

Republic Backhoe Service, LLC

47 E. Dickens

Lovington, NM 88260

(575) 631-0131

March 16, 2020

District II

811 S. First St.

Artesia, NM 88210

Subject: Soil Remediation/ Closure Report for the Saragossa 10 State #3, Eddy County, New Mexico.

To whom it may concern,

On behalf of Read & Stevens, Inc. Republic Backhoe Service, LLC (RBS) has prepared this Soil Remediation/Closure Report associated with Saragossa 10 State #3. The site is located in Unit A, Section 10, Township 23 South, and Range 26 East, NMPM, Eddy County, New Mexico, on NM State land. Attachment #1 illustrates the vicinity and location of the site. Piedmont alluvial deposits from the Holocene to Pleistocene age make up the subsurface of the area (mrdata.usgs.gov, Attachment #3). The subsurface is comprised of Regan Upton soils which consist of loamy deposits of quaternary age that are moderately dark colored and loamy. Hard caliche is encountered at 3-4 feet below the loamy surface (Soil Survey Eddy Area, NM 1971). The soil is generally dry except in times of rain. The site is not within a 100-year floodplain (FEMA FIRMetMap Attachment #8). The vegetation consists of black grama, blue grama, tobosa, side-oats, bush muhly, tarbush, creosote bush, vine mesquite, and yucca. The state of New Mexico owns the surface and is overseen by the State Land Office and leased out for grazing.

Table 1. below, summarizes information regarding the release.

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)		
<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) <b>15.09</b>	Volume Recovered (bbls) <b>0</b>
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <b>49.62</b>	Volume Recovered (bbls) <b>0</b>
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		
<b>The release was attributed to a blown packing at the well head. The well was repacked and put back on in operation.</b>		

## Regulatory Guidelines

New Mexico Oil Conversation Division (NMOCD) regulates surface impacts from unauthorized releases of crude oil, gases, produced water, condensate or other oil field waste in accordance with 19.15.29 of the New Mexico Administrative Code (NMAC). In accordance to NMAC 19.15.29 the Saragossa 10 State #2 is assessed by the following guidelines: Table 2 below.

### 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>222</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## GroundWater Depth

A search of a groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) was conducted to determine the average depth to groundwater within 2000 meters (Attachment #4). The search determined that the average depth to groundwater at the site to be 222 feet (bgs).

## Wellhead Protection Area

A search of a groundwater database maintained by NMOSE identified registered wells within 2000 meters of the release at the site (Attachment #5). The search determined that the nearest registered water well is 1,107' (See Attachment 5). Also, the horizontal measurement of the lateral extent of the spill (Sample Point Pad3-6) to the nearest permanent residence is 992 feet (See Attachment 6).

## Closure Criteria

The following table explains the NMOCD permissible levels for the site: Table 3 below.

Table 1 Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Method*	Limit**
>100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

## Site Assessment/Delineation

On November 16, 2018, RBS went to the location to delineate the site. According to the Spill Calculations (See Attachment 10) 100% of the release stayed on the well pad (Attachment 11 Spill Calculation Map). The release poses no threat to ground water as laboratory results concluded that no TPH/Chloride concentrations were found at 2' (bgs). Furthermore, soil samples collected and analyzed at 5' (bgs) show constituents level significantly lower than NMOCD permissible levels. A backhoe was used to dig a total of 8 trenches at the site (See Attachment #2). Samples were collected at surface, 2 feet (bgs), and 5 feet (bgs). The following table summarizes the laboratory analytical results from the soil samples collected during the site assessment: Table 4 below.

On August 24, 2019, a backhoe was used to dig an additional 8 trenches to further delineate the site (See Attachment #2). Samples were collected at 1' (bgs), 2' (bgs), 5' (bgs), and 12' (bgs). Table 5 below summarizes the laboratory analytical results from the soil samples collected on this date.

Laboratory Analysis (Table 4)

Name	Date	Depth	Chlorides	Benezene	BTEX	TPH(DRO,GRO,EXT DRO)	Lithology	Soil	Pad/Pasture	Within 1000' FW Well
Pad3-1-S	11/16/18	Surface	5520	<0.500	2.91	7,466(136,6270,1060)	Sandy	GM	Pad	No
Pad3-1-2	11/16/18	2	64	<0.050	<0.300	195.9(0,161,34.9)	Loam	ML		
Pad3-1-5	11/16/18	5	320	<0.050	<0.300	129.3(0,86.2,43.1)	Caliche	GM		
Pad3-2-S	11/16/18	Surface	26000	<0.050	<0.300	13,850(0,11100,2750)	Sandy	GM	Pad	No
Pad3-2-2	11/16/18	2	9000	<0.050	<0.300	<10.0	Loam	ML		
Pad3-2-5	11/16/18	5	768	<0.050	<0.300	103.9(0,65.2,38.7)	Caliche	GM		
Pad3-3-S	11/16/18	Surface	26800	<0.500	2.00	73559(159,59800,13600)	Sandy	GM	Pad	No
Pad3-3-2	11/16/18	2	160	<0.050	<0.300	181.17(0,124,57.7)	Loam	ML		
Pad3-3-5	11/16/18	5	96	<0.050	<0.300	78(0,78,0)	Caliche	GM		
Pad3-4-S	11/16/18	Surface	18800	<0.050	5.18	57095(435,47200,9460)	Sandy	GM	Pad	No
Pad3-4-2	11/16/18	2	144	<0.050	<0.300	116.7(0,102,14.7)	Loam	ML		
Pad3-4-5	11/16/18	5	96	<0.050	<0.300	56.1(0,56.1,0)	Caliche	GM		
Pad3-5-S	11/16/18	Surface	20800	<0.090	<0.300	72300(0,59500,12800)	Sandy	GM	Pad	No
Pad3-5-2	11/16/18	2	256	<0.050	<0.300	288(0,181,107)	Loam	ML		
Pad3-5-5	11/16/18	5	176	<0.050	<0.300	40(0,23.2,16.8)	Caliche	GM		
Pad3-6-S	11/16/18	Surface	21600	<0.500	<0.300	72300(0,59500,12800)	Sandy	GM	Pad	No
Pad3-6-2	11/16/18	2	528	<0.050	<0.300	<10.0	Loam	CL		
Pad3-6-5	11/16/18	5	128	<0.050	<0.300	<10.0	Caliche	GM		
Pad3-7-S	11/16/18	Surface	1040	<0.050	<0.300	4,493(0,3510,983)	Sandy	ML	Pad	No
Pad3-7-2	11/16/18	2	48	<0.050	<0.300	<10.0	Loam	ML		
Pad3-7-5	11/16/18	5	144	<0.050	<0.300	<10.0	Caliche	GM		
Pad3-8-S	11/16/18	Surface	160	<0.500	<0.300	136(0,95.6,40.4)	Sandy	ML	Pasture	No
Pad3-8-2	11/16/18	2	64	<0.050	<.300	<10.00	Loam	CL		
Pad3-8-5	11/16/18	5	48	<0.050	<0.300	<10.0	Caliche	GM		



## Laboratory Analysis ( Table 5)

Name	Date	Depth (feet)	Chloride	BTEX	TPH(GRO, DRO,EXT)	Lithology	Soil Class	Pad/ Pasture	Within 1,000' FW
PAD 3-9.2	08/24/2019	2	<16.0	<0.300	<10.0	Loam	CL	Pasture	No
PAD 3-9.5	08/24/2019	5	144	<0.300	<10.0	Caliche	GM		
PAD 3-9.12	08/24/2019	12	16	<0.300	<10.0	Caliche	GM		
PAD 3-10.1	08/24/2019	1	<16.0	<0.300	<10.0	Loam	CL	Pasture	No
PAD 3-10.5	08/24/2019	5	240	<0.300	<10.0	Caliche	GM		
PAD 3-10.12	08/24/2019	12	32	<0.300	<10.0	Caliche	GM		
PAD 3-11.1	08/24/2019	1	384	<0.300	<10.0	Loam	CL	pad	No
PAD 3-11.5	08/24/2019	5	128	<0.300	<10.0	Caliche	GM		
PAD 3-11.12	08/24/2019	12	32	<0.300	<10.0	Caliche	GM		
PAD 3-12.1	08/24/2019	1	256	<0.300	<10.0	Loam	CL	Pad	No
PAD 3-12.5	08/24/2019	5	192	<0.300	<10.0	Caliche	GM		
PAD 3-12.12	08/24/2019	12	464	<0.300	<10.0	Caliche	GM		
PAD 3-13.1	08/24/2019	1	2720	<0.300	<10.0	Loam	CL	Pad	No
PAD 3-13.5	08/24/2019	5	144	<0.300	<10.0	Caliche	GM		
PAD 3-13.12	08/24/2019	12	288	<0.300	<10.0	Caliche	GM		
PAD 3-14.1	08/24/2019	1	48	<0.300	<10.0	Loam	CL	Pad	No
PAD 3-14.5	08/24/2019	5	128	<0.300	<10.0	Caliche	GM		
PAD 3-14.12	08/24/2019	12	112	<0.300	<10.0	Caliche	GM		
PAD 3-15.1	08/24/2019	1	544	<0.300	<10.0	Loam	CL	Pad	No
PAD 3-15.5	08/24/2019	5	16	<0.300	<10.0	Caliche	GM		
PAD 3-15.12	08/24/2019	12	384	<0.300	<10.0	Caliche	GM		
PAD 3-16.1	08/24/2019	1	32	<0.300	<10.0	Loam	CL	pad	No
PAD 3-16.5	08/24/2019	5	144	<0.300	<10.0	Caliche	GM		
PAD 3-16.12	08/24/2019	12	1410	<0.300	<10.0	Caliche	GM		

Chlorides-mg/kg, SM4500Cl-B

BTEX-mg/kg, 8021B

TPH-mg/kg, 8015M

**Soil Sample GPS**

<b>Name</b>	<b>GPS</b>	<b>-</b>	<b>Pad/Pasture</b>
PAD3-1	32.325432°	-104.275178°	Pad
PAD3-2	32.325659°	-104.275162°	Pad
PAD3-3	32.325597°	-104.275375°	Pad
PAD3-4	32.325741°	-104.275448°	Pad
PAD3-5	32.325658°	-104.275618°	Pad
PAD3-6	32.325787°	-104.275746°	Pad
PAD3-7	32.325857°	-104.275615°	Pad
PAD3-8	32.326010°	-104.275553°	Pasture
PAD3-9	32.325907°	-104.275449°	Pasture
PAD3-10	32.325943°	-104.275613°	Pasture
PAD3-11	32.325839°	-104.275712°	Pad
PAD3-12	32.325729°	-104.275743°	Pad
PAD3-13	32.325651°	-104.275649°	Pad
PAD3-14	32.325582°	-104.275493°	Pad
PAD3-15	32.325471°	-104.275306°	Pad
PAD3-16	32.325548°	-104.275282°	Pad

**Remediation/ Closure**

Commencement Date: November 16, 2018

Completion Date: March 13, 2020

The following remedial activities are in accordance with 19.15.29.12 NMAC, remediation of releases on oil well pads. The remedial activities took place on the Saragossa 10 State #3 pad at the release. The release poses no threat to ground water.

**Poly #1**

The preliminary site delineation began on November 16, 2018 and concluded that the vertical extent of the release was less than 2' (bgs). Sample at 5' (bgs) further confirms this result. Poly #1 area measures approximately 1,969 square feet. This area was excavated to a depth of 2 feet, totaling approximately 146 cubic yards. The contaminated soil was hauled to an NMOCD approved disposal site.

**Poly #2**

The preliminary site delineation concluded that the vertical extent of the spill was less than 2' (bgs). Samples at 5' (bgs) further confirms this result. Poly area #2 measures approximately 3,913 square feet. This area was excavated to a depth of 2 feet, totaling approximately 290 cubic yards. The contaminated soil was hauled to an NMOCD approved disposal site.

**Spray Area**

The preliminary site delineation concluded that the spray area samples were within the NMOCD permissible remedial levels. No further action will be needed in this area.

**Reclamation**

The original location size of Saragossa 10 State #3 was approximately 54,544 Sq. feet. During remedial activities, the perimeter of the pad was downsized to reclaim land for New Mexico State Land Office. The reclaimed area of the pad measured approximately 34,141 Sq. feet, leaving the current size of the pad approximately 20,403 Sq. feet (See Attachment #11). The reclaimed area was seeded on March 13, 2020 (See Photos).

Soil Samples PAD3-9 through PAD3-16 were completed on August 24, 2019. The excavated areas on the location were back filled beginning September 02, 2019. Back filling was completed on September 06, 2019.

**Revegetation and Noxious Weed Management**

Seed Mixture: Warm Season SSR Grass Seed Mix 350 (See Photos)

Seed Rate: Acre: 50 lbs./ Acre

Method of Dispersal: First, the area was disc. Second, used a no till seeder (rented from Lea County USDA Service Center). The area received  $\frac{3}{4}$ " of rain after seeding, and watering was not necessary. Photos were taken of the seed mixture bags, and all seeding activities. A total of 75 lbs. of seed mixture was dispersed at the location.

Follow up Monitoring Plan: The location will be monitored in the late summer (before the fall season). At that time, evaluation of growth in the area will determine if reseeding will be necessary. The area will also be monitored for noxious weeds. The area is small enough to rid the weeds mechanically.

### Noxious Weeds Control

Republic Backhoe Service, LLC takes noxious weed control very seriously. All equipment and trucks are inspected before entering the pasture areas. The area will be monitored for the following noxious weeds (but not limited to):

Joint Goat Grass, Hoary Grass, Chest Grass, African Rus, Yellow Starthistle, Malta Starthistle, Purple Starthistle, Common Teasel, Camelthorn, and Russian Knapweed.

If you have any questions, please email me or call me at (575) 631-0131.

Thank you.

A handwritten signature in black ink, appearing to read "Eric Garcia", is positioned above the printed name.

Eric Garcia

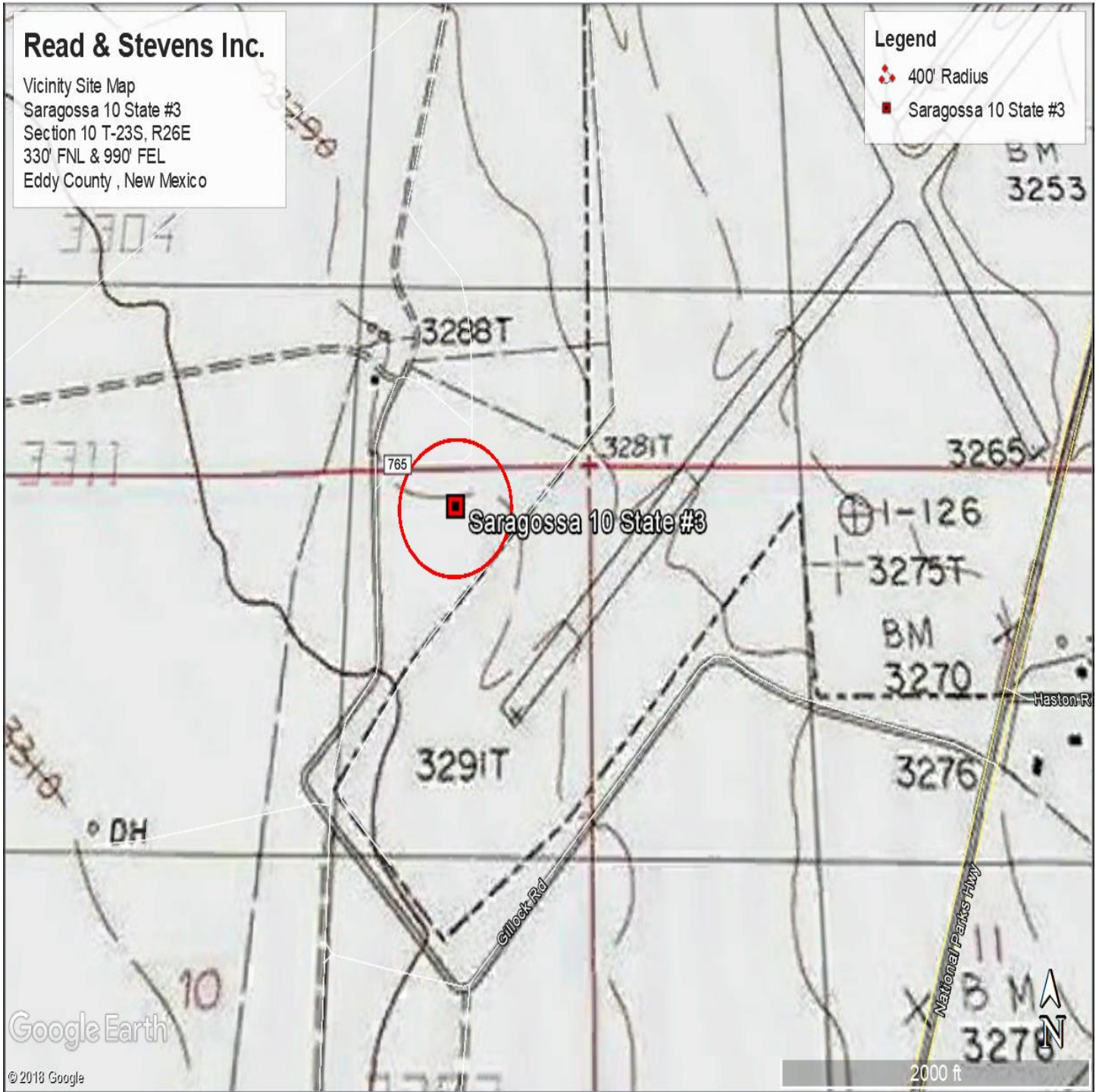
Republic Backhoe Service, LLC

**Attachment 1**  
**Vicinity Area Map**



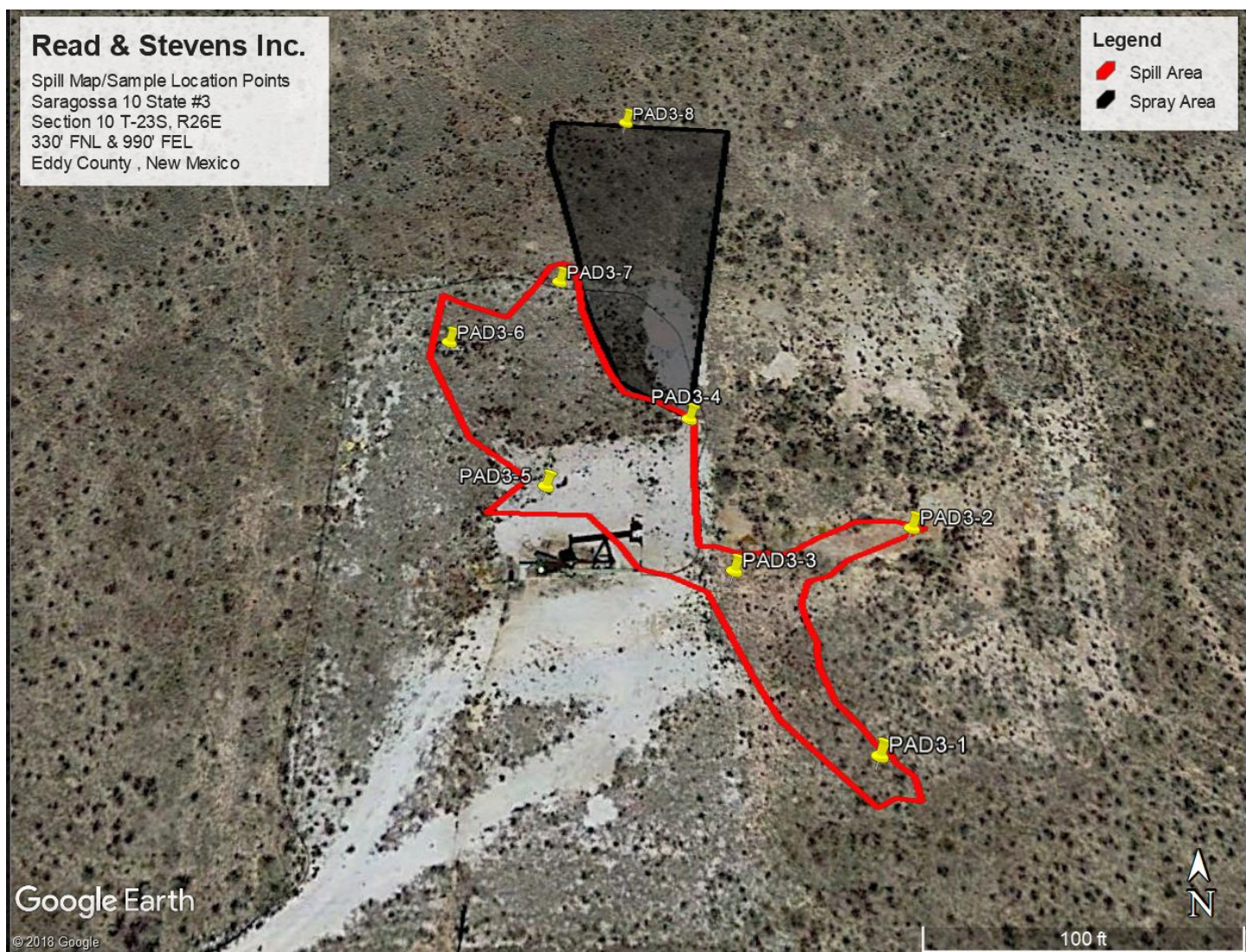






**Attachment 2**  
**Spill Map/Sample Location Points**





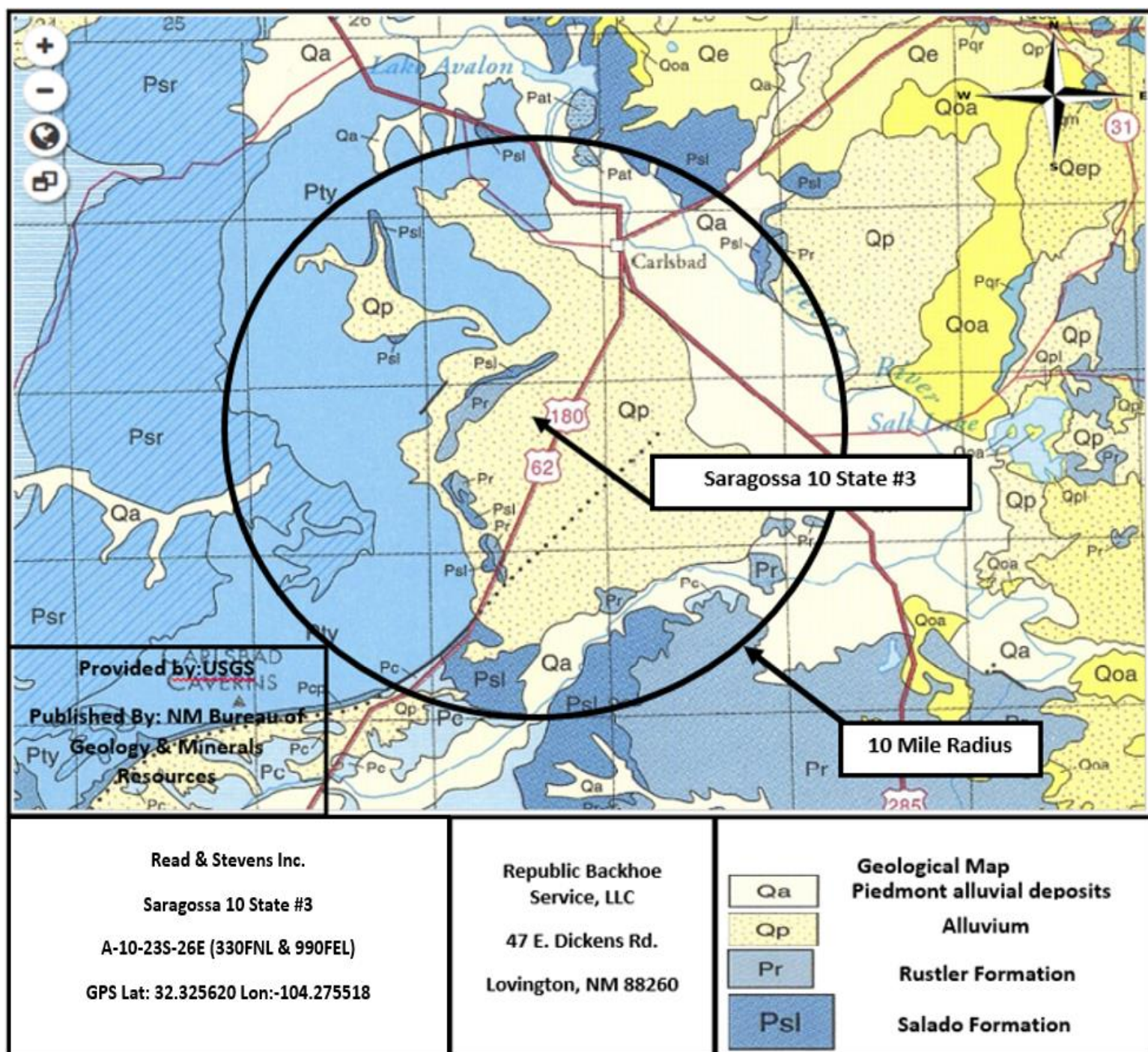






**Attachment #3**

**Geological Map**



**Attachment #4**

**NMOSE Average Depth to Water**



## New Mexico Office of the State Engineer

# Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth	Well	Depth	Water Column
<a href="#">C 02264</a>		CUB	ED	4	03	23S	26E			568065	3577254*	523	260			
<a href="#">C 02382</a>		C	ED	4	03	23S	26E			568065	3577254*	523	288		248	40
<a href="#">C 02393</a>		C	ED	4	03	23S	26E			568065	3577254*	523	290		245	45
<a href="#">C 01310</a>		C	ED	1	3	2	11	23S	26E	569409	3576366*	1275	250		220	30
<a href="#">C 01548</a>		C	ED	3	2	11	23S	26E		569510	3576267*	1403	250			
<a href="#">C 01635</a>		C	ED	3	2	11	23S	26E		569510	3576267*	1403	255		205	50
<a href="#">C 01708</a>		C	ED	3	2	11	23S	26E		569510	3576267*	1403	275		236	39
<a href="#">C 01843</a>		C	ED	3	2	11	23S	26E		569510	3576267*	1403	252		217	35
<a href="#">C 02153</a>		C	ED	1	4	2	11	23S	26E	569818	3576371*	1669	275		200	75
<a href="#">C 01866</a>		C	ED	2	4	2	11	23S	26E	570018	3576371*	1864	245		212	33

Average Depth to Water: **222 feet**

Minimum Depth: **200 feet**

Maximum Depth: **248 feet**

**Record Count:** 10

**UTM NAD83 Radius Search (in meters):**

**Easting (X):** 568191.34

**Northing (Y):** 3576746.39

**Radius:** 2000

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

1/16/19 9:00 AM

WATER COLUMN/ AVERAGE DEPTH TO  
WATER

**Attachment #5**

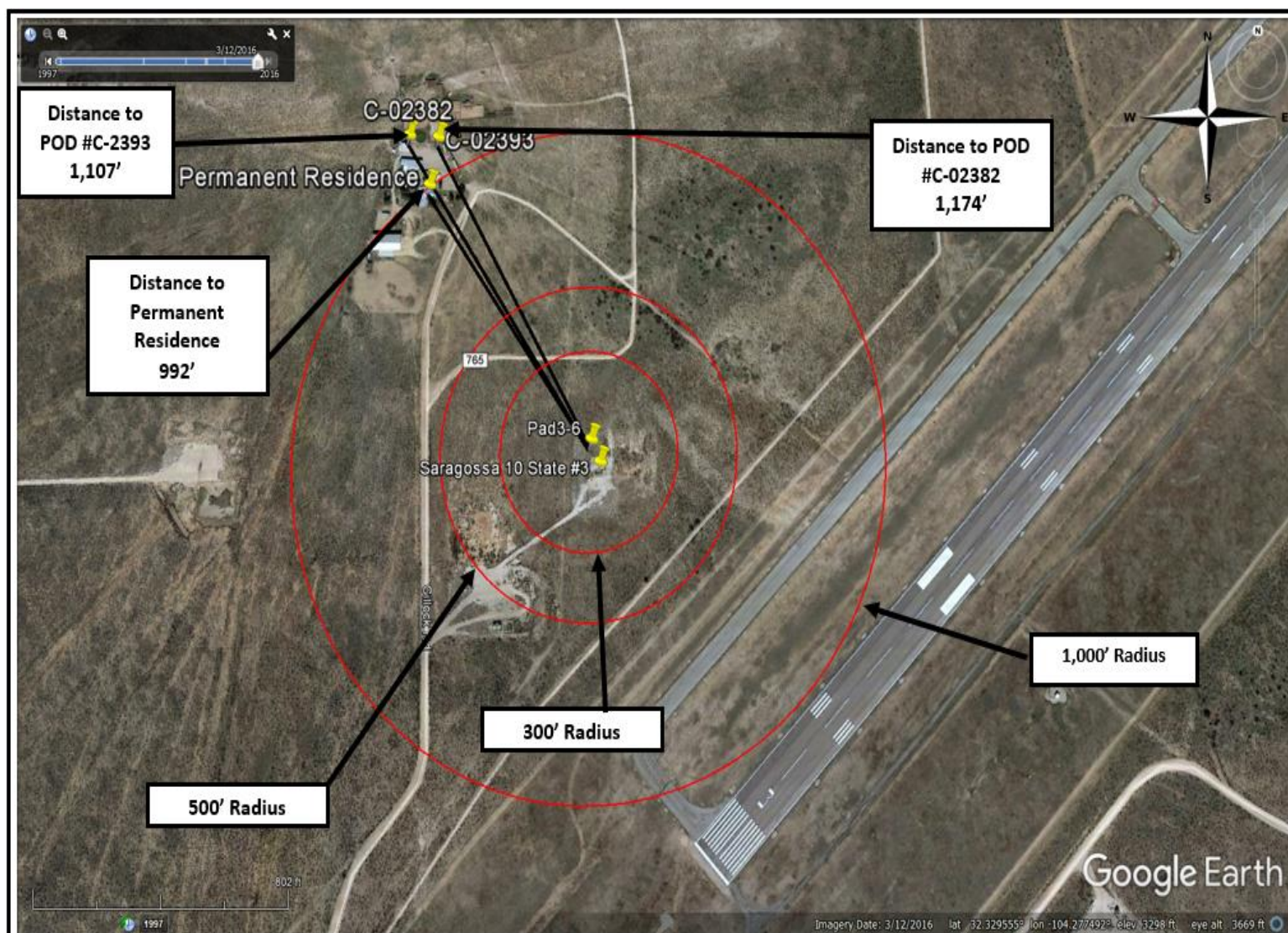
**Pod Locations**





**Attachment #6**

**Northern Extent to Nearest Water Well**



**Read & Stevens Inc.**

**Saragossa 10 State #3**

**A-10-23S-26E (330FNL & 990FEL)**

**GPS Lat: 32.325620 Lon:-104.275518**

**Republic Backhoe Service, LLC**

**47 E. Dickens Rd.**

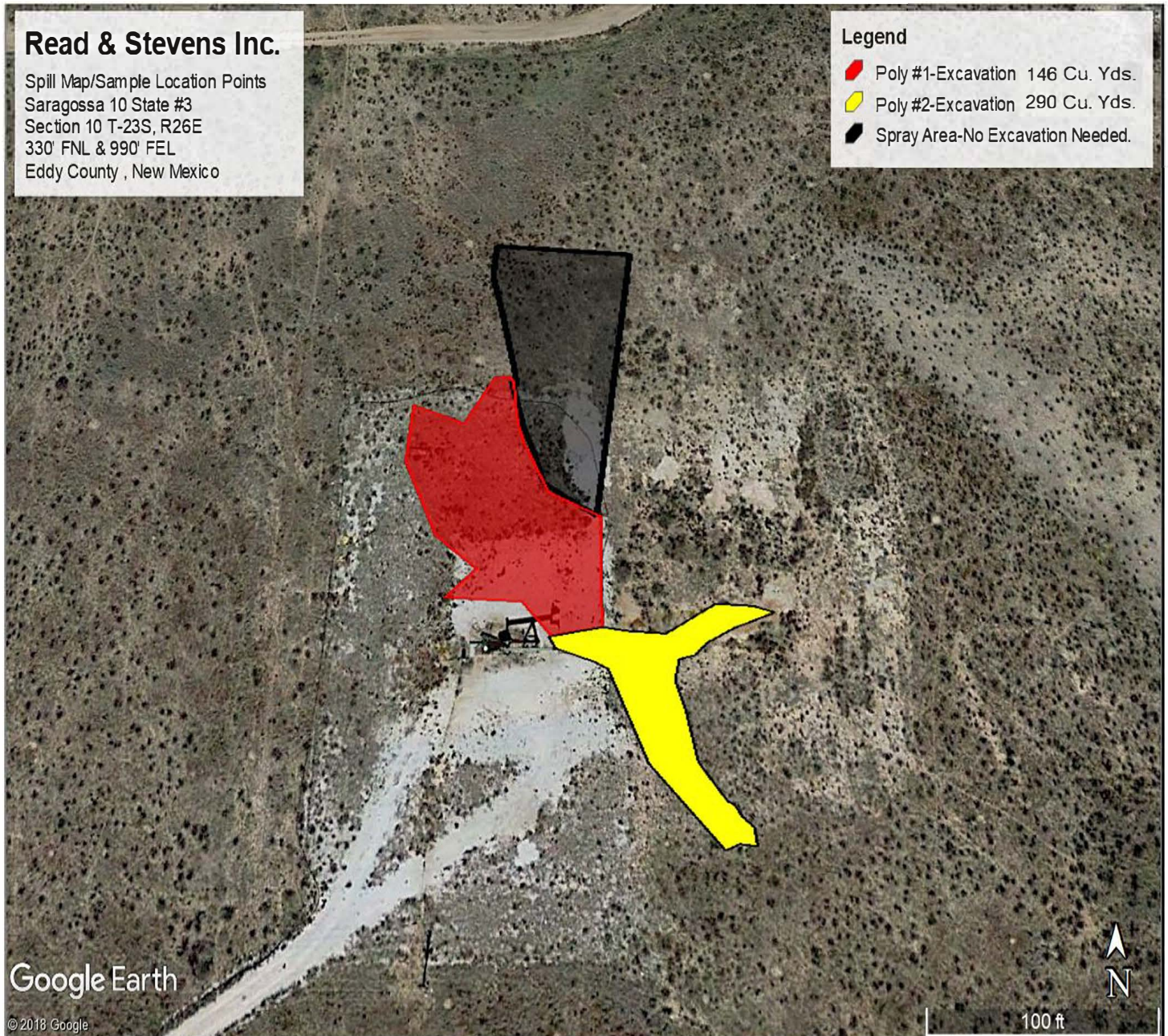
**Lovington, NM 88260**

**Water Wells and Permanent Residence Distance to  
North Extent of the Spill**

**Attachment #7**

**Excavation Map**

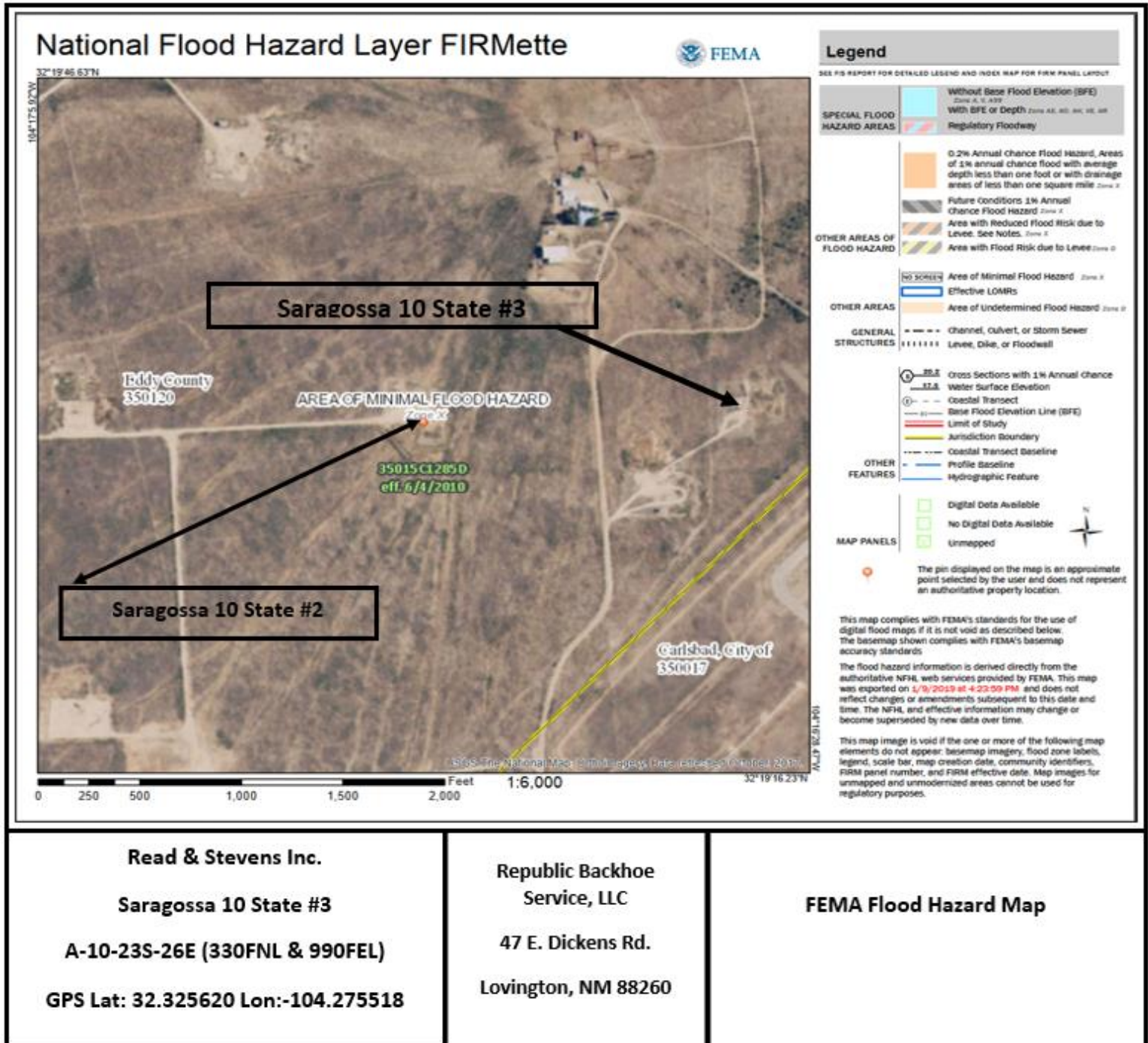




**Attachment #8**

**Floodplain Map**





**Attachment #9**

**Soil Description**



Description	USCS	Porosity [-]			Reference
		min	max	Specific value	
Well graded gravel, sandy gravel, with little or no fines	GW	0.21	0.32		[1].
Poorly graded gravel, sandy gravel, with little or no fines	GP	0.21	0.32		[1].
Silty gravels, silty sandy gravels	GM	0.15	0.22		[1].
Gravel	(GW-GP)	0.23	0.38		[2].
Clayey gravels, clayey sandy gravels	GC	0.17	0.27		[1].
Glacial till, very mixed grained	(GC)	-	-	0.20	[4 cited in 5]
Well graded sands, gravelly sands, with little or no fines	SW	0.22	0.42		[1]. [2].
Coarse sand	(SW)	0.26	0.43		[2].
Fine sand	(SW)	0.29	0.46		[2].
Poorly graded sands, gravelly sands, with little or no fines	SP	0.23	0.43		[1]. [2].
Silty sands	SM	0.25	0.49		[1]. [2].
Clayey sands	SC	0.15	0.37		[1].
Inorganic silts, silty or clayey fine sands, with slight plasticity	ML	0.21	0.56		[1].
Uniform inorganic silt	(ML)	0.29	0.52		[3].
Inorganic clays, silty clays, sandy clays of low plasticity	CL	0.29	0.41		[1].
Organic silts and organic silty clays of low plasticity	OL	0.42	0.68		[1]. [3].
Silty or sandy clay	(CL-OL)	0.20	0.64		[3].
Inorganic silts of high plasticity	MH	0.53	0.68		[1].
Inorganic clays of high plasticity	CH	0.39	0.59		[1].
Soft glacial clay	-	-	-	0.55	[4 cited in 5]
Stiff glacial clay	-	-	-	0.38	[4 cited in 5]
Organic clays of high plasticity	OH	0.50	0.75		[1]. [3].
Soft slightly organic clay	(OH-OL)	-	-	0.66	[4 cited in 5]
Peat and other highly organic soils	Pt	-	-		[4 cited in 5]
soft very organic clay	(Pt)	-	-	0.75	[4 cited in 5]

#### REFERENCES

1. Swiss Standard SN 670 010b, Characteristic Coefficients of soils, Association of Swiss Road and Traffic Engineers
2. Das, B., Advanced Soil Mechanics. Taylor & Francis, London & New York, 2008.
3. Hough, B., Basic soil engineering. Ronald Press Company, New York, 1969.
4. Terzaghi, K., Peck, R., and Mesri, G., Soil Mechanics in Engineering Practice. Wiley, New York, 1996.
5. Obrzud R. & Truty, A. THE HARDENING SOIL MODEL - A PRACTICAL GUIDEBOOK Z Soil.PC 100701 report, revised 31.01.2012

Citation :  
Geotechdata.info, Soil void ratio, <http://geotechdata.info/parameter/soil-void-ratio.html> (as of November 16, 2013).

**Attachment #10**  
**Spill Calculations**

## \*\*\*\*\* LIQUID SPILLS - VOLUME CALCULATIONS \*\*\*\*\*

Location of Spill: Saragossa 10 State #3Date of Spill: 10/26/2018Site Soil Type: Sandy Loam & Caliche

Average Daily Production: 3.5 BBL Oil 43.6 BBL Water

Total Area Calculations						
Total Surface Area	Width	Length	Wet Soil Depth	Oil (%)	Soil Class.	Porosity%
Polygon #1	1,969		6"	7	GM	0.15
Polygon #2	3,913		3"	7	GM	0.15
Polygon #3	6,130		1/16"	93	GM/ML	0.18

**Saturated Soil Volume calculations:****H2O****OIL**

Polygon #1	984.50	24.46	1.84
Polygon #2	978	24.30	1.83
Polygon #3	383.13	0.86	11.42

Total Solid/ Liquid Volume:

**Estimated Volumes Spilled****H2O****OIL**

49.62

15.09

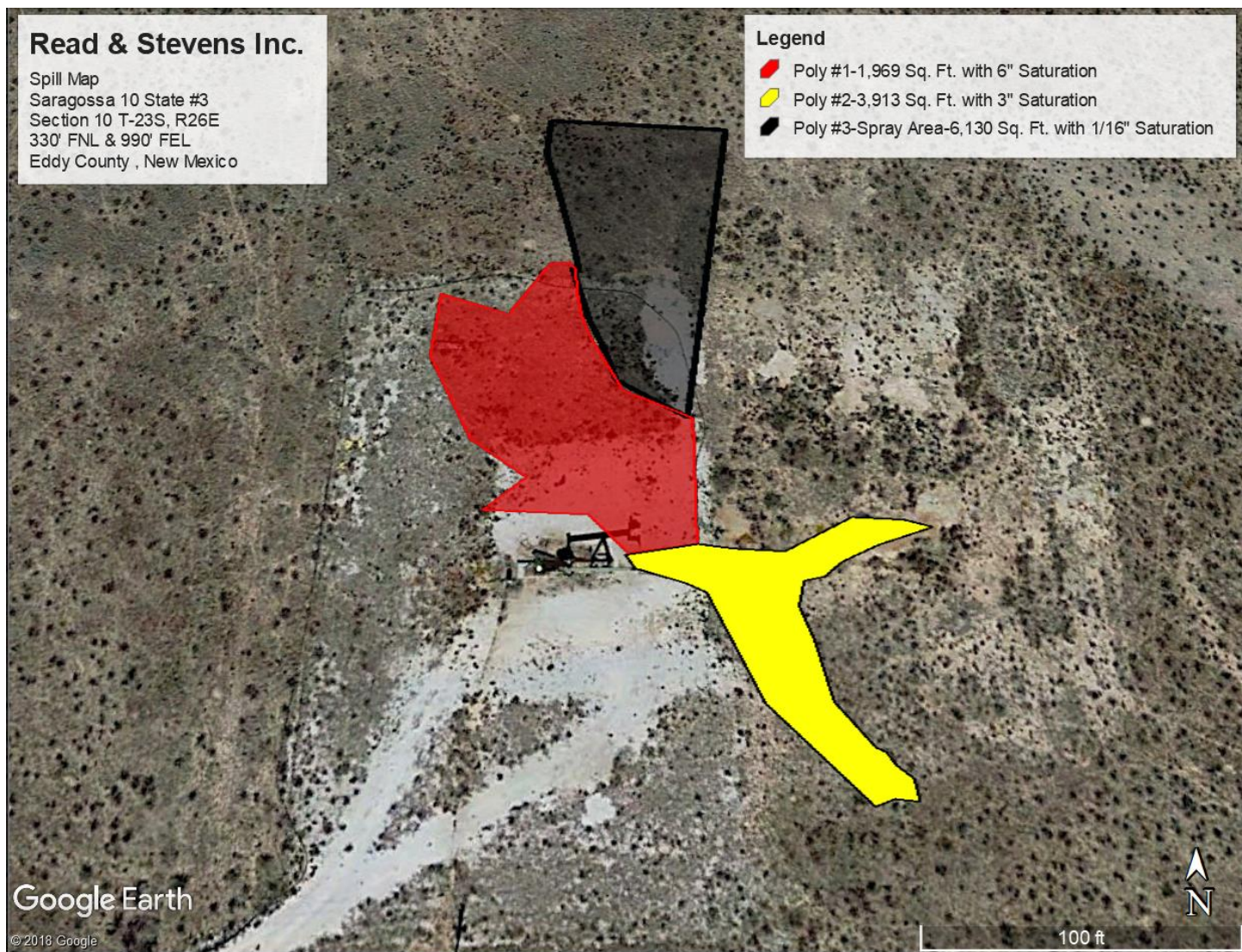
Liquid Recovered:

0

0

Total Spill Liquid:

64.71



**Attachment #11**  
**Reclamation Map**





**Attachment 12**

**C-141 Form**



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

State of New Mexico  
Energy Minerals and Natural  
Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party	Read & Stevens Inc.	OGRID	18917
Contact Name	Joe Tovar	Contact Telephone	(575) 390-2425
Contact email	Jtovar@read-stevens.com	Incident # (assigned by OCD)	
Contact mailing address	P.O.Box 1518 Roswell, NM 88202		

### Location of Release Source

Latitude 32.325600 Longitude -104.275502  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Saragossa 10 State #003	Site Type	Oil Well
Date Release Discovered	10/27/2018	API# (if applicable)	30-015-34831

Unit Letter	Section	Township	Range	County
A	10	23S	26E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) <u>15.09</u>	Volume Recovered (bbls) <u>0</u>
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <u>49.62</u>	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

The release was attributed to a blown packing at the well head. The well was repacked and put back into operation.

Form C-141

Page 2

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  The release was more than 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

**Initial Response**

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Joe Tovar</u>	Title: <u>Manager, Production &amp; Operations</u>
Signature: <u></u>	Date: <u>1/16/2019</u>
email: <u>jtovar@read-stevens.com</u>	Telephone: <u>(575) 390-2425</u>
<b>OCD Only</b>	
Received by: _____	Date: _____

Form C-141

Page 3

State of New Mexico  
Oil Conservation Division

Incident ID	
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?	222 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 1/4-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.


Form C-141

Page 4

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: Joe Tovar Title: Manager, Production & Operations  
Signature:  Date: 1/16/2019  
email: jtovar@read-stevens.com Telephone: (575) 390-2425

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_



Form C-141

Page 5

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

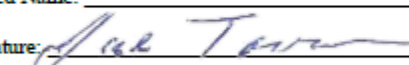
**Remediation Plan****Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

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

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

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Joe TovarTitle: Manager, Production & OperationsSignature: Date: 1/16/2019email: jtovar@read-stevens.comTelephone: (575) 390-2425**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

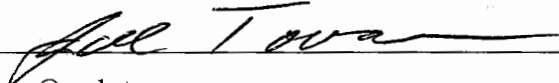
## Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Joe Tovar Title: Manager, Production and Operations  
 Signature:  Date: 02/27/2020  
 email: jtovar@read-stevens.com Telephone: (575) 390-2425

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

**Attachment #13**

**Laboratory Analysis**



PHONE (575) 393-2326 \* 101 E. MARLAND \* HOBBS, NM 88240

November 29, 2018

ERIC GARCIA

REPUBLIC BACKHOE SERVICES

47 E. DICKENS RD

LOVINGTON, NM 88260

RE: SARAGOSSA 10 ST. #3

Enclosed are the results of analyses for samples received by the laboratory on 11/21/18 11:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 7 SURFACE (H803424-01)**

BTEX 80218		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.050	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1040	16.0	11/28/2018	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
S-04									

Surrogate: 1-Chlorooctane 96.3 % 41-142

Surrogate: 1-Chlorooctadecane 239 % 37.6-147

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 1-5 (H803424-02)**

BTX 8021B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.050	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 106 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	86.2	10.0	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	43.1	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 97.3 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 1-2 (H803424-03)**

BTX 80218		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.050	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	11/28/2018	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	161	10.0	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	34.9	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 90.9 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 11/21/2018  
 Reported: 11/29/2018  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 1 SURFACE (H803424-04)**

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.500	0.500	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.500	0.500	11/28/2018	ND	1.69	84.7	2.00	1.08	
<b>Total Xylenes*</b>	<b>2.91</b>	<b>1.50</b>	<b>11/28/2018</b>	<b>ND</b>	<b>5.50</b>	<b>91.6</b>	<b>6.00</b>	<b>0.691</b>	
Total BTEX	<3.00	3.00	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 111 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>5520</b>	<b>16.0</b>	<b>11/28/2018</b>	<b>ND</b>	<b>400</b>	<b>100</b>	<b>400</b>	<b>0.00</b>	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>136</b>	<b>10.0</b>	<b>11/27/2018</b>	<b>ND</b>	<b>214</b>	<b>107</b>	<b>200</b>	<b>7.11</b>	
<b>DRO &gt;C10-C28*</b>	<b>6270</b>	<b>10.0</b>	<b>11/27/2018</b>	<b>ND</b>	<b>222</b>	<b>111</b>	<b>200</b>	<b>7.24</b>	
<b>EXT DRO &gt;C28-C36</b>	<b>1060</b>	<b>10.0</b>	<b>11/27/2018</b>	<b>ND</b>					


Surrogate: 1-Chlorooctane 113 % 41-142

Surrogate: 1-Chlorooctadecane 257 % 37.6-147

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 Caley D. Keene, Lab Director/Quality Manager

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 2 SURFACE (H803424-05)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.050	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	26000	16.0	11/28/2018	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	11100	50.0	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	2750	50.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 93.9 % 41-142

Surrogate: 1-Chlorooctadecane 483 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 2 - 5 (H803424-06)**

BTEX 80218		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.050	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	768	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	65.2	10.0	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	38.7	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 88.2 % 41-142

Surrogate: 1-Chlorooctadecane 96.1 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 2 - 2 (H803424-07)**

BTEX 80218		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.050	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9000	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	<10.0	10.0	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	<10.0	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 88.9 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 11/21/2018  
 Reported: 11/29/2018  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 7 - 2 (H803424-08)**

BTEX 80218		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.050	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 114 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	<10.0	10.0	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	<10.0	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 88.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.6 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 3 SURFACE (H803424-09)**

BTEX 80218		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	0.051	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	0.112	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	1.83	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTEX	2.00	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 121 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	26800	16.0	11/28/2018	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	159	100	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	59800	100	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	13600	100	11/27/2018	ND					

Surrogate: 1-Chlorooctane 113 % 41-142

Surrogate: 1-Chlorooctadecane 2120 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 3 - 2 (H803424-10)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.050	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 111 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	124	10.0	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	57.7	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 82.3 % 41-142

Surrogate: 1-Chlorooctadecane 89.0 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 3 - 5 (H803424-11)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.81	90.3	2.00	1.18	
Toluene*	<0.050	0.050	11/28/2018	ND	1.75	87.3	2.00	0.834	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.69	84.7	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.50	91.6	6.00	0.691	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 120 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/28/2018	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	78.0	10.0	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	<10.0	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 87.4 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 7 - 5 (H803424-12)**

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PII) 99.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	214	107	200	7.11	
DRO >C10-C28*	<10.0	10.0	11/27/2018	ND	222	111	200	7.24	
EXT DRO >C28-C36	<10.0	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 81.1 % 41-142

Surrogate: 1-Chlorooctadecane 86.5 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 8 - 5 (H803424-13)**

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 99.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/28/2018	ND	212	106	200	5.81	
DRO >C10-C28*	<10.0	10.0	11/28/2018	ND	215	107	200	4.06	
EXT DRO >C28-C36	<10.0	10.0	11/28/2018	ND					

Surrogate: 1-Chlorooctane 72.3 % 41-142

Surrogate: 1-Chlorooctadecane 79.4 % 37.6-147

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 4 - 5 (H803424-14)**

BTX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 97.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M	mg/kg		Analyzed By: M5						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/28/2018	ND	212	106	200	5.81	
DRO >C10-C28*	56.1	10.0	11/28/2018	ND	215	107	200	4.06	
EXT DRO >C28-C36	<10.0	10.0	11/28/2018	ND					

Surrogate: 1-Chlorooctane 86.2 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 37.6-147

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Caley D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 4-2 (H803424-15)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/28/2018	ND	212	106	200	5.81	
DRO >C10-C28*	102	10.0	11/28/2018	ND	215	107	200	4.06	
EXT DRO >C28-C36	14.7	10.0	11/28/2018	ND					

Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 4 - SURFACE (H803424-16)**

BTEX 80218		mg/kg		Analyzed By: MS				5-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	0.106	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	5.07	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	5.18	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 150 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC				5-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	18800	16.0	11/28/2018	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS				5-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	435	100	11/28/2018	ND	212	106	200	5.81	
DRO >C10-C28*	47200	100	11/28/2018	ND	215	107	200	4.06	
EXT DRO >C28-C36	9460	100	11/28/2018	ND					

Surrogate: 1-Chlorooctane 189 % 41-142

Surrogate: 1-Chlorooctadecane 1410 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 5- SURFACE (H803424-17)**

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.090	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 95.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	20800	16.0	11/28/2018	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<100	100	11/28/2018	ND	212	106	200	5.81	
DRO >C10-C28*	58100	100	11/28/2018	ND	215	107	200	4.06	
EXT DRO >C28-C36	15300	100	11/28/2018	ND					

Surrogate: 1-Chlorooctane 86.0 % 41-142

Surrogate: 1-Chlorooctadecane 2160 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 11/21/2018  
 Reported: 11/29/2018  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 5-2 (H803424-18)**

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PII) 98.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	11/28/2018	ND	400	100	400	0.00	

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/28/2018	ND	212	106	200	5.81	
DRO >C10-C28*	181	10.0	11/28/2018	ND	215	107	200	4.06	
EXT DRO >C28-C36	107	10.0	11/28/2018	ND					

Surrogate: 1-Chlorooctane 84.8 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 37.6-147

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Caley D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 5-5 (H803424-19)**

BTX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 94.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/28/2018	ND	432	108	400	0.00	

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/28/2018	ND	212	106	200	5.81	
DRO >C10-C28*	23.2	10.0	11/28/2018	ND	215	107	200	4.06	
EXT DRO >C28-C36	16.8	10.0	11/28/2018	ND					

Surrogate: 1-Chlorooctane 86.9 % 41-142

Surrogate: 1-Chlorooctadecane 95.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 8-2 (H803424-20)**

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 97.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	11/28/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRD C6-C10*	<10.0	10.0	11/27/2018	ND	215	107	200	8.45	
DRO >C10-C28*	<10.0	10.0	11/27/2018	ND	227	114	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 77.8 % 41-142

Surrogate: 1-Chlorooctadecane 79.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 8 - SURFACE (H803424-21)**

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 94.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/28/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	215	107	200	8.45	
DRO >C10-C28*	95.6	10.0	11/27/2018	ND	227	114	200	1.21	
EXT DRO >C28-C36	40.4	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 87.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.7 % 37.6-147

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\* = Accredited Analyte

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Coley D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 6-5 (H803424-22)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 95.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	11/28/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	215	107	200	8.45	
DRO >C10-C28*	<10.0	10.0	11/27/2018	ND	227	114	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 87.6 % 41-142

Surrogate: 1-Chlorooctadecane 91.9 % 37.6-147

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 6-2 (H803424-23)**

BTX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 97.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	11/28/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2018	ND	215	107	200	8.45	
DRO >C10-C28*	<10.0	10.0	11/27/2018	ND	227	114	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	11/27/2018	ND					

Surrogate: 1-Chlorooctane 89.5 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

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\* = Accredited Analyte

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Coley D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
ERIC GARCIA  
47 E. DICKENS RD  
LOVINGTON NM, 88260  
Fax To: NONE

Received: 11/21/2018  
Reported: 11/29/2018  
Project Name: SARAGOSSA 10 ST. #3  
Project Number: NONE GIVEN  
Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 11/16/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: PAD 3 - 6 - SURFACE (H803424-24)**

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/28/2018	ND	1.83	91.3	2.00	0.0710	
Toluene*	<0.050	0.050	11/28/2018	ND	1.78	89.1	2.00	0.920	
Ethylbenzene*	<0.050	0.050	11/28/2018	ND	1.72	86.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	11/28/2018	ND	5.07	84.4	6.00	0.833	
Total BTEX	<0.300	0.300	11/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 98.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	21600	16.0	11/28/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<100	100	11/27/2018	ND	215	107	200	8.45	
DRO >C10-C28*	59500	100	11/27/2018	ND	227	114	200	1.21	
EXT DRO >C28-C36	12800	100	11/27/2018	ND					

Surrogate: 1-Chlorooctane 78.6 % 41-142

Surrogate: 1-Chlorooctadecane 1640 % 37.6-147

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Celestine D. Keene, Lab Director/Quality Manager





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### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500C-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <b>Republic Backhoe Service</b> Project Manager: <b>Eric Garcia</b> Address: <b>47 E Dickens Rd</b> City: <b>Lovington</b> Phone #: <b>575-683-0131</b> Fax #: <b>575-683-0131</b>		P.O. #: <b>Head + Stevens</b> Company: <b>Head + Stevens</b> Attn: <b>Joe Over</b> Address: <b>PO Box 1518</b> City: <b>Roswell</b> State: <b>NM</b> Zip: <b>88202</b> Phone #: <b>575-683-8770</b> Fax #: <b>575-683-8643</b>	
Project #: <b>Head + Stevens</b> Project Name: <b>Sarasassa 10 State #3</b> Project Location: <b>Carlsbad</b> Sample Name: <b>Eric Garcia</b>		ANALYSIS REQUEST ANALYSIS REQUEST	
Lab I.D. <b>4803424</b> Sample I.D. <b>1-7 Surface</b> <b>1-5</b> <b>2-1 Surface</b> <b>3-1 Surface</b> <b>4-1 Surface</b> <b>5-1 Surface</b> <b>6-1 Surface</b> <b>7-1 Surface</b> <b>8-1 Surface</b> <b>9-1 Surface</b> <b>10-1 Surface</b>		MATRIX (G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE ICE / COOL OTHER:	
DATE <b>11/16/18</b> <b>11/16/18</b> <b>11/16/18</b> <b>11/16/18</b> <b>11/16/18</b> <b>11/16/18</b> <b>11/16/18</b> <b>11/16/18</b> <b>11/16/18</b> <b>11/16/18</b>		TIME <b>11:50</b> <b>9:35</b> <b>9:10</b> <b>9:00</b> <b>9:30</b> <b>9:35</b> <b>9:40</b> <b>11:55</b> <b>10:00</b> <b>10:10</b>	
TPB BTEX Chloride		ANALYSIS REQUEST	
Delivered By: (Circle One) Sample - UPS - Bus - Other: <b>3.5 c</b>		Sample Condition Cool (Spec) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Checked By: (Initials) <b>470</b>	
Relinquished By: <b>Eric Garcia</b> Date: <b>11-21-18</b> Time: <b>11:25</b> Received By: <b>Joe Over</b>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Fax #: REMARKS: <b>u/ results</b>	



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

<b>Company Name:</b> Republic Boathoe Service <b>Project Manager:</b> Eric Garcia <b>Address:</b> 47 E Dickens Rd <b>City:</b> Lovington <b>State:</b> NM <b>Zip:</b> 88060 <b>Phone #:</b> 575-631-0131 <b>Fax #:</b> <b>Project #:</b> <b>Project Name:</b> Saragossa 10 State #3 <b>Project Location:</b> Carlsbad <b>Sampler Name:</b> Eric Garcia		<b>P.O. #:</b> <b>Company:</b> Reed + Stevens <b>Attn:</b> Joe Power <b>Address:</b> PO Box 1518 <b>City:</b> Roswell <b>State:</b> NM <b>Zip:</b> 88202 <b>Phone #:</b> 575-622-5770 <b>Fax #:</b> 575-622-8643	
<b>Lab I.D.:</b> <b>Sample I.D.:</b>		<b>MATRIX:</b> <input type="checkbox"/> (G)RAB OR (C)OMP. <input type="checkbox"/> # CONTAINERS <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER: <input type="checkbox"/> ACID/BASE: <input type="checkbox"/> ICE / COOL <input type="checkbox"/> OTHER:	
<b>DATE:</b> <b>TIME:</b>		<b>ANALYSIS REQUEST:</b> TPH BTEX Chloride	
<b>Requisitioned By:</b> [Signature] <b>Date:</b> 4-1-18 <b>Time:</b> 11:25 <b>Received By:</b> [Signature] <b>Date:</b> 4-1-18 <b>Time:</b>		<b>Phone Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Phone #:</b> <b>Fax Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Fax #:</b> <b>REMARKS:</b> Email: Ericgarcia@hotmail.com w/ results	
<b>Delivered By:</b> (Circle One) UPS - Bus - Other: 3.5c #97 <b>Sample Condition:</b> <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <b>CHECKED BY:</b> [Signature] <b>INITIALS:</b> TP		<b>ANALYSIS REQUEST:</b>	





## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Company Name: <b>Republic Bochner Service</b> Project Manager: <b>Eric Garcia</b> Address: <b>47 E Dickens Rd</b> City: <b>Longhorn</b> State: <b>NM</b> Zip: <b>88060</b> Phone #: <b>575-631-0131</b> Fax #: <b></b> Project #: <b></b> Project Name: <b>Sarasassa 10 State #3</b> Project Location: <b>Cartbad</b> Sample Name: <b>Eric Garcia</b>		P.O. #: <b></b> Company: <b>Reed + Stevens</b> Attn: <b>Joe Lora</b> Address: <b>PO Box 1518</b> City: <b>Roswell</b> State: <b>NM</b> Zip: <b>88202</b> Phone #: <b>575-622-5770</b> Fax #: <b>575-622-8643</b>	
Lab I.D. <b>H03424</b> Sample I.D. <b>21</b> <b>PAD 3-8-Surface</b> <b>22 PAD 3-6-5</b> <b>23 PAD 3-6-2</b> <b>24 PAD 3-6-Surface</b>		(G)RAB OR (C)OMP. <b>Q</b> # CONTAINERS <b>1</b> GROUNDWATER <b></b> WASTEWATER <b></b> SOIL <b></b> OIL <b></b> SLUDGE <b></b> OTHER: <b></b> ACID/BASE <b></b> ICE / COOL <b></b> OTHER: <b></b>	
DATE <b>11/21/18</b> TIME <b>12:30</b> <b>11/21/18 11:45</b> <b>11/21/18 11:35</b> <b>11/21/18 11:25</b> <b>11/21/18</b> <b>11/21/18</b> <b>11/21/18</b> <b>11/21/18</b> <b>11/21/18</b> <b>11/21/18</b>		ANALYSIS REQUEST <b>TPH</b> <b>BTEX</b> <b>Chloride</b>	
Relinquished By: <b>Eric Garcia</b> Date: <b>11-21-18</b> Relinquished By: <b>Eric Garcia</b> Date: <b>11-25</b> Received By: <b>Joe Lora</b>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: <b></b> Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #: <b></b> REMARKS: <b>Email: Ericgarcia@hotmail.com</b> <b>w/ results</b>	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <b>3.52</b> <b>#47</b> Sample Condition: <b>Intact</b> Cool <input type="checkbox"/> Yes <input type="checkbox"/> No Intact <input type="checkbox"/> Yes <input type="checkbox"/> No CHECKED BY: <b>TE</b>		* Cardinal cannot accept verbal phone orders. Please fax written requests to (575) 393-2326.	





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September 03, 2019

ERIC GARCIA

REPUBLIC BACKHOE SERVICES

47 E. DICKENS RD

LOVINGTON, NM 88260

RE: SARAGOSSA 10 ST. #3

Enclosed are the results of analyses for samples received by the laboratory on 08/27/19 11:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received:	08/27/2019	Sampling Date:	08/24/2019
Reported:	09/03/2019	Sampling Type:	Soil
Project Name:	SARAGOSSA 10 ST. #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	READ & STEVENS- CARLSBAD NM		

**Sample ID: PAD 3 - 9.2 (H902942-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86	
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59	
Total BTEX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/28/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 72.7 % 41-142

Surrogate: 1-Chlorooctadecane 82.1 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 9.5 (H902942-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86		
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26		
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32		
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59		
Total BTEX	<0.300	0.300	08/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 68.3 % 41-142

Surrogate: 1-Chlorooctadecane 74.4 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 9.12 (H902942-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86	
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59	
Total BTX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 71.1 % 41-142

Surrogate: 1-Chlorooctadecane 79.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 10.1 (H902942-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86	
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59	
Total BTX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 70.1 % 41-142

Surrogate: 1-Chlorooctadecane 78.8 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 10.5 (H902942-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86	
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59	
Total BTX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	08/28/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 76.4 % 41-142

Surrogate: 1-Chlorooctadecane 85.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 10.12 (H902942-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86	
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59	
Total BTX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 69.5 % 41-142

Surrogate: 1-Chlorooctadecane 74.3 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 11.1 (H902942-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86		
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26		
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32		
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59		
Total BTEx	<0.300	0.300	08/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 71.0 % 41-142

Surrogate: 1-Chlorooctadecane 81.2 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 11.5 (H902942-08)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86		
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26		
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32		
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59		
Total BTX	<0.300	0.300	08/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 69.3 % 41-142

Surrogate: 1-Chlorooctadecane 76.4 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 11.12 (H902942-09)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86	
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59	
Total BTX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 63.1 % 41-142

Surrogate: 1-Chlorooctadecane 69.0 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 12.1 (H902942-10)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86	
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59	
Total BTX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 71.5 % 41-142

Surrogate: 1-Chlorooctadecane 77.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 12.5 (H902942-11)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86		
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26		
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32		
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59		
Total BTX	<0.300	0.300	08/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	08/28/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 64.5 % 41-142

Surrogate: 1-Chlorooctadecane 69.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 12.12 (H902942-12)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.55	77.6	2.00	1.86	
Toluene*	<0.050	0.050	08/29/2019	ND	1.77	88.4	2.00	1.26	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.83	91.3	2.00	1.32	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.60	93.3	6.00	1.59	
Total BTX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 72.0 % 41-142

Surrogate: 1-Chlorooctadecane 78.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 13.1 (H902942-13)**

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/31/2019	ND	1.97	98.3	2.00	0.922		
Toluene*	<0.050	0.050	08/31/2019	ND	1.97	98.5	2.00	2.06		
Ethylbenzene*	<0.050	0.050	08/31/2019	ND	1.98	99.0	2.00	2.09		
Total Xylenes*	<0.150	0.150	08/31/2019	ND	5.91	98.6	6.00	3.00		
Total BTX	<0.300	0.300	08/31/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2720	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 70.9 % 41-142

Surrogate: 1-Chlorooctadecane 77.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 13.5 (H902942-14)**

BTX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/31/2019	ND	1.97	98.3	2.00	0.922	
Toluene*	<0.050	0.050	08/31/2019	ND	1.97	98.5	2.00	2.06	
Ethylbenzene*	<0.050	0.050	08/31/2019	ND	1.98	99.0	2.00	2.09	
Total Xylenes*	<0.150	0.150	08/31/2019	ND	5.91	98.6	6.00	3.00	
Total BTX	<0.300	0.300	08/31/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	08/29/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 72.9 % 41-142

Surrogate: 1-Chlorooctadecane 81.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 13.12 (H902942-15)**

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/31/2019	ND	1.97	98.3	2.00	0.922		
Toluene*	<0.050	0.050	08/31/2019	ND	1.97	98.5	2.00	2.06		
Ethylbenzene*	<0.050	0.050	08/31/2019	ND	1.98	99.0	2.00	2.09		
Total Xylenes*	<0.150	0.150	08/31/2019	ND	5.91	98.6	6.00	3.00		
Total BTX	<0.300	0.300	08/31/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 87.8 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	08/29/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 71.7 % 41-142

Surrogate: 1-Chlorooctadecane 80.2 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 14.1 (H902942-16)**

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/31/2019	ND	1.97	98.3	2.00	0.922		
Toluene*	<0.050	0.050	08/31/2019	ND	1.97	98.5	2.00	2.06		
Ethylbenzene*	<0.050	0.050	08/31/2019	ND	1.98	99.0	2.00	2.09		
Total Xylenes*	<0.150	0.150	08/31/2019	ND	5.91	98.6	6.00	3.00		
Total BTX	<0.300	0.300	08/31/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 86.3 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/29/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	187	93.5	200	1.31	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	192	95.8	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 68.0 % 41-142

Surrogate: 1-Chlorooctadecane 73.9 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 14.5 (H902942-17)**

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/31/2019	ND	1.97	98.3	2.00	0.922		
Toluene*	<0.050	0.050	08/31/2019	ND	1.97	98.5	2.00	2.06		
Ethylbenzene*	<0.050	0.050	08/31/2019	ND	1.98	99.0	2.00	2.09		
Total Xylenes*	<0.150	0.150	08/31/2019	ND	5.91	98.6	6.00	3.00		
Total BTX	<0.300	0.300	08/31/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 86.6 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	08/29/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/30/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/30/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/30/2019	ND					

Surrogate: 1-Chlorooctane 119 % 41-142

Surrogate: 1-Chlorooctadecane 126 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 14.12 (H902942-18)**

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/31/2019	ND	1.97	98.3	2.00	0.922		
Toluene*	<0.050	0.050	08/31/2019	ND	1.97	98.5	2.00	2.06		
Ethylbenzene*	<0.050	0.050	08/31/2019	ND	1.98	99.0	2.00	2.09		
Total Xylenes*	<0.150	0.150	08/31/2019	ND	5.91	98.6	6.00	3.00		
Total BTX	<0.300	0.300	08/31/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 85.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	08/29/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/30/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/30/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/30/2019	ND					

Surrogate: 1-Chlorooctane 113 % 41-142

Surrogate: 1-Chlorooctadecane 118 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 15.1 (H902942-19)**

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/31/2019	ND	1.97	98.3	2.00	0.922		
Toluene*	<0.050	0.050	08/31/2019	ND	1.97	98.5	2.00	2.06		
Ethylbenzene*	<0.050	0.050	08/31/2019	ND	1.98	99.0	2.00	2.09		
Total Xylenes*	<0.150	0.150	08/31/2019	ND	5.91	98.6	6.00	3.00		
Total BTX	<0.300	0.300	08/31/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 87.6 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	08/29/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 122 % 41-142

Surrogate: 1-Chlorooctadecane 128 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 15.5 (H902942-20)**

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90		
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851		
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544		
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679		
Total BTX	<0.300	0.300	08/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.7 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/29/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 122 % 41-142

Surrogate: 1-Chlorooctadecane 128 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 15.12 (H902942-21)**

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90		
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851		
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544		
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679		
Total BTX	<0.300	0.300	08/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	08/29/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 123 % 41-142

Surrogate: 1-Chlorooctadecane 129 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 16.1 (H902942-22)**

BTX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90	
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851	
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544	
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679	
Total BTX	<0.300	0.300	08/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/29/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 110 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 16.5 (H902942-23)**

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90		
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851		
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544		
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679		
Total BTEx	<0.300	0.300	08/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.8 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/29/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 119 % 41-142

Surrogate: 1-Chlorooctadecane 124 % 37.6-147

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**Analytical Results For:**

REPUBLIC BACKHOE SERVICES  
 ERIC GARCIA  
 47 E. DICKENS RD  
 LOVINGTON NM, 88260  
 Fax To: NONE

Received: 08/27/2019  
 Reported: 09/03/2019  
 Project Name: SARAGOSSA 10 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: READ & STEVENS- CARLSBAD NM

Sampling Date: 08/24/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PAD 3 - 16.12 (H902942-24)**

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2019	ND	1.62	81.1	2.00	1.90		
Toluene*	<0.050	0.050	08/29/2019	ND	1.81	90.5	2.00	0.851		
Ethylbenzene*	<0.050	0.050	08/29/2019	ND	1.97	98.7	2.00	0.544		
Total Xylenes*	<0.150	0.150	08/29/2019	ND	5.90	98.3	6.00	0.679		
Total BTX	<0.300	0.300	08/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.3 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1410	16.0	08/29/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/31/2019	ND	216	108	200	1.12	
DRO >C10-C28*	<10.0	10.0	08/31/2019	ND	218	109	200	2.28	
EXT DRO >C28-C36	<10.0	10.0	08/31/2019	ND					

Surrogate: 1-Chlorooctane 116 % 41-142

Surrogate: 1-Chlorooctadecane 120 % 37.6-147

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---

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### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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A handwritten signature in cursive script, appearing to read "Celey D. Keene", written in black ink.

---

Celey D. Keene, Lab Director/Quality Manager



TPH
BTEX
Chloride

Page 27 of 29





**CARDINAL**  
Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

**(575) 393-2326 FAX (575) 393-2476**

Company Name: Republic Backhoe Service						P.O. #:		BILL TO								ANALYSIS REQUEST													
Project Manager: Eric Garcia																													
Address: 47 E. Dickens Rd.																													
City: Lovington						State: NM Zip: 88260		Company: Read Stevens																					
Phone #: 575-631-0131						Fax #:		Attn: Joe Tovar																					
Project #:						Project Owner: Read Stevens		Address: PO Box 1518																					
Project Name: Saragossa 10 State #3						City: Roswell		State: NM Zip: 88202																					
Project Location: Eddy County						Phone #: 575-390-2425																							
Sample Name: Eric Garcia						Fax #:																							
FOR LAB USE ONLY																													
Lab I.D.  Sample I.D.						(G)RAB OR (C)OMP.		MATRIX								PRESERV		SAMPLING		TPH BTEx Chloride									
						# CONTAINERS																							
H90042						GROUNDWATER		SOIL								ICE / COOL		DATE		TIME									
						WASTEWATER																							
11						PAD3 - 12.5		X								8/24/99		1:15											
						(G)																							
12						PAD3 - 12.12		X								8/24/99		1:50											
13						PAD3 - 13.1										8/24/99		2:30											
14						PAD3 - 13.5										8/24/99		3:00											
15						PAD3 - 13.12										8/24/99		3:30											
16						PAD3 - 14.1										8/24/99		4:00											
17						PAD3 - 14.5										8/24/99		4:15											
18						PAD3 - 14.12										8/24/99		4:45											
19						PAD3 - 15.1										8/24/99		5:00											
20						PAD3 - 15.5										8/24/99		5:15											
PLEASE NOTE: Liability and Damages. Cardholder's liability and client's exclusive remedy for any claim arising whether based in contract or tort shall be limited to the amount paid by the client for the analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.																													
Relinquished By: [Signature]						Date: 8/22/99		Received By: [Signature]		Phone Result: Yes No		Add'l Phone #: Add'l Fax #:																	
Relinquished By: [Signature]						Date: 8/22/99		Received By: [Signature]		Fax Result: Yes No		Add'l Phone #: Add'l Fax #:																	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: +4 direction						Sample Condition: Cool Intact Yes Yes No No		CHECKED BY: [Signature]																					

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326





† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

(575) 39

1

10

## **Photos**







































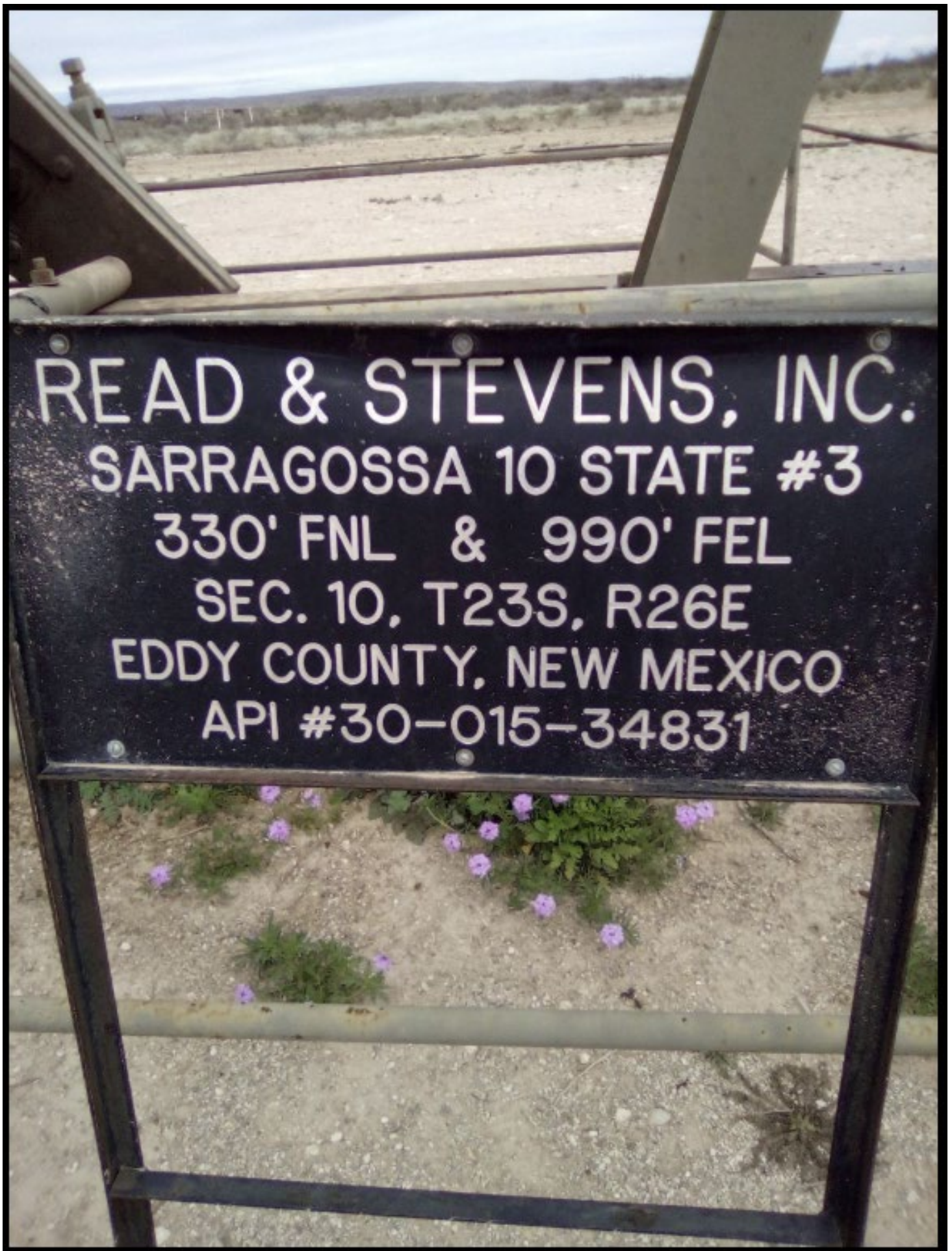












# Bamert Seed Company Inc.

1897 CR 1018 Muleshoe, TX 79347

Warm Season SSR seed mix 25# bag

(800) 262-9892

Permit # TX00905

Lot/Sales # SO-68740

Description	Pure Seed	Germ	Dormant	Hard Seed	Origin
Bluestem, Little "Cimarron" (Schizachyrium scoparium)	4.28%	96.00%	3.00%	0.00%	TX
Bluestem, Yellow "WW Spar" (Andropogon ischaemum)	6.85%	98.00%	1.00%	0.00%	OK
Buffalograss, "Texoka" Not Primed (Bouteloua dactyloides)	5.24%	3.00%	94.00%	0.00%	TX
Dropseed, Sand (Sporobolus cryptandrus)	5.30%	21.00%	75.00%	0.00%	TX
Fescue, Tall "KY 31" (Festuca arundinacea Schreb.)	1.69%	98.00%	0.00%	0.00%	OR
Grama, Blue (Bouteloua gracilis)	25.94%	96.00%	2.00%	0.00%	TX
Grama, Sidecats "El Reno" (Bouteloua curtipendula)	24.87%	90.00%	2.00%	0.00%	TX















**Excavation Logs**



Site Name: Saragossa  
10 State #3

Date: 11/14/18

Soil Profile

Description	ft. bgs
Top Soil	1
	2
	3
Top Soil / Caliche Mix	4
Caliche	5
	6
	7
	8
	9
	10
	11
	12
	13
	14

32.325857  
- 104.275615

*Fac [Signature]*

Site Name: Saragossa Date: 08/24/19  
10 State #3

Soil Profile

Description	ft. bgs
Top Soil	1
	2
	3
Top Soil / Caliche Mix	4
Caliche	5
	6
	7
	8
	9
	10
	11
	12
	13
	14

32.325839  
-104.275712

