NV

# **RICE** Operating Company

122 West Taylor • Hobbs, New Mexico 88240 Phone: (575) 393-9174 • Fax: (575) 397-1471

March 14, 2023

Nelson Velez Environmental Bureau, Oil Conservation Division New Mexico Energy, Minerals, & Natural Resources Department 1220 S. St. Francis Drive Santa Fe, New Mexico 87505

# RE: Corrective Action Plan (CAP) and Variance Request Rice Operating Company – BD SWD System BD I-18 EOL (Mattern 5 EOL) (1R426-13): UL/I, Sec. 18, T21S, R37E

Mr. Velez:

RICE Operating Company (ROC) submits the following to address potential environmental concerns at the above-referenced site in the BD Saltwater Disposal (SWD) system.

ROC is the service provider (agent) for the BD SWD System and has no ownership of any portion of the pipeline, well, or facility. The system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

# **Background and Previous Work**

The site is located approximately 3.5 miles northwest of Eunice, New Mexico at UL/I, Sec. 18, T21S, R37E as shown on the Geographic Location Map and the Area Map. NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 100 feet below ground surface (bgs). A junction box disclosure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

In 2003, ROC initiated work on the former I-18 EOL junction box. The site was delineated using a backhoe to form a 12x3x12-ft deep excavation and soil samples were screened at regular intervals for hydrocarbon and chloride. The deepest sample, 12 ft bgs, was sent to a commercial laboratory for analysis. The bottom sample returned a chloride reading of 6,740 mg/kg, a BTEX and a Gasoline Range Organics (GRO) reading non-detect, and a Diesel Range Organics (DRO) reading of 1,490 mg/kg. The excavation was backfilled and contoured to the surrounding area. A new water-tight junction box was installed east of the site.

To further investigate the depth of chloride presence, sixteen soil bores were drilled on July 17<sup>th</sup>-18<sup>th</sup>, 2018, August 30<sup>th</sup>-31<sup>st</sup>, 2018, April 24<sup>th</sup>, 2019, and June 5<sup>th</sup>, 2019. Soil samples were collected at regular intervals and field screened for chloride and hydrocarbon using a PID. Representative samples from each bore were sent to a commercial laboratory for analysis of

# March 14, 2023

chloride and hydrocarbon. Laboratory analysis of the interior bores resulted in elevated concentrations of chloride and concentrations decreased laterally as additional bores were drilled. Soil bore (SB-1) was installed at the former junction box site and was advanced to a depth of 80 ft bgs. The 40 ft and 80 ft samples were sent to a commercial laboratory for analysis, resulting in a 40 ft chloride concentration of 4,640 mg/kg and GRO/Extended DRO (EXT-DRO) concentrations of non-detect, and a DRO concentration of 47.4 mg/Kg. The 80 ft sample resulted in a chloride concentration of 2,240 mg/kg and GRO/DRO/EXT-DRO concentrations of non-detect. The bore drilled furthest North (SB-14) resulted in a chloride concentration of 1,060 mg/kg at 5 ft bgs and 320 mg/kg at 15 ft bgs. Hydrocarbon concentrations, GRO/DRO/EXT-DRO and BTEX, were below detectable limits in both the 5 ft and 15 ft samples. The bore drilled furthest west (SB-15) resulted low concentrations throughout. The 5 ft bgs sample resulted in a chloride concentration of 96 mg/kg, GRO/DRO/EXT-DRO concentrations below detectable limit, and BTEX concentrations below detectable limit. The 15 ft bgs sample resulted in a chloride concentration of 16 mg/kg, GRO/DRO/EXT-DRO concentrations below detectable limit, and BTEX concentrations below detectable limit. The furthest soil bore to the south (SB-12) resulted in chloride concentration of 1,120 mg/kg at 5 ft bgs and 384 mg/kg at 25 ft bgs. Hydrocarbon concentrations, GRO/DRO/EXT-DRO and BTEX, were below detectable limits in both the 5 ft and 25 ft samples. The soil bore drilled furthest East (SB-16) resulted in a chloride concentration of 1,150 mg/kg at 20 ft bgs and 368 mg/kg at 30 ft bgs. Hydrocarbon concentrations, GRO/DRO/EXT-DRO and BTEX, were below detectable limits in both the 20 ft and 30 ft samples. Each bore hole was plugged with bentonite to ground surface.

## **Corrective Action Plan**

Based on the collected soil data and to remediate the upper 4 ft of the impacted area, ROC proposes to install a modified 140x64-ft, 20-mil, reinforced liner, and a modified 47x64-ft, 20mil, reinforced liner at a depth of 5 - 4 ft bgs (covering approximately 11,608 sq ft). The proposed liner dimensions are nominal based on the sidewall soils sampling that return results of chloride concentrations of 600 mg/kg or less for each of the four walls. ROC will collect a 5point composite from each wall and combine into a 4-wall composite sample. Samples will not be collected from the base of the excavation because the proposed liner will mitigate the downward migration of any remaining constituents. Uncontaminated soils (as determined by a composite sample) will be placed above the liner. Excavated soils will be evaluated for use as backfill (one sample per 100 cubic yards) and any soils that do not meet requirements (i.e. chloride concentrations above 600 mg/kg) will be properly disposed of at a NMOCD approved facility. The excavation will be backfilled to ground surface and contoured to the surrounding location. The soils over and surrounding the site will then be prepared with soil amendments as necessary and seeded with a native vegetative mix. Vegetation above the liner will also provide a natural infiltration barrier for the site since plants capture water through their roots, thereby reducing the volume of water moving through the vadose zone.

# Variance Request

ROC is requesting a variance in accordance with Section 14 of NMOCD Part 29. The variance request is for requirements of Paragraph (2) of Section 12 of Part 29. Samples taken at 80 bgs in several boring at the site returned a laboratory analysis of chloride concentrations of >600 mg/kg (i.e., above the remediation standard of 600 mg/kg for chloride). The variance is needed because of the prohibitive nature of excavating the site at a depth of over 80 ft bgs and remote disposal and backfilling with imported soils. Approval of the variance will provide equal or better protection of fresh water, public health and the environment. To determine if the residual chloride in the vadose zone pose a threat to groundwater quality, ROC ran the U.S.

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Environmental Protection Agency Exposure Assessment Multimedia Model (MULTIMED Version 1.5, 2005). The model output concludes that the peak concentration of chloride in groundwater contributed by the vadose zone soils would be approximately 250.7 mg/L in 295 years (based on boring data) with liner installation compared to approximately 305.6 mg/L in 9.8 years of the regulatory standard of 600 mg/Kg without a liner being installed. Based on the MULTIMED analysis and the concentration data, ROC requests approval of the variance. Additionally, the TPH concentrations were low or non-detect throughout the site.

Once the liner installation, backfill, and seeding are complete, ROC will submit a remediation termination request for site closure.

Please contact me at (575)393-9174 if you have any questions or wish to discuss this site. Thank you for your time and consideration.

Sincerely,

Lata Das

Katie Davis Environmental Manager ROC

enclosures

# Figures

**RICE Operating Company** 

112 West Taylor, Hobbs, NM 88240 Phone 575.393.9174

# Received by OCD: 3/14/2023 11:02:57 AM Geographic Location

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Released to Imaging: 7/10/2023 10:37:55 AM



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# Received by OCD: 3/14/2023 11:02:5 Soil Bores 1 - 7 Installation

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# Received by OCD: 3/14/2023 11:02:5 Soil Bores 8 - 16 Installation



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Proposed Liner



# Multimed

**RICE Operating Company** 

112 West Taylor, Hobbs, NM 88240 Phone 575.393.9174

#### BD I-18 EOL (1R426-13) boring ejh MULTIMED V1.01 DATE OF CALCULATIONS: 18-OCT-2019 TIME: 0:11:37

#### U.S. ENVIRONMENTAL PROTECTION AGENCY

EXPOSURE ASSESSMENT

MULTIMEDIA MODEL

MULTIMED (Version 1.50, 2005)

1 Run options

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Rice BD I-18 EOL - boring

1R426-13 Chemical simulated is Chloride

Option Chosen	Saturated	and	unsaturated	zone	models
Run was	DETERMIN				
Infiltration Specified By User: 1.524	E-02 m/yr				
Run was transient					
Well Times: Find Maximium Concentration	on				
Reject runs if Y coordinate outside p	lume				
Reject runs if Z coordinate outside p	lume				
Gaussian source used in saturated zone	e model				
1					
1					
UNSATURATED ZONE FLOW MODEL PARAMETERS	5				
(input parameter description and value	e)				
NP - Total number of nodal points	5		240		
NMAT - Number of different porous r	naterials		1		
KPROP - Van Genuchten or Brooks and	Corey		1		
IMSHGN - Spatial discretization optic	on		1		
NVFLAYR - Number of layers in flow mod	del		1		

OPTIONS CHOSEN

Van Genuchten functional coefficients User defined coordinate system

1

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### Layer information

LAYER NO.	LAYER THICKNESS	MATERIAL PROPERTY
1	18.00	1

#### DATA FOR MATERIAL 1

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#### VADOSE ZONE MATERIAL VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Saturated hydraulic conductivity	cm/hr	CONSTANT	3.60	-999.	-999.	-999.	
Unsaturated zone porosity		CONSTANT	0.250	-999.	-999.	-999.	
Air entry pressure head	m	CONSTANT	0.700	-999.	-999.	-999.	
Depth of the unsaturated zone	m	CONSTANT	18.0	0.000	0.000	0.000	

BD I-18 EOL (1R426-13) boring ejh

#### DATA FOR MATERIAL 1

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VADOSE ZONE FUNCTION VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAM	ETERS	LI	MITS
			MEAN	STD DEV	MIN	MAX
Residual water content		CONSTANT	0.116	-999.	-999.	-999.
Brook and Corey exponent, EN		CONSTANT	-999.	-999.	-999.	-999.
ALFA coefficient	1/cm	CONSTANT	0.500E-02	-999.	-999.	-999.
Van Genuchten exponent, ENN		CONSTANT	1.09	-999.	-999.	-999.

1

UNSATURATED ZONE TRANSPORT MODEL PARAMETERS

NLAY	-	Number of different layers used	1
NTSTPS	-	Number of time values concentration calc	40
DUMMY	-	Not presently used	1
ISOL	-	Type of scheme used in unsaturated zone	2
Ν	-	Stehfest terms or number of increments	18
NTEL	-	Points in Lagrangian interpolation	3
NGPTS	-	Number of Gauss points	104
NIT	-	Convolution integral segments	2
IBOUND	-	Type of boundary condition	3

	I	BD I-18	EOL	(1R426-13)	boring	ejh
ITSGEN - Time values generated or input	1					
TMAX - Max simulation time	 0.0					
WTFUN - Weighting factor	 1.2					

OPTIONS CHOSEN

Convolution integral approach Exponentially decaying continuous source Computer generated times for computing concentrations 1

DATA FOR LAYER 1

VADOSE TRANSPORT VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Thickness of layer	m	CONSTANT	18.0	-999.	-999.	-999.	
Longitudinal dispersivity of layer	m	DERIVED	-999.	-999.	-999.	-999.	
Percent organic matter		CONSTANT	0.000	-999.	-999.	-999.	
Bulk density of soil for layer	g/cc	CONSTANT	1.99	-999.	-999.	-999.	
Biological decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.	

1

### CHEMICAL SPECIFIC VARIABLES

VARIABLE NAME	UNITS DISTRIBUTION		PARA	METERS	LIMITS		
			MEAN	STD DEV	MIN	MAX	
Solid phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.	
Dissolved phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.	
Overall chemical decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.	
Acid catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.	
Neutral hydrolysis rate constant	1/yr	CONSTANT	0.000	-999.	-999.	-999.	
Base catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.	
Reference temperature	C	CONSTANT	25.0	-999.	-999.	-999.	
Normalized distribution coefficient	ml/g	CONSTANT	0.000	-999.	-999.	-999.	
Distribution coefficient		DERIVED	-999.	-999.	-999.	-999.	
Biodegradation coefficient (sat. zone)	1/yr	CONSTANT	0.000	-999.	-999.	-999.	
Air diffusion coefficient	cm2/s	CONSTANT	-999.	-999.	-999.	-999.	
Reference temperature for air diffusion	С	CONSTANT	-999.	-999.	-999.	-999.	
Molecular weight	g/M	CONSTANT	-999.	-999.	-999.	-999.	

	BD I-18 EOL (1R426-13) boring ejh					
Mole fraction of solute		CONSTANT	-999.	-999.	-999.	-999.
Vapor pressure of solute	mm Hg	CONSTANT	-999.	-999.	-999.	-999.
Henry`s law constant	atm-m^3/M	CONSTANT	-999.	-999.	-999.	-999.
Overall 1st order decay sat. zone	1/yr	DERIVED	0.000	0.000	0.000	1.00
Not currently used		CONSTANT	0.000	0.000	0.000	0.000
Not currently used		CONSTANT	0.000	0.000	0.000	0.000

#### SOURCE SPECIFIC VARIABLES

# VARIABLE NAME UNITS DISTRIBUTION PARAMETERS LIMITS

UNITS DISTRIBUTION						
		MEAN	STD DEV	MIN	MAX	
m/yr	CONSTANT	0.152E-01	-999.	-999.	-999.	
m^2	CONSTANT	0.144E+04	-999.	-999.	-999.	
yr	DERIVED	0.100E-08	-999.	-999.	-999.	
m	DERIVED	-999.	-999.	-999.	-999.	
m/yr	CONSTANT	0.000	-999.	-999.	-999.	
1/yr	CONSTANT	0.250E-01	0.000	0.000	0.000	
mg/l	CONSTANT	0.332E+04	-999.	-999.	-999.	
m	DERIVED	-999.	-999.	-999.	-999.	
m	DERIVED	-999.	-999.	-999.	-999.	
	DERIVED	1.00	0.000	0.000	1.00	
	m/yr m^2 yr m/yr 1/yr mg/l m m	m/yr CONSTANT m^2 CONSTANT yr DERIVED m DERIVED m/yr CONSTANT 1/yr CONSTANT mg/l CONSTANT m DERIVED m DERIVED DERIVED	m/yr         CONSTANT         0.152E-01           m^2         CONSTANT         0.144E+04           yr         DERIVED         0.100E-08           m         DERIVED         -999.           m/yr         CONSTANT         0.250E-01           mg/l         CONSTANT         0.250E-01           mg/l         CONSTANT         0.332E+04           m         DERIVED         -999.           m         DERIVED         -999.           m         DERIVED         -999.           m         DERIVED         -999.           m         DERIVED         1.00	m/yr         CONSTANT         0.152E-01         -999.           m^2         CONSTANT         0.144E+04         -999.           yr         DERIVED         0.100E-08         -999.           m/yr         CONSTANT         0.000         -999.           m/yr         CONSTANT         0.000         -999.           m/yr         CONSTANT         0.250E-01         0.000           mg/1         CONSTANT         0.250E-01         0.000           mg/1         CONSTANT         0.332E+04         -999.           m         DERIVED         -999.         -999.           DERIVED         1.00         0.000         0.000	m/yr         CONSTANT         0.152E-01         -999.         -999.           m^2         CONSTANT         0.152E-01         -999.         -999.           yr         DERIVED         0.100E-08         -999.         -999.           m/yr         CONSTANT         0.000         -999.         -999.           m/yr         CONSTANT         0.250E-01         0.000         -999.           m/yr         CONSTANT         0.250E-01         0.000         0.000           m/yr         CONSTANT         0.250E-01         0.000         0.000           mg/1         CONSTANT         0.332E+04         -999.         -999.           m         DERIVED         -999.         -999.         -999.           DERIVED         1.00         0.000         0.000         0.000 <td>m/yr         CONSTANT         0.152E-01         -999.         -999.         -999.           m^2         CONSTANT         0.152E-01         -999.         -999.         -999.           yr         DERIVED         0.100E-08         -999.         -999.         -999.           m/yr         CONSTANT         0.000         -999.         -999.         -999.           m/yr         DERIVED         -999.         -999.         -999.         -999.           m/yr         CONSTANT         0.000         -999.         -999.         -999.           m/yr         CONSTANT         0.250E-01         0.000         0.000         0.000           mg/l         CONSTANT         0.332E+04         -999.         -999.         -999.           m         DERIVED         -999.         -999.         -999.         -999.         -999.           m         DERIVED         -999.         -999.         -99</td>	m/yr         CONSTANT         0.152E-01         -999.         -999.         -999.           m^2         CONSTANT         0.152E-01         -999.         -999.         -999.           yr         DERIVED         0.100E-08         -999.         -999.         -999.           m/yr         CONSTANT         0.000         -999.         -999.         -999.           m/yr         DERIVED         -999.         -999.         -999.         -999.           m/yr         CONSTANT         0.000         -999.         -999.         -999.           m/yr         CONSTANT         0.250E-01         0.000         0.000         0.000           mg/l         CONSTANT         0.332E+04         -999.         -999.         -999.           m         DERIVED         -999.         -999.         -999.         -999.         -999.           m         DERIVED         -999.         -999.         -99

#### AQUIFER SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAM	PARAMETERS		MITS
			MEAN	STD DEV	MIN	MAX
Particle diameter	ст	CONSTANT	-999.	-999 <b>.</b>	-999.	-999.
Aquifer porosity		CONSTANT	0.300	-999.	-999.	-999.
Bulk density	g/cc	CONSTANT	1.86	-999.	-999.	-999.
Aquifer thickness	m	CONSTANT	6.10	-999.	-999.	-999.
Source thickness (mixing zone depth)	m	DERIVED	-999.	-999.	-999.	-999.
Conductivity (hydraulic)	m/yr	CONSTANT	315.	-999.	-999.	-999.
Gradient (hydraulic)	-	CONSTANT	0.300E-02	-999.	-999.	-999.
Groundwater seepage velocity	m/yr	DERIVED	-999.	-999.	-999.	-999.
Retardation coefficient		DERIVED	-999.	-999.	-999.	-999.
Longitudinal dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.
Transverse dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.
Vertical dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.
Temperature of aquifer	С	CONSTANT	20.0	-999.	-999.	-999.
pH		CONSTANT	7.00	-999.	-999.	-999.
Organic carbon content (fraction)		CONSTANT	0.000	-999.	-999.	-999.
Well distance from site	m	CONSTANT	1.00	-999.	-999.	-999.

Page 4

1

1

	BD I-18 EOL (1R426-13) boring ejh							
Angle off center	degree	CONSTANT	0.000	-999.	-999.	-999.		
Well vertical distance	m	CONSTANT	0.000	-999.	-999.	-999.		

MAXIMUM WELL CONCENTRATION IS 250.7 AT 0.295E+03 YEARS

.

+ Chloride



## Chloride Concentration At The Receptor Well Rice BD I-18 EOL - boring

**Released to Imaging:** 7/10/2023 10:37:55 AM

#### BD I-18 EOL (1R426-13) regulatory ejh MULTIMED V1.01 DATE OF CALCULATIONS: 17-OCT-2019 TIME: 17:39:28

#### U.S. ENVIRONMENTAL PROTECTION AGENCY

EXPOSURE ASSESSMENT

#### MULTIMEDIA MODEL

MULTIMED (Version 1.50, 2005)

1 Run options

Rice BD I-18 EOL - Regulatory limit

1R426-13 Chemical simulated is Chloride

Option Chosen	Saturated	and	unsaturated	zone	models
Run was	DETERMIN				
Infiltration Specified By User: 3.050	E-02 m/yr				
Run was transient					
Well Times: Find Maximium Concentration	on				
Reject runs if Y coordinate outside p	lume				
Reject runs if Z coordinate outside p	lume				
Gaussian source used in saturated zone	e model				
1					
1					
UNSATURATED ZONE FLOW MODEL PARAMETERS	5				
(input parameter description and value	e)				
NP - Total number of nodal points	5		240		
NMAT - Number of different porous r	naterials		1		
KPROP - Van Genuchten or Brooks and	Corey		1		
IMSHGN - Spatial discretization optic	on		1		
NVFLAYR - Number of layers in flow mod	del		1		

OPTIONS CHOSEN

Van Genuchten functional coefficients User defined coordinate system

1

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#### Layer information

LAYER NO.	LAYER THICKNESS	MATERIAL PROPERTY
1	0.50	1

#### DATA FOR MATERIAL 1

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#### VADOSE ZONE MATERIAL VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Saturated hydraulic conductivity	cm/hr	CONSTANT	3.60	-999.	-999.	-999.	
Unsaturated zone porosity		CONSTANT	0.250	-999.	-999.	-999.	
Air entry pressure head	m	CONSTANT	0.700	-999.	-999.	-999.	
Depth of the unsaturated zone	m	CONSTANT	0.500	0.000	0.000	0.000	

BD I-18 EOL (1R426-13) regulatory ejh

#### DATA FOR MATERIAL 1

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VADOSE ZONE FUNCTION VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Residual water content		CONSTANT	0.116	-999.	-999.	-999.	
Brook and Corey exponent, EN		CONSTANT	-999.	-999.	-999.	-999.	
ALFA coefficient	1/cm	CONSTANT	0.500E-0	2 -999.	-999.	-999.	
Van Genuchten exponent, ENN		CONSTANT	1.09	-999.	-999.	-999.	

1

UNSATURATED ZONE TRANSPORT MODEL PARAMETERS

NLAY	-	Number of different layers used	1
NTSTPS	-	Number of time values concentration calc	40
DUMMY	-	Not presently used	1
ISOL	-	Type of scheme used in unsaturated zone	2
Ν	-	Stehfest terms or number of increments	18
NTEL	-	Points in Lagrangian interpolation	3
NGPTS	-	Number of Gauss points	104
NIT	-	Convolution integral segments	2
IBOUND	-	Type of boundary condition	3

Received by OCD: 3/14/2023 11:02:57 AM

	BD I-18 EOL (1R426-13) regu	latory ejh
ITSGEN - Time values generated or input	1	
TMAX - Max simulation time	 0.0	
WTFUN - Weighting factor	 1.2	

#### OPTIONS CHOSEN

Convolution integral approach Exponentially decaying continuous source Computer generated times for computing concentrations

> DATA FOR LAYER 1 ----- VADOSE TRANSPORT VARIABLES

UNITS DISTRIBUTION PARAMETERS VARIABLE NAME LIMITS MEAN STD DEV MIN MAX \_\_\_\_\_ \_\_\_\_\_ Thickness of layer CONSTANT 0.500 -999. -999. -999. m Longitudinal dispersivity of layer -999. -999. -999. m DERIVED -999. Percent organic matter -999. CONSTANT 0.000 -999. -999. - -Bulk density of soil for layer 1.99 -999. -999. -999. g/cc CONSTANT Biological decay coefficient CONSTANT 0.000 -999. -999. -999. 1/yr

1

1

#### CHEMICAL SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Solid phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.	
Dissolved phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.	
Overall chemical decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.	
Acid catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.	
Neutral hydrolysis rate constant	1/yr	CONSTANT	0.000	-999.	-999.	-999.	
Base catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.	
Reference temperature	C	CONSTANT	25.0	-999.	-999.	-999.	
Normalized distribution coefficient	ml/g	CONSTANT	0.000	-999.	-999.	-999.	
Distribution coefficient		DERIVED	-999.	-999.	-999.	-999.	
Biodegradation coefficient (sat. zone)	1/yr	CONSTANT	0.000	-999.	-999.	-999.	
Air diffusion coefficient	cm2/s	CONSTANT	-999.	-999.	-999.	-999.	
Reference temperature for air diffusion	С	CONSTANT	-999.	-999.	-999.	-999.	
Molecular weight	g/M	CONSTANT	-999.	-999.	-999.	-999.	

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	BD	I-18 EOL (1R426	5-13) regula	tory ejh		
Mole fraction of solute		CONSTANT	-999.	-999.	-999.	-999.
Vapor pressure of solute	mm Hg	CONSTANT	-999.	-999.	-999.	-999.
Henry`s law constant	atm-m^3/M	CONSTANT	-999.	-999.	-999.	-999.
Overall 1st order decay sat. zone	1/yr	DERIVED	0.000	0.000	0.000	1.00
Not currently used		CONSTANT	0.000	0.000	0.000	0.000
Not currently used		CONSTANT	0.000	0.000	0.000	0.000

#### SOURCE SPECIFIC VARIABLES

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UNITID	DISTRIBUTION	I ANAPI		L1	ITT J	
		MEAN	STD DEV	MIN	MAX	
m/yr	CONSTANT	0.305E-01	-999.	-999.	-999.	
m^2	CONSTANT	0.144E+04	-999.	-999.	-999.	
yr	DERIVED	0.100E-08	-999.	-999.	-999.	
m	DERIVED	-999.	-999.	-999.	-999.	
m/yr	CONSTANT	0.000	-999.	-999.	-999.	
1/yr	CONSTANT	0.250E-01	0.000	0.000	0.000	
mg/l	CONSTANT	600.	-999.	-999.	-999.	
m	DERIVED	-999.	-999.	-999.	-999.	
m	DERIVED	-999.	-999.	-999.	-999.	
	DERIVED	1.00	0.000	0.000	1.00	
	m/yr m^2 yr m m/yr 1/yr mg/1 m m	m/yr CONSTANT m^2 CONSTANT yr DERIVED m DERIVED m/yr CONSTANT 1/yr CONSTANT mg/1 CONSTANT m DERIVED m DERIVED DERIVED	m/yr         CONSTANT         0.305E-01           m^2         CONSTANT         0.144E+04           yr         DERIVED         0.100E-08           m         DERIVED         -999.           m/yr         CONSTANT         0.000           1/yr         CONSTANT         0.250E-01           mg/1         CONSTANT         600.           m         DERIVED         -999.           m         DERIVED         1.00	m/yr         CONSTANT         0.305E-01         -999.           m^2         CONSTANT         0.144E+04         -999.           yr         DERIVED         0.100E-08         -999.           m/yr         CONSTANT         0.000         -999.           m/yr         CONSTANT         0.000         -999.           m/yr         CONSTANT         0.000         -999.           m/yr         CONSTANT         0.250E-01         0.000           mg/1         CONSTANT         600.         -999.           m         DERIVED         -999.         -999.           m         DERIVED         1.00         0.000	m/yr         CONSTANT         0.305E-01         -999.         -999.           m^2         CONSTANT         0.144E+04         -999.         -999.           yr         DERIVED         0.100E-08         -999.         -999.           m         DERIVED         -999.         -999.         -999.           m/yr         CONSTANT         0.000         -999.         -999.           m/yr         CONSTANT         0.000         -999.         -999.           m/yr         CONSTANT         0.250E-01         0.000         0.000           mg/1         CONSTANT         0.250E-01         0.000         9.999.           m         DERIVED         -999.         -999.         -999.           DERIVED         1.00         0.000         0.000	ministration         ministration         ministration         ministration           MEAN         STD         DEV         MIN         MAX           m/yr         CONSTANT         0.305E-01         -999.         -999.         -999.           m^2         CONSTANT         0.144E+04         -999.         -999.         -999.           yr         DERIVED         0.100E-08         -999.         -999.         -999.           m/yr         CONSTANT         0.000         -999.         -999.         -999.           m/yr         CONSTANT         0.000         -999.         -999.         -999.           m/yr         CONSTANT         0.250E-01         0.000         0.000         0.000           mg/1         CONSTANT         0.250E-01         0.000         0.000         0.000           mg/1         CONSTANT         600.         -999.         -999.         -999.           m         DERIVED         -999.         -999.         -999.         -999.           m         DERIVED         -999.         -999.         -999.         -999.           m         DERIVED         -999.         -999.         -999.         -999.         -999.      <

#### AQUIFER SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAM	ETERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Particle diameter	 Cm	CONSTANT	-999.	-999 <b>.</b>	-999.	-999.	
Aquifer porosity		CONSTANT	0.300	-999.	-999.	-999.	
Bulk density	g/cc	CONSTANT	1.86	-999.	-999.	-999.	
Aquifer thickness	m	CONSTANT	6.10	-999.	-999.	-999.	
Source thickness (mixing zone depth)	m	DERIVED	-999.	-999.	-999.	-999.	
Conductivity (hydraulic)	m/yr	CONSTANT	315.	-999.	-999.	-999.	
Gradient (hydraulic)	-	CONSTANT	0.300E-02	-999.	-999.	-999.	
Groundwater seepage velocity	m/yr	DERIVED	-999.	-999.	-999.	-999.	
Retardation coefficient		DERIVED	-999.	-999.	-999.	-999.	
Longitudinal dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	
Transverse dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	
Vertical dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	
Temperature of aquifer	С	CONSTANT	20.0	-999.	-999.	-999.	
рН		CONSTANT	7.00	-999.	-999.	-999.	
Organic carbon content (fraction)		CONSTANT	0.000	-999.	-999.	-999.	
Well distance from site	m	CONSTANT	1.00	-999.	-999.	-999.	

1

1

	В	D I-18 EOL (1R42)	5-13) regula	tory ejh		
Angle off center	degree	CONSTANT	0.000	-999.	-999.	-999.
Well vertical distance	m	CONSTANT	0.000	-999.	-999.	-999.

MAXIMUM WELL CONCENTRATION IS 305.6 AT 0.983E+01 YEARS

.

+ Chloride



Chloride Concentration At The Receptor Well Rice BD I-18 EOL - Regulatory limit

# Soil Bore Installation

**RICE Operating Company** 

112 West Taylor, Hobbs, NM 88240 Phone 575.393.9174

Receit Logger: Driller:	ved by OCD.	HCI Drilling	02:57 A.	SB-3		GEOSCIE	Page 24 o NCES	
Drilling M Start Date End Date	lethod: e: ::	6" Air Rotar 7/17/2018 7/17/2018	у	\$8-1 \$35-2 \$8-4 \$8-5	Company: R Project Name: BD I-1 Project Consult	ice Operating Co 8 EOL tant: Tasman	ompany <b>Well ID:</b> SB-1	
Comme	ents: Soil sa SB TD	mples were co -1 is located a DRAF 0 = 80'	bllected f t source TED BY:	rom drill cuttings at specified intervals. area near former box. Nick Kopiasz GW = ~100'	drill cuttings at specified intervals. a near former box. Kopiasz GW = ~100' Location: Unit I, Section 18, T21S Lat: 32.477379 Long: -103.197098 (NAD83)		S, R37E County: Lea State: NM	
Depth (feet)	Chloride	e LAB s (mg/kg)	PID (ppm)	Description	Lithology	Well Co	nstruction	
SS	N/A		0.0					
				SW-tan, v.fine grained sand with well graded pebbles of caliche, no odor				
5 ft	N/A		0.2	SM-tan with dark staining, very fine grained sands, no odor				
10 ft	N/A		58.3	SM-tan with dark staining, very fine grained sands, hydrocarbon odor (HCO)				
15 ft	2,561		17.8	SM-reddish tan, very fine grain sand, HCO				
20 ft	2,973		12.6	SM-tan, very fine grained sand, no odor		Bento	Bentonite	
25 ft	3,690		12.7	SM-Same as above (SAA)			Seal	
30 ft	3,472		6.3	SM-SAA				
35 ft	3,846		4.8	SM-SAA				
40 ft	4,017	CI-=4,640 GRO=<10	5.4					
		DRO=47.4		SM-SAA				
		EXT DRO=<10						

Depth	ved Childride 3/14/2023 11:02 PD AM		<sup>02</sup> PID <sup>A</sup>	Description	Lithology	Well Construction			
(feet)	field tests	(mg/kg)	(ppm)		Liniology				
45 ft	ft 3,502 4.7		4.7	SM-tan, very fine grained sand with occasional coarse pebbles of sandstone, no odor					
50 ft	3,795		5.2	SM-reddish tan, very fine grained sand with occasional coarse pebbles of sandstone, no odor					
55 ft	3,425		8.2	SM-tan, very fine grained sand with occasional coarse pebbles of sandstone, no odor					
60 ft	2,823		5.4	SM-tan, very fine grained sand, no odor					
65 ft	2,167		4.6	SM-reddish tan, very fine grained sand, no odor		Bentonite			
70 ft	2,112		5.1	SM-SAA					
75 ft	1,907		1.5	SM-SAA					
80 ft	2,112	CI-=2,240 GRO=<10 DRO=<10	1.0	SM-SAA					

Received by OCD: 3/14/2023 II:       Logger:     Nick Kopias:       Driller:     HCI Drilling		HCI Drilling		5B-1 5B-2	TASMAN				
Drilling M Start Date End Date	rilling Method: 6" Air Rotary tart Date: 7/17/2018 nd Date: 7/18/2018		У	58-4 SB-5	Company: Rice Operating Company Project Name: Well ID: BD I-18 EOL SB-2 Project Consultant: Tasman				
Comme	Comments: Soil samples were collected SB-2 is approximately 15 fee DRAFTED BY: TD = 80'			irom drill cuttings at specified intervals. It East of the source area. Nick Kopiasz GW = ~100'	Location: Unit I, Section 18, T21S, R37E Lat: 32.477382 Lang: 102.107022 (NAD82) State: NM				
Depth (feet)	Chloride field tests	LAB (mg/kg)	PID (ppm)	Description	Lithology Well Construction				
SS	175		0.4	SW-tan very fine grained to coarse					
				sand with coarse pebbles of caliche, no odor	Darse Jliche,				
5 ft	4,064		0.6	SM-tan, very fine grained sand with					
				some coarse pebbles of caliche, no odor					
10 ft	6,809 CI-=2,680		0.7						
		GRO=<10		SM Some as above (SAA)					
	DRO=<10			Sivi-Same as above (SAA)					
	EXT DRO=<10								
15 ft	5 ft 3,301 0.3		0.3	SM-reddish tan, very fine grained					
				sand with some coarse pebbles of caliche, no odor					
20 ft	3,743		0.4		-	Bentonite			
				SM-SAA		Seal			
25 ft	4,089		0.0	GM-tan very fine grained sand with					
				gravel sized chunks of caliche, no odor					
30 ft	4,740		01						
00 11			0.1	SM-tan, very fine grained sand, no odor					
35 ft	4,660		0.0		-				
				SM-SAA					
40 ft	3,481		0.0		-				
				SM-SAA					

Depth	red Childride 3	<u>14/2023 11</u>	<sup>02</sup> PD <sup>A</sup>	Description	Lithology	Well Construction
(feet)	field tests	(mg/kg)	(ppm)			
45 ft	2,670		0.0	SM-SAA		
50 ft	2,576		0.3	SM-SAA		
55 ft	2,280		0.0	SM-tan, very fine grained sand with coarse pebbles of sandstone, no odor		
60 ft	1,905		0.0	SM-reddish tan, very fine grained sand, no odor		
65 ft	1,143		0.0	SM-SAA		Bentonite Seal
70 ft	1,150		0.0	SM-SAA		
75 ft	1,019		0.0	SM-SAA		
80 ft	918	CI-=880 GRO=<10 DRO=<10	0.0	SM-SAA		
	E)	(T DRO=<10				

Received by OCD: 3/14/2023 11:0           Logger:         Nick Kopiasz           Driller:         HCI Drilling		HCI Drilling		\$8-3	TASMAN GEOSCIENCES			
Drilling M Start Date End Date	rilling Method: 6" Air Rotary tart Date: 7/18/2018 nd Date: 7/18/2018		у	\$8-1 58-2 \$8-4 \$8-5	Company: Rice Operating Company Project Name: Well ID: BD I-18 EOL SB-3 Project Consultant: Tasman			
Comme	Comments: Soil samples were collected SB-3 is approximately 15 fee DRAFTED BY: TD = 80'			rom drill cuttings at specified intervals. North of the source area. Nick Kopiasz GW = ~100'	Location: Unit I, Section 18, T21S, R37E Lat: 32.477444 County: Lea Long: -103 197095 (NAD83) State: NM			
Depth (feet)	Chloride field tests	LAB (mg/kg)	PID (nnm)	Description	Lithology Well Construction			
SS	279	(	0.0				Ν	
				SW-tan, very fine grained sand with coarse pebbles of caliche, no odor				
5 ft	2,508		0.9	SM tan yony find grained and with				
				occasional pebbles of limestone, no odor				
10 ft	4,853		0.0		-			
				SM-reddish tan, very fine grained sand with coarse caliche grains, no odor				
15 ft	4,948	CI-=6,530	0.0					
		GRO=<10		SM-reddish tan, very fine grained sand with occasional coarse caliche				
		DRO=<10		grains, no odor				
	E	XT DRO=<10						
20 ft	4,781		0.0	GM-reddish tan, very fine grained sandstone with gravel sized grains of	Benton			
				caliche, no odor				
25 ft	3,220		0.0	SM-tan, very fine grained sand with				
				occasional pebbles of limestone, no odor				
30 ft	3,129		0.0					
				SM-Same as above (SAA)				
35 ft	2,964		0.0		-			
				SM-SAA				
40 ft	3,021		0.0					
		SM-SAA						

Depth	red Chiloride 3	14/2023 11.	02pDA	7 Description	Lithold		Page 29 of 1 Well Construction
(feet)	field tests	(mg/kg)	(ppm)	Description		Jgy	Weil Construction
45 ft	2,467		1.3	SM-tan, very fine grained sand, occasional sandstone chunks, no odor			
50 ft	2,455		0.8	SM-SAA			
55 ft	2,161		1.2	GM-tan, very fine grained sand with gravel sized sandstone, no odor			
60 ft	2,174		2.9	SM-tan, very fine grained sand, no odor			
65 ft	1,302		0.4	SM-SAA			Bentonite
70 ft	1,151		1.0	SM-SAA			
75 ft	1,151		3.4	SM-SAA			
80 ft	1,097	CI-=976 GRO=<10 DRO=<10	3.0	SM-SAA			
	EXT DRO=<10						

Received by OCD: 3/14/2023 11         Logger:       Nick Kopia         Driller:       HCI Drilling		by OCD: 3/14/2023 11:02:37 AM Nick Kopiasz		883					
Drilling Met Start Date: End Date:	Filler:     HCl Drilling       Drilling Method:     6" Air Rotar       Start Date:     7/18/2018       Sind Date:     7/18/2018		у	SB-1 SB-2 SB-4 SB-5	Company:       Rice Operating Company         Project Name:       Well ID:         BD I-18 EOL       SB-4				
Comment	Comments: Soil samples were collected SB-4 is approximately 15 fee DRAFTED BY: TD = 80'			rom drill cuttings at specified intervals. t West of the source area. Nick Kopiasz GW = ~100'	Location: Unit I, Section 18, T 21S, R 37E Lat: 32.477353 County: Lea				
Depth (feet)	Chloride field tests	LAB (mg/kg)	PID (ppm)	Description	Lithology	Well Construction			
SS	4,754		0.0	SW-light brown, very fine grained with coarse caliche grains, no odor					
5 ft	5,048		0.0	SW-tan, very fine grained with coarse caliche grains, no odor					
10 ft	4,411		0.0	SM-reddish tan, very fine grained sand occasional coarse caliche grains, no odor					
15 ft	382		0.0	SM-light reddish tan, very fine grained sand with occasional gravel sized chunks of sandstone, no odor					
20 ft	5,296	CI-=6,800 GRO=<10	0.0	GM-tan, very fine grained sand with		Bentonite			
	EX	DRO=<10 T DRO=<10		gravels of sandstone, no odor		Seal			
25 ft	4,842		0.0	SM-tan, very fine grained sand, no odor					
30 ft	4,459		0.3	SM-Same as above (SAA)					
35 ft	ft 4,544		0.0	SM-SAA					
40 ft	) ft 4,489		0.0						

Depth	ed Childride 3	14/2023 11.	02 PIDA	Description	Lithology	Well Construction
(feet)	field tests	(mg/kg)	(ppm)			
45 ft	3,789		0.0	SM-SAA		
50 ft	3,110		0.0	SM-tan, very fine grained sand with coarse sandstone grains, no odor		
55 ft	2,499		0.0	GM-tan, very fine grained sand with coarse sandstone grains, no odor		
60 ft	1,982		1.5	SM-tan, very fine grained sand, no odor		
65 ft	1,871		0.0	SM-SAA		Bentonite Seal
70 ft	2,208		0.0	SM-SAA		
75 ft	2,324		0.2	SM-SAA		
80 ft	1,660	CI-=1,810 GRO=<10 DRO=<10	0.6	SM-SAA		
	E)	(T DRO=<10				

Received by OCD: 3/14/2023 TF:02:37 AT       Logger:     Nick Kopiasz       Driller:     HCI Drilling		HCI Drilling		58-3 58-3 58-2		TASMAN GEOSCIENCES			
Drilling M Start Date End Date	rilling Method: 6" Air Rotary art Date: 7/18/2018 nd Date: 7/18/2018		\$8-4 \$8-5	Company: Rice Operating Company Project Name: Well ID: BD I-18 EOL SB-5 Project Consultant: Tasman					
Comme	nts: Soil sam SB-5 is a TD =	ples were co pproximatel DRAF : 40'	ollected y 15 feet TED BY:	from drill cuttings at specified intervals. South of the source area. Nick Kopiasz GW = ~100'	Location: Unit I, Lat: 32.47729 Long: -103.19	Section 18, T21S, R37E 5 <b>County:</b> 7057 (NAD83) <b>State:</b> N	Lea M		
Depth (foot)	Chloride	LAB (mg/kg)	PID (ppm)	Description	Lithology	Well Construction			
SS	266	(iiig/kg)	(ppin) 0.6						
				SW-brown, very fine grained sand with coarse caliche grains, no odor					
5 ft	423		0.0						
				SW-tan, very fine grained sand with coarse caliche grains, no odor					
10 ft	1.485		0.0						
	.,			SW-reddish tan, very fine grained sand with coarse caliche grains, no odor					
15 ft	502		0.0		-				
1511	502		0.0	SM-reddish tan, very fine grained sand with occasional coarse caliche grains, no odor					
20 ft	2,858		0.0	SM-tan, very fine grained sand with	-				
				odor		Ben S	tonite eal		
25 ft	3,329	CI-=4,080	0.0		-				
		GRO=<10							
		DRO=<10		SM-Same as above (SAA)					
	E	KT DRO=<10							
30 ft	919		0.0	SM-light tan very fine grained sand					
				with occasional coarse caliche grains,					
35 ft	360		0.0						
				SM-SAA					
40 ft	233	CI-=192	0.0						
		GRO=<10							
		DRO=<10		5IVI-SAA					
	E	XT DRO=<10							



July 24, 2018

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD I-18 EOL

Enclosed are the results of analyses for samples received by the laboratory on 07/19/18 8:40.

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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



#### Analytical Results For:

Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	07/19/2018	Sampling Date:	07/17/2018
Reported:	07/24/2018	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

#### Sample ID: SB #1 @ 40' (H801969-01)

Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	07/23/2018	ND	432	108	400	3.77	
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	07/20/2018	ND	196	98.1	200	0.715	
DRO >C10-C28*	47.4	10.0	07/20/2018	ND	219	109	200	1.18	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	86.3	% 41-142	?						
Surrogate: 1-Chlorooctadecane	94.5	% 37.6-14	7						

### Sample ID: SB #1 @ 80' (H801969-02)

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2240	16.0	07/23/2018	ND	432	108	400	3.77	
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	07/20/2018	ND	196	98.1	200	0.715	
DRO >C10-C28*	<10.0	10.0	07/20/2018	ND	219	109	200	1.18	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	102 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	106 %	37.6-14	7						

#### Cardinal Laboratories

#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



07/17/2018 Soil

Cool & Intact

Tamara Oldaker

#### Analytical Results For:

	Rice Operating Company
	KATIE JONES
	112 W. Taylor
	Hobbs NM, 88240
	Fax To: (575) 397-1471
07/19/2018	Sampling Date:
07/24/2018	Sampling Type:

Received:	07/19/2018	Sampling Date:
Reported:	07/24/2018	Sampling Type:
Project Name:	BD I-18 EOL	Sampling Condition:
Project Number:	NONE GIVEN	Sample Received By:
Project Location:	NONE GIVEN	

#### Sample ID: SB #2 @ 10' (H801969-03)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2680	16.0	07/23/2018	ND	432	108	400	3.77	
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	07/20/2018	ND	196	98.1	200	0.715	
DRO >C10-C28*	<10.0	10.0	07/20/2018	ND	219	109	200	1.18	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	109 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	114 %	37.6-14	7						

## Sample ID: SB #2 @ 80' (H801969-04)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	07/23/2018	ND	432	108	400	3.77	
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	07/20/2018	ND	196	98.1	200	0.715	
DRO >C10-C28*	<10.0	10.0	07/20/2018	ND	219	109	200	1.18	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	101 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	105 9	% 37.6-14	7						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



NONE GIVEN

NONE GIVEN

Tamara Oldaker

Sample Received By:

#### Analytical Results For:

		Rice Operating (	Company	
		KATIE JONES		
		112 W. Taylor		
		Hobbs NM, 8824	40	
		Fax To: (57	75) 397-1471	
	07/19/2018		Sampling Date:	07/18/2018
	07/24/2018		Sampling Type:	Soil
	BD I-18 EOL		Sampling Condition:	Cool & Intact

#### Sample ID: SB #3 @ 15' (H801969-05)

Received:

Reported:

Project Name:

Project Number:

Project Location:

Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6530	16.0	07/23/2018	ND	432	108	400	3.77	
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	07/20/2018	ND	211	106	200	1.92	
DRO >C10-C28*	<10.0	10.0	07/20/2018	ND	207	104	200	2.24	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	104	% 41-142	?						
Surrogate: 1-Chlorooctadecane	92.6	% 37.6-14	7						

### Sample ID: SB #3 @ 80' (H801969-06)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	07/23/2018	ND	432	108	400	3.77	
TPH 8015M mg/kg		/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	07/20/2018	ND	211	106	200	1.92	
DRO >C10-C28*	<10.0	10.0	07/20/2018	ND	207	104	200	2.24	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	104	% 41-142	?						
Surrogate: 1-Chlorooctadecane	94.3	% 37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager


		Rice Oper KATIE JOI 112 W. Ta Hobbs NM	ating Company NES aylor 1, 88240		
		Fax To:	(575) 397-1471	L	
Received:	07/19/2018			Sampling Date:	07/18/2018
Reported:	07/24/2018			Sampling Type:	Soil
Project Name:	BD I-18 EOL			Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN			Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN				

### Sample ID: SB #4 @ 20' (H801969-07)

Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6800	16.0	07/23/2018	ND	432	108	400	3.77	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2018	ND	211	106	200	1.92	
DRO >C10-C28*	<10.0	10.0	07/20/2018	ND	207	104	200	2.24	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	99.8	% 41-142	?						
Surrogate: 1-Chlorooctadecane	89.3	% 37.6-14	7						

# Sample ID: SB #4 @ 80' (H801969-08)

Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1810	16.0	07/23/2018	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2018	ND	211	106	200	1.92	
DRO >C10-C28*	<10.0	10.0	07/20/2018	ND	207	104	200	2.24	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	113 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	102 9	37.6-14	7						

### **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



	Rice Operating Company	
	KATIE JONES	
	112 W. Taylor	
	Hobbs NM, 88240	
	Fax To: (575) 397-1471	
07/10/2019	Sampling Data	
07/19/2018	Samping Date.	
07/04/0010		

Received:	07/19/2018	Sampling Date:	07/18/2018
Reported:	07/24/2018	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### Sample ID: SB #5 @ 25' (H801969-09)

Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4080	16.0	07/23/2018	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2018	ND	211	106	200	1.92	
DRO >C10-C28*	<10.0	10.0	07/20/2018	ND	207	104	200	2.24	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	102 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	90.3	% 37.6-14	7						

# Sample ID: SB #5 @ 40' (H801969-10)

Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	07/23/2018	ND	432	108	400	3.77	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2018	ND	211	106	200	1.92	
DRO >C10-C28*	<10.0	10.0	07/20/2018	ND	207	104	200	2.24	
EXT DRO >C28-C36	<10.0	10.0	07/20/2018	ND					
Surrogate: 1-Chlorooctane	101 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	90.0	% 37.6-14	7						

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### \*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



# **Notes and Definitions**

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

### **Cardinal Laboratories**

### \*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 8 of 8

Page 40 of

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240	2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476	(325) 673-7001 FAX (325)673-7020

Company Name:	Rice Operating									B		<b>.L 70</b>					1	ANAL	YSIS	RE	QUE	ST			
Project Manager	Katie Jones / Kyle Norman							Ρ.0	D. #:															1	
Address:								Co	mpa	ny:								s							
City:	State:	Zip	):					Att	:n:									ou							
Phone #:	Fax #:							Ad	dres	s:								<b>I</b> ni							
Project #:	Project Owne	r:						Cit	y:			<i>v</i>			Σ		II	s//							
Project Name:								Sta	ate:		1	Zip:		<u>e</u>	12	×	Ā	üC							
Project Location	BD I-18 EOL							Ph	one	¥:				Lici	ò	<b>Ш</b>	S	atio	S						
Sampler Name:	Karanja Lewis							Fax	x #:					음		BT	Xa	Ű	F						
FOR LAB USE ONLY					M	ATRI	X		PRE	SER	V.	SAMPLI	NG	Ū	1 d		l e	te							
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER	WASTEWATER	OIL	SLUDGE	OTHER :	ACID/BASE:	DTHEP -	UINEK:	DATE	TIME					Comple							
1	SB#1040'	G	1			/				/	ŀ	74818	1300	1	V										
2	5B#1@80'	G	1			1			1	1		7-17-18	1350	1	1										
3	513#ze10'	G	1		/							7-17-18	1415	1	1										
4	JB#2@80	G	1		- '	_	-		-	/	÷	7-17-18	1500	V	~										
S	5B#32 5'	G	1		/	1	-		/	/	_	7-18-18	0900	1	1										
6	584 30 80	G	1	-		/	-			-	-	7-18-18	0955	V	V	-					-				
- 7	56# 4@ 20	9	1			/-	-		/	-	_	7-18-18	1030	V	V										
8	26# 4@ 80	G	1	-	_	-	-			,	+	1-18-18	1230	V	~										
10	5B±5040'	G	1						-	+	-	7-18-18 7-18-18	1360	1	1										

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analyses. 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 consequental 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.	Date: Received By:	Phone Result:
	1-19-18 1/ 1	Fax Result:
Th. Down	Time: G 800 My	REMARKS:
Relinquished By:	Date: Received By:	email results:
		kiones@riceswd.com.knorman@tasman.goo.com
man	8.40 Milliora M	Nones and contrain an geo.com
Delivered By: (Circle One)	11-1° Sample Condition	CHECKED BY: Igrieco@basinenv.com, nopiasz etasman-apo. (om
	9. Cool Intact	(Initials)
Sampler - UPS - Bus - Other:	Corrected 4.65 No No No	79.475

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Receit Logger: Driller:	ved by OCD: .	Nick Kopias	02:37 AA z	SB-6 SB-3		GEOSCIEN	Page 41 o AN VCES
Drilling N Start Date End Date	lethod: e: :	6" Air Rotar 8/30/2018 8/30/2018	у	98-1 98-2 58-7 98-9 98-4 98-5	Company: R Project Name: BD I-1 Project Consult	ice Operating Cor V 8 EOL <b>tant:</b> Tasman	mpany <b>Vell ID:</b> SB-6
Comme	ents: Soil san SB TD :	nples were co -6 is approxi DRAF = 35'	Dilected f mately 2 TED BY:	rom drill cuttings at specified intervals. 0 feet North of SB-3. Nick Kopiasz GW = ~100'	Location: Unit I, Lat: 32.47749 Long: -103.19	Section 18, T215 8 7114 (NAD83)	S, R37E County: Lea State: NM
Depth (feet)	Chloride field tests	LAB (mg/kg)	PID (ppm)	Description	Lithology	Well Con	struction
SS	244		0.0	SW-light brown, well graded sand.			
				caliche			
5 ft	1,022	CI-=1,100	0.0		-		
		GRO=<10		SW-Same as above (SAA)			
		DRO=<10					
40.6	6000	XT DRO=<10					
10 ft	922		0.0	SM-tan, very fine sand, caliche			
15 ft	650		0.0	SM-SAA	-		
20 ft	641		0.0	SW-light tan, well graded sand, caliche	-		> Bentonite Seal
					-		
25 ft	/65		0.0	SM-light tan, very fine sand,			
30 ft	733		0.0	SM-light tan, very fine sand			
35 ft	351	CI-=272	0.0				
		GRO=<10					
		DRO=<10		SM-SAA			
	E	XT DRO=<10					
	35 ft 351 CI-= GRO: DRO: EXT DRO Total BTEX:						17

Received Rec	ved by OCD:	3/14/2023 11: Nick Kopias	02:57 A.	1		Page 42 o			
Driller:		HCI Drilling	I	\$B-6 \$B-3		GEOSCIENCES			
Drilling M Start Date End Date	Drilling Method:6" Air RotaryStart Date:8/31/2018End Date:8/31/2018		У	SB-1 SB-2 SB-7 SB-8 SB-4 SB-5	Company: Rice Operating Company Project Name: Well ID: BD I-18 EOL SB-7				
Comme	ents: Soil sai S	mples were co B-7 is approx DRAF	ollected f imately 2 TED BY:	from drill cuttings at specified intervals. 20 feet East of SB-2. Nick Kopiasz	Project Consult Location: Unit I, Lat: 32.477390	t <b>ant:</b> Tasman Section 18, T21S, R37E 0 <b>County:</b> Lea			
_	TD	= 50'	_	GW = ~100'	Long: -103.19	6951 (NAD83) State: NM			
Depth (feet)	Chloride field tests	LAB (mg/kg)	PID (ppm)	Description	Lithology	Well Construction			
SS	139		0.0						
				SW-light brown, well graded sand, caliche					
<b>F</b> (1	000				-				
J IT	090		0.0	$\Omega M$ come co charter ( $\Omega \Lambda \Lambda$ )					
				Svv-Same as above (SAA)					
10 ft	4,602	CI-=5,200	0.0						
		GRO=<10		SM-reddish tan, verv fine sand. trace					
		DRO=<10		caliche					
	E	EXT DRO=<10							
15 ft	3,848		0.0		-				
				SM-SAA					
20 ft	3,686		0.0						
				SM-tan, very fine sand		Bentonite			
						Seal			
25 ft	3,764		0.0						
				SM-light tan, very fine sand					
30 ft	3,575		0.0						
				SM-SAA					
35 ft	2,576		0.0						
				SM-SAA					
40 ft	2,605		0.0						
				SM-SAA					
		1							

Dépth (feet)	field tests	(14/2028 11. (mg/kg)	<sup>02</sup> P[D <sup>A1</sup> (ppm)	Description	Lithology	Well Construction
45 ft	1,006		0.0	SM-SAA		
50 ft	283	CI-=192 GRO=<10	0.0		-	Bentonite Seal
	E)	DRO=<10 XT DRO=<10	SM-SAA			
	Tota	BTEX=<0.3				

ASMAN OSCIENCES
ting Company <b>Well ID:</b> SB-8 nan
8, T21S, R37E County: Lea
Dos) State. NM
ell Construction
Bentonite
Seal

Depth <sup>i</sup> (feet)	field tests	(mg/kg)	<sup>02</sup> PD <sup>A</sup> (ppm)	Description	Lithology	Page 45 o       Well Construction
45 ft	594		0.0	SM-SAA		
50 ft	422	CI-=320 GRO=<10	0.0		-	Bentonite
	E)	DRO=<10 (T DRO=<10		SM-SAA		
	Tota	BTEX=<0.3				



September 06, 2018

KATIE JONES Rice Operating Company 112 W. Taylor

Hobbs, NM 88240

RE: BD I-18 EOL

Enclosed are the results of analyses for samples received by the laboratory on 08/31/18 16:30.

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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



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

# Analytical Results For:

Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	08/31/2018	Sampling Date:	08/30/2018
Reported:	09/06/2018	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

# Sample ID: SOIL BORE 6 @ 5' (H802484-01)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1100	16.0	09/05/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/04/2018	ND	194	96.9	200	0.137	
DRO >C10-C28*	<10.0	10.0	09/04/2018	ND	188	94.2	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	09/04/2018	ND					
Surrogate: 1-Chlorooctane	92.8	% 41-142	?						
Surrogate: 1-Chlorooctadecane	89.7	37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

# Analytical Results For:

Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	08/31/2018	Sampling Date:	08/30/2018
Reported:	09/06/2018	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

# Sample ID: SOIL BORE 6 @ 35' (H802484-02)

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	09/05/2018	ND	2.11	106	2.00	0.309	
Toluene*	<0.050	0.050	09/05/2018	ND	2.07	104	2.00	0.461	
Ethylbenzene*	<0.050	0.050	09/05/2018	ND	2.04	102	2.00	0.412	
Total Xylenes*	<0.150	0.150	09/05/2018	ND	5.84	97.4	6.00	0.0760	
Total BTEX	<0.300	0.300	09/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.8 9	69.8-14	2						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	09/05/2018	ND	432	108	400	3.64	
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	09/04/2018	ND	194	96.9	200	0.137	
DRO >C10-C28*	<10.0	10.0	09/04/2018	ND	188	94.2	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	09/04/2018	ND					
Surrogate: 1-Chlorooctane	104 %	6 41-142							
Surrogate: 1-Chlorooctadecane	100 %	6 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	08/31/2018	Sampling Date:	08/31/2018
Reported:	09/06/2018	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

# Sample ID: SOIL BORE 7 @ 10' (H802484-03)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	09/05/2018	ND	432	108	400	3.64	
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	09/04/2018	ND	194	96.9	200	0.137	
DRO >C10-C28*	<10.0	10.0	09/04/2018	ND	188	94.2	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	09/04/2018	ND					
Surrogate: 1-Chlorooctane	104 %	6 41-142	?						
Surrogate: 1-Chlorooctadecane	98.2 %	37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

# Analytical Results For:

		Rice Oper KATIE JOI 112 W. Ta Hobbs NM	ating Company NES aylor I, 88240		
		Fax To:	(575) 397-1471		
Received:	08/31/2018			Sampling Date:	08/31/2018
Reported:	09/06/2018			Sampling Type:	Soil
Project Name:	BD I-18 EOL			Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### Sample ID: SOIL BORE 7 @ 50' (H802484-04)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/05/2018	ND	2.11	106	2.00	0.309	
Toluene*	<0.050	0.050	09/05/2018	ND	2.07	104	2.00	0.461	
Ethylbenzene*	<0.050	0.050	09/05/2018	ND	2.04	102	2.00	0.412	
Total Xylenes*	<0.150	0.150	09/05/2018	ND	5.84	97.4	6.00	0.0760	
Total BTEX	<0.300	0.300	09/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.1 %	69.8-14	2						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	09/05/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/04/2018	ND	194	96.9	200	0.137	
DRO >C10-C28*	<10.0	10.0	09/04/2018	ND	188	94.2	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	09/04/2018	ND					
Surrogate: 1-Chlorooctane	103 %	6 41-142							
Surrogate: 1-Chlorooctadecane	96.1 %	37.6-14	7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	08/31/2018	Sampling Date:	08/31/2018
Reported:	09/06/2018	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

# Sample ID: SOIL BORE 8 @ 20' (H802484-05)

Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4320	16.0	09/05/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/04/2018	ND	194	96.9	200	0.137	
DRO >C10-C28*	<10.0	10.0	09/04/2018	ND	188	94.2	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	09/04/2018	ND					
Surrogate: 1-Chlorooctane	99.6 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	92.8 9	37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	08/31/2018	Sampling Date:	08/31/2018
Reported:	09/06/2018	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

# Sample ID: SOIL BORE 8 @ 50' (H802484-06)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/05/2018	ND	2.11	106	2.00	0.309	
Toluene*	<0.050	0.050	09/05/2018	ND	2.07	104	2.00	0.461	
Ethylbenzene*	<0.050	0.050	09/05/2018	ND	2.04	102	2.00	0.412	
Total Xylenes*	<0.150	0.150	09/05/2018	ND	5.84	97.4	6.00	0.0760	
Total BTEX	<0.300	0.300	09/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.5 %	69.8-14	2						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	09/05/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/04/2018	ND	194	96.9	200	0.137	
DRO >C10-C28*	<10.0	10.0	09/04/2018	ND	188	94.2	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	09/04/2018	ND					
Surrogate: 1-Chlorooctane	102 %	6 41-142							
Surrogate: 1-Chlorooctadecane	94.6%	37.6-14	7						

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\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# **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

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Released to Imaging: 7/10/2023 10:37:55 AM

ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240	2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476	(325) 673-7001 FAX (325)673-7020

Company Name	Rice Operating									BI	LL TO						ANA	LYSIS	RE	QUES	ST			
Project Manage	r: Katie Jones / Kyle	Norman						Ρ.	0. #:															
Address:								Co	ompai	ıy:							S							
City:		State:	Zip	:				At	tn:								Jo Lo							
Phone #:		Fax #:						Ac	dres	s:							-In							
Project #:		Project Owner	r:					Ci	ty:					Σ		T	s/F							
Project Name:								St	ate:		Zip:		<u>ě</u>	15	×	6	on							
Project Location	n: BD I-18 EOL							Pł	ione #	:			E:	ò	μ	S	ati	18						
Sampler Name:	Nick Kopiasz							Fa	x #:				듣		E	Xa	Ü	F						
FOR LAB USE ONLY	Sample I.	D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER SOIL W	TRIX JOIL	OTHER :	ACID/BASE: ACID/BASE:	OTHER : VOUL	SAMPL	TIME	Ū	TPI		Te	Complete							
1	Soil Bore 6 @ 5'			1		1			,	1	8/30/18	1340	$\checkmark$	1										
2	Soil Bore 6 @ 35'			1		$\checkmark$			1	1	4	1350	$\checkmark$	1	1									
3	Soil Bore 7 @ 10'			1		$\checkmark$			1	/	8/31/18	0830	1	1										
4	Soil Bore 7 @ 50'		_	1		1		_		/		0845	1	1	1									ļ
5	Soil Bore 8 @ 20'		-	1		V		-	1		V	0930	1	1										
Ģ	Soil Bore 8 @ 50'		-	1		-			<u>۱</u>	-	8 31 10	0945	1	<b>√</b>	1									
			-		$\vdash$					-				-										
				F				+		-			-											
PLEASE NOTE: Liability a analyses. All claims includ service. In no event shall o affiliates or successors aris Relinquished B	nd Damages. Cardinal's liability and clie ing those for negligence and any other c ardinal be liable for incidental or consec ing out of or related to the performance of V	nt's exclusive remedy for a ause whatsoever shall be quental damages, including of services hereunder by (	any clai deeme g witho Cardina	im arisi ed waiv ut limit I, rega	ing whe red unler ation, bi ardless o ved I	ther based ss made in usiness int f whether By:	d in contra n writing a terruption such clain	nd rec nd rec s, loss n is ba	ort, shall b eived by ( of use, or sed upon	e limited Cardinal loss of p any of th	to the amount pa within 30 days af profits incurred by he above stated r	aid by the client for ter completion of the client, its subsidia easons or otherwith Phone Re Fax Resu	n the the applica aries. se. esult: It:	able	es 🗹	No No	Add'l Add'l	Phone Fax #:	#:					L
Relinquished B	y. : (Circle One)	Date: Time:	R	cei	ved I	By:	Cond	ition		HECI	KED BY:	email kjones tgriec	s. resi s@r o@t	ults: icesv basir	wd.c	om k .com	knori n nKe	man( opias	@tas sz@t	smar asm	n-geo lan-ç	o.coi jeo.c	n :om	
Sampler - UPS	- Bus - Other: 4.3	12/#9	7		(			es lo	1	t	tias)													

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

ofio

Page 54

Page 9 of 9

ed by OCD: 3. ethod: ::	Alter	9 <b>02:57 //</b> sz y	SB-10 SB-6 SB-6 SB-3 SB-13 SB-13 SB-13 SB-13 SB-13 SB-13 SB-13 SB-13 SB-13 SB-13 SB-13 SB-13 SB-13 SB-13 SB-10 SB-10 SB-6 SB-6 SB-6 SB-6 SB-6 SB-6 SB-6 SB-6	Company: R Project Name:	TASMAN GEOSCIENCES ice Operating Company Well ID:	e 55 o
nts: Soil sam SB-9 is a	4/23/2019 ples were co approximate	ollected f	rom drill cuttings at specified intervals. t East-Northeast of SB-7.	BD I-1 Project Consult Location: Unit I,	8 EOL SB-9 tant: Tasman Section 18, T21S, R37E	
TD =	DRAF 45'	TED BY: 1	Nick Kopiasz GW = ~100'	Lat: 32.47739	4 County: L 6903 (NAD83) State: NM	₋ea 1
Chloride		חופ		g		
field tests	(mg/kg)	(ppm)	Description	Lithology	Well Construction	
2,925		0.8				
			SM-reddish tan, silty sand, trace caliche			
1 007		1.0				
1,337		1.6	SW-tan, well graded sand, caliche			
			chunks			
_						
2,553		1.3	SM-raddish tan silty cand come			
			caliche chunks			
3,504	CI-=4,080	1.9				
	GRO=<10					
	DRO=<10		SM-orangish tan, silty fine sand,			
F)	(T DRO=<10		some caliche chunks			
Tota						
0.544		4.0		-		
2,514		1.6	<b></b>		Bent	onite
			SM-reddish tan, silty fine sand			al
2,639		1.5				
			SM-light tan, silty fine sand			
1,829		0.9				
			SM-Same As Above (SAA)			
853		11				
			SM-tan silty fine cond			
			Similar, Siny fine Sanu			
676		1.4				
			SM-SAA			
	ethod: ethod: ethod: s: nts: Soil sam SB-9 is a TD = Chloride field tests 2,925 2,925 3,504 2,553 2,5553 2,5553 2,5555 2,55557 2,555757 2,55575757575757575757575757575757575757	ethod:   6" Air Rotar     ethod:   6" Air Rotar     a/23/2019   4/23/2019     nts:   Soil samples were or     SB-9 is approximate   DRAF     TD = 45'   Image: Sold samples were or     Chloride   LAB     field tests   (mg/kg)     2,925   Image: Sold samples were or     1,997   Image: Sold samples were or     2,925   Image: Sold samples were or     3,504   Cl-=4,080     GR0=<10	ethol:   Nick Kopiasz     HCI Drilling     ethod:   6" Air Rotary     4/23/2019     nts:   Soil samples were collected f     SB-9 is approximately 15 fee     DRAFTED BY:     TD = 45'     Chloride   LAB     field tests   (mg/kg)     1,997   1.6     1,997   1.6     2,553   1.3     3,504   Cl-=4,080   1.9     GRO=<10	et by OVD: 3719/2023 11:02:37:491     Nick Koplasz HCI Drilling 6' Air Rotary 4/23/2019 4/23/2019 4/23/2019	ethod:   Nick Kopiasz     HCI Drilling	eff by CPL: MV4421 (11/22/14/2)     Project Construction       HCI: Duffling     0" Air Rolary     423/2019     0" Air Rolary     423/2019     0" Air Rolary     Well ID:     SB-9     SD 1-18 EOL     Well ID:     SD 1-18 EOL     Well ID:     SD 1-18 EOL     Coation:     SD 1-18 EOL     SD 1-18 EOL     SD 1-18 EOL     Coation:     SD 1-18 EOL     SD 1-18 EOL     Coation:     SD 1-18 EOL     SD 1-18 EOL     SD 1-18 EOL     SD 1-18 EOL     SD 1-18 EOL

Depth (feet)	field tests	(mg/kg)	<sup>02</sup> PD <sup>A</sup> (ppm)	Description	Lithology	Well Cons	Page 56 of a struction
45 ft	245	CI-=240	1.2				)
		GRO=<10					
		DRO=<10		SM-light tan, silty sand, some caliche chunks			Bentonite
	EX	(T DRO=<10					Seal
	Total	BTEX=<0.3					)

Recei	ved by OCD:	3/14/2023 11.	02:57 A	7	1		Page 57 o
Logger:		Nick Kopias	Z	\$8-10 \$38-6 \$38-6		TASMA	
Driller:		HCI Drilling	J	\$B-3 \$B-3 \$B-13		GEOSCIEN	CES
Drilling N	lethod:	6" Air Rotar	у	SB-1 SB-2 SB-7 SB-9	Company: R	ice Operating Com	pany
Start Date	ə:	4/23/2019		98-11 98-11 9	Project Name:	W	ell ID:
End Date	:	4/23/2019		0 20 40 <sup>(088-12</sup>	BD I-1	8 EOL	SB-10
Comme	nts: Soil san	nnles were c	ollected f	rom drill cuttings at specified intervals	l ocation	tant: Tasman	
Comme	SB-	10 is approx	imately 1	15 feet North of SB-6.	Unit I,	Section 18, T21S,	R37E
	тр	DRAF	TED BY:	Nick Kopiasz	Lat: 32.47752	4	County: Lea
	TD =	= 35		GW = ~100	Long: -103.19	17 146 (NAD83)	
Depth (feet)	Chloride field tests	LAB (ma/ka)	PID (ppm)	Description	Lithology	Well Cons	truction
SS	1,628	(	0.3				
				SM-tan, silty sand, trace caliche			
5 ft	685		0.2				
				GM-light brown, silty gravel, caliche			
				CODDIES			
10 ft	791		0.0				
				SM-tan, silty sand			
15 ft	1,055		0.0				
				SM-tan, silty sand, some caliche chunks			
20 ft	1,693		0.0				
				SM-Same As Above (SAA)			
							Bentonite
25 ft	2,530	CI-=592	0.4				Seal
		GR0=<10		CM light top gilts fing agend arms			
		DRO=<10		caliche chunks			
	E	XT DRO=<10					
	Total	BTEX=<0.3					
30 ft	1,766		0.4				
				SM-SAA			
35 ft	205	CI-=144	0.4				
		GRO=<10					
		DRO=<10		SM-SAA			
	E	XT DRO=<10					
	Total	BTEX=<0.3					
			-	-			

Logger: Nick Kopiasz   Driller: HCI Drilling   Drilling Method: 6" Air Rotary   Start Date: 4/23/2019   End Date: 4/23/2019	SMAN OSCIENCES
Driller: HCI Drilling   Drilling Method: 6" Air Rotary   Start Date: 4/23/2019   End Date: 4/23/2019	OSCIENCES
Drilling Method: 6" Air Rotary   Start Date: 4/23/2019   End Date: 4/23/2019	
Start Date: 4/23/2019   End Date: 4/23/2019   0 20   0 20   0 20   0 20   0 20	ting Composit
End Date: 4/23/2019 SB-5 BD I-18 EOL	
0 20 40 6	SB-11
Project Consultant: Tasm	nan
Comments: Soil samples were collected from drill cuttings at specified intervals. Location:	
SB-11 is approximately 10 feet Southwest of SB-8. Unit I, Section 18	8, T21S, R37E
TD = 30'    GW = ~100'    Long: -103.197232 (NAI	D83) State: NM
(feet) field tests (mg/kg) (ppm) Description Lithology We	ell Construction
SS 89 0.3	
SM-brown, silty sand, trace caliche	
5 ft 803 0.0	
SM-light brown, silty sand	
10 ft 1,019 0.1	
SM-Same As Above (SAA)	
15 ft 3,539 Cl-=3,760 1.3	
GRO=<10	
DRO=<10 SM-tan, silty sand, trace caliche	
EXT DRO=<10	Bentonite
Total BTEX=<0.3	Seal
20 # 2 966 10	
Sivi-readish tan, silty sand	
25 ft 762 0.1	
SM-light tan, silty fine sand, trace	
GRO=<10	
DRO=<10 SM-SAA	
EXT DRO=<10	

TD as an an an	and has an	N. 3/14/3033	11.03.51						Mara CO		
Logger:	ea by OCI	Nick K	opiasz	AM	\$B-10 \$\$B-6 \$\$B-6			TASM	AN		
Driller:		HCI D	rilling		SB-3 SB-13			GEOSCIEI	NCES		
Drilling Method: 6" Air Rotary			SB-1 SB-2 SB-7 SB-9		omnany: Ri	ce Operating Co	mnany				
Start Date	9;	4/24/2	2019		SB-8 SB-4 98-11	P	roiect Name:		Nell ID:		
End Date		4/24/2	2019		SB-5 (SB-12	· ·	BD I-1	B EOL	SB-12		
					0 20 40 S	Pr	roject Consult	ant: Tasman			
Comme	nts: Soil s	samples we	e collecte	d fro	om drill cuttings at specified intervals.	Lo	ocation:				
	5	SB-12 is app	oroximate	y 10	feet South of SB-5.		Unit I,	Section 18, T218	S, R37E		
	т	D – 25'	RAFTED E	Y: Nic	ck Kopiasz		at: $32.47727$	0 7062 (NIV D83)	County: Lea		
	1	D = 23			GW = ~100		ong103.19	1002 (NAD03)	State: NW		
Depth	Chlorid			)	Description		Lithology	Well Cor	Well Construction		
(feet)	field tes	sts (mg/k	g) (ppi	n)	•	-					
SS	142		0.2	2	SW-brown well graded sand, caliche						
				3	cobbles						
5 ft	953	<b>CI-=1</b> ,1	20 0.0	,		1					
		GRO=«	:10								
		DRO=<	:10		SW-light brown, well graded sand,						
			<10		chips of caliche						
	Total BTEX=<0.3										
10 ft	794		0.2	2							
					SM-reddish tan, silty fine sand						
15 ft	924		0.0	,					Bentonite		
				- 5	SM-reddish tan, silty fine sand, trace				Seal		
				-	caliche cobbles						
				-							
20 ft	941		0.3	;							
					Svv-tan, well graded sand, caliche						
					Chunks						
25 ft	410	CI-=3	34 0.2	2							
		GRO=«	:10	$\neg$							
		DRO	10		SM-light tan silty fine sand calcitic						
		EXT DRO=	<10		כאי אפרת נמר, סאנץ אווים סמוים, טמטונט						
		Total BTEX-	-0.3	-							
									1/		

Received by OCD: 3/14/2023 11:02:Logger:Nick KopiaszDriller:HCI DrillingDrilling Method:6" Air RotaryStart Date:4/24/2019End Date:4/26/2019		DCD: 3/14/2023 11:02:37 AM Nick Kopiasz \$\$8-10 \$\$8-6 \$\$8-6				
		a Ty	SB-3 SB-3 SB-4 SB-1 SB-2 SB-5 SB-5 SB-5 SB-5 SB-5 SB-5 SB-13 SB-14 SB-12 SB-15	Company: Rice Operating Company Project Name: Well ID: BD I-18 EOL SB-13 Project Consultant: Tasman		
Comme	nts: Soil sam SB-13 is TD =	approximate approximate DRAF = 60'	ollected f ely 15 fee TED BY:	rom drill cuttings at specified intervals. et East-Northeast of SB-9. Nick Kopiasz GW = ~100'	Location: Unit I, Lat: 32.47727 Long: -103.19	Section 18, T21S, R37E 6 <b>County:</b> Lea 7062 (NAD83) <b>State:</b> NM
Depth (foot)	Chloride		PID (nnm)	Description	Lithology	Well Construction
SS	119	(iiig/kg)	(ppm) 0.5			
				SW-light brown, well graded sand, caliche chunks		
5 ft	2,294		1.3		-	
				SM-light reddish tan, silty fine sand		
10 ft	2,922		1.0		-	
				SM-Same As Above (SAA)		
15 ft	2,948	CI-=3,560	1.6			
		GRO=<10		SW-roddish tan woll graded sand		
		DRO=<10 EXT DRO=<10		caliche chunks		
	E)					
	Tota	I BIEX=<0.3				
20 ft	2,802	,802 1.		SM dark raddiab tap ailty fina and		Bentonite
				Simular reduistrati, sity fille sand		Seal
25 ft	2,478		1.2		-	
				SM-light tan, silty fine sand		
30 ft	2,387	ļ	0.6			
				SM-SAA		
35 ft	2,781		0.8			
				SM-SAA		
40 ft	2,516		1.1		-	
	,			SM-SAA		
						)

Depth (feet)	field tests	(mg/kg)	<sup>02</sup> PD <sup>A1</sup> (ppm)	Description	Lithology	Page 61       Well Construction	
45 ft	2,195		0.9	SM-tan, silty fine sand			
50 ft	959		1.0	SM-tan, silty fine sand, sandstone with calcic cement			
55 ft	616		0.7	SM-tan, silty sand, some sandstone chunks		Bentonite	
60 ft	212	CI-=192	0.2	0.2 			
		GRO=<10					
		DRO=<10					
	EXT DRO=<10 Total BTEX=<0.3						



April 30, 2019

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD I-18 EOL

Enclosed are the results of analyses for samples received by the laboratory on 04/26/19 16:40.

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 <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



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

# Analytical Results For:

**Rice Operating Company** KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471 Received: 04/26/2019 Sampling Date: 04/23/2019 Reported: 04/30/2019 Sampling Type: Soil \*\* (See Notes) Project Name: BD I-18 EOL Sampling Condition: Project Number: NONE GIVEN Sample Received By: Tamara Oldaker Project Location: NONE GIVEN

# Sample ID: SB 9 @ 15' (H901510-01)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.3 9	6 73.3-129	,						
Chloride, SM4500Cl-B mg/kg		kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4080	16.0	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	92.5 %	6 41-142							
Surrogate: 1-Chlorooctadecane	86.5 %	37.6-147							

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### \*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	04/26/2019	Sampling Date:	04/23/2019
Reported:	04/30/2019	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

# Sample ID: SB 9 @ 45' (H901510-02)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.1	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	91.0	% 41-142							
Surrogate: 1-Chlorooctadecane	85.8	% 37.6-14	7						

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	04/26/2019	Sampling Date:	04/23/2019
Reported:	04/30/2019	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### Sample ID: SB 10 @ 25' (H901510-03)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.0 %	6 73.3-12	9						
Chloride, SM4500Cl-B	mg/	mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	85.0 %	6 41-142							
Surrogate: 1-Chlorooctadecane	78.3 %	6 37.6-14	7						

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Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	04/26/2019	Sampling Date:	04/23/2019
Reported:	04/30/2019	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### Sample ID: SB 10 @ 35' (H901510-04)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.9 9	73.3-12	9						
Chloride, SM4500Cl-B	mg/	mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	83.9 9	% 41-142							
Surrogate: 1-Chlorooctadecane	78.7 9	% 37.6-14	7						

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Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	04/26/2019	Sampling Date:	04/23/2019
Reported:	04/30/2019	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### Sample ID: SB 11 @ 15' (H901510-05)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.1 %	73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3760	16.0	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	86.5 %	% 41-142							
Surrogate: 1-Chlorooctadecane	82.1 %	37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	04/26/2019	Sampling Date:	04/23/2019
Reported:	04/30/2019	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### Sample ID: SB 11 @ 30' (H901510-06)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	96.6 %	6 73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	94.4 %	% 41-142							
Surrogate: 1-Chlorooctadecane	89.0 %	37.6-14	7						

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Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	04/26/2019	Sampling Date:	04/24/2019
Reported:	04/30/2019	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### Sample ID: SB 12 @ 5' (H901510-07)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.0 9	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	92.2 9	% 41-142							
Surrogate: 1-Chlorooctadecane	86.6 9	% 37.6-14	7						

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Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	04/26/2019	Sampling Date:	04/24/2019
Reported:	04/30/2019	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### Sample ID: SB 12 @ 25' (H901510-08)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.1 9	73.3-12	9						
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	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	89.8 9	% 41-142							
Surrogate: 1-Chlorooctadecane	85.1 9	37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	04/26/2019	Sampling Date:	04/24/2019
Reported:	04/30/2019	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### Sample ID: SB 13 @ 15' (H901510-09)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 %	6 73.3-12	9						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3560	16.0	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	87.5 9	% 41-142							
Surrogate: 1-Chlorooctadecane	83.7 9	37.6-14	7						

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	04/26/2019	Sampling Date:	04/25/2019
Reported:	04/30/2019	Sampling Type:	Soil
Project Name:	BD I-18 EOL	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### Sample ID: SB 13 @ 60' (H901510-10)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2019	ND	1.84	92.2	2.00	0.724	
Toluene*	<0.050	0.050	04/29/2019	ND	1.97	98.4	2.00	2.01	
Ethylbenzene*	<0.050	0.050	04/29/2019	ND	1.89	94.6	2.00	2.12	
Total Xylenes*	<0.150	0.150	04/29/2019	ND	5.92	98.6	6.00	1.57	
Total BTEX	<0.300	0.300	04/29/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	96.4 %	73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	04/30/2019	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2019	ND	215	108	200	0.819	
DRO >C10-C28*	<10.0	10.0	04/29/2019	ND	208	104	200	0.102	
EXT DRO >C28-C36	<10.0	10.0	04/29/2019	ND					
Surrogate: 1-Chlorooctane	90.8 %	% 41-142							
Surrogate: 1-Chlorooctadecane	85.5 %	37.6-14	7						

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager


#### **Notes and Definitions**

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	Page 13 of 13
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e	
B	A Scale

Received by OCD: 3/14/2023 11:02:57 AM

#### ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

Company Name	Rice Operating						8			/	:31	LL TO		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			3	ANA	YSI	REO	IEST		_
Project Manage	r: Katie Jones / Kyle Norman							P.O. #:						1									
Address: 211	W. Turner							Co	mpa	any:	:			1				6					
City: Hobbs	State: NM	Zip	: 88	3240	n			Att	n:	-				1	ĺ		l	ů					l
Phone #:	Fax #:							Ad	dres	ss:			545 5 1 - 541 (1 44 - 1	1				i i					
Project #:	Project Own	er:						Cit	v:						5			A					
Project Name:								Sta	te:	10000		Zin:	and the second -	es	2		占	us					
Project Location	n: BD I-18 EOL							Phone #				ig	3		F	tio	S						
Sampler Name:	Karania Lewis							Fax	<#:					ē	8	E	as	Ca					
FOR LAB USE ONLY			and the second se		MA	TRI	x		PR	SEF	RV.	SAMPLIN	IG	5		ΙШ	ex	Ð	ľ.,				
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER	WASTEWATER	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME		F			Comple					
1	SB9@15'		1		1					$\checkmark$		4/23/19		1	1	1							
Z	SB9@45'		1		1					$\checkmark$		4/23/19		1	1	1							
3	SB10@25'		1		V	1				$\checkmark$		4/23/19		V	1	1		-					
4	SB10@35'		1		1					$\checkmark$		4/23/19		1	1	1							
5	SB11@15'		1		$\checkmark$					$\checkmark$		4/23/19		1	1	1							
6	SB11@ 30'		1		~					$\checkmark$		4/23/19		1	1	1							
2	SB12@5'		1		~					$\checkmark$		4/24/19		1	1	1							
8	SB 12@25'		1		√					$\checkmark$		4/24/19		1	1	1							
4	SB13@15'		1		✓	-		_		V	4	4/24/19		1	✓	1							
PLEASE NOTE: Liability an	SB13(0)60'		1		1					×		42619		1	1	1							
inalyses. All claims includin ervice. In no event shall Ca iffiliates or successors arisin Relinquished By	g those for negligence and any other cause whatsoever shall ardinal be liable for incidental or consequental damages, includ ig out of or related to the performance of services hereunder b 	e deeme ing withou / Cardinal	d waive at limita , regar	ed unle ation, b rdless o /ed	ss made usiness ir of whether	in writi iterrup such	ng and tions, le claim is	or tort receiv oss of s base	, snall ved by use, c ed upor	De limi Cardir Ir loss In any c	nal wi of pro of the	o uters of unit paid ithin 30 days after ofits incurred by clic above stated reas	by the client ic completion of t ent, its subsidi ons or otherwi Phone Re	r the the applical aries, se, se,	Die Ve	s 🗹	No	Add'l I	Phone	#:			

Date:	Receive	d By:	0	Phone Result:	Yes	2 No	Add'I Phone #:
7-26-17		1	MAIL	Fax Result:	□ Yes	⊠ No	Add'l Fax #:
16:40		allara,	Machar	REMARKS:			
Date:	Receive	d By:		email resu	ults:		
Time:			· · ·	kiones@ri	reswo	l com	knorman@tasman_goo.com
				tijonoo (gin			Kiloman@lasinan-geo.com
		Sample Condition	CHECKED BY:	igneco@r	basinei	nv.cor	n nkopiasz@tasman-geo.com
0		Cool Intact	(Initials)				
10.1 c	#97	No No	10,				
	Date: <u>4-26-19</u> Time: <u>16'40</u> Date: Time: <u>10.1</u>	Date: 4-26-19 Time: 16:40 Date: Time: 10.1 c #97	Date: 4-26-19 Time: 40 Date: Received By: 40 Date: Received By: 6 Cool Intact 10.1 c 49 No No	Date: <u>4-26-19</u> Time: <u>10.1</u> Received By: <u>Cool Intact</u> No No No	Date:      4-26-19        Time:      Addata        Ide:      Addata        Date:      Received By:        Time:      Addata        Time:      Sample Condition        Cool      Intact        (Initials)      Yes        JO.1 c      Hone Result:	Date:      Hone Result:      Yes        Hone Result:      Yes        Hone Result:      Yes        Hone Result:      Yes        Fax Result:      Yes        Received By:      Received By:        Time:      Received By:        Sample Condition      CHECKED BY:        (Initials)      Yes        JO.1 c      Hone Result:        Yes      Yes	Date:      Phone Result:      Yes      No        Time:      Ite:      Phone Result:      Yes      No        Date:      Received By:      Received By:      Received By:      Received By:        Time:      Sample Condition      CHECKED BY:      Checked By:      Ite:        10.1 c      Hone Result:      Yes      Yes      No        10.1 c      Hone Result:      Yes      Yes      No

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



Receiv	ed by OCD: 3	/14/2023 11:	02:57 A	2			Page 75 of 1		
Logger: Driller:	riller: Nick Kopiasz			Nick Kopiasz				GEOSCIE	AN
Drilling M	Drilling Method: 6" Air Rotary		у	SB-15 SB-2 SB-7 SB-9	Company: R	ice Operating Co	mpany		
Start Date	<b>:</b>	6/24/2019		SB-8, SB-4	Project Name:		Well ID:		
End Date	ad Date: 6/24/2019			\$B-5 \$B-12	BD I-1	8 EOL	SB-14		
				<u>ه</u>	Project Consultant: Tasman				
Comme	nts: Soil san	ples were c	ollected	from drill cuttings at specified intervals.	Location:		0 0075		
	SB-14	Is approxim	nately 15	teet North of of SB-10. Nick Kopiasz	Unit I, 1 at: 32 47755	Section 18, 121	S, R3/E County: Lea		
	TD =	: 15'		GW = ~100'	Long: -103.19	7170 (NAD83)	State: NM		
Denth	Chlorido					. ,			
Depth (feet)	Chioride	LAB (ma/ka)	PID (ppm)	Description	Lithology	Well Cor	nstruction		
SS	147	(ing/itg)	0.5				$\mathbf{h}$		
00	141		0.5	SW-brown, well graded, coarse					
			sands with silt						
5 ft	855	CI-=1,060	1.4						
		GRO=<10		CM light brown with conditional					
		DRO=<10		coarse caliche grains					
	E	XT DRO=<10							
	Tota	I BTEX=<0.3							
10 ft	533		0.8				Bentonite		
				SM-reddish tan, silty sand			Seal		
15 ft	392	CI-=320	0.6						
		GRO=<10		]					
		DRO=<10		SM-Same As Above (SAA)					
	E	XT DRO=<10							
	Tota	I BTEX=<0.3					)		

Receiv	ed by OCD: 3	/14/2023 11.	02:57 A		_		Page 76 of			
Logger: Driller:	riller: Nick Kopiasz			Nick Kopiasz			SB-14 SB-10 SB-6 SB-3 SB-3 SB-16 SB-16 SB-16		GEOSCIE	AN
Drilling M	Orilling Method: 6" Air Rotary		у	SB-15 SB-1 SB-2 SB-7 SB-9	Company: R	ice Operating Co	mpany			
Start Date	:	6/24/2019		SB-8 SB-4	Project Name: Well ID:					
End Date:		6/24/2019		SB-5	BD I-1	8 EOL	SB-15			
				SU-74	Project Consultant: Tasman					
Comme	nts: Soil sam	nples were c	ollected	from drill cuttings at specified intervals.	Location:					
	SB-15	is approximation	ately 15	feet Northwest of SB-11.	Unit I,	Section 18, T21	S, R37E			
	- <b>ח</b> ד	DRAF . 15'	TED BY:	Nick Kopiasz	Lat: 32.4//3/	Z (NIA D92)	County: Lea			
	ID =	10		GW = ~100	Long103.19	17292 (NAD03)	State. NW			
Depth	Chloride	LAB	PID	Description	Lithology	Well Co	nstruction			
(feet)	field tests	(mg/kg)	(ppm)							
SS	110		0.0							
				SW-light brown, well graded,						
			occasional caliche pebbles							
5 ft	120	CI-=96	0.6							
		GRO=<10		SW-light brown, well graded.						
		DRO=<10		mechanically weahered caliche						
	E	XT DRO=<10		pebbles						
	Tota	I BTEX=<0.3					Bentonite			
10 ft	111		0.8				Seal			
				SM-tan, silty sand, occasional caliche						
				pebbles						
15 ft	116	CI-=16	0.8							
		GRO=<10								
		DRO=<10		SM-Same As Above (SAA)						
	E	XT DRO=<10								
	Tota	I BTEX=<0.3								

Receiv	ed by OCD: 3	/14/2023 11:	02:57 Al	2			Page 77 o			
Logger:	Logger: Nick Kopiasz		Nick Kopiasz							
Duilling				GEOSCIENCES						
Driller:	HCI Drilling		HCI Drilling SB-3 SB-1 SB-18							
Drilling M	ethod:	6" Air Rotar	у	SB-15 SB-1 SB-2 SB-7 SB-9	Company: Rice Operating Company					
Start Date	:	6/25/2019		SB-8, SB-4 SB-11	Project Name:	١	Well ID:			
End Date:		6/25/2019		SB-5 SB-12	BD I-1	8 EOL	SB-16			
0	ntes Osiliaare				Project Consult	ant: Tasman				
Comme	nts: Soil Sam SB-1	pies were co 16 is approx	imately 1	5 feet East of SB-13	Unit I.	Section 18, T21	S. R37E			
	02	DRAF	TED BY:	Nick Kopiasz	Lat: 32.47744	3	County: Lea			
	TD =	30'		GW = ~100'	Long: -103.19	6810 (NAD83)	State: NM			
Depth	Chloride	LAB	PID	Description	Lithology	Well Cor	struction			
(feet)	field tests	(mg/kg)	(ppm)	Description	Littiology	well Col				
SS	141		0.0							
				Svv-light brown, well graded, coarse						
				Sanu with Sill						
5 ft	955		05							
JIL			0.5	SM-light tan, sandy silt, some						
				mechanically weathered caliche						
				pebbles						
10 ft	891		0.2							
				SM-reddish tan, silty sand						
45.6	004				-					
15 π	804		0.1	SM-reddish tan_silty sand						
				mechanically weathered sandstone						
20 ft	1,051	CI-=1,150	0.2				Bentonite			
		GRO=<10					Seal			
		DB0		SM top cilty cond						
				Sivi-tari, Silty Sanu						
	E	(T DRO=<10								
	Tota	I BTEX=<0.3								
25 ft	697		0.2							
				SM-light tan, silty sand						
					-					
30 ft	405	CI-=368	0.3							
		GRO=<10								
		DRO=<10		SM-Same As Above (SAA)						
	E)	(T DRO=<10								
	Toto	BTEY0 2								
	rota	DIEA=<0.3					1/			



July 01, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD I-18 EOL

Enclosed are the results of analyses for samples received by the laboratory on 06/26/19 16:26.

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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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. Keine

Celey D. Keene Lab Director/Quality Manager



Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: BD I-18 EOL Project Number: NONE GIVEN Project Manager: KATIE JONES Fax To: (575) 397-1471	Reported: 01-Jul-19 13:35
--	--	------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-14 @ 5'	H902193-01	Soil	24-Jun-19 13:20	26-Jun-19 16:26
SB-14 @ 15'	H902193-02	Soil	24-Jun-19 13:30	26-Jun-19 16:26
SB-15 @ 5'	H902193-03	Soil	24-Jun-19 14:20	26-Jun-19 16:26
SB-15 @ 15'	H902193-04	Soil	24-Jun-19 14:30	26-Jun-19 16:26
SB-16 @ 20'	H902193-05	Soil	25-Jun-19 09:30	26-Jun-19 16:26
SB-16 @ 30'	H902193-06	Soil	25-Jun-19 09:40	26-Jun-19 16:26

The wrong COC was attached to the first report sent 07/01/19. This is the revised report with the correct COC attached. This report will replace the one sent earlier today, 07/01/19.

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Rice Operating Company 112 W. Taylor Hobbs NM, 88240			Project Num Project Nana Project Mana Fax	ject: BD ber: NOI ger: KAT To: (57	Reported: 01-Jul-19 13:35					
			SB H902	-14 @ 5 193-01 (Se	oil)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	tories					
Inorganic Compounds										
Chloride	1060		16.0	mg/kg	4	9062714	AC	27-Jun-19	4500-Cl-B	
Volatile Organic Compounds b	y EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9062702	BF	27-Jun-19	8021B	
Toluene*	0.070		0.050	mg/kg	50	9062702	BF	27-Jun-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9062702	BF	27-Jun-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9062702	ms	27-Jun-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9062702	ms	27-Jun-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			103 %	73.3	-129	9062702	ms	27-Jun-19	8021B	
Petroleum Hydrocarbons by G	C FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9062708	MS	28-Jun-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9062708	MS	28-Jun-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9062708	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctane			80.6 %	41-	142	9062708	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctadecane			83.9 %	37.6	-147	9062708	MS	28-Jun-19	8015B	

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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

#### Analytical Results For:

Rice Operating Company 112 W. Taylor Hobbs NM, 88240			Proj Project Num Project Mana Fax	ject: BD ber: NON ger: KAT To: (57!	I-18 EOL NE GIVEN TE JONES 5) 397-147	1		(	Reported: 01-Jul-19 13:3	5
			SB-	14 @ 15	, ,;),					
			H902	193-02 (30	)11)					1
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	320		16.0	mg/kg	4	9062714	AC	27-Jun-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9062807	ms	28-Jun-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9062807	ms	28-Jun-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9062807	ms	28-Jun-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9062807	ms	28-Jun-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9062807	ms	28-Jun-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			105 %	73.3	-129	9062807	ms	28-Jun-19	8021B	
Petroleum Hydrocarbons by GC	FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctane			89.6 %	41-	142	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctadecane			93.1 %	37.6	-147	9062809	MS	28-Jun-19	8015B	

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Rice Operating Company 112 W. Taylor Hobbs NM, 88240			Project Num Project Nana Project Mana Fax	ject: BD ber: NON ger: KAT To: (57	I-18 EOL NE GIVEN TE JONES 5) 397-147	1			Reported: 01-Jul-19 13:3	5
			SB	-15 @ 5						
			H902	193-03 (So	oil)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	tories					
Inorganic Compounds										
Chloride	96.0		16.0	mg/kg	4	9062714	AC	27-Jun-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								S-04
Benzene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Toluene*	0.070		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			131 %	73.3	-129	9062701	BF	27-Jun-19	8021B	
Petroleum Hydrocarbons by GC	FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctane			99.5 %	41-	142	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctadecane			103 %	37.6	-147	9062809	MS	28-Jun-19	8015B	

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Rice Operating Company 112 W. Taylor Hobbs NM, 88240			Project Num Project Nana Project Mana Fax	ject: BD ber: NON ger: KAT To: (57!	I-18 EOL NE GIVEN TE JONES 5) 397-147	1		(	Reported: 01-Jul-19 13:3	5
			SB-	15 @ 15	, SI)					
			11902	173-04 (30	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	16.0		16.0	mg/kg	4	9062714	AC	27-Jun-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			111 %	73.3	-129	9062701	BF	27-Jun-19	8021B	
Petroleum Hydrocarbons by GC	FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctane			97.6 %	41-	142	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctadecane			101 %	37.6	-147	9062809	MS	28-Jun-19	8015B	

#### **Cardinal Laboratories**

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Rice Operating Company 112 W. Taylor Hobbs NM, 88240			Project Num Project Nana Project Mana Fax	ject: BD ber: NOI ger: KAT To: (57!	I-18 EOL NE GIVEN TE JONES 5) 397-147	1		(	Reported: 01-Jul-19 13:3	5
			SB- H902	16 @ 20 193-05 (So	' bil)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	tories					
Inorganic Compounds										
Chloride	1150		16.0	mg/kg	4	9062714	AC	27-Jun-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								S-04
Benzene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Toluene*	0.062		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			130 %	73.3	-129	9062701	BF	27-Jun-19	8021B	
Petroleum Hydrocarbons by GC	FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctane			98.9 %	41-	142	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctadecane			102 %	37.6	-147	9062809	MS	28-Jun-19	8015B	

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Rice Operating Company 112 W. Taylor Hobbs NM, 88240			Project Num Project Nana Project Mana Fax	ject: BD ber: NON ger: KAT To: (57	I-18 EOL NE GIVEN TE JONES 5) 397-147	1		(	Reported: 01-Jul-19 13:3	5
			SB-	16 @ 30	, ,;),					
			П902	193-00 (80	)11)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	368		16.0	mg/kg	4	9062714	AC	27-Jun-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9062701	BF	27-Jun-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			108 %	73.3	-129	9062701	BF	27-Jun-19	8021B	
Petroleum Hydrocarbons by GC	FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctane			101 %	41-	142	9062809	MS	28-Jun-19	8015B	
Surrogate: 1-Chlorooctadecane			105 %	37.6	-147	9062809	MS	28-Jun-19	8015B	

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



112 W. Taylor    Project Number: NONE GIVEN    01-Jul-19 13:35      Hobbs NM, 88240    Project Manager: KATIE JONES      Fax To: (575) 397-1471	Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: BD I-18 EOL Project Number: NONE GIVEN Project Manager: KATIE JONES Fax To: (575) 397-1471	Reported: 01-Jul-19 13:35
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#### **Inorganic Compounds - Quality Control**

#### **Cardinal Laboratories**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 9062714 - 1:4 DI Water										
Blank (9062714-BLK1)				Prepared &	Analyzed:	27-Jun-19				
Chloride	ND	16.0	mg/kg							
LCS (9062714-BS1)				Prepared &	Analyzed:	27-Jun-19				
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (9062714-BSD1)				Prepared &	Analyzed:	27-Jun-19				
Chloride	416	16.0	mg/kg	400		104	80-120	0.00	20	

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: BD Project Number: NO Project Manager: KA Fax To: (57	I-18 EOL NE GIVEN TIE JONES 75) 397-1471	Reported: 01-Jul-19 13:35
	Fax To: (57	/5) 39/-14/1	

#### Volatile Organic Compounds by EPA Method 8021 - Quality Control

#### **Cardinal Laboratories**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 9062701 - Volatiles										
Blank (9062701-BLK1)				Prepared &	Analyzed:	27-Jun-19				
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.107		mg/kg	0.100		107	73.3-129			
LCS (9062701-BS1)				Prepared &	Analyzed:	27-Jun-19				
Benzene	1.80	0.050	mg/kg	2.00		90.2	72.2-131			
Toluene	1.79	0.050	mg/kg	2.00		89.5	71.7-126			
Ethylbenzene	1.70	0.050	mg/kg	2.00		85.0	68.9-126			
Total Xylenes	5.15	0.150	mg/kg	6.00		85.8	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.101		mg/kg	0.100		101	73.3-129			
LCS Dup (9062701-BSD1)				Prepared &	Analyzed:	27-Jun-19				
Benzene	1.76	0.050	mg/kg	2.00		88.0	72.2-131	2.40	6.91	
Toluene	1.75	0.050	mg/kg	2.00		87.3	71.7-126	2.48	7.12	
Ethylbenzene	1.69	0.050	mg/kg	2.00		84.6	68.9-126	0.508	7.88	
Total Xylenes	5.15	0.150	mg/kg	6.00		85.8	71.4-125	0.0404	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.103		mg/kg	0.100		103	73.3-129			
Batch 9062702 - Volatiles										
Blank (9062702-BLK1)				Prepared &	Analyzed:	27-Jun-19				
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.105		mg/kg	0.100		105	73.3-129			

#### Cardinal Laboratories

\*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: BD Project Number: NC Project Manager: KA	) I-18 EOL DNE GIVEN TIE JONES	Reported: 01-Jul-19 13:35
	Fax To: (57	75) 397-1471	

#### Volatile Organic Compounds by EPA Method 8021 - Quality Control

#### **Cardinal Laboratories**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 9062702 - Volatiles										
LCS (9062702-BS1)				Prepared &	k Analyzed:	27-Jun-19				
Benzene	2.04	0.050	mg/kg	2.00		102	72.2-131			
Toluene	2.08	0.050	mg/kg	2.00		104	71.7-126			
Ethylbenzene	1.94	0.050	mg/kg	2.00		96.9	68.9-126			
Total Xylenes	5.95	0.150	mg/kg	6.00		99.1	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.102		mg/kg	0.100		102	73.3-129			
LCS Dup (9062702-BSD1)				Prepared &	analyzed:	27-Jun-19				
Benzene	2.02	0.050	mg/kg	2.00		101	72.2-131	0.644	6.91	
Toluene	2.07	0.050	mg/kg	2.00		103	71.7-126	0.380	7.12	
Ethylbenzene	1.91	0.050	mg/kg	2.00		95.7	68.9-126	1.34	7.88	
Total Xylenes	5.84	0.150	mg/kg	6.00		97.4	71.4-125	1.78	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.101		mg/kg	0.100		101	73.3-129			
Batch 9062807 - Volatiles										
Blank (9062807-BLK1)				Prepared &	k Analyzed:	28-Jun-19				
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.106		mg/kg	0.100		106	73.3-129			
LCS (9062807-BS1)				Prepared &	z Analyzed:	28-Jun-19				
Benzene	1.93	0.050	mg/kg	2.00		96.3	72.2-131			
Toluene	1.93	0.050	mg/kg	2.00		96.7	71.7-126			
Ethylbenzene	1.85	0.050	mg/kg	2.00		92.6	68.9-126			
Total Xylenes	5.60	0.150	mg/kg	6.00		93.3	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.104		mg/kg	0.100		104	73.3-129			

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: BD I-18 EOL Project Number: NONE GIVEN Project Manager: KATIE JONES	Reported: 01-Jul-19 13:35
	Fax To: (575) 397-1471	

#### Volatile Organic Compounds by EPA Method 8021 - Quality Control

#### **Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9062807 - Volatiles										
LCS Dup (9062807-BSD1)				Prepared &	Analyzed:	28-Jun-19				
Benzene	1.88	0.050	mg/kg	2.00		93.8	72.2-131	2.58	6.91	
Toluene	1.90	0.050	mg/kg	2.00		95.1	71.7-126	1.70	7.12	
Ethylbenzene	1.82	0.050	mg/kg	2.00		91.1	68.9-126	1.64	7.88	
Total Xylenes	5.51	0.150	mg/kg	6.00		91.9	71.4-125	1.49	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.104		mg/kg	0.100		104	73.3-129			

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Hobbs NM, 88240 Project Manager: KATIE JONES Fax To: (575) 397-1471	Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: BD I-18 EOL Project Number: NONE GIVEN Project Manager: KATIE JONES Fax To: (575) 397-1471	Reported: 01-Jul-19 13:35
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#### Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal	Laboratories
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9062708 - General Prep - Organics										
Blank (9062708-BLK1)				Prepared &	analyzed:	27-Jun-19				
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	47.7		mg/kg	50.0		95.3	41-142			
Surrogate: 1-Chlorooctadecane	50.5		mg/kg	50.0		101	37.6-147			
LCS (9062708-BS1)				Prepared &	analyzed:	27-Jun-19				
GRO C6-C10	214	10.0	mg/kg	200		107	76.5-133			
DRO >C10-C28	228	10.0	mg/kg	200		114	72.9-138			
Total TPH C6-C28	442	10.0	mg/kg	400		111	78-132			
Surrogate: 1-Chlorooctane	50.8		mg/kg	50.0		102	41-142			
Surrogate: 1-Chlorooctadecane	52.7		mg/kg	50.0		105	37.6-147			
LCS Dup (9062708-BSD1)				Prepared &	k Analyzed:	27-Jun-19				
GRO C6-C10	212	10.0	mg/kg	200		106	76.5-133	1.29	20.6	
DRO >C10-C28	226	10.0	mg/kg	200		113	72.9-138	0.919	20.6	
Total TPH C6-C28	438	10.0	mg/kg	400		109	78-132	1.10	18	
Surrogate: 1-Chlorooctane	50.3		mg/kg	50.0		101	41-142			
Surrogate: 1-Chlorooctadecane	51.2		mg/kg	50.0		102	37.6-147			
Batch 9062809 - General Prep - Organics										
Blamb (00(2900 BLV1)				D	A	20 Lan 10				

Blank (9062809-BLK1)			Prepared & Analyz	ed: 28-Jun-19	
GRO C6-C10 ND	10.0	mg/kg			
DRO >C10-C28 ND	10.0	mg/kg			
EXT DRO >C28-C36 ND	10.0	mg/kg			
Surrogate: 1-Chlorooctane 56.2		mg/kg	50.0	112	41-142
Surrogate: 1-Chlorooctadecane 58.6		mg/kg	50.0	117	37.6-147

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: BD I-18 EO Project Number: NONE GIVE Project Manager: KATIE JON	NL Reported:   EN 01-Jul-19 13:35	
,	Fax To: (575) 397-:	1471	

#### Petroleum Hydrocarbons by GC FID - Quality Control

#### **Cardinal Laboratories**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 9062809 - General Prep - Organics										
LCS (9062809-BS1)				Prepared &	analyzed:	28-Jun-19				
GRO C6-C10	203	10.0	mg/kg	200		102	76.5-133			
DRO >C10-C28	198	10.0	mg/kg	200		99.1	72.9-138			
Total TPH C6-C28	402	10.0	mg/kg	400		100	78-132			
Surrogate: 1-Chlorooctane	61.3		mg/kg	50.0		123	41-142			
Surrogate: 1-Chlorooctadecane	62.5		mg/kg	50.0		125	37.6-147			
LCS Dup (9062809-BSD1)				Prepared &	analyzed:	28-Jun-19				
GRO C6-C10	200	10.0	mg/kg	200		99.8	76.5-133	1.94	20.6	
DRO >C10-C28	191	10.0	mg/kg	200		95.6	72.9-138	3.56	20.6	
Total TPH C6-C28	391	10.0	mg/kg	400		97.7	78-132	2.74	18	
Surrogate: 1-Chlorooctane	59.3		mg/kg	50.0		119	41-142			
Surrogate: 1-Chlorooctadecane	60.7		mg/kg	50.0		121	37.6-147			

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



#### **Notes and Definitions**

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 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

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

#### ARDINAL LABORATORIES

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Page 93 (

Received by OCD: 3/14/2023 11:02:57 AM

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393 2326 EAX (505) 393 2476 (325) 673 7001 EAX (325) 673 7020

Company Nam	e: Rice Operating				5						BI	LL TO		19				ANAI	YSIS	RE	QUE	ST			
Project Manage	er: Katie Jones / Kyle	e Norman							P.(	). #:				1											
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Project Name:	BD I-18 EOL								Sta	ite:		Zip:		6	Σ		d	Suc.					11	( )	
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Sampler Name	Nick Kopiasz						-		Fax	K #:				12	l ĝ	M I	Xa:	Ü	F				(   )	( )	
FOR LAB USE ONLY	Sample I.	.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER SOIL		SLUDGE	OTHER :	ACID/BASE: 4	OTHER:	SAMPL	TIME	Ċ	3 HQT		Te)	Complete							
1	SB-14 @ 5'		G	1		1	1			V		6/24/19	13:20	1	1	1	1						$\square$		
2	SB-14 @ 15'		1	1		$\checkmark$	r			V	1	6/24/19	13:30	1	1	1							$\square$		
3	SB-15 @ 5'		$\prod$	1		1				1		6/24/19	14:20	1	1	1									
4	SB-15 @ 15'		11	1		$\checkmark$	1			$\checkmark$	1	6/24/19	14:30	1	1	1									
5	SB-16 @ 20'		V	1		$\checkmark$	1			1	1	6/25/19	09:30	1	1	1									
6	SB-16 @ 30'		G	1		~				✓		6/25/19	09:40	1	+	1									
PLEASE NOTE: Liability a analyses. All claims incluc service. In no event shall affiliates or successors ari	and Damages. Cardinal's liability and clied ting those for negligence and any other of Cardinal be liable for incidental or conse sing out of or related to the performance	ent's exclusive remedy for a cause whatsoever shall be equental damages, including e of services hereunder by C	iny clair deeme ) witho Cardina	m arisi d waiw ut limit: al, rega	ng whet ad unles ation, bu rdless o	her base is made isiness in f whethe	ed in co in writi nterrup er such	ontract ing and ptions, claim i	or tori I recei loss of is basi	t, shall be ved by C: f use, or li ed upon ε	limited ardinal v oss of p any of th	to the amount pa within 30 days aft rofits incurred by e above stated re	id by the client for er completion of client, its subsidi easons or otherwi	or the the applica aries ise.	able		L			L	<u> </u>				<u> </u>
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† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

# Depth to Groundwater

**RICE Operating Company** 

112 West Taylor, Hobbs, NM 88240 Phone 575.393.9174 Received by OCD: 3/14/2023 11:02:57 AM

## Depth to Groundwater

Page 95 of 101



# C-141

**RICE Operating Company** 

112 West Taylor, Hobbs, NM 88240 Phone 575.393.9174 Received by OCD: 3/14/2023 11:02:57 AM Form C-141 State of New Mexico

Page 3

Oil Conservation Division

Incident ID	nAPP2109856086
District RP	1R426-13
Facility ID	fEEM0432440158
Application ID	pEEM0432442802

Page 97 of 101

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

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

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

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

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

Received by OCD: 3/14/2023	11:02:57 AM			Page 98 of 1				
10111 C-141			Incident ID	nAPP2109856086				
Page 4	Oil Conservation Division		District RP	1R426-13				
			Facility ID	fEEM0432440158				
			Application ID	pEEM0432442802				
regulations all operators are rec public health or the environmen failed to adequately investigate addition, OCD acceptance of a and/or regulations. Printed Name: <u>Katie Davis</u> Signature: <u>Katie Davis</u> email: <u>kjones@riceswd.com</u>	Telephone: (575) 393-917	Desc of my knowledge a fications and perform c DCD does not relieve th eat to groundwater, surf responsibility for comp Date: <u>3/14/2023</u>	orrective actions for rele e operator of liability sh ace water, human health liance with any other fe	eases which may endanger ould their operations have or the environment. In deral, state, or local laws				
OCD Only          Received by:        Jocelyn	Harimon	Date:	03/14/2023					

Received by OCD: 3/14/2023 11:02:57 AM Form C-141 State of New Mexico

**Oil Conservation Division** 

	Page 99 of 10	)1
Incident ID	nAPP2109856086	
District RP	1R426-13	
Facility ID	fEEM0432440158	
Application ID	pEEM0432442802	

## **Remediation Plan**

Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation. Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. Extents of contamination must be fully delineated. Contamination does not cause an imminent risk to human health, the environment, or groundwater. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Printed Name: Katie Davis Title: Environmental Manager Signature: Later Dais Date: 3/14/2023 email: kjones@riceswd.com Telephone: (575) 393-9174 **OCD Only** 03/14/2023 Received by: Jocelyn Harimon Date: Approved Approved with Attached Conditions of Approval Denied Deferral Approved See text box below -  $\mathcal{NV}$ Nelson Velez 07/10/2023 Date: Signature:

Remediation Plan is approved on the following conditions;

1. Liner installation is approved as written. 2. OCD does not approve the sampling plan for excavated soils to be used as backfilled. 3. Variance requested is voided since the applicable closure standards beyond 4 feet (ft.) below ground surface (bgs) is for groundwater greater than 50 ft. bgs. 4. Rice Operating has 90-days (Remediation Due date: 10/10/2023) to submit a final closure report or time extension request along with furnishing an up-to-date status of the remediation being conducted.

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

Detailed description of proposed remediation technique

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BD I-18 EOL (1R426-13) Unit I, Section 18, T21S, R37E



Facing North

5/26/2021

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

### **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Operator: 0	OGRID:
RICE OPERATING COMPANY	19174
122 W Taylor	Action Number:
Hobbs, NM 88240	196835
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created	Condition	Condition		
Ву		Date		
nvelez	Remediation Plan is approved under the following conditions; 1. Liner installation is approved as written. 2. OCD does not approve the sampling plan for excavated soils to be used as backfilled. 3. Variance requested is voided since the applicable closure standards beyond 4 feet (ft.) below ground surface (bgs) is for groundwater greater than 50 ft. bgs. 4. Rice Operating has 90-days (Remediation Due date: 10/10/2023) to submit a final closure report or time extension request along with furnishing an up-to-date status of the remediation being conducted.	7/10/2023		

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Action 196835