001-01A	Soil	06/30/23	07/05/23	Glass Jar, 2 oz.
PH02 10'	E307001-02A	Soil	06/30/23	07/05/23	Glass Jar, 2 oz.



	D.	ampic D	ala			
WPX Energy - Carlsbad 5315 Buena Vista Dr	Project Name: Project Numb		o 22-3H 58-0007			Reported:
Carlsbad NM, 88220	Project Manag	ger: Ann	a Byers			7/10/2023 2:57:54PM
		PH02 0.5'				
		E307001-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: IY		Batch: 2327003
Benzene	ND	0.0250	1	07/05/23	07/06/23	
Ethylbenzene	ND	0.0250	1	07/05/23	07/06/23	
Toluene	ND	0.0250	1	07/05/23	07/06/23	
o-Xylene	ND	0.0250	1	07/05/23	07/06/23	
o,m-Xylene	ND	0.0500	1	07/05/23	07/06/23	
Fotal Xylenes	ND	0.0250	1	07/05/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		102 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: IY		Batch: 2327003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/05/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.5 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	t: KM		Batch: 2327033
Diesel Range Organics (C10-C28)	51.9	50.0	2	07/06/23	07/07/23	
Oil Range Organics (C28-C36)	ND	100	2	07/06/23	07/07/23	
Surrogate: n-Nonane		89.2 %	50-200	07/06/23	07/07/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: BA		Batch: 2327028
Chloride	77.8	20.0	1	07/06/23	07/07/23	





	Sa	ample D	ata				
WPX Energy - Carlsbad	Project Name:		22-3H				
5315 Buena Vista Dr	Project Numbe		58-0007				Reported:
Carlsbad NM, 88220	Project Manag	ger: Ann	a Byers				7/10/2023 2:57:54PM
		PH02 10'					
		E307001-02					
		Reporting					
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg		Analyst:	IY		Batch: 2327003
Benzene	ND	0.0250	:	1	07/05/23	07/06/23	
Ethylbenzene	ND	0.0250		1	07/05/23	07/06/23	
Foluene	ND	0.0250		1	07/05/23	07/06/23	
p-Xylene	ND	0.0250		1	07/05/23	07/06/23	
p,m-Xylene	ND	0.0500		1	07/05/23	07/06/23	
Total Xylenes	ND	0.0250		1	07/05/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		102 %	70-130		07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2327003
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/05/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.9 %	70-130		07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2327033
Diesel Range Organics (C10-C28)	ND	25.0		1	07/06/23	07/08/23	
Dil Range Organics (C28-C36)	ND	50.0		1	07/06/23	07/08/23	
Surrogate: n-Nonane		86.9 %	50-200		07/06/23	07/08/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2327028
Chloride	1040	20.0		1	07/06/23	07/07/23	



	S	ample D	ata				
WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220	Project Name Project Numb Project Mana	ber: 010	o 22-3H 58-0007 a Byers				<b>Reported:</b> 7/10/2023 2:57:54PM
	-	PH02 18'	-				
		E307001-03					
		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg		Analyst	IY		Batch: 2327003
Benzene	ND	0.0250		1	07/05/23	07/06/23	
Ethylbenzene	ND	0.0250		1	07/05/23	07/06/23	
Toluene	ND	0.0250		1	07/05/23	07/06/23	
p-Xylene	ND	0.0250		1	07/05/23	07/06/23	
o,m-Xylene	ND	0.0500		1	07/05/23	07/06/23	
Total Xylenes	ND	0.0250		1	07/05/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		101 %	70-130		07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2327003
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/05/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.4 %	70-130		07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	KM		Batch: 2327033
Diesel Range Organics (C10-C28)	ND	25.0		1	07/06/23	07/08/23	
Dil Range Organics (C28-C36)	ND	50.0		1	07/06/23	07/08/23	
Surrogate: n-Nonane		85.1 %	50-200		07/06/23	07/08/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	BA		Batch: 2327028
Chloride	676	20.0		1	07/06/23	07/07/23	



## QC Summary Data

		QC SI		ary Dat	a				
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:		oro 22-3H 1058-0007					Reported:
Carlsbad NM, 88220		Project Manager:	А	nna Byers					7/10/2023 2:57:54PM
		Volatile O	rganics l	by EPA 802	21B				Analyst: IY
Analyte		Reporting	Spike	Source		Rec		RPD	
5	Result	Limit	Level	Result	Rec	Limits	RPD	Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327003-BLK1)							Prepared: 0	7/05/23 A	analyzed: 07/05/23
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
p-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.37		8.00		105	70-130			
LCS (2327003-BS1)							Prepared: 0	7/05/23 A	analyzed: 07/05/23
Benzene	4.90	0.0250	5.00		97.9	70-130			
Ethylbenzene	4.75	0.0250	5.00		95.0	70-130			
Foluene	4.91	0.0250	5.00		98.2	70-130			
p-Xylene	4.89	0.0250	5.00		97.8	70-130			
o,m-Xylene	9.84	0.0500	10.0		98.4	70-130			
Total Xylenes	14.7	0.0250	15.0		98.2	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.21		8.00		103	70-130			
Matrix Spike (2327003-MS1)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	analyzed: 07/05/23
Benzene	4.76	0.0250	5.00	ND	95.3	54-133			
Ethylbenzene	4.64	0.0250	5.00	0.0264	92.3	61-133			
Toluene	4.84	0.0250	5.00	0.0757	95.3	61-130			
p-Xylene	4.80	0.0250	5.00	ND	96.0	63-131			
o,m-Xylene	9.64	0.0500	10.0	0.0702	95.7	63-131			
Fotal Xylenes	14.4	0.0250	15.0	0.0702	95.8	63-131			
Surrogate: 4-Bromochlorobenzene-PID	8.15		8.00		102	70-130			
Matrix Spike Dup (2327003-MSD1)				Source:	E306248-	23	Prepared: 0	7/05/23 A	analyzed: 07/05/23
Benzene	4.93	0.0250	5.00	ND	98.5	54-133	3.38	20	
Ethylbenzene	4.79	0.0250	5.00	0.0264	95.4	61-133	3.20	20	
Foluene	5.00	0.0250	5.00	0.0757	98.4	61-130	3.11	20	
p-Xylene	4.96	0.0250	5.00	ND	99.1	63-131	3.22	20	
o,m-Xylene	9.95	0.0500	10.0	0.0702	98.8	63-131	3.19	20	
Total Xylenes	14.9	0.0250	15.0	0.0702	98.9	63-131	3.20	20	
		0.0200			70.7	70-130	5.20	20	



# QC Summary Data

		$\mathbf{x} \mathbf{v} \mathbf{v}$		ing Date					
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:		oro 22-3H 058-0007					Reported:
Carlsbad NM, 88220		Project Manager	A	nna Byers					7/10/2023 2:57:54PM
	Noi	nhalogenated (	Organics	by EPA 80	15D - GI	RO			Analyst: IY
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327003-BLK1)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.69		8.00		83.6	70-130			
LCS (2327003-BS2)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	48.4	20.0	50.0		96.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.20		8.00		90.0	70-130			
Matrix Spike (2327003-MS2)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	48.7	20.0	50.0	ND	97.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.02		8.00		87.7	70-130			
Matrix Spike Dup (2327003-MSD2)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	47.4	20.0	50.0	ND	94.9	70-130	2.62	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.02		8.00		87.8	70-130			



# QC Summary Data

		QC D	umma	ing Date	ц				
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:	01	oro 22-3H 058-0007					Reported:
Carlsbad NM, 88220		Project Manager:	Ar	nna Byers					7/10/2023 2:57:54PM
	Nonh	alogenated Org	anics by	EPA 8015I	) - DRO	/ORO			Analyst: KM
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327033-BLK1)							Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	46.0		50.0		91.9	50-200			
LCS (2327033-BS1)							Prepared: 0	7/06/23 A	Analyzed: 07/10/23
Diesel Range Organics (C10-C28)	239	25.0	250		95.6	38-132			
Surrogate: n-Nonane	45.4		50.0		90.8	50-200			
Matrix Spike (2327033-MS1)				Source:	E306236-0	04	Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	366	25.0	250	93.6	109	38-132			
Surrogate: n-Nonane	41.0		50.0		81.9	50-200			
Matrix Spike Dup (2327033-MSD1)				Source:	E306236-0	04	Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	383	25.0	250	93.6	116	38-132	4.62	20	
Surrogate: n-Nonane	42.0		50.0		84.1	50-200			



## QC Summary Data

		$\mathbf{x} \in \mathbf{v}$	••••••						
WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220		Project Name: Project Number: Project Manager:	0	oro 22-3H 1058-0007 nna Byers					<b>Reported:</b> 7/10/2023 2:57:54PM
		Anions	by EPA	300.0/90564	4				Analyst: BA
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2327028-BLK1)							Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride	ND	20.0					Duran and O	7/06/22	A
LCS (2327028-BS1) Chloride	253	20.0	250		101	90-110	Prepared: 0	//06/23 1	Analyzed: 07/07/23
Matrix Spike (2327028-MS1)				Source:	E306247-0	01	Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride	277	20.0	250	28.9	99.3	80-120			
Matrix Spike Dup (2327028-MSD1)				Source:	E306247-	01	Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride	277	20.0	250	28.9	99.3	80-120	0.00794	20	

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



		2 emilions		
WPX Energy -	Carlsbad	Project Name:	Toro 22-3H	
5315 Buena V	sta Dr	Project Number:	01058-0007	Reported:
Carlsbad NM,	88220	Project Manager:	Anna Byers	07/10/23 14:57

Analyte NOT DETECTED at of above the reporting mint	ND	Analyte NOT DETECTED at or above the reporting limit
-----------------------------------------------------	----	------------------------------------------------------

- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Project: Toro 22-3H

Phone: (575) 200-6754

Time

Sampled

8:00

8:10

8:20

302

1

Collected by: Edyte Konan

Client: WPX Energy Permian LLC.

Address: 13000 W County Rd 100

City, State, Zip\_Odessa, TX, 79765

Email: Devon-team@etechenv.com

Date Sampled

6/30/2023

6/30/2023

6/30/2023

Additional Instructions:

**Relinquished by: (Signature)** 

Relinquished by: (Signature)

Relinguished by: (Signature)

Michelle R Gonzales

Edyte Koman

No. of

Containers

1

1

1

Matrix

S

S

S

Project Manager: Anna Buver

Page 1
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#### Received by OCD: 7/2/2024 #1106#59 %AM TAT **EPA** Program **Bill To** Lab Use Only 1D 2D 3D Standard CWA SDWA Lab WO# Job Number Attention: Jim Raley F 307091 5 day TAT Address: 5315 Buena Vista Dr. 0/058-0007 RCRA City, State, Zip: Carlsbad, NM, 88220 Analysis and Method P (2) Phone: 575-885-7502 TPH GRO/DRO/ORO by State Email: jim.raley@dvn.com NM CO UT AZ TX WO: EE.151032.01.ABD Ň Chloride 300.0 BTEX by 8021 VOC by 8260 Metals 6010 Ă Incident ID: nOY1727952679 Depth(ft.) BGDOC GDOC Lab Sample ID 톏 Remarks Number X PH02 0.5 1 2 10' X PH02 3 Х PH02 18' Samples requiring thermal preservation must be received on ice the day they are sampled or I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, received packed in Ice at an avg temp above 0 but less than 6 °C on subsequent days. date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Time Received by: (Signature) Date Time Lab Use Only 14:20 Michelle R Gonzales O(N)6-30-23 1420 Received on ice: Time Received by: (Signature) Date Time 8:15 1615 T1 T2 T3 Time Received by: (Signature) Date Time

Sample Matrix: S - Soil, Sd - Soild, Sg - Sludge, A - Aqueous, O - Other

Date

Date

Date

06/30/2023

6-30-23

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

AVG Temp C

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

#### **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Client:	WPX Energy - Carlsbad Da	ate Received:	07/05/23	08:15	Work Order ID:	E307001
Phone:	(575) 200-6754 Da	ate Logged In:	07/05/23	09:01	Logged In By:	Caitlin Mars
Email:		le Date:	07/11/23	17:00 (4 day TAT)		
Chain of	f Custody (COC)					
1. Does t	he sample ID match the COC?		Yes			
2. Does t	he number of samples per sampling site location match	the COC	Yes			
3. Were s	samples dropped off by client or carrier?		Yes	Carrier: Courier		
4. Was th	ne COC complete, i.e., signatures, dates/times, requested	l analyses?	Yes			
5. Were a	all samples received within holding time? Note: Analysis, such as pH which should be conducted in the i.e, 15 minute hold time, are not included in this disucssion.	e field,	Yes		Comment	ts/Resolution
Sample '	<u>Turn Around Time (TAT)</u>					
6. Did th	e COC indicate standard TAT, or Expedited TAT?		Yes			
Sample (	<u>Cooler</u>					
7. Was a	sample cooler received?		Yes			
8. If yes,	was cooler received in good condition?		Yes			
9. Was th	ne sample(s) received intact, i.e., not broken?		Yes			
10. Were	custody/security seals present?		No			
11. If yes	s, were custody/security seals intact?		NA			
12. Was th	he sample received on ice? If yes, the recorded temp is 4°C, i.e. Note: Thermal preservation is not required, if samples are re-		Yes			
13 Ifno	minutes of sampling visible ice, record the temperature. Actual sample tem	nnerature: 1º	C			
		nperature. <u>+</u>	<u> </u>			
	Container_ aqueous VOC samples present?		No			
	VOC samples collected in VOA Vials?		NA			
	e head space less than 6-8 mm (pea sized or less)?		NA			
	a trip blank (TB) included for VOC analyses?		NA			
	non-VOC samples collected in the correct containers?		Yes			
	appropriate volume/weight or number of sample containers	collected?	Yes			
Field La			100			
	field sample labels filled out with the minimum inform	ation:				
	Sample ID?		Yes			
Ι	Date/Time Collected?		Yes			
	Collectors name?		Yes			
	Preservation	10				
	the COC or field labels indicate the samples were prese	erved?	No			
	sample(s) correctly preserved?	1-9	NA			
	o filteration required and/or requested for dissolved meta	115 /	No			
-	ase Sample Matrix					
	the sample have more than one phase, i.e., multiphase?		No			
27. If yes	s, does the COC specify which phase(s) is to be analyzed	d?	NA			
	ract Laboratory					
	samples required to get sent to a subcontract laboratory? a subcontract laboratory specified by the client and if so		No NA			

Signature of client authorizing changes to the COC or sample disposition.



envirotech Inc.

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5796 U.S. Hwy 64 Farmington, NM 87401

Phone: (505) 632-1881 Envirotech-inc.com





# envirotech

**Practical Solutions for a Better Tomorrow** 

# **Analytical Report**

# WPX Energy - Carlsbad

Project Name: Toro 2

Toro 22-3H

Work Order: E307003

Job Number: 01058-0007

Received: 7/5/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 7/10/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise. Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc. Envirotech Inc, holds the Utah TNI certification NM00979 for data reported. Envirotech Inc, holds the Texas TNI certification T104704557 for data reported. Date Reported: 7/10/23

Anna Byers 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: Toro 22-3H Workorder: E307003 Date Received: 7/5/2023 8:15:00AM

Anna Byers,



Page 194 of 250

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/5/2023 8:15:00AM, under the Project Name: Toro 22-3H.

The analytical test results summarized in this report with the Project Name: Toro 22-3H apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman Laboratory Director Office: 505-632-1881 Cell: 775-287-1762 whinchman@envirotech-inc.com

Field Offices:

Southern New Mexico Area Lynn Jarboe

Technical Representative/Client Services Office: 505-421-LABS(5227) Cell: 505-320-4759 ljarboe@envirotech-inc.com

Raina Schwanz Laboratory Administrator Office: 505-632-1881 rainaschwanz@envirotech-inc.com Alexa Michaels Sample Custody Officer Office: 505-632-1881 labadmin@envirotech-inc.com

West Texas Midland/Odessa Area Rayny Hagan Technical Representative Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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*		Sample Sum	mary		
WPX Energy - Carlsbad		Project Name:	Toro 22-3H		Donovtada
5315 Buena Vista Dr		Project Number:	01058-0007		Reported:
Carlsbad NM, 88220		Project Manager:	Anna Byers		07/10/23 15:01
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
PH02 21'	E307003-01A	Soil	06/30/23	07/05/23	Glass Jar, 2 oz.



	De	ampie D	ala			
WPX Energy - Carlsbad	Project Name:	Toro	22-3H			
5315 Buena Vista Dr	Project Numbe	er: 0103	58-0007			Reported:
Carlsbad NM, 88220	Project Manag	ger: Ann	a Byers			7/10/2023 3:01:38PM
		PH02 21'				
		E307003-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	st: IY		Batch: 2327003
Benzene	ND	0.0250	1	07/05/23	07/06/23	
Ethylbenzene	ND	0.0250	1	07/05/23	07/06/23	
Toluene	ND	0.0250	1	07/05/23	07/06/23	
p-Xylene	ND	0.0250	1	07/05/23	07/06/23	
o,m-Xylene	ND	0.0500	1	07/05/23	07/06/23	
Total Xylenes	ND	0.0250	1	07/05/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		102 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: IY		Batch: 2327003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/05/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.2 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: KM		Batch: 2327033
Diesel Range Organics (C10-C28)	ND	25.0	1	07/06/23	07/08/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/06/23	07/08/23	
Surrogate: n-Nonane		87.3 %	50-200	07/06/23	07/08/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: BA		Batch: 2327028
Chloride	254	20.0	1	07/06/23	07/07/23	

## **Sample Data**



## QC Summary Data

		QC D	u111111a	ii y Dai	a				
WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220		Project Name: Project Number: Project Manager:	01	oro 22-3H 1058-0007 nna Byers					<b>Reported:</b> 7/10/2023 3:01:38PM
		Volatile O	rganics b	oy EPA 802	21B				Analyst: IY
			Spike	Source		Rec		RPD	
Analyte	Result	Reporting Limit	Level	Result	Rec	Limits	RPD	Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327003-BLK1)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	ND	0.0250					-		
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.37		8.00		105	70-130			
LCS (2327003-BS1)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	4.90	0.0250	5.00		97.9	70-130			
Ethylbenzene	4.75	0.0250	5.00		95.0	70-130			
Toluene	4.91	0.0250	5.00		98.2	70-130			
o-Xylene	4.89	0.0250	5.00		97.8	70-130			
o,m-Xylene	9.84	0.0500	10.0		98.4	70-130			
Total Xylenes	14.7	0.0250	15.0		98.2	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.21		8.00		103	70-130			
Matrix Spike (2327003-MS1)				Source:	E306248-	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	4.76	0.0250	5.00	ND	95.3	54-133			
Ethylbenzene	4.64	0.0250	5.00	0.0264	92.3	61-133			
Toluene	4.84	0.0250	5.00	0.0757	95.3	61-130			
p-Xylene	4.80	0.0250	5.00	ND	96.0	63-131			
o,m-Xylene	9.64	0.0500	10.0	0.0702	95.7	63-131			
Total Xylenes	14.4	0.0250	15.0	0.0702	95.8	63-131			
Surrogate: 4-Bromochlorobenzene-PID	8.15		8.00		102	70-130			
Matrix Spike Dup (2327003-MSD1)				Source:	E306248-	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	4.93	0.0250	5.00	ND	98.5	54-133	3.38	20	
Ethylbenzene	4.79	0.0250	5.00	0.0264	95.4	61-133	3.20	20	
Toluene	5.00	0.0250	5.00	0.0757	98.4	61-130	3.11	20	
p-Xylene	4.96	0.0250	5.00	ND	99.1	63-131	3.22	20	
p,m-Xylene	9.95	0.0500	10.0	0.0702	98.8	63-131	3.19	20	
Total Xylenes	14.9	0.0250	15.0	0.0702	98.9	63-131	3.20	20	
Surrogate: 4-Bromochlorobenzene-PID	8.08		8.00		101	70-130			



# QC Summary Data

		$\chi \cup \lambda$		ing Dut					
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:		oro 22-3H 058-0007					Reported:
Carlsbad NM, 88220		Project Manager:	A	nna Byers					7/10/2023 3:01:38PM
	Noi	nhalogenated (	Organics	by EPA 80	15D - GI	RO			Analyst: IY
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327003-BLK1)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.69		8.00		83.6	70-130			
LCS (2327003-BS2)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	48.4	20.0	50.0		96.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.20		8.00		90.0	70-130			
Matrix Spike (2327003-MS2)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	48.7	20.0	50.0	ND	97.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.02		8.00		87.7	70-130			
Matrix Spike Dup (2327003-MSD2)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	47.4	20.0	50.0	ND	94.9	70-130	2.62	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.02		8.00		87.8	70-130			



# QC Summary Data

		$\mathbf{v} \in \mathcal{V}$		ing Date					
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:	01	oro 22-3H 058-0007					Reported:
Carlsbad NM, 88220		Project Manager:	A	nna Byers					7/10/2023 3:01:38PM
	Nonh	alogenated Org	anics by	EPA 8015I	) - DRO	/ORO			Analyst: KM
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327033-BLK1)							Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	46.0		50.0		91.9	50-200			
LCS (2327033-BS1)							Prepared: 0	7/06/23 A	Analyzed: 07/10/23
Diesel Range Organics (C10-C28)	239	25.0	250		95.6	38-132			
Surrogate: n-Nonane	45.4		50.0		90.8	50-200			
Matrix Spike (2327033-MS1)				Source:	E306236-0	)4	Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	366	25.0	250	93.6	109	38-132			
Surrogate: n-Nonane	41.0		50.0		81.9	50-200			
Matrix Spike Dup (2327033-MSD1)				Source:	E306236-0	)4	Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	383	25.0	250	93.6	116	38-132	4.62	20	
Surrogate: n-Nonane	42.0		50.0		84.1	50-200			



## QC Summary Data

		$\mathbf{x} \in \mathbf{S}$			~				
WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220		Project Name: Project Number: Project Manager:	0	oro 22-3H 1058-0007 nna Byers					<b>Reported:</b> 7/10/2023 3:01:38PM
		Anions	by EPA 3	300.0/90564	۸				Analyst: BA
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2327028-BLK1)							Prepared: 0'	7/06/23	Analyzed: 07/07/23
Chloride LCS (2327028-BS1)	ND	20.0					Prepared: 0'	7/06/23	Analyzed: 07/07/23
Chloride	253	20.0	250		101	90-110			
Matrix Spike (2327028-MS1)				Source:	E306247-0	01	Prepared: 0'	7/06/23	Analyzed: 07/07/23
Chloride	277	20.0	250	28.9	99.3	80-120			
Matrix Spike Dup (2327028-MSD1)				Source:	E306247-0	01	Prepared: 0'	7/06/23	Analyzed: 07/07/23
Chloride	277	20.0	250	28.9	99.3	80-120	0.00794	20	

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



_		Dennition	, unu 1 (otto	
Γ	WPX Energy - Carlsbad	Project Name:	Toro 22-3H	
	5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
	Carlsbad NM, 88220	Project Manager:	Anna Byers	07/10/23 15:01

ND Analyte NOT DETECTED at or above the reportir	g limit
--------------------------------------------------	---------

- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Project: Tor Project Man Address: 13 City, State, 2	nager: Anna					Bill To		17			ib Us						TAT			EPA Pr	
Project Man Address: 13 City, State, 7	nager: Anna	Bunger				tention: Jim Raley		l ab.	WO#			dol:	Num	ber	1D 2	2D   3	3D	Standa	ord (	CWA	SDWA
Address: 13 City, State, 7		buyer				dress: 5315 Buena Vista Dr.		F	307	6	3 /	010	57-	1007				5 day T			
						y, State, Zip: Carlsbad, NM, 88	220					Analy	ysis ar	d Metho	d j				. •		RCRA
N (896	Zip_Odessa		i5	_	Ph	one: 575-885-7502			Â									199			
	5) 200-6 <mark>754</mark>		_		En	nail: jim.raley@dvn.com		]	80											State	
	on-team@et		:om			<u>O: EE.151032.01.ABD</u>		]	NO.	77	8	0	0.0		Ň		۲	NM	COU	TAZ	TX
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Time Da Sampled	ate Sampled	Matrix	No. of Contziners	Sample II	0		Lab Number,	Depth	TPH GRO/DRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	_	BGDOC		20 CO CO CO CO CO CO CO CO CO CO CO CO CO		Re	emarks	
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	), attest to the v collection is con:					it tampering with or intentionally mislabe Sampled by:	lling the sample ic	cation	l,					ring thermal ed in ice at an							pied or
elinquished by			Date	0/2023	Time 14:20	Received by: (Signature) Michelle R Gonzale	Date ∫ 6-30-2		Time 1/	420		Dee	لرغيناه	on ice:		o Use / 'N	Qnly	K			
elinquished by	y: (Signature) UE R GOI	nzalas	Date 6-	30-23	Time 1615	Received by Signature	Date 7/5/2		Time 8.1			neu Ta	civeu		<u>'</u> لک						
elinquished by			Date	50- <u>2</u> 0	Time	Received by: (Signature)	Date	~	Time	-		11		<u> </u>	<u>. 14</u>	<u></u>		<u> </u>	<u> </u>		
							·			<u> </u>		AVC	Tem	p°C 4							
amole Matrix: S	5 - Soil, <b>5d</b> - Soile					rrangements are made. Hazardous s	Containe														

### **Envirotech Analytical Laboratory**

		LINIIOUUU	<sup>1</sup> Maiy u	cai Laboi atoi y		Printed: 7/5/2023 10:51:42AN
tructions	Please take note of any NO checkmarks.	Sample	Receipt Cl	hecklist (SRC)		
	no response concerning these items within 24 hours of	the date of this not	ice, all the sa	mples will be analyzed as requ	iested.	
Client:	WPX Energy - Carlsbad	Date Received:	07/05/23 08	:15	Work Order ID:	E307003
Phone:	(575) 200-6754	Date Logged In:	07/05/23 09	2:13	Logged In By:	Caitlin Mars
Email:	anna@etechenv.vom	Due Date:	07/11/23 17	2:00 (4 day TAT)		
Chain of	Custody (COC)					
1. Does tl	he sample ID match the COC?		Yes			
2. Does tl	he number of samples per sampling site location ma	tch the COC	Yes			
3. Were s	amples dropped off by client or carrier?		Yes	Carrier: Courier		
4. Was th	e COC complete, i.e., signatures, dates/times, reque	sted analyses?	Yes	<u></u>		
5. Were a	Il samples received within holding time? Note: Analysis, such as pH which should be conducted i i.e, 15 minute hold time, are not included in this disucssi		Yes		Commen	ts/Resolution
Sample 7	<u>Furn Around Time (TAT)</u>					
	e COC indicate standard TAT, or Expedited TAT?		Yes			
Sample (	Cooler					
_	sample cooler received?		Yes			
8. If yes,	was cooler received in good condition?		Yes			
9. Was th	e sample(s) received intact, i.e., not broken?		Yes			
10. Were	custody/security seals present?		No			
11. If yes	, were custody/security seals intact?		NA			
•	he sample received on ice? If yes, the recorded temp is 4°C Note: Thermal preservation is not required, if samples as minutes of sampling		Yes			
13. If no	visible ice, record the temperature. Actual sample	e temperature: <u>4°</u>	<u>'C</u>			
Sample (	<u>Container</u>	-				
	queous VOC samples present?		No			
15. Are V	OC samples collected in VOA Vials?		NA			
16. Is the	head space less than 6-8 mm (pea sized or less)?		NA			
17. Was a	a trip blank (TB) included for VOC analyses?		NA			
18. Are n	on-VOC samples collected in the correct containers	?	Yes			
19. Is the	appropriate volume/weight or number of sample contai	ners collected?	Yes			
Field La	bel					
20. Were	field sample labels filled out with the minimum inf	ormation:				
	ample ID?		Yes			
	Date/Time Collected?		Yes			
	Collectors name?		Yes			
-	<u>Preservation</u> the COC or field labels indicate the samples were p	racarizad?	No			
	ample(s) correctly preserved?		NA			
	filteration required and/or requested for dissolved r	netals?	No			
	ase Sample Matrix		110			
	the sample have more than one phase, i.e., multipha	ise?	No			
	, does the COC specify which phase(s) is to be anal		NO			
		,	INA			
	ract Laboratory	0	NT			
	amples required to get sent to a subcontract laborate	-	No			
29. was a	a subcontract laboratory specified by the client and i	i so wno?	NA S	Subcontract Lab: NA		

**Client Instruction** 

Signature of client authorizing changes to the COC or sample disposition.



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5796 U.S. Hwy 64 Farmington, NM 87401

Phone: (505) 632-1881 Envirotech-inc.com





# envirotech

**Practical Solutions for a Better Tomorrow** 

# **Analytical Report**

# WPX Energy - Carlsbad

Project Name:

Toro 22-3H

Work Order: E307002

Job Number: 01058-0007

> Received: 7/5/2023

> > Revision: 1

**Report Reviewed By:** 

Walter Hinchman Laboratory Director 7/10/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise. Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc. Envirotech Inc, holds the Utah TNI certification NM00979 for data reported. Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/10/23

Anna Byers 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: Toro 22-3H Workorder: E307002 Date Received: 7/5/2023 8:15:00AM

Anna Byers,



Page 206 of 250

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/5/2023 8:15:00AM, under the Project Name: Toro 22-3H.

The analytical test results summarized in this report with the Project Name: Toro 22-3H apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman Laboratory Director Office: 505-632-1881 Cell: 775-287-1762 whinchman@envirotech-inc.com

Field Offices:

Southern New Mexico Area Lynn Jarboe

Technical Representative/Client Services Office: 505-421-LABS(5227) Cell: 505-320-4759 ljarboe@envirotech-inc.com

Raina Schwanz Laboratory Administrator Office: 505-632-1881 rainaschwanz@envirotech-inc.com Alexa Michaels Sample Custody Officer Office: 505-632-1881 labadmin@envirotech-inc.com

West Texas Midland/Odessa Area Rayny Hagan Technical Representative Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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*		Sample Sum	mary		
WPX Energy - Carlsbad		Project Name:	Toro 22-3H		Reported:
5315 Buena Vista Dr		Project Number:	01058-0007		Reporteu.
Carlsbad NM, 88220		Project Manager:	Anna Byers		07/10/23 14:59
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
•	•		Sampled		
•	Lab Sample ID E307002-01A	<b>Matrix</b> Soil	<b>Sampled</b> 06/30/23	<b>Received</b> 07/05/23	<b>Container</b> Glass Jar, 2 oz.
Client Sample ID 'H03 0.5' 'H03 10'	•		•		



	5	ampic D	ala			
WPX Energy - Carlsbad	Project Name:		o 22-3H			D (1
5315 Buena Vista Dr Carlsbad NM, 88220	Project Number Project Manag		58-0007 a Byers			<b>Reported:</b> 7/10/2023 2:59:30PM
Calisbau Nivi, 88220	Floject Mallag	gei. Ain	a byers			//10/2023 2.59.501 W
		PH03 0.5'				
		E307002-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	st: IY		Batch: 2327003
Benzene	ND	0.0250	1	07/05/23	07/06/23	
Ethylbenzene	ND	0.0250	1	07/05/23	07/06/23	
Toluene	ND	0.0250	1	07/05/23	07/06/23	
p-Xylene	ND	0.0250	1	07/05/23	07/06/23	
o,m-Xylene	ND	0.0500	1	07/05/23	07/06/23	
Total Xylenes	ND	0.0250	1	07/05/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		102 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	st: IY		Batch: 2327003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/05/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		86.9 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	st: KM		Batch: 2327033
Diesel Range Organics (C10-C28)	161	50.0	2	07/06/23	07/08/23	
Oil Range Organics (C28-C36)	141	100	2	07/06/23	07/08/23	
Surrogate: n-Nonane		87.0 %	50-200	07/06/23	07/08/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: BA		Batch: 2327028
Chloride	267	20.0	1	07/06/23	07/07/23	

# Sample Data



		1 1105 10				
		E307002-02				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	yst: IY		Batch: 2327003
Benzene	ND	0.0250	1	07/05/23	07/06/23	
Ethylbenzene	ND	0.0250	1	07/05/23	07/06/23	
Toluene	ND	0.0250	1	07/05/23	07/06/23	
o-Xylene	ND	0.0250	1	07/05/23	07/06/23	
p,m-Xylene	ND	0.0500	1	07/05/23	07/06/23	
Total Xylenes	ND	0.0250	1	07/05/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		101 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	vst: IY		Batch: 2327003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/05/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.0 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	yst: KM		Batch: 2327033
Diesel Range Organics (C10-C28)	ND	25.0	1	07/06/23	07/08/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/06/23	07/08/23	
Surrogate: n-Nonane		90.4 %	50-200	07/06/23	07/08/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	yst: BA		Batch: 2327028
Chloride	975	20.0	1	07/06/23	07/07/23	

		PH03 18'								
E307002-03										
Reporting										
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes			
Volatile Organics by EPA 8021B	mg/kg	mg/kg		Analyst	IY		Batch: 2327003			
Benzene	ND	0.0250		1	07/05/23	07/06/23				
Ethylbenzene	ND	0.0250		1	07/05/23	07/06/23				
Toluene	ND	0.0250		1	07/05/23	07/06/23				
o-Xylene	ND	0.0250		1	07/05/23	07/06/23				
p,m-Xylene	ND	0.0500		1	07/05/23	07/06/23				
Total Xylenes	ND	0.0250		1	07/05/23	07/06/23				
Surrogate: 4-Bromochlorobenzene-PID		101 %	70-130		07/05/23	07/06/23				
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	IY		Batch: 2327003			
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/05/23	07/06/23				
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.9 %	70-130		07/05/23	07/06/23				
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	KM		Batch: 2327033			
Diesel Range Organics (C10-C28)	ND	25.0		1	07/06/23	07/08/23				
Oil Range Organics (C28-C36)	ND	50.0		1	07/06/23	07/08/23				
Surrogate: n-Nonane		81.6 %	50-200		07/06/23	07/08/23				
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	BA		Batch: 2327028			
Chloride	802	20.0		1	07/06/23	07/07/23				

## QC Summary Data

		QC S	umma	il y Dat	a				
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:	01	oro 22-3H 1058-0007					Reported:
Carlsbad NM, 88220		Project Manager:	A	nna Byers					7/10/2023 2:59:30PM
		Volatile O	rganics <b>l</b>	oy EPA 802	21B				Analyst: IY
Analyte		Reporting Limit	Spike Level	Source Result	P	Rec Limits	RPD	RPD Limit	
	Result mg/kg	mg/kg	mg/kg	mg/kg	Rec %	%	%	2 %	Notes
Blank (2327003-BLK1)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
p-Xylene	ND	0.0250							
o,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.37		8.00		105	70-130			
LCS (2327003-BS1)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	4.90	0.0250	5.00		97.9	70-130			
Ethylbenzene	4.75	0.0250	5.00		95.0	70-130			
Toluene	4.91	0.0250	5.00		98.2	70-130			
-Xylene	4.89	0.0250	5.00		97.8	70-130			
o,m-Xylene	9.84	0.0500	10.0		98.4	70-130			
Total Xylenes	14.7	0.0250	15.0		98.2	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.21		8.00		103	70-130			
Matrix Spike (2327003-MS1)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	4.76	0.0250	5.00	ND	95.3	54-133			
Ethylbenzene	4.64	0.0250	5.00	0.0264	92.3	61-133			
Foluene	4.84	0.0250	5.00	0.0757	95.3	61-130			
p-Xylene	4.80	0.0250	5.00	ND	96.0	63-131			
p,m-Xylene	9.64	0.0500	10.0	0.0702	95.7	63-131			
Total Xylenes	14.4	0.0250	15.0	0.0702	95.8	63-131			
Surrogate: 4-Bromochlorobenzene-PID	8.15		8.00		102	70-130			
Matrix Spike Dup (2327003-MSD1)				Source:	E306248-	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	4.93	0.0250	5.00	ND	98.5	54-133	3.38	20	
Ethylbenzene	4.79	0.0250	5.00	0.0264	95.4	61-133	3.20	20	
Toluene	5.00	0.0250	5.00	0.0757	98.4	61-130	3.11	20	
p-Xylene	4.96	0.0250	5.00	ND	99.1	63-131	3.22	20	
p,m-Xylene	9.95	0.0500	10.0	0.0702	98.8	63-131	3.19	20	
Total Xylenes	14.9	0.0250	15.0	0.0702	98.9	63-131	3.20	20	
Surrogate: 4-Bromochlorobenzene-PID	8.08		8.00		101	70-130			



# QC Summary Data

		Y U N		I y Data					
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:	01	ro 22-3H 058-0007					Reported:
Carlsbad NM, 88220		Project Manager	: Ar	nna Byers					7/10/2023 2:59:30PM
	Nor	nhalogenated (	Organics	by EPA 80	15D - GI	RO			Analyst: IY
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327003-BLK1)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.69		8.00		83.6	70-130			
LCS (2327003-BS2)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	48.4	20.0	50.0		96.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.20		8.00		90.0	70-130			
Matrix Spike (2327003-MS2)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	48.7	20.0	50.0	ND	97.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.02		8.00		87.7	70-130			
Matrix Spike Dup (2327003-MSD2)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Gasoline Range Organics (C6-C10)	47.4	20.0	50.0	ND	94.9	70-130	2.62	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.02		8.00		87.8	70-130			



# QC Summary Data

		QU D		i y Data					
WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220		Project Name: Project Number: Project Manager:	01	oro 22-3H 058-0007 nna Byers					<b>Reported:</b> 7/10/2023 2:59:30PM
	Nonh	alogenated Org			) - DRO	/ORO			Analyst: KM
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2327033-BLK1)							Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28) Oil Range Organics (C28-C36)	ND ND	25.0 50.0							
Surrogate: n-Nonane	46.0		50.0		91.9	50-200			
LCS (2327033-BS1)							Prepared: 0	7/06/23 A	Analyzed: 07/10/23
Diesel Range Organics (C10-C28)	239	25.0	250		95.6	38-132			
Surrogate: n-Nonane	45.4		50.0		90.8	50-200			
Matrix Spike (2327033-MS1)				Source:	E306236-0	)4	Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	366	25.0	250	93.6	109	38-132			
Surrogate: n-Nonane	41.0		50.0		81.9	50-200			
Matrix Spike Dup (2327033-MSD1)				Source:	E306236-0	)4	Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	383	25.0	250	93.6	116	38-132	4.62	20	
Surrogate: n-Nonane	42.0		50.0		84.1	50-200			



## QC Summary Data

		$\mathbf{z} \in \mathcal{D}$		i j Duc					
WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220		Project Name: Project Number: Project Manager:	0	oro 22-3H 1058-0007 nna Byers					<b>Reported:</b> 7/10/2023 2:59:30PM
		Anions l	by EPA 3	300.0/90564	4				Analyst: BA
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	
Blank (2327028-BLK1)							Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride LCS (2327028-BS1)	ND	20.0					Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride Matrix Spike (2327028-MS1)	253	20.0	250	Source:	101 E306247-0	90-110 <b>)1</b>	Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride Matrix Spike Dup (2327028-MSD1)	277	20.0	250	28.9 Source:	99.3 E306247-(	80-120	Prepared: 0	7/06/23	Analyzed: 07/07/23
Chloride	277	20.0	250	28.9	99.3	80-120	0.00794	20	<b>,</b>

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



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Γ	WPX Energy - Carlsbad	Project Name:	Toro 22-3H	
	5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
	Carlsbad NM, 88220	Project Manager:	Anna Byers	07/10/23 14:59

ND Analyte NOT DETECTED at or above the reportir	g limit
--------------------------------------------------	---------

- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.


50

Project lr	formation						Chain	of Custody	,													Page
Client · M	/PX Energy Pe	rmian th	r –				Bill To			دور <del>عرب</del> مراجع		ah H	se O	abzie	her-her and	J		TĂ	ат	T	FPA P	rogram
	Toro 22-3H		<u>v.</u>		-	Atton	tion: Jim Raley								bèr	10	2D	3D		dard	CWA	SDWA
	/lanager: Ann	a Buver					ess: 5315 Buena Vista Dr.		Ē	wo So 7	00	2	ni.	58-	0007					y TAT		
	13000 W Cou		00		-		State, Zip: Carlsbad, NM, 8822	0	╎┺╶						nd Metho		<u> </u>			a di tana di		RCRA
	te, Zip_Odess				-12		e: 575-885-7502			l ≿		1	1			Ť.	1		<b>–</b> []			
	575) 200-6754						: jim.raley@dyn.com		1	2		]		'							State	1
1	evon-team@e		com		-100		EE.151032.01.ABD		1	8	1.	1				s				м со	UTAZ	TX
	by: Edyte Ko				-	_	ent ID: nOY1727952679			ĕ	51		18	l 🕱 l		WN		Ă	i F		<u> </u>	
Time			No. of	f		Inclue	Encip: No11/2/3320/3	Lab	ĺ∰.	NO.	a l	8	19	ide		8		<u>v</u>		-		
Sampled	Date Sampled	Matrix	No. or Containers	Sample ID				Number	Oept	TPH GRO/DRO/ORO by 8015	8TEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC	ļ	00 00 0			Remarks	
8:40	6/30/2023	s	1				РКОЗ		0.5	'						X						
8:50	6/30/2023	S	1				PH03	2	10'							X						
9:00	6/30/2023	s	1				PH03	3	18'							X						
								ار منتقف المحتاية الم														
								t ret <del>fer</del> te. Viziere								$\uparrow$						
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		<u> </u>								<u> </u>	<u>                                     </u>	<b> </b>	-	<u> </u>								
	al instruction			of this sample. I		~ * <b>b</b> o <b>t</b> to	mpering with or intentionally mislabellin	e eta a sumatu la					Samo	let renul	ring thermal	<b>11116 6-11</b>	ation m	ust he r	eceived on	ice the day	they are san	
-	of collection is co	-	-	-		-	Sampled by:	R rus zsutbie i	<b>J</b> Lation	l,		•		•	ed in Ice at ar	•				-	-	-
elinquish	ed by: (Signature	3	Date			R	teceived by: (Signature)	Date		Time			1			L	цbU	se On	ily		1.12	
dyte Konan			06/3	0/2023 14	:20		Michelle R Gonzales	6-30-2	23	1	420	•	Rec	elved	on ice:	6	) N			- , 183- (* 1919)		. •
elinquishe MiCH	ed by: (Signature EUE R GOP	zales	Date 6	-30-23		B	ath Man	7/5/2		Time S	:15		] 			 12			Т	3		i a se su li Productor
	ed by: (Signature		Date				eceived by: (Signature)	Date	<u></u>	Time				i Ten		4						
ample Met	rix: S - Soll, Sd - So	lid So - Shud	μ. Α. Δαυο	ous O - Other				Containe	r Tve	 0' 7 -	alaer	<b>D</b> - 1		v		hor el	<u></u>		Δ			
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							COC. The liability of the laboratory is					r on t		port.								ec
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eceived l	by OCD: 7/2/2024311:06:1599AMM		•	tical Labora	•		<i>Page</i> Printed: 7/5/2023 10:4	218 of 2:56AM
	Please take note of any NO checkmarks.	_	-	Checklist (SRC				
Client:	no response concerning these items within 24 hour WPX Energy - Carlsbad	Date Received:	07/05/23	-	uyzed as red	Work Order ID:	E307002	
Phone:	(575) 200-6754	Date Logged In:	07/05/23			Logged In By:	Caitlin Mars	
Email:	anna@etechenv.vom	Due Date:		17:00 (4 day TAT)		Logged in By.	Canini Mars	
Chain of	Custody (COC)							
1. Does th	e sample ID match the COC?		Yes					
2. Does th	e number of samples per sampling site location	match the COC	Yes					
3. Were sa	imples dropped off by client or carrier?		Yes	Carrier: C	Courier			
4. Was the	e COC complete, i.e., signatures, dates/times, re	quested analyses?	Yes					
5. Were al	l samples received within holding time? Note: Analysis, such as pH which should be conduc		Yes			Commen	ts/Resolution	
6	i.e, 15 minute hold time, are not included in this dist	icssion.				<u>commen</u>	ts/ICcsolution	
	urn Around Time (TAT)	9	V					
	COC indicate standard TAT, or Expedited TAT	:	Yes					
Sample C	<u>ooler</u> ample cooler received?		Yes					
	was cooler received in good condition?		Yes					
	e sample(s) received intact, i.e., not broken?							
	custody/security seals present?		Yes					
	were custody/security seals intact?		No					
•		100 1 00 000	NA					
	e sample received on ice? If yes, the recorded temp is Note: Thermal preservation is not required, if sampl minutes of sampling	es are received w/i 15	Yes					
13. If no v	visible ice, record the temperature. Actual sar	nple temperature: 4	<u>°C</u>					
Sample C								
	ueous VOC samples present?		No					
	OC samples collected in VOA Vials?		NA					
	head space less than 6-8 mm (pea sized or less)	?	NA					
	trip blank (TB) included for VOC analyses?	0	NA					
	on-VOC samples collected in the correct contain		Yes					
	ppropriate volume/weight or number of sample co	ntainers collected?	Yes					
Field Lab		information						
	field sample labels filled out with the minimum umple ID?	information.	Yes					
	ate/Time Collected?		Yes					
Co	ollectors name?		Yes					
	reservation							
	he COC or field labels indicate the samples we	re preserved?	No					
	mple(s) correctly preserved? filteration required and/or requested for dissolv	ed metals?	NA No					
<u>Multipha</u>	<u>se Sample Matrix</u>							
26. Does t	he sample have more than one phase, i.e., mult	iphase?	No					
27. If yes,	does the COC specify which phase(s) is to be a	inalyzed?	NA					
Subcontra	act Laboratory							
	mples required to get sent to a subcontract labor	ratory?	No					
	subcontract laboratory specified by the client a	-	NA	Subcontract Lab	N N A			

**Client Instruction** 

Signature of client authorizing changes to the COC or sample disposition.



envirotech Inc.





Phone: (505) 632-1881 Envirotech-inc.com





# envirotech

**Practical Solutions for a Better Tomorrow** 

# **Analytical Report**

# WPX Energy - Carlsbad

Project Name: Toro 2

Toro 22-3H

Work Order: E307004

Job Number: 01058-0007

Received: 7/5/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 7/10/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise. Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc. Envirotech Inc, holds the Utah TNI certification NM00979 for data reported. Envirotech Inc, holds the Texas TNI certification T104704557 for data reported. Date Reported: 7/10/23

Anna Byers 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: Toro 22-3H Workorder: E307004 Date Received: 7/5/2023 8:15:00AM

Anna Byers,



Page 220 of 250

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/5/2023 8:15:00AM, under the Project Name: Toro 22-3H.

The analytical test results summarized in this report with the Project Name: Toro 22-3H apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman Laboratory Director Office: 505-632-1881 Cell: 775-287-1762 whinchman@envirotech-inc.com

Field Offices:

Southern New Mexico Area Lynn Jarboe

Technical Representative/Client Services Office: 505-421-LABS(5227) Cell: 505-320-4759 ljarboe@envirotech-inc.com

Raina Schwanz Laboratory Administrator Office: 505-632-1881 rainaschwanz@envirotech-inc.com Alexa Michaels Sample Custody Officer Office: 505-632-1881 labadmin@envirotech-inc.com

West Texas Midland/Odessa Area Rayny Hagan Technical Representative Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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### Received by OCD: 7/2/2024311:0061599AMM

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67 		Sample Sum	mary		
WPX Energy - Carlsbad		Project Name:	Toro 22-3H		Demonteda
5315 Buena Vista Dr		Project Number:	01058-0007		Reported:
Carlsbad NM, 88220		Project Manager:	Anna Byers		07/10/23 15:03
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
	E307004-01A	Soil	06/30/23	07/05/23	Glass Jar, 2 oz.



	Di	ample D	ala			
WPX Energy - Carlsbad	Project Name:	Toro	22-3H			
5315 Buena Vista Dr	Project Numbe	er: 0105	58-0007			Reported:
Carlsbad NM, 88220	Project Manag	er: Ann	a Byers			7/10/2023 3:03:33PN
		PH03 21'				
		E307004-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: IY		Batch: 2327003
Benzene	ND	0.0250	1	07/05/23	07/06/23	
Ethylbenzene	ND	0.0250	1	07/05/23	07/06/23	
Toluene	ND	0.0250	1	07/05/23	07/06/23	
p-Xylene	ND	0.0250	1	07/05/23	07/06/23	
o,m-Xylene	ND	0.0500	1	07/05/23	07/06/23	
Total Xylenes	ND	0.0250	1	07/05/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		102 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: IY		Batch: 2327003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/05/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.0 %	70-130	07/05/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: KM		Batch: 2327033
Diesel Range Organics (C10-C28)	ND	25.0	1	07/06/23	07/08/23	
Dil Range Organics (C28-C36)	ND	50.0	1	07/06/23	07/08/23	
Surrogate: n-Nonane		89.9 %	50-200	07/06/23	07/08/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: BA		Batch: 2327028
Chloride	287	20.0	1	07/06/23	07/07/23	

# Sample Data



### Received by OCD: 7/2/2024311:0061599AMM

### QC Summary Data

		QC B	umma	ii y Dat	a				
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:		oro 22-3H 1058-0007					Reported:
Carlsbad NM, 88220		Project Manager:	A	nna Byers					7/10/2023 3:03:33PM
		Volatile O	rganics <b>k</b>	by EPA 802	21B				Analyst: IY
Analyte		Reporting	Spike	Source		Rec		RPD	
	Result	Limit	Level	Result	Rec	Limits	RPD	Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327003-BLK1)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
p-Xylene	ND	0.0250							
o,m-Xylene	ND	0.0500							
Fotal Xylenes	ND	0.0250							
urrogate: 4-Bromochlorobenzene-PID	8.37		8.00		105	70-130			
LCS (2327003-BS1)							Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	4.90	0.0250	5.00		97.9	70-130			
thylbenzene	4.75	0.0250	5.00		95.0	70-130			
oluene	4.91	0.0250	5.00		98.2	70-130			
-Xylene	4.89	0.0250	5.00		97.8	70-130			
o,m-Xylene	9.84	0.0500	10.0		98.4	70-130			
Total Xylenes	14.7	0.0250	15.0		98.2	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.21		8.00		103	70-130			
Matrix Spike (2327003-MS1)				Source:	: E306248-	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	4.76	0.0250	5.00	ND	95.3	54-133			
Ethylbenzene	4.64	0.0250	5.00	0.0264	92.3	61-133			
Toluene	4.84	0.0250	5.00	0.0757	95.3	61-130			
-Xylene	4.80	0.0250	5.00	ND	96.0	63-131			
,m-Xylene	9.64	0.0500	10.0	0.0702	95.7	63-131			
Total Xylenes	14.4	0.0250	15.0	0.0702	95.8	63-131			
Gurrogate: 4-Bromochlorobenzene-PID	8.15		8.00		102	70-130			
Matrix Spike Dup (2327003-MSD1)				Source	: E306248-	23	Prepared: 0	7/05/23 A	nalyzed: 07/05/23
Benzene	4.93	0.0250	5.00	ND	98.5	54-133	3.38	20	
Ethylbenzene	4.79	0.0250	5.00	0.0264	95.4	61-133	3.20	20	
Toluene	5.00	0.0250	5.00	0.0757	98.4	61-130	3.11	20	
o-Xylene	4.96	0.0250	5.00	ND	99.1	63-131	3.22	20	
o,m-Xylene	9.95	0.0500	10.0	0.0702	98.8	63-131	3.19	20	
Total Xylenes	14.9	0.0250	15.0	0.0702	98.9	63-131	3.20	20	
Surrogate: 4-Bromochlorobenzene-PID	8.08		8.00		101	70-130			



### Received by OCD: 7/2/2024311:006:599AMM

# QC Summary Data

		$\mathbf{v} \mathbf{v} \mathbf{v}$	u	ing Date					
WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:		oro 22-3H 058-0007					Reported:
Carlsbad NM, 88220		Project Manager:	A	nna Byers					7/10/2023 3:03:33PM
	Noi	nhalogenated (	Organics	by EPA 80	15D - GI	RO			Analyst: IY
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327003-BLK1)							Prepared: 0	7/05/23 A	analyzed: 07/05/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.69		8.00		83.6	70-130			
LCS (2327003-BS2)							Prepared: 0	7/05/23 A	analyzed: 07/05/23
Gasoline Range Organics (C6-C10)	48.4	20.0	50.0		96.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.20		8.00		90.0	70-130			
Matrix Spike (2327003-MS2)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	analyzed: 07/05/23
Gasoline Range Organics (C6-C10)	48.7	20.0	50.0	ND	97.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.02		8.00		87.7	70-130			
Matrix Spike Dup (2327003-MSD2)				Source:	E306248-2	23	Prepared: 0	7/05/23 A	analyzed: 07/05/23
Gasoline Range Organics (C6-C10)	47.4	20.0	50.0	ND	94.9	70-130	2.62	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.02		8.00		87.8	70-130			



### Received by OCD: 7/2/2024311:0061599AMM

# QC Summary Data

		QU DY		i y Data					
WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220		Project Name: Project Number: Project Manager:	01	oro 22-3H 058-0007 nna Byers					<b>Reported:</b> 7/10/2023 3:03:33PM
	Nonh	alogenated Org			) - DRO	/ORO			Analyst: KM
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2327033-BLK1)							Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28) Oil Range Organics (C28-C36)	ND ND	25.0 50.0							
Surrogate: n-Nonane	46.0		50.0		91.9	50-200			
LCS (2327033-BS1)							Prepared: 0	7/06/23 A	Analyzed: 07/10/23
Diesel Range Organics (C10-C28)	239	25.0	250		95.6	38-132			
Surrogate: n-Nonane	45.4		50.0		90.8	50-200			
Matrix Spike (2327033-MS1)				Source:	E306236-0	)4	Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	366	25.0	250	93.6	109	38-132			
Surrogate: n-Nonane	41.0		50.0		81.9	50-200			
Matrix Spike Dup (2327033-MSD1)				Source:	E306236-0	)4	Prepared: 0	7/06/23 A	Analyzed: 07/07/23
Diesel Range Organics (C10-C28)	383	25.0	250	93.6	116	38-132	4.62	20	
Surrogate: n-Nonane	42.0		50.0		84.1	50-200			



### Received by OCD: 7/2/2024311:006:599AMM

### QC Summary Data

		$\mathbf{x} \in \mathbf{S}$	••••••						
WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220		Project Name: Project Number: Project Manager:	0	oro 22-3H 1058-0007 nna Byers					<b>Reported:</b> 7/10/2023 3:03:33PM
		Anions	by EPA 3	300.0/90564	۸				Analyst: BA
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2327028-BLK1)							Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride LCS (2327028-BS1)	ND	20.0					Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride	253	20.0	250		101	90-110			
Matrix Spike (2327028-MS1)				Source:	E306247-	01	Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride	277	20.0	250	28.9	99.3	80-120			
Matrix Spike Dup (2327028-MSD1)				Source:	E306247-	01	Prepared: 07	7/06/23	Analyzed: 07/07/23
Chloride	277	20.0	250	28.9	99.3	80-120	0.00794	20	

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



_		D chinicions and	
ſ	WPX Energy - Carlsbad	Project Name: Toro 22	-3H
I	5315 Buena Vista Dr	Project Number: 01058-0	0007 Reported:
l	Carlsbad NM, 88220	Project Manager: Anna B	yers 07/10/23 15:03

ND Analyte NOT DETECTED at or above the reportir	g limit
--------------------------------------------------	---------

- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



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EF	PA Pr	ogram		d by
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		RCR	Α.	eived by OCD: 7/2/202431
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Project: Toro 22-3H Project Manager: Anna Buyer							Lab Use Only Lab WO# Job Number 1D 2 E3D 70D 1 00058-0007					2D				_	SDWA				
						Address: 5315 Buena Vista Dr.		F	5	0	<b>1</b>	00	58-	00 ST	) 	<u> </u>		5 day TAT			
	13000 W Cou		00	•		City, State, Zip: Carlsbad, NM, 88220						Analy:	sis an	d Meth	cd	<u> </u>					RCRA
ity, Stat	e, Zip_Odessa	TX, 7976	55	<u> </u>		hone: 575-885-7502		<u> </u>	à							$\Box$	r I				
hone: (S	575) 200-6754	)			E	Email: jim.raley@dvn.com													Sta		
imail: De	evon-team@e	techenv.e	com	_	N 10	O: EE.151032.01.ABD		]	NO.	<b>=</b>	。		3		M			NM C	O UT	AZ	TX
ollected	by: Edyte Ko	nan			ln 🦳	cident ID: nOY1727952679		1 🗊	ō٨	8	826	5	- Me				Ĕ				
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample II	D		Lab Number	Depth(ft.)	TPH GRO/DRO/ORO by 8015	8TEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC		GDOC		Rem	arks	
9:10	6/30/2023	s	1			PH03		21'							X						Page gram SDWA RCRA TX
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- ,	oler), attest to the v of collection is con	•	•			hat tampering with or intentionally mislabellin Sampled by:	g the sample k	cation	ı,			•			an avg tei	mp abo	ve O but I	ceived on ice the less than 6 °C on	• •		
		Time 14:20	Received by: (Signature) Michelle R Gonzales		-23 1420			Received on ice:		Lab Use Only		<b>ly</b> : <u>1</u>			-						
Miche	ed by: (Signature) EUE R GOM	z <u>aies</u> _		30-23	Time 1615	Carth Man	. 7/5/2	3		15		<u>T1</u>			<u>T2</u>			13			
Relinquished by: (Signature) Date Tim		Time	Received by: (Signature) Da			Time			AVG-Temp <sup>®</sup> C												
	rix: S - Soil, Sd - Sol			,			Containe	_													
ote: Samp	es are discarded	1 30 days af	ter results	are reporte	d unless other	arrangements are made. Hazardous sa	nples will be i	eturn	ed to	client o	or dis	posed	of at	the cilen	t expen	se. T	he repo	ort for the ana	lysis of t	he abo	ve

### **Envirotech Analytical Laboratory**

#### Charles (CDC) . . .

structions: Please	e take note of any NO checkmarks.	Sample	Receipt	Checklist (SRC	C)		
we receive no resp	onse concerning these items within 24 hours of	the date of this not	ice, all the	samples will be an	alyzed as rec	juested.	
Client: WPX	Energy - Carlsbad	Date Received:	07/05/23	08:15		Work Order ID:	E307004
Phone: (575)	200-6754	Date Logged In:	07/05/23	09:16		Logged In By:	Caitlin Mars
Email: anna@	]etechenv.vom	Due Date:	07/11/23	17:00 (4 day TAT)			
Chain of Custoe	dy (COC)						
1. Does the same	ple ID match the COC?		Yes				
2. Does the num	ber of samples per sampling site location m	atch the COC	Yes				
3. Were samples	dropped off by client or carrier?		Yes	Carrier:	Courier		
4. Was the COC	complete, i.e., signatures, dates/times, requi	ested analyses?	Yes	-			
	les received within holding time?		Yes				
	Analysis, such as pH which should be conducted					Commen	ts/Resolution
	i minute hold time, are not included in this disucss round Time (TAT)	aon.					
	indicate standard TAT, or Expedited TAT?		Yes				
Sample Cooler	indicate standard 1717, of Expedited 1711.		105				
7. Was a sample	cooler received?		Yes				
-	oler received in good condition?		Yes				
•	le(s) received intact, i.e., not broken?						
	y/security seals present?		Yes No				
	custody/security seals intact?						
•			NA				
Note: minute	e received on ice? If yes, the recorded temp is 4°C Thermal preservation is not required, if samples a es of sampling ice, record the temperature. Actual sampl	re received w/i 15	Yes				
		e temperature. <u>+</u>	<u>c</u>				
Sample Contain	ier VOC samples present?		Na				
	mples collected in VOA Vials?		No NA				
	pace less than 6-8 mm (pea sized or less)?		NA				
-	ank (TB) included for VOC analyses?		NA				
	C samples collected in the correct container	e?	Yes				
	iate volume/weight or number of sample container		Yes				
Field Label	late volume, weight of number of sample conta	iners conceted.	103				
	ample labels filled out with the minimum in:	formation					
Sample 1			Yes				
Date/Tin	ne Collected?		Yes				
Collecto	rs name?		Yes				
Sample Preserv							
	C or field labels indicate the samples were	preserved?	No				
	s) correctly preserved?		NA				
24. Is lab filterat	ion required and/or requested for dissolved	metals?	No				
Multiphase San							
	nple have more than one phase, i.e., multiph		No				
27. If yes, does t	he COC specify which phase(s) is to be ana	lyzed?	NA				
Subcontract La	<u>boratory</u>						
28. Are samples	required to get sent to a subcontract laborat	ory?	No				
29. Was a subcor	ntract laboratory specified by the client and	if so who?	NA	Subcontract La	b: NA		
Client Instruct	ion						



Signature of client authorizing changes to the COC or sample disposition.

# APPENDIX G

# NMOCD Correspondence

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213



#### **Anna Byers**

From: Sent: To: Subject: Raley, Jim <Jim.Raley@dvn.com> Wednesday, May 17, 2023 4:17 PM Anna Byers FW: [EXTERNAL] WPX Site Sampling Activity Update (1/3 -1/6)

Jim Raley | Environmental Professional - Permian Basin <u>5315 Buena Vista Dr., Carlsbad, NM 88220</u> C: (575)689-7597 | <u>jim.raley@dvn.com</u>



From: Raley, Jim <Jim.Raley@dvn.com>
Date: Wednesday, May 17, 2023 at 1:38 PM
To: Joseph Hernandez <joseph@etechenv.com>
Subject: FW: [EXTERNAL] WPX Site Sampling Activity Update (1/3 -1/6)

Jim Raley | Environmental Professional - Permian Basin 5315 Buena Vista Dr., Carlsbad, NM 88220 C: (575)689-7597 | jim.raley@dvn.com



From: Erick Herrera <eherrera@ensolum.com>
Date: Wednesday, December 28, 2022 at 3:43 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>, 'CFO\_Spill, BLM\_NM' <blm\_nm\_cfo\_spill@blm.gov>
Cc: Raley, Jim <Jim.Raley@dvn.com>, Devon Team <Devon-Team@ensolum.com>
Subject: [EXTERNAL] WPX Site Sampling Activity Update (1/3 -1/6)

Good Afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between January 3 – January 6, 2023:

<u>Site Name: Toro 22-3H</u> API: 30-025-35253 Incident Number: nOY1727952679

Thank you,



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### **Erick Herrera**

From:	Enviro, OCD, EMNRD <ocd.enviro@emnrd.nm.gov></ocd.enviro@emnrd.nm.gov>
Sent:	Tuesday, June 27, 2023 11:53 AM
То:	Erick Herrera
Cc:	Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD
Subject:	RE: [EXTERNAL] WPX Site Sampling Activity Update (6/29-6/30)

Erick,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon • Environmental Specialist Environmental Bureau EMNRD - Oil Conservation Division 1220 South St. Francis Drive | Santa Fe, NM 87505 (505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov http:// www.emnrd.nm.gov



From: Erick Herrera <erick@etechenv.com>
Sent: Monday, June 26, 2023 3:43 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Raley, Jim <jim.raley@dvn.com>; Devon-Team <Devon-Team@etechenv.com>
Subject: [EXTERNAL] WPX Site Sampling Activity Update (6/29-6/30)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon,

WPX also anticipates conducting confirmation soil sampling activities at the following site between June 29 – June 30, 2023.

Site Name: Toro 22-3 API: 30-025-35253 Incident Number: nOY1727952679

Thank you,

Erick Herrera Staff Geologist

.

e ECH \_\_\_\_\_\_ Environmental & Safety Solutions, Inc.

Work: (432) 305-6416 Cell: (281) 777-4152

### **Joseph Hernandez**

From:	Joseph Hernandez
Sent:	Tuesday, June 27, 2023 10:12 AM
То:	Raley, Jim
Cc:	Anna Byers
Subject:	FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 219749

Joseph S. Hernandez Senior Managing Geologist



Work: (432) 305-6413 Cell: (281) 702-2329

From: Joseph Hernandez
Sent: Monday, June 26, 2023 5:36 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Anna Byers <anna@etechenv.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: Re: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 219749

Nelson,

We will proceed with your recommended approach with advancement to same total depth to confirm chloride concentrations. We will include that data in the revised report.

Thanks

Sent from my iPhone

On Jun 26, 2023, at 4:53 PM, Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>> wrote:

Hey Joe,

Thanks for the notification. Please keep a copy of this communication for inclusion within the appropriate report submittal.

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

Talked with my supervisor last week about the email write up you suggested and he directed me not to do so.

Please proceed with whatever approach you feel can adequately define the lateral and vertical extent of the impacts.

If you have any questions or concerns, please contact me via email or telephone #.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u> <u>http://www.emnrd.state.nm.us/OCD/</u> <Outlook-kagggro0.png>

From: Joseph Hernandez <joseph@etechenv.com>
Sent: Monday, June 26, 2023 3:09 PM
To: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Cc: Anna Byers <<u>anna@etechenv.com</u>>
Subject: RE: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application
ID: 219749

Hi Nelson,

We were going to perform the sampling as you requested this Thursday or Friday. Did you send the email with conditions/summary we discussed?

Thanks,

Joseph S. Hernandez Senior Managing Geologist <image001.png>

Work: (432) 305-6413 Cell: (281) 702-2329

From: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Sent: Wednesday, June 21, 2023 11:40 AM
To: Joseph Hernandez <<u>joseph@etechenv.com</u>>
Cc: Anna Byers <<u>anna@etechenv.com</u>>
Subject: Re: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application
ID: 219749

Joseph,

We can discuss tomorrow. Hrs. available between 8-10 am & 12:00-2:30 pm.

Let me know what time. Thanks.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u> <u>http://www.emnrd.state.nm.us/OCD/</u> <image002.png>

From: Joseph Hernandez <joseph@etechenv.com>
Sent: Wednesday, June 21, 2023 10:31 AM
To: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Cc: Anna Byers <<u>anna@etechenv.com</u>>
Subject: FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application
ID: 219749

Nelson,

I'm assisting Jim Raley with this project - do you have time tomorrow to discuss this denial?

Thanks,

Joseph S. Hernandez Senior Managing Geologist <image001.png>

Work: (432) 305-6413 Cell: (281) 702-2329

From: OCDOnline@state.nm.us < OCDOnline@state.nm.us>

Sent: Tuesday, June 20, 2023 2:12 PM

To: Raley, Jim <<u>Jim.Raley@dvn.com</u>>

**Subject:** [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 219749

To whom it may concern (c/o James Raley for WPX Energy Permian, LLC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nOY1727952679, for the following reasons:

for the following reasons:

1. Site assessment has not been fully delineated horizontally or vertically. 2. Site characterization data incomplete. Please provide supporting documentation for those items missing from the list on page 3 of Form C-141 in next submittal or final closure report. 3. Once bullet #1 has been achieved, operator is required to re-submit its revised remediation plan or final closure report. 4. Operator has 90 days (September 18, 2023) to fully delineate, re-submit its remediation plan, or submit final closure report.

 Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by either approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for "on-pad" releases to ensure the release did not extend to the "off-pad"/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 219749.

Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,

Nelson Velez Environmental Specialist - Advanced 505-469-6146

### Nelson.Velez@emnrd.nm.gov

#### New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

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811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

# **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Operator:	OGRID:
WPX Energy Permian, LLC	246289
Devon Energy - Regulatory	Action Number:
Oklahoma City, OK 73102	244562
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By		Condition Date
nvelez	None	7/31/2023

Action 244562

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# **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Operator:	OGRID:
WPX Energy Permian, LLC	246289
Devon Energy - Regulatory	Action Number:
Oklahoma City, OK 73102	267740
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By		Condition Date
nvelez	None	1/19/2024

Action 267740

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

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District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

### **State of New Mexico** Energy, Minerals and Natural Resources **Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

QUESTIONS

Action 360474

QUESTIONS					
Operator:	OGRID:				
WPX Energy Permian, LLC	246289				
Devon Energy - Regulatory	Action Number:				
Oklahoma City, OK 73102	360474				
	Action Type:				
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)				

#### QUESTIONS

Prerequisites				
Incident ID (n#)	nOY1727952679			
Incident Name	NOY1727952679 TORO 22 #003 @ 30-025-35253			
Incident Type	Produced Water Release			
Incident Status	Reclamation Report Received			
Incident Well	[30-025-35253] TORO 22 #003			

#### Location of Release Source

Please answer all the questions in this group.					
Site Name	TORO 22 #003				
Date Release Discovered	09/21/2017				
Surface Owner	Private				

#### Incident Details

Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	Νο
Has this release endangered or does it have a reasonable probability of endangering public health	Νο
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

#### Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion   Tank (Any)   Produced Water   Released: 120 BBL   Recovered: 110 BBL   Lost: 10 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

### **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

Page 243 of 250

QUESTIONS, Page 2

Action 360474

QUESTIONS (continued)	
Operator:	OGRID:
WPX Energy Permian, LLC	246289
Devon Energy - Regulatory	Action Number:
Oklahoma City, OK 73102	360474
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e	. gas only) are to be submitted on the C-129 form.

Initial	Response
---------	----------

The responsible party must undertake the following actions immediately unless they could create a s	safety hazard that would result in injury.
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.
	iation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of ted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of vvaluation in the follow-up C-141 submission.
to report and/or file certain release notifications and perform corrective actions for releat the OCD does not relieve the operator of liability should their operations have failed to a	knowledge and understand that pursuant to OCD rules and regulations all operators are required ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface t does not relieve the operator of responsibility for compliance with any other federal, state, or
I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 07/02/2024

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

#### District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

### **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

**QUESTIONS** (continued)

Operator:	OGRID:
WPX Energy Permian, LLC	246289
Devon Energy - Regulatory	Action Number:
Oklahoma City, OK 73102	360474
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Site Characterization

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release ar	id the following surface areas:
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

#### Remediation Plan

	at apply or are indicated. This information must be provided t	o the appropriate district office no later than 90 days after the release discovery date.
Please answer all the questions th	al apply of all mulcaled. This information must be provided t	
Requesting a remediation	plan approval with this submission	Yes
Attach a comprehensive report de	monstrating the lateral and vertical extents of soil contamination	on associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.
Have the lateral and vertica	l extents of contamination been fully delineated	Yes
Was this release entirely co	ontained within a lined containment area	No
Soil Contamination Sampling	: (Provide the highest observable value for each, in n	nilligrams per kilograms.)
Chloride	(EPA 300.0 or SM4500 CI B)	1940
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	302
GRO+DRO	(EPA SW-846 Method 8015M)	51.9
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
		-
Benzene	(EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 N		
Per Subsection B of 19.15.29.11 N which includes the anticipated tim	, IMAC unless the site characterization report includes complete	0
Per Subsection B of 19.15.29.11 N which includes the anticipated tim On what estimated date wi	IMAC unless the site characterization report includes complete elines for beginning and completing the remediation.	0 ed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMA
Per Subsection B of 19.15.29.11 N which includes the anticipated tim On what estimated date wil On what date will (or did) th	IMAC unless the site characterization report includes complete elines for beginning and completing the remediation. Il the remediation commence	0 ed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMA 06/30/2023
Per Subsection B of 19.15.29.11 N which includes the anticipated tim On what estimated date wil On what date will (or did) th On what date will (or was) f	IMAC unless the site characterization report includes complete elines for beginning and completing the remediation. Il the remediation commence he final sampling or liner inspection occur	0 ed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMA 06/30/2023 08/29/2023
Per Subsection B of 19.15.29.11 N which includes the anticipated tim On what estimated date wil On what date will (or did) th On what date will (or was) the What is the estimated surfa	IMAC unless the site characterization report includes complete elines for beginning and completing the remediation. Il the remediation commence he final sampling or liner inspection occur the remediation complete(d)	0 ed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMA 06/30/2023 08/29/2023 08/29/2023
Per Subsection B of 19.15.29.11 N which includes the anticipated tim On what estimated date wi On what date will (or did) th On what date will (or was) 1 What is the estimated surfa What is the estimated volur	IMAC unless the site characterization report includes complete elines for beginning and completing the remediation. Il the remediation commence he final sampling or liner inspection occur the remediation complete(d) ice area (in square feet) that will be reclaimed	0 ed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMA 06/30/2023 08/29/2023 08/29/2023 1895
Per Subsection B of 19.15.29.11 N which includes the anticipated tim On what estimated date wil On what date will (or did) th On what date will (or was) the What is the estimated surfate What is the estimated volum What is the estimated surfate	IMAC unless the site characterization report includes complete elines for beginning and completing the remediation. Il the remediation commence the final sampling or liner inspection occur the remediation complete(d) the area (in square feet) that will be reclaimed me (in cubic yards) that will be reclaimed	0           ed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMA           06/30/2023           08/29/2023           08/29/2023           1895           281

significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required

QUESTIONS, Page 3

Action 360474

District I

1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

## State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

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QUESTIONS, Page 4

Action 360474

Operator:	OGRID:
WPX Energy Permian, LLC	246289
Devon Energy - Regulatory	Action Number:
Oklahoma City, OK 73102	360474
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

OUESTIONS (continued)

#### QUESTIONS

Remediation Plan (continued)

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants: (Select all answers below that apply.) (Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.) Yes Which OCD approved facility will be used for off-site disposal HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510] OR which OCD approved well (API) will be used for off-site disposal Not answered. OR is the off-site disposal site, to be used, out-of-state Not answered. OR is the off-site disposal site, to be used, an NMED facility Not answered. (Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms) Not answered (In Situ) Soil Vapor Extraction Not answered. (In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.) Not answered. (In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.) Not answered. (In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.) Not answered. Ground Water Abatement pursuant to 19.15.30 NMAC Not answered. OTHER (Non-listed remedial process) Not answered. Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation 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. Name: James Raley Title: EHS Professional I hereby agree and sign off to the above statement Email: jim.raley@dvn.com Date: 07/02/2024

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

## **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

QUESTIONS, Page 5

Action 360474

**QUESTIONS** (continued) Operator: OGRID: WPX Energy Permian, LLC 246289 Devon Energy - Regulatory Action Number Oklahoma City, OK 73102 360474 Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of	the following items must be confirmed as part of any request for deferral of remediation.
Requesting a deferral of the remediation closure due date with the approval of this submission	Νο

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

## **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

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QUESTIONS, Page 6

Action 360474

QUESTIONS (continued)	
Operator:	OGRID:
WPX Energy Permian, LLC	246289
Devon Energy - Regulatory	Action Number:
Oklahoma City, OK 73102	360474
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	360484
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	08/29/2023
What was the (estimated) number of samples that were to be gathered	10
What was the sampling surface area in square feet	1940

#### **Remediation Closure Request**

ly answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.		
Requesting a remediation closure approval with this submission	Yes	
Have the lateral and vertical extents of contamination been fully delineated	Yes	
Was this release entirely contained within a lined containment area	No	
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes	
What was the total surface area (in square feet) remediated	1895	
What was the total volume (cubic yards) remediated	281	
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes	
What was the total surface area (in square feet) reclaimed	1895	
What was the total volume (in cubic yards) reclaimed	281	
Summarize any additional remediation activities not included by answers (above)	Remediation area has been restored with clean backfill material and has been re-seeded with BLM Seed Mixture #2 following the appropriate BLM re-seeding guidelines for seed to sqft area ratio.	
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 or comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody document final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.		
I baraby cartify that the information given above is true and complete to the best of my l	reculades and understand that pursuant to OCD rules and regulations all exercises are required	
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 o 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 he 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 vater, 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 occal 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.		
1	Name a Deles	

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 07/02/2024
----------------------------------------------------	----------------------------------------------------------------------------------------------

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

### **State of New Mexico** Energy, Minerals and Natural Resources **Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

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QUESTIONS, Page 7

Action 360474

**QUESTIONS** (continued) Operator: OGRID: WPX Energy Permian, LLC 246289 Devon Energy - Regulatory Action Number Oklahoma City, OK 73102 360474 Action Type:

[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Reclamation Report		
Only answer the questions in this group if all reclamation steps have been completed.		
Requesting a reclamation approval with this submission	Yes	
What was the total reclamation surface area (in square feet) for this site	1895	
What was the total volume of replacement material (in cubic yards) for this site	281	
Per Paragraph (1) of Subsection D of 19.15.29.13 NMAC the reclamation must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division. The soil cover must include a top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.		
Is the soil top layer complete and is it suitable material to establish vegetation	Yes	
On what (estimated) date will (or was) the reseeding commence(d)	01/25/2024	
	Remediation area has been restored with clean backfill material and has been re-seeded with BLM Seed Mixture #2 following the appropriate BLM re-seeding guidelines for seed to sqft area ratio. The Site has been P&A'd but was not included in the sqft provided above.	
NMAC.		
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.		
I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 07/02/2024	

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

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1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

# **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

QUESTIONS, Page 8

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Action 360474

**QUESTIONS** (continued) Operator: OGRID: WPX Energy Permian, LLC 246289 Devon Energy - Regulatory Action Number Oklahoma City, OK 73102 360474 Action Type:

[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Revegetation Report

Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied

Requesting a restoration complete approval with this submission

No Per Paragraph (4) of Subsection (D) of 19.15.29.13 NMAC for any major or minor release containing liquids, the responsible party must notify the division when reclamation and re-vegetation are complete.

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

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District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

## **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

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CONDITIONS

Action 360474

CONDITIONS

Operator:	OGRID:
WPX Energy Permian, LLC	246289
Devon Energy - Regulatory	Action Number:
Oklahoma City, OK 73102	360474
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### CONDITIONS

Created By	Condition	Condition Date
amaxwell	The reclamation report has been approved pursuant to 19.15.29.13 E. NMAC. The acceptance of this 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; or if the location fails to revegetate properly. In addition, OCD approval does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.	8/6/2024
amaxwell	For all future reclamation reports, at least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. (TPH, BTEX, and Chloride)	8/6/2024
amaxwell	A revegetation report will not be accepted until revegetation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	8/6/2024
amaxwell	All revegetation activities will need to be documented and included in the revegetation report. The revegetation report will need to include: An executive summary of the revegetation activities including: Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil, information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved.	8/6/2024