

Wellhead Closure Checklist

COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

Additional attachments (optional):		Pit Closure <u> </u>		Tank Battery Closure <u> </u>		Flowline Closure <u> </u>		Partially Buried Vault Closure <u> </u>	
Site Name & COGCC Facility Number: Guttersen State CC #20-03		Date: 05/19/23					Remediation Project #: 27303		
Associated Wells: 05-123-22280		Age of Site: Years					Number of Photos Attached: 1		
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple)						40.302470 / -104.463460			
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)									
Good Condition									
USCS Soil Type: SC				Estimated Depth to Groundwater: ~30-50'					
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)									
Slight hydrocarbon odor observed on south sidewall of excavation; no staining observed.									
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)									
None observed.									
Wellhead(s)									
Well API	05-123-22280								
Age	Years								
Condition of surface around wellhead	Good - Per Crew								
PID Readings	N/A - Excavated Upon Arrival								
Condition of subsurface (staining present)	Slight hydrocarbon odor observed on south sidewall of excavation; no staining observed.								
PID Readings	0.6	0.8	338.1	7.0	24.7				
Sample taken? Location/Sample ID#	WH-SS-01	WH-SS-02	WH-SS-03	WH-SS-04	WH-FS-01				
Photo Number(s)	See photolog								
Other observations regarding wellheads:									
Well casing cut/capped following assessment.									
Summary									
Was impacted soil identified?									
No		Yes - less than 10 cubic yards			Yes - more than 10 cubic yards				
Total number of samples field screened: 5				Total number of samples collected: 5					
Highest PID Reading: 338.1				Total number of samples submitted to lab for analysis: 5					
If more than 10 cubic yards of impacted soil were observed:									
Vertical extent:				Estimated spill volume:					
N/A									
Lateral extent:				Volume of soil removed:					
Is additional investigation required?									
Was groundwater encountered during the investigation?									
<input checked="" type="checkbox"/> No		Yes - not impacted or in contact with impacted soils			Yes - groundwater impacted and/or in contact with impacted soils				
Measured depth to groundwater:				Was remedial groundwater removal conducted? Yes No					
Date Groundwater was encountered:				Commencement date of removal:					
Sheen on groundwater? Yes No				N/A					
Free product observed? Yes No				Volume of groundwater removed prior to sampling:					
				Volume of groundwater removed post sampling:					
Total number of samples collected:				Total Volume of groundwater removed:					
Total number of samples submitted to lab for analysis:									



FIGURES

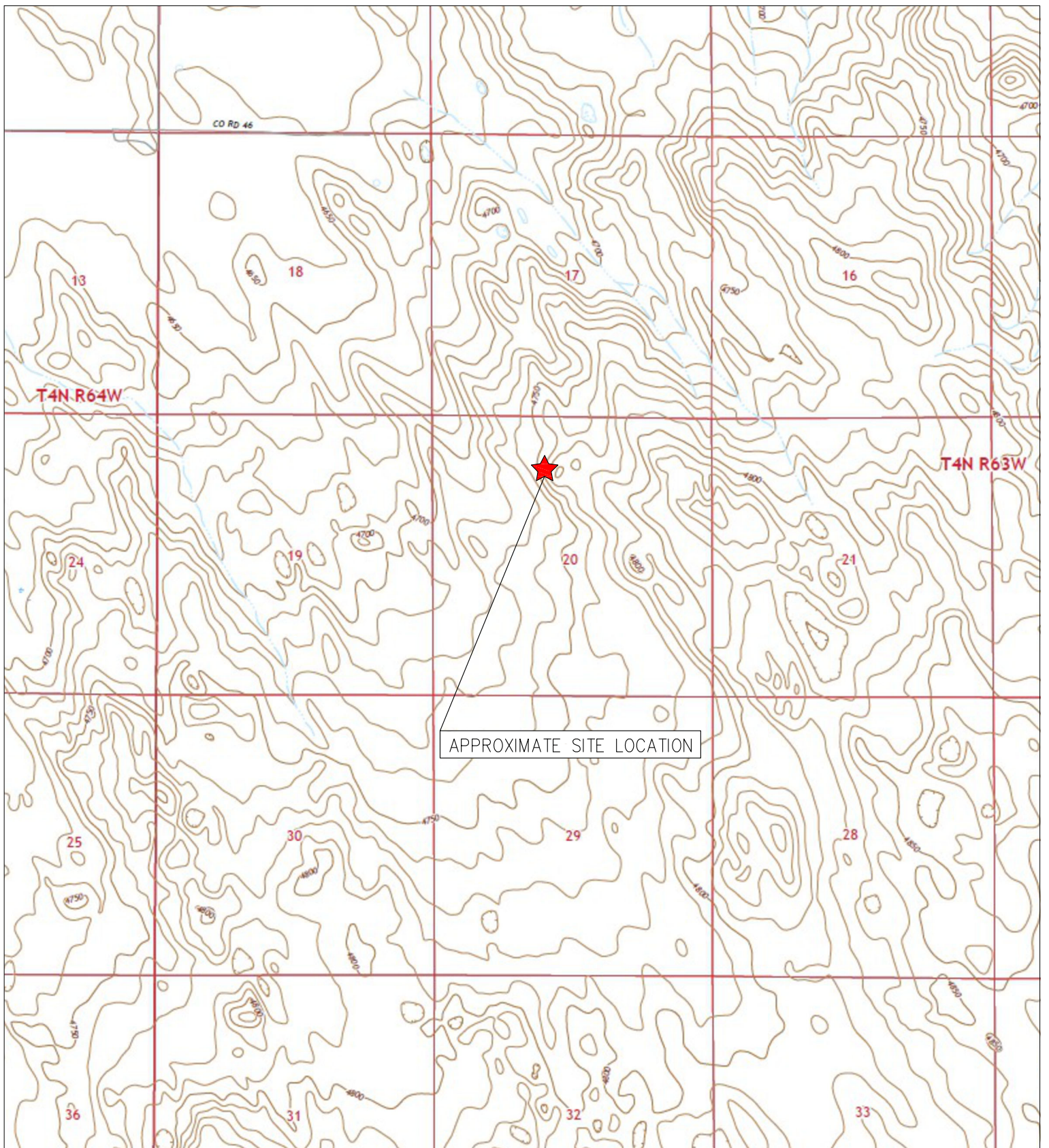
Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Soil Analytical Map

Figure 4: Polycyclic Aromatic Hydrocarbons Map

Figure 5: Metals in Soil Map



TOPOGRAPHIC SITE LOCATION MAP
 GUTTERSEN STATE CC #20-03
 CLOSURE ASSESSMENT
 40.302470 / -104.463460
 NE¼ NW¼ SEC.20 T4N R63W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-22280
 REMEDIATION # 27303



EAGLE
 ENVIRONMENTAL
 CONSULTING, LLC

8000 W 44th Ave, Wheat Ridge, CO 80033
 Ph: 303-433-0479 • F: 303-325-5449

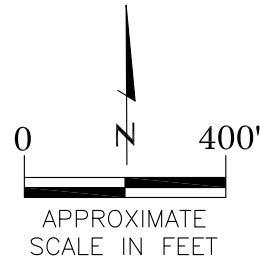
SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP,
 KLUG RANCH, CO QUADRANGLE 2022

FIGURE NO. 1



LEGEND

- FORMER GUTTERSEN STATE CC #20-03 WELLHEAD (PLUGGED AND ABANDONED)
- ASSOCIATED SEPARATOR
- APPROXIMATE FLOWLINE LOCATION



AERIAL SITE LOCATION MAP
 GUTTERSEN STATE CC #20-03
 CLOSURE ASSESSMENT
 40.302470 / -104.463460
 NE¼ NW¼ SEC.20 T4N R63W 6PM
 WELD COUNTY, COLORADO
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FIGURE NO.
2

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LEGEND

--- WELLHEAD ASSESSMENT BOUNDARIES

● APPROXIMATE LOCATION OF SOIL SAMPLES
 SS-02 SUBMITTED FOR LABORATORY ANALYSIS

PARAMETERS

SAMPLE LOCATION
 DATE
 DEPTH (FEET)
 B = BENZENE (mg/kg)
 T = TOLUENE (mg/kg)
 E = ETHYLBENZENE (mg/kg)
 X = TOTAL XYLENES (mg/kg)
 N = NAPHTHALENE (mg/kg)
 G = TPH-GRO (mg/kg)
 D = TPH-DRO (mg/kg)
 R = TPH-RRO (mg/kg)
 1,2,4-TMB = 1,2,4 TRIMETHYLBENZENE (mg/kg)
 1,3,5-TMB = 1,3,5 TRIMETHYLBENZENE (mg/kg)
 Brn= BORON (mg/L)
 EC = SPECIFIC CONDUCTANCE (mmhos/cm)
 SAR= SODIUM ADSORPTION RATIO
 pH = pH (pH UNITS)

mg/kg = MILLIGRAMS PER KILOGRAM

mg/L = MILLIGRAMS PER LITER

mmhos/cm = MILLIMHOS PER CENTIMETER

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS

TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS

TPH-RRO = TOTAL PETROLEUM HYDROCARBONS - RESIDUAL RANGE ORGANICS

NOTES:
 LABORATORY RERUNS WERE COMPLETED ON SAMPLES pH VALUES OUTSIDE ECMC TABLE 915-1 REGULATORY RANGE. RESULTS ARE PRESENTED IN PARENTHESES.

VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS.

VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1 REGULATORY LIMITS.

VALUES PRESENTED WITH ASTERISK (*) EXCEED ECMC TABLE 915-1 PROTECTION OF GROUNDWATER SOIL SCREENING LEVELS, ONLY.

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

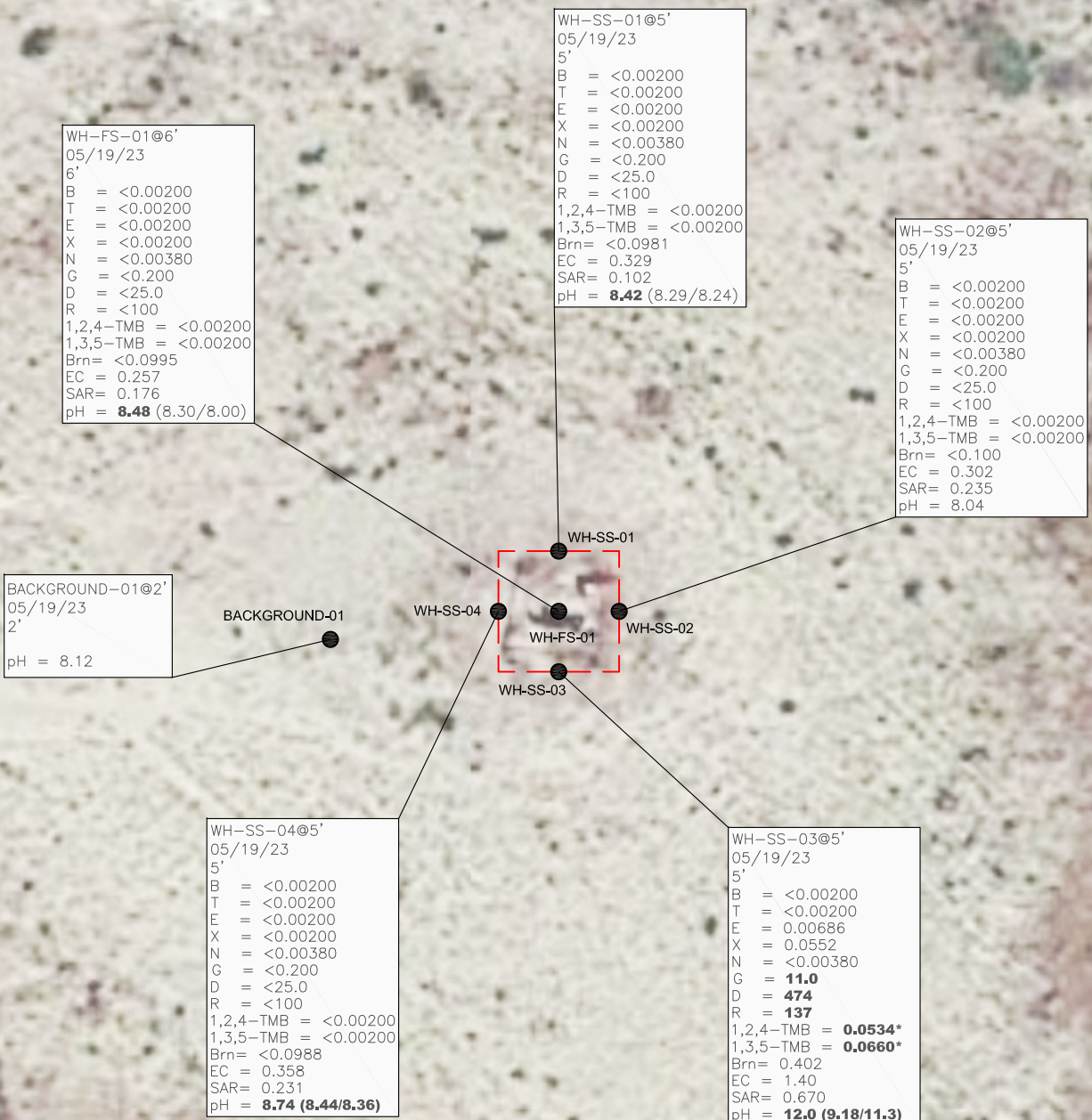
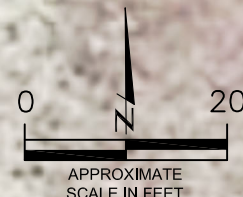
SOIL ANALYTICAL MAP
 GUTTERSEN STATE CC #20-03
 CLOSURE ASSESSMENT
 40.302470 / -104.463460
 NE¼ NW¼ SEC.20 T4N R63W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-22280
 REMEDIATION # 27303

FIGURE NO.
 3

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LEGEND

--- WELLHEAD ASSESSMENT BOUNDARIES

● APPROXIMATE LOCATION OF SOIL SAMPLES
 SS-02 SUBMITTED FOR LABORATORY ANALYSIS

PARAMETERS

SAMPLE LOCATION
 DATE SAMPLE COLLECTED
 APPROXIMATE DEPTH
 POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM

ND = NON-DETECT

NOTES:
 VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS.

VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1 REGULATORY LIMITS.

VALUES PRESENTED WITH AN ASTERISK (*) EXCEED ECMC TABLE 915-1 GROUNDWATER SOIL SCREENING LEVELS, ONLY.

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

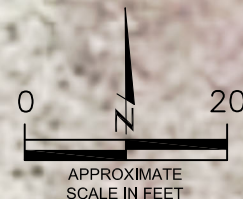
POLYCYCLIC AROMATIC HYDROCARBONS MAP
 GUTTERSEN STATE CC #20-03
 CLOSURE ASSESSMENT
 40.302470 / -104.463460
 NE¼ NW¼ SEC.20 T4N R63W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-22280
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FIGURE NO.
4

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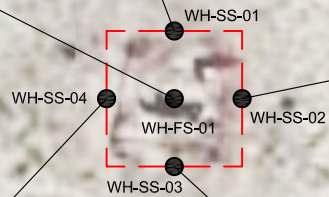
WH-FS-01@6'
 05/19/23
 6'
 ND = <0.00067
 1-Methylnaphthalene = <0.00201
 2-Methylnaphthalene = <0.00201
 Acenaphthene = ND
 Anthracene = ND
 Benzo(a)anthracene = ND
 Benzo(a)pyrene = ND
 Benzo(b)fluoranthene = ND
 Benzo(k)fluoranthene = ND
 Chrysene = 0.000803
 Dibenzo(a,h)anthracene = ND
 Fluoranthene = ND
 Fluorene = 0.000994
 Indeno(1,2,3-CD)pyrene = ND
 Pyrene = ND

WH-SS-01@5'
 05/19/23
 5'
 ND = <0.00067
 1-Methylnaphthalene = <0.00201
 2-Methylnaphthalene = <0.00201
 Acenaphthene = ND
 Anthracene = ND
 Benzo(a)anthracene = ND
 Benzo(a)pyrene = ND
 Benzo(b)fluoranthene = ND
 Benzo(k)fluoranthene = ND
 Chrysene = ND
 Dibenzo(a,h)anthracene = ND
 Fluoranthene = ND
 Fluorene = ND
 Indeno(1,2,3-CD)pyrene = ND
 Pyrene = ND

WH-SS-02@5'
 05/19/23
 5'
 ND = <0.00067
 1-Methylnaphthalene = <0.00201
 2-Methylnaphthalene = <0.00201
 Acenaphthene = ND
 Anthracene = ND
 Benzo(a)anthracene = ND
 Benzo(a)pyrene = ND
 Benzo(b)fluoranthene = ND
 Benzo(k)fluoranthene = ND
 Chrysene = ND
 Dibenzo(a,h)anthracene = ND
 Fluoranthene = ND
 Fluorene = ND
 Indeno(1,2,3-CD)pyrene = ND
 Pyrene = ND

WH-SS-04@5'
 05/19/23
 5'
 ND = <0.00067
 1-Methylnaphthalene = <0.00201
 2-Methylnaphthalene = <0.00201
 Acenaphthene = ND
 Anthracene = ND
 Benzo(a)anthracene = ND
 Benzo(a)pyrene = ND
 Benzo(b)fluoranthene = ND
 Benzo(k)fluoranthene = ND
 Chrysene = ND
 Dibenzo(a,h)anthracene = ND
 Fluoranthene = ND
 Fluorene = ND
 Indeno(1,2,3-CD)pyrene = ND
 Pyrene = ND

WH-SS-03@5'
 05/19/23
 5'
 ND = <0.00067
 1-Methylnaphthalene = **0.0102***
 2-Methylnaphthalene = 0.00603
 Acenaphthene = 0.00317
 Anthracene = ND
 Benzo(a)anthracene = 0.00134
 Benzo(a)pyrene = ND
 Benzo(b)fluoranthene = ND
 Benzo(k)fluoranthene = ND
 Chrysene = 0.00335
 Dibenzo(a,h)anthracene = 0.00074
 Fluoranthene = 0.000396
 Fluorene = 0.00836
 Indeno(1,2,3-CD)pyrene = ND
 Pyrene = 0.00159



LEGEND

- WELLHEAD ASSESSMENT BOUNDARIES
- APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

PARAMETERS

SAMPLE LOCATION
DATE SAMPLE COLLECTED
APPROXIMATE DEPTH
Arsenic = (mg/kg)
Barium = (mg/kg)
Cadmium = (mg/kg)
Chromium (VI) = (mg/kg)
Copper = (mg/kg)
Lead = (mg/kg)
Nickel = (mg/kg)
Selenium = (mg/kg)
Silver = (mg/kg)
Zinc = (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM

(NS) – NOT SAMPLED

NOTES:
 VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT/OR ABOVE LABORATORY REPORTING LIMITS AND/OR MINIMUM DETECTION LIMITS.

VALUES PRESENTED IN **BOLD** EXCEED ECMC TABLE 915-1 REGULATORY LIMITS.

*VALUES EXCEED ECMC TABLE 915-1 PROTECTION OF GROUNDWATER SOIL SCREENING LEVELS, ONLY.

**ACHIEVABLE PRACTICAL QUANTITATIVE LIMITS FOR HEXAVALENT CHROMIUM (Cr VI) IN SOILS IS IN THE RANGE OF 0.1 TO 1 mg/kg.

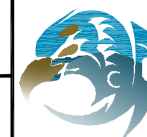
***ARSENIC IS NATURALLY OCCURRING IN COLORADO. LOCAL CLEAN-UP LEVEL (1.73 mg/kg) is 1.25*BACKGROUND (1.38 mg/kg).

ECMC = ENERGY & CARBON MANAGEMENT COMMISSION

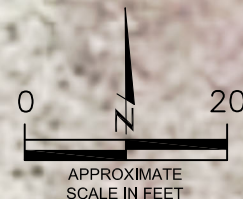
METALS IN SOIL MAP
 GUTTERSEN STATE CC #20-03
 CLOSURE ASSESSMENT
 40.302470 / -104.463460
 NE¼ NW¼ SEC.20 T4N R63W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-22280
 REMEDIATION # 27303

FIGURE NO.
5

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BACKGROUND-01@2'
 05/19/23
 2'

Arsenic = 1.38***
 Barium = 42.6
 Cadmium = <0.0864
 Copper = <8.64
 Lead = <8.64
 Nickel = <8.64
 Selenium = 0.109
 Silver = <0.0864
 Zinc = <86.4



WH-SS-03@5'
 05/19/23
 5'

Arsenic = **2.04*****
 Barium = 45.5
 Cadmium = 0.0885
 Chromium (VI) = <0.245**
 Copper = <8.85
 Lead = 41.7
 Nickel = <8.85
 Selenium = <0.0885
 Silver = <0.0885
 Zinc = <88.5



TABLES

Table 1: Photoionization Detector Reading Summary

Table 2: Soil Analytical Results Summary

TABLE 1
PHOTOIONIZATION DETECTOR READING SUMMARY
GUTTERSEN STATE CC #20-03
CLOSURE ASSESSMENT
40.302470 / -104.463460
NE¼ NW¼ SEC.20 T4N R63W 6PM
WELD COUNTY, COLORADO
API # 05-123-22280
REMEDIATION # 27303

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	PID Reading (ppm-v)	Lab Submission (Y/N)
WH-FS-01 @ 6' (40.302465 / -104.463469)	05/19/23	6	24.7	Y
WH-SS-01 @ 5' (40.302482 / -104.463464)	05/19/23	5	0.6	Y
WH-SS-02 @ 5' (40.302466 / -104.463445)	05/19/23	5	0.8	Y
WH-SS-03 @ 5' (40.302448 / -104.463467)	05/19/23	5	338.1	Y
WH-SS-04 @ 5' (40.302464 / -104.463490)	05/19/23	5	7.0	Y
Background-01 @ 2' (40.302456 / -104.463559)	05/19/23	2	1.5	Y
(Y/N) = Yes or No ppm-v = parts per million by volume PID = Photoionization Detector				



TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
GUTTERSEN STATE CC #20-03
CLOSURE ASSESSMENT
40.302470 / -104.463460
NE¼ NW¼ SEC.20 T4N R63W 6PM
WELD COUNTY, COLORADO
API # 05-123-22280
REMEDIATION # 27303

Sample Location		WH-FS-01 @ 6'	WH-SS-01 @ 5'	WH-SS-02 @ 5'
(Latitude / Longitude)		(40.302465 / -104.463469)	(40.302482 / -104.463464)	(40.302466 / -104.463445)
Sample Date		5/19/2023	5/19/2023	5/19/2023
Sample Depth		6'	5'	5'
PID Reading (ppm-v)		24.7	0.6	0.8
Regulatory Limits				
Chemical of Concern	Units	ECMC Table 915-1 RSSLs	ECMC Table 915-1 GSSLs	Local Clean-Up Level
VOCS				
Benzene	mg/kg	1.2	0.0026	--
Toluene	mg/kg	490	0.69	--
Ethylbenzene	mg/kg	5.8	0.78	--
Total Xylenes	mg/kg	58	9.9	--
Naphthalene	mg/kg	2	0.0038	--
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	--
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	--
TOTAL PETROLEUM HYDROCARBONS				
TPH-GRO	mg/kg	500	--	--
TPH-DRO	mg/kg		--	--
TPH-RRO	mg/kg		--	--
POLYCYCLIC AROMATIC HYDROCARBONS				
1-Methyl-naphthalene	mg/kg	18	0.006	--
2-Methyl-naphthalene	mg/kg	24	0.019	--
Acenaphthene	mg/kg	360	0.55	--
Anthracene	mg/kg	1800	5.8	--
Benzo(a)-anthracene	mg/kg	1.1	0.011	--
Benzo(a)-pyrene	mg/kg	0.11	0.24	--
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	--
Benzo(k)-fluoranthene	mg/kg	11	2.9	--
Chrysene	mg/kg	110	9	--
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	--
Fluoranthene	mg/kg	240	8.9	--
Fluorene	mg/kg	240	0.54	--
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	--
Pyrene	mg/kg	180	1.3	--
SOIL SUITABILITY (Inorganics)				
Boron	mg/L	2	--	--
pH	standard unit	6-8.3	--	--
Sodium Adsorption Ratio (SAR)	--	<6	--	--
Specific Conductance (EC)	mmhos/cm	<4	--	--
METALS				
Arsenic	mg/kg	0.68***	0.29***	1.73***
Barium	mg/kg	15000	82	--
Cadmium	mg/kg	71	0.38	--
Copper	mg/kg	3100	46	--
Lead	mg/kg	400	14	--
Nickel	mg/kg	1500	26	--
Selenium	mg/kg	390	0.26	--
Silver	mg/kg	390	0.8	--
Zinc	mg/kg	23000	370	--
Hexavalent Chromium	mg/kg	0.3**	0.00067**	0.1 to 1.0**
ECMC = Energy & Carbon Management Commission NA - Not Analyzed VOCs - Volatile Organic Compounds mg/kg = milligrams per kilogram mmhos/cm = millimhos per centimeter RSSLs = Residential Soil Screening Levels PID = Photoionization Detector GSSLs = Protection of Groundwater Soil Screening Levels ppm-v = parts per million by volume TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics mg/L = milligrams per liter TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics SAR = Sodium Adsorption Ratio TPH-RRO = Total Petroleum Hydrocarbons - Residual Range Organics Notes: Values presented with a less than symbol (<) did not contain concentrations at or above the laboratory reporting limit and/or minimum detection limit. Values presented in BOLD exceed ECMC Table 915-1 Regulatory Limits. Values presented with asterisk (*) exceed ECMC Table 915-1 GSSLs, only. **Achievable practical quantitative limits for Hexavalent Chromium in soils is in the range of 0.1 to 1 mg/kg. ***Arsenic is naturally occurring in Colorado. The Local Clean-up Level (1.73 mg/kg) is 1.25*Background (1.38 mg/kg). Laboratory reruns were completed on samples with pH values outside ECMC Table 915-1 Regulatory Range. Results are presented in parentheses.				

TABLE 2
SOIL ANALYTICAL RESULTS SUMMARY
GUTTERSEN STATE CC #20-03
CLOSURE ASSESSMENT
40.302470 / -104.463460
NE¼ NW¼ SEC.20 T4N R63W 6PM
WELD COUNTY, COLORADO
API # 05-123-22280
REMEDATION # 27303

Sample Location		WH-SS-03 @ 5'	WH-SS-04 @ 5'	Background-01 @ 2'
(Latitude / Longitude)		(40.302448 / -104.463467)	(40.302464 / -104.463490)	(40.302456 / -104.463559)
Sample Date		5/19/2023	5/19/2023	5/19/2023
Sample Depth		5'	5'	2'
PID Reading (ppm-v)		338.1	7.0	1.5
Regulatory Limits				
Chemical of Concern	Units	ECMC Table 915-1 RSSLs	ECMC Table 915-1 GSSLs	Local Clean-Up Level
VOCS				
Benzene	mg/kg	1.2	0.0026	--
Toluene	mg/kg	490	0.69	--
Ethylbenzene	mg/kg	5.8	0.78	--
Total Xylenes	mg/kg	58	9.9	--
Naphthalene	mg/kg	2	0.0038	--
1,2,4-Trimethylbenzene	mg/kg	30	0.0081	--
1,3,5-Trimethylbenzene	mg/kg	27	0.0087	--
TOTAL PETROLEUM HYDROCARBONS				
TPH-GRO	mg/kg	500	--	--
TPH-DRO	mg/kg		--	--
TPH-RRO	mg/kg		--	--
POLYCYCLIC AROMATIC HYDROCARBONS				
1-Methyl-naphthalene	mg/kg	18	0.006	--
2-Methyl-naphthalene	mg/kg	24	0.019	--
Acenaphthene	mg/kg	360	0.55	--
Anthracene	mg/kg	1800	5.8	--
Benzo(a)-anthracene	mg/kg	1.1	0.011	--
Benzo(a)-pyrene	mg/kg	0.11	0.24	--
Benzo(b)-fluoranthene	mg/kg	1.1	0.3	--
Benzo(k)-fluoranthene	mg/kg	11	2.9	--
Chrysene	mg/kg	110	9	--
Dibenzo(a,h)-anthracene	mg/kg	0.11	0.096	--
Fluoranthene	mg/kg	240	8.9	--
Fluorene	mg/kg	240	0.54	--
Indeno(1,2,3-cd)-pyrene	mg/kg	1.1	0.98	--
Pyrene	mg/kg	180	1.3	--
SOIL SUITABILITY (Inorganics)				
Boron	mg/L	2	--	--
pH	standard unit	6-8.3	--	--
Sodium Adsorption Ratio (SAR)	--	<6	--	--
Specific Conductance (EC)	mmhos/cm	<4	--	--
METALS				
Arsenic	mg/kg	0.68***	0.29***	1.73***
Barium	mg/kg	15000	82	--
Cadmium	mg/kg	71	0.38	--
Copper	mg/kg	3100	46	--
Lead	mg/kg	400	14	--
Nickel	mg/kg	1500	26	--
Selenium	mg/kg	390	0.26	--
Silver	mg/kg	390	0.8	--
Zinc	mg/kg	23000	370	--
Hexavalent Chromium	mg/kg	0.3**	0.00067**	0.1 to 1.0**

ECMC = Energy & Carbon Management Commission NA - Not Analyzed VOCs - Volatile Organic Compounds
mg/kg = milligrams per kilogram
mmhos/cm = millimhos per centimeter RSSLs = Residential Soil Screening Levels
PID = Photoionization Detector GSSLs = Protection of Groundwater Soil Screening Levels
ppm-v = parts per million by volume TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics
mg/L = milligrams per liter TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics
SAR = Sodium Adsorption Ratio TPH-RRO = Total Petroleum Hydrocarbons - Residual Range Organics

Notes:
Values presented with a less than symbol (<) did not contain concentrations at or above the laboratory reporting limit and/or minimum detection limit.
Values presented in **BOLD** exceed ECMC Table 915-1 Regulatory Limits. Values presented with asterisk (*) exceed ECMC Table 915-1 GSSLs, only.
**Achievable practical quantitative limits for Hexavalent Chromium in soils is in the range of 0.1 to 1 mg/kg.
***Arsenic is naturally occurring in Colorado. The Local Clean-up Level (1.73 mg/kg) is 1.25*Background (1.38 mg/kg).
Laboratory reruns were completed on samples with pH values outside ECMC Table 915-1 Regulatory Range. Results are presented in parentheses.



ATTACHMENT A

Photo Log

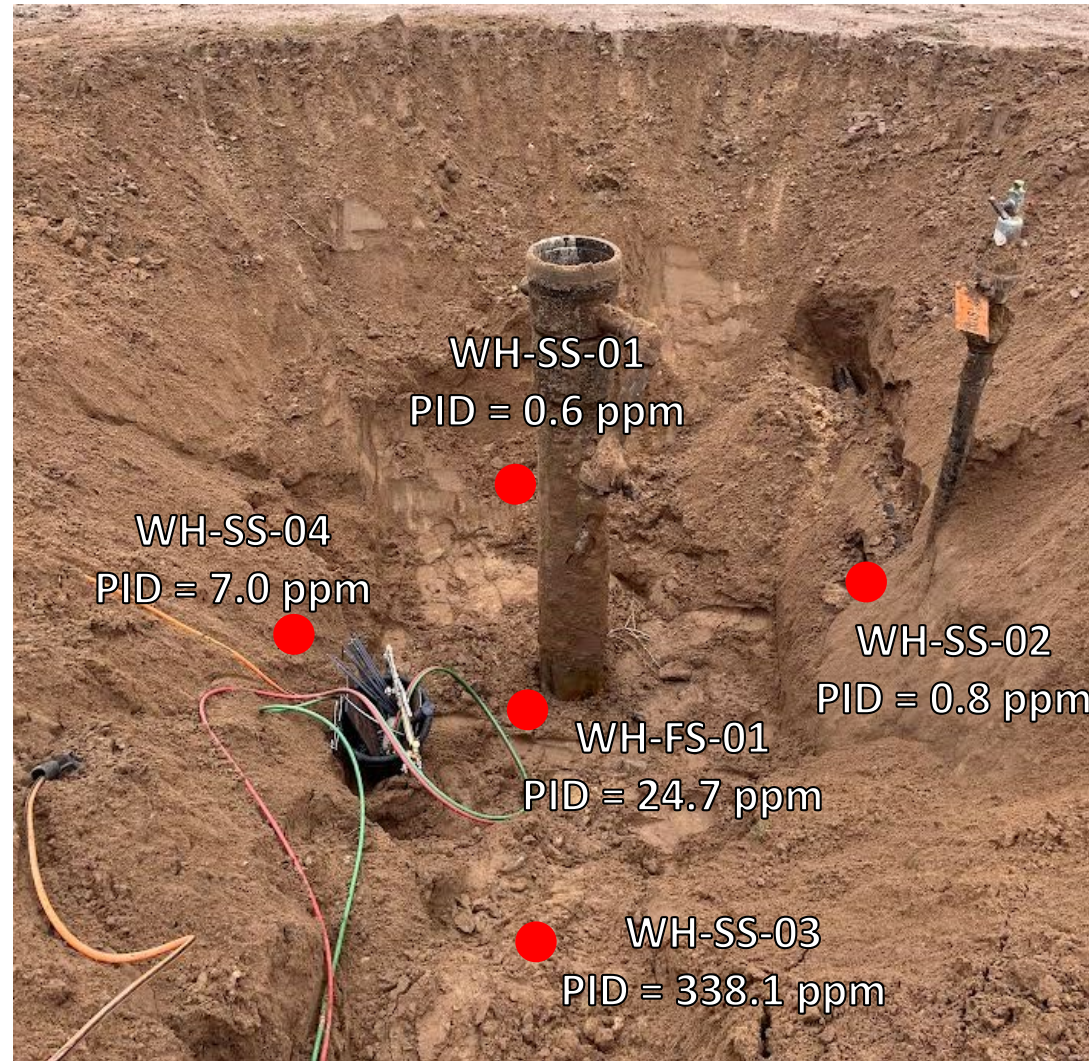
Guttersen State CC #20-03
API # 05-123-22280
Remediation # 27303

Closure Assessment

May 2023



Wellhead Excavation – 05/19/23



Looking north

Strong petroleum hydrocarbon odor observed on south sidewall; no staining observed



ATTACHMENT B

Laboratory Analytical Reports

June 06, 2023

Eagle Environmental Consulting, LLC

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Guttersen State CC 20-03 Project Number - [none]

Attached are your analytical results for Noble - Guttersen State CC 20-03 received by Origins Laboratory, Inc. May 19, 2023. This project is associated with Origins project number Y305528-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-FS-01@6'	Y305528-01	Soil	May 19, 2023 9:03	05/19/2023 12:20
WH-SS-01@5'	Y305528-02	Soil	May 19, 2023 8:55	05/19/2023 12:20
WH-SS-02@5'	Y305528-03	Soil	May 19, 2023 8:57	05/19/2023 12:20
WH-SS-03@5'	Y305528-04	Soil	May 19, 2023 8:59	05/19/2023 12:20
WH-SS-04@5'	Y305528-05	Soil	May 19, 2023 9:01	05/19/2023 12:20

Chain of Custody Modification Request

On 5/30/2023, Grace Congdon from Eagle Environmental contacted Jennifer Pellegrini via email regarding Y305528 requesting that pH be rerun for the samples WH-FS-01@6', WH-SS-01@5', WH-SS-03@5', and WH-SS-04@5' and that 915 metals be added to sample WH-SS-03@5'.

Requested modifications to the chain of custody were made by Jennifer Pellegrini on 5/30/2023. No errors were found in the original pH data, all three results are reported for all reruns. JAB

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersten State CC 20-03

www.originslaboratory.com
 page 1 of 1

1305528

ORIGINS LABORATORY, INC

Client: Eagle Environmental Consulting
 Address: 8000 W 44th Ave
 Wheat Ridge, CO 80033
 Telephone Number: 303.433.0477
 Email Address: mcd@eagle-environment.com

Project Manager: Martin Eckert III
 Project Name: Guttersten State CC 20-03
 Project Number:
 Samples Collected By: G.F.

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix		Analysis	Sample Instructions	
				HCl	HNO ₃	Other	Groundwater	Soil	Air Summa			Other
WH-15-0106	5/11/23	09:03	3	X				X		X	X	EC, SAT, pH by
WH-SS-0105		08:55										Scheduled press. pump
WH-SS-0205		08:57										MBDs needed
WH-SS-0305		08:59										
WH-SS-0405		09:01										

Relinquished By: Eric J. French
 Relinquished By: [Signature]

Date: 5/11/23
 Date: 5-19-23

Time: 12:17
 Time: 12:10

Received By: RBM
 Received By: [Signature]

Date: 5-19-23
 Date: [Blank]

Time: [Blank]
 Time: [Blank]

Turnaround Time: Same Day 24 Hr 48 Hr 72 Hr Standard

Temp Received: 7.7
 Date Results Needed: Noble

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y 305528 Client: Eagle
 Checklist Completed by: JG/ELH Client Project ID: Gutterson State CC 20-03
 Date/time completed: 5/19/23 Shipped Via: HD
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 1 / 7.7 °C / _____ °C / _____ °C (Describe)
 Thermometer ID: 1004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		SD
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <= 2 for samples preserved with HNO3, HCL, H2SO4) / (pH > 10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) [Signature] Date/Time Reviewed 5/23/23

Origins Laboratory, Inc.

[Signature]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-FS-01@6'
5/19/2023 9:03:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.0995	mg/L	1	B3E2307	05/23/2023	05/24/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B3E2201	05/22/2023	05/22/2023	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: <i>o</i> -Terphenyl	95.9 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B3E2232	05/22/2023	05/24/2023	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Naphthalene	ND		0.00380	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-FS-01@6'

5/19/2023 9:03:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	93.4 %		70-130			B3E22 32	05/22/2023	05/24/2023	
Surrogate: Toluene-d8	86.6 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	110 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	0.973		0.499	meq/L	10	[CALC]	05/24/2023	05/25/2023	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L683854	05/24/2023	05/25/2023	
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"	
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	
Chrysene	0.000803	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-FS-01@6'

5/19/2023 9:03:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y305528-01 (Soil)

PAH by 8270D SIM

Fluoranthene	ND	0.000394	0.00067	mg/Kg	1	L683854	05/24/2023	05/25/2023	
Fluorene	0.000994	0.000286	0.00067	"	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	57.3 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	66.8 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	49.1 %		29-110			"	"	"	

pH in Soil by 9045D

pH	8.48			pH Units	1	B3E2415	05/24/2023	05/25/2023	
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SAR by 20B Saturated Paste

SAR	0.176			SAR	1	B3E2409	05/24/2023	05/25/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.257		0.00500	mmhos/cm	1	B3E2415	05/24/2023	05/25/2023	
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Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Gutterson State CC 20-03

WH-FS-01@6'

5/19/2023 9:03:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-01RE1 (Soil)

pH in Soil by 9045D

pH	8.30			pH Units	1	B3E3111	05/24/2023	06/01/2023	
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Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Gutttersen State CC 20-03

WH-FS-01@6'

5/19/2023 9:03:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-01RE2 (Soil)

pH in Soil by 9045D

pH	8.00			pH Units	1	B3E3111	05/24/2023	06/01/2023	
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Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-01@5'
5/19/2023 8:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.0981	mg/L	1	B3E2307	05/23/2023	05/24/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B3E2201	05/22/2023	05/22/2023	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: <i>o</i> -Terphenyl	96.3 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B3E2232	05/22/2023	05/24/2023	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Naphthalene	ND		0.00380	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersen State CC 20-03

WH-SS-01@5'
5/19/2023 8:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
Y305528-02 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	91.5 %		70-130			B3E22 32	05/22/2023	05/24/2023	
Surrogate: Toluene-d8	86.4 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	106 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.03		0.499	meq/L	10	[CALC]	05/24/2023	05/25/2023	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L683854	05/24/2023	05/25/2023	
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"	
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-01@5'
5/19/2023 8:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Waypoint Analytical, LLC.
Y305528-02 (Soil)

PAH by 8270D SIM

Fluoranthene	ND	0.000394	0.00067	mg/Kg	1	L683854	05/24/2023	05/25/2023	
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	56.3 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	69.9 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	47.3 %		29-110			"	"	"	

pH in Soil by 9045D

pH	8.42			pH Units	1	B3E2415	05/24/2023	05/25/2023	
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SAR by 20B Saturated Paste

SAR	0.102			SAR	1	B3E2409	05/24/2023	05/25/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.329		0.00500	mmhos/cm	1	B3E2415	05/24/2023	05/25/2023	
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Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Gutterson State CC 20-03

WH-SS-01@5'

5/19/2023 8:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-02RE1 (Soil)

pH in Soil by 9045D

pH	8.29			pH Units	1	B3E3111	05/24/2023	06/01/2023	
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Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Gutterson State CC 20-03

WH-SS-01@5'

5/19/2023 8:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
Y305528-02RE2 (Soil)

pH in Soil by 9045D

pH	8.24			pH Units	1	B3E3111	05/24/2023	06/01/2023	
----	------	--	--	----------	---	---------	------------	------------	--

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-02@5'
5/19/2023 8:57:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-03 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.100	mg/L	1	B3E2307	05/23/2023	05/24/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B3E2201	05/22/2023	05/22/2023	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	95.7 %		50-150			"	"	"	
------------------------	--------	--	--------	--	--	---	---	---	--

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B3E2232	05/22/2023	05/24/2023	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Naphthalene	ND		0.00380	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-02@5'
5/19/2023 8:57:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-03 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	87.1 %		70-130			B3E22 32	05/22/2023	05/24/2023	
Surrogate: Toluene-d8	87.2 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	108 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	0.879		0.499	meq/L	10	[CALC]	05/24/2023	05/25/2023	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L683854	05/24/2023	05/25/2023	
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"	
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



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 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-02@5'

5/19/2023 8:57:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y305528-03 (Soil)

PAH by 8270D SIM

Fluoranthene	ND	0.000394	0.00067	mg/Kg	1	L683854	05/24/2023	05/25/2023	
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	52.4 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	60.2 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	41.9 %		29-110			"	"	"	

pH in Soil by 9045D

pH	8.04			pH Units	1	B3E2415	05/24/2023	05/25/2023	
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SAR by 20B Saturated Paste

SAR	0.235			SAR	1	B3E2409	05/24/2023	05/25/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.302		0.00500	mmhos/cm	1	B3E2415	05/24/2023	05/25/2023	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-03@5'
5/19/2023 8:59:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.402		0.0992	mg/L	1	B3E2307	05/23/2023	05/24/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	474		25.0	mg/kg	1	B3E2201	05/22/2023	05/22/2023	
Residual Range Organics (C28-C40)	137		100	"	"	"	"	"	

Surrogate: o-Terphenyl	86.0 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.0534		0.00200	mg/kg	1	B3E2232	05/22/2023	05/24/2023	
1,3,5-Trimethylbenzene	0.0660		0.00200	"	"	"	"	"	
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	0.00686		0.00200	"	"	"	"	"	
Naphthalene	ND		0.00380	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	0.0552		0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	11.0		0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	92.6 %		70-130			"	"	"	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-03@5'

5/19/2023 8:59:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-04 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	90.9 %		70-130			B3E22 32	05/22/2023	05/24/2023	
Surrogate: 4-Bromofluorobenzene	110 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	3.38		0.499	meq/L	10	[CALC]	05/24/2023	05/25/2023	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	0.871		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	0.0102	0.00109	0.00201	mg/Kg	1	L683854	05/24/2023	05/25/2023	
2-Methylnaphthalene	0.00603	0.00194	0.00201	"	"	"	"	"	
Acenaphthene	0.00317	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	0.00134	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	
Chrysene	0.00335	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	0.00074	0.000614	0.00067	"	"	"	"	"	
Fluoranthene	0.000396	0.000394	0.00067	"	"	"	"	"	J
Fluorene	0.00836	0.000286	0.00067	"	"	"	"	"	

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 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersen State CC 20-03

WH-SS-03@5'
5/19/2023 8:59:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y305528-04 (Soil)

PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L683854	05/24/2023	05/25/2023	
Pyrene	0.00159	0.000643	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	54.1 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	59 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	43.2 %		29-110			"	"	"	

pH in Soil by 9045D

pH	12.0			pH Units	1	B3E2415	05/24/2023	05/25/2023	
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SAR by 20B Saturated Paste

SAR	0.670			SAR	1	B3E2409	05/24/2023	05/25/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.40		0.00500	mmhos/cm	1	B3E2415	05/24/2023	05/25/2023	
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Table 915 metals by EPA 6020B

Arsenic	2.04		0.0885	mg/kg	10	B3E3032	05/30/2023	06/01/2023	
Barium	45.5		8.85	"	"	"	"	"	
Cadmium	0.0885		0.0885	"	"	"	"	"	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-03@5'

5/19/2023 8:59:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-04 (Soil)

Table 915 metals by EPA 6020B

Copper	ND		8.85	mg/kg	10	B3E3032	05/30/2023	06/01/2023	
Lead	41.7		8.85	"	"	"	"	"	
Nickel	ND		8.85	"	"	"	"	"	
Selenium	ND		0.0885	"	"	"	"	"	
Silver	ND		0.0885	"	"	"	"	"	
Zinc	ND		88.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.245	0.504	mg/Kg	1	L685498	05/19/2023	06/02/2023	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Gutterson State CC 20-03

WH-SS-03@5'

5/19/2023 8:59:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-04RE1 (Soil)

pH in Soil by 9045D

pH	9.18			pH Units	1	B3E3111	05/24/2023	06/01/2023	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Gutterson State CC 20-03

WH-SS-03@5'

5/19/2023 8:59:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-04RE2 (Soil)

pH in Soil by 9045D

pH	11.3			pH Units	1	B3E3111	05/24/2023	06/01/2023	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-04@5'
5/19/2023 9:01:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-05 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.0988	mg/L	1	B3E2411	05/24/2023	05/25/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B3E2201	05/22/2023	05/22/2023	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: *o*-Terphenyl 90.2 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B3E2232	05/22/2023	05/24/2023	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Naphthalene	ND		0.00380	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Origins Laboratory, Inc.



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 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-04@5'
5/19/2023 9:01:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-05 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	92.7 %		70-130			B3E22 32	05/22/2023	05/24/2023	
Surrogate: Toluene-d8	85.9 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	109 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.29		0.499	meq/L	10	[CALC]	05/24/2023	05/25/2023	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00109	0.00201	mg/Kg	1	L683854	05/24/2023	05/25/2023	
2-Methylnaphthalene	ND	0.00194	0.00201	"	"	"	"	"	
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	

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 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

WH-SS-04@5'

5/19/2023 9:01:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y305528-05 (Soil)

PAH by 8270D SIM

Fluoranthene	ND	0.000394	0.00067	mg/Kg	1	L683854	05/24/2023	05/25/2023	
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	53.7 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	63.4 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	45.7 %		29-110			"	"	"	

pH in Soil by 9045D

pH	8.74			pH Units	1	B3E2415	05/24/2023	05/25/2023	
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SAR by 20B Saturated Paste

SAR	0.231			SAR	1	B3E2409	05/24/2023	05/25/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.358		0.00500	mmhos/cm	1	B3E2415	05/24/2023	05/25/2023	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Gutterson State CC 20-03

WH-SS-04@5'

5/19/2023 9:01:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-05RE1 (Soil)

pH in Soil by 9045D

pH	8.44			pH Units	1	B3E3111	05/24/2023	06/01/2023	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Gutterson State CC 20-03

WH-SS-04@5'

5/19/2023 9:01:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305528-05RE2 (Soil)

pH in Soil by 9045D

pH	8.36			pH Units	1	B3E3111	05/24/2023	06/01/2023	
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Origins Laboratory, Inc.



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 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersen State CC 20-03

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E2201 - EPA 3550B										
Blank (B3E2201-BLK1)										
					Prepared: 05/22/2023 Analyzed: 05/22/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		93.0	50-150			

Origins Laboratory, Inc.



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 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E2201 - EPA 3550B

LCS (B3E2201-BS1)

Prepared: 05/22/2023 Analyzed: 05/22/2023

Diesel (C10-C28)	832	50.0	mg/kg	1000		83.2	70-130			
Residual Range Organics (C28-C40)	919	200	"	1000		91.9	70-130			
Surrogate: o-Terphenyl	46		"	49.8		93.4	50-150			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersen State CC 20-03

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E2201 - EPA 3550B

Matrix Spike (B3E2201-MS1)	Source: Y305512-01			Prepared: 05/22/2023 Analyzed: 05/22/2023						
Diesel (C10-C28)	813	50.0	mg/kg	1000	ND	81.3	70-130			
Residual Range Organics (C28-C40)	899	200	"	1000	ND	89.9	70-130			
Surrogate: o-Terphenyl	45		"	49.8		91.2	50-150			

Origins Laboratory, Inc.



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 Wheat Ridge CO 80033

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 Project Number: [none]
 Project: Noble - Guttersen State CC 20-03

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E2201 - EPA 3550B

Matrix Spike Dup (B3E2201-MSD1)	Source: Y305512-01		Prepared: 05/22/2023 Analyzed: 05/22/2023							
Diesel (C10-C28)	822	50.0	mg/kg	1000	ND	82.2	70-130	1.13	35	
Residual Range Organics (C28-C40)	909	200	"	1000	ND	90.9	70-130	1.19	35	
<i>Surrogate: o-Terphenyl</i>	<i>51</i>		<i>"</i>	<i>49.8</i>		<i>103</i>	<i>50-150</i>			

Origins Laboratory, Inc.



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 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersen State CC 20-03

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E2232 - EPA 5030 (soil)

Blank (B3E2232-BLK1)

Prepared: 05/24/2023 Analyzed: 05/24/2023

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125	90.2		70-130			
Surrogate: Toluene-d8	0.11		"	0.125	88.3		70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	104		70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E2232 - EPA 5030 (soil)

LCS (B3E2232-BS1)

Prepared: 05/24/2023 Analyzed: 05/24/2023

1,2,4-Trimethylbenzene	0.0942	0.00200	mg/kg	0.100		94.2	70-130			
1,3,5-Trimethylbenzene	0.0980	0.00200	"	0.100		98.0	70-130			
Benzene	0.100	0.00200	"	0.100		100	70-130			
Ethylbenzene	0.110	0.00200	"	0.100		110	70-130			
Naphthalene	0.0858	0.00380	"	0.100		85.8	70-130			
Toluene	0.103	0.00200	"	0.100		103	70-130			
o-Xylene	0.0975	0.00200	"	0.100		97.5	70-130			
m,p-Xylene	0.217	0.00400	"	0.200		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.0	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		86.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E2232 - EPA 5030 (soil)

Matrix Spike (B3E2232-MS1)	Source: Y305528-01		Prepared: 05/24/2023 Analyzed: 05/24/2023							
1,2,4-Trimethylbenzene	0.0908	0.00200	mg/kg	0.100	ND	90.8	70-130			
1,3,5-Trimethylbenzene	0.0952	0.00200	"	0.100	ND	95.2	70-130			
Benzene	0.0991	0.00200	"	0.100	ND	99.1	70-130			
Ethylbenzene	0.0952	0.00200	"	0.100	ND	95.2	70-130			
Naphthalene	0.0856	0.00380	"	0.100	ND	85.6	70-130			
Toluene	0.0817	0.00200	"	0.100	ND	81.7	70-130			
o-Xylene	0.0926	0.00200	"	0.100	ND	92.6	70-130			
m,p-Xylene	0.189	0.00400	"	0.200	ND	94.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.4	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		86.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		105	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E2232 - EPA 5030 (soil)

Matrix Spike Dup (B3E2232-MSD1)	Source: Y305528-01			Prepared: 05/24/2023 Analyzed: 05/24/2023						
1,2,4-Trimethylbenzene	0.0910	0.00200	mg/kg	0.100	ND	91.0	70-130	0.198	20	
1,3,5-Trimethylbenzene	0.0945	0.00200	"	0.100	ND	94.5	70-130	0.696	20	
Benzene	0.0998	0.00200	"	0.100	ND	99.8	70-130	0.664	20	
Ethylbenzene	0.0928	0.00200	"	0.100	ND	92.8	70-130	2.60	20	
Naphthalene	0.0901	0.00380	"	0.100	ND	90.1	70-130	5.19	20	
Toluene	0.0814	0.00200	"	0.100	ND	81.4	70-130	0.417	20	
o-Xylene	0.0910	0.00200	"	0.100	ND	91.0	70-130	1.76	20	
m,p-Xylene	0.184	0.00400	"	0.200	ND	91.9	70-130	2.82	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.8	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		84.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E3032 - EPA 3050B

Blank (B3E3032-BLK1)

Prepared: 05/30/2023 Analyzed: 06/01/2023

Arsenic	ND	0.000100	mg/kg							
Barium	ND	0.0100	"							
Cadmium	ND	0.000100	"							
Copper	ND	0.0100	"							
Lead	ND	0.0100	"							
Nickel	ND	0.0100	"							
Selenium	ND	0.000100	"							
Silver	ND	0.000100	"							
Zinc	ND	0.100	"							

LCS (B3E3032-BS1)

Prepared: 05/30/2023 Analyzed: 06/01/2023

Arsenic	0.0421	0.000100	mg/kg	0.0500		84.2	80-120			
Barium	4.75	0.0100	"	5.00		95.0	80-120			
Cadmium	0.0504	0.000100	"	0.0500		101	80-120			
Copper	0.474	0.0100	"	0.500		94.9	80-120			
Lead	0.0520	0.0100	"	0.0500		104	80-120			
Nickel	0.0454	0.0100	"	0.0500		90.8	80-120			
Selenium	0.0444	0.000100	"	0.0500		88.9	80-120			
Silver	0.0497	0.000100	"	0.0500		99.5	80-120			
Zinc	0.435	0.100	"	0.500		86.9	80-120			

Matrix Spike (B3E3032-MS1)

Source: Y305528-04

Prepared: 05/30/2023 Analyzed: 06/01/2023

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Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E3032 - EPA 3050B

Matrix Spike (B3E3032-MS1)		Source: Y305528-04			Prepared: 05/30/2023 Analyzed: 06/01/2023					
Arsenic	5.74	0.0922	mg/kg	4.61	2.04	80.3	75-125			
Barium	472	9.22	"	461	45.5	92.6	75-125			
Cadmium	4.84	0.0922	"	4.61	0.0885	103	75-125			
Copper	48.6	9.22	"	46.1	5.09	94.5	75-125			
Lead	21.3	9.22	"	4.61	41.7	NR	75-125			QM-07
Nickel	7.05	9.22	"	4.61	3.43	78.6	75-125			
Selenium	4.13	0.0922	"	4.61	0.0699	88.0	75-125			
Silver	4.15	0.0922	"	4.61	0.0221	89.6	75-125			
Zinc	55.7	92.2	"	46.1	17.9	81.9	75-125			

Matrix Spike Dup (B3E3032-MSD1)		Source: Y305528-04			Prepared: 05/30/2023 Analyzed: 06/01/2023					
Arsenic	6.48	0.0879	mg/kg	4.39	2.04	101	75-125	12.0	20	
Barium	530	8.79	"	439	45.5	110	75-125	11.5	20	
Cadmium	4.90	0.0879	"	4.39	0.0885	109	75-125	1.11	20	
Copper	49.4	8.79	"	43.9	5.09	101	75-125	1.52	20	
Lead	124	8.79	"	4.39	41.7	NR	75-125	142	20	QM-07, QR-DUP
Nickel	8.47	8.79	"	4.39	3.43	115	75-125	18.3	20	
Selenium	3.99	0.0879	"	4.39	0.0699	89.3	75-125	3.32	20	
Silver	4.17	0.0879	"	4.39	0.0221	94.5	75-125	0.535	20	
Zinc	62.1	87.9	"	43.9	17.9	100	75-125	10.9	20	

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 Project: Noble - Gutterson State CC 20-03

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E2307 - DTPA Sorbitol Preparation										
Blank (B3E2307-BLK1)					Prepared: 05/23/2023 Analyzed: 05/24/2023					
Boron	ND	0.100	mg/L							
Duplicate (B3E2307-DUP1)					Source: Y305512-01 Prepared: 05/23/2023 Analyzed: 05/24/2023					
Boron	0.116	0.0985	mg/L		0.114			2.23	50	
Batch B3E2409 - Saturated Paste Metals										
Blank (B3E2409-BLK1)					Prepared: 05/24/2023 Analyzed: 05/25/2023					
Calcium PPM	ND	10.0	mg/L							
SAR	0.00		SAR							
Magnesium PPM	ND	10.0	mg/L							
Sodium PPM	ND	10.0	"							
Duplicate (B3E2409-DUP1)					Source: Y305512-10 Prepared: 05/24/2023 Analyzed: 05/25/2023					
SAR	0.00		SAR		0.0985			200	200	
Calcium PPM	28.0	10.0	mg/L		28.7			2.33	50	
Magnesium PPM	6.88	10.0	"		7.00			1.73	50	
Sodium PPM	2.20	10.0	"		2.27			3.13	50	
Batch B3E2411 - DTPA Sorbitol Preparation										
Blank (B3E2411-BLK1)					Prepared: 05/24/2023 Analyzed: 05/25/2023					
Boron	ND	0.100	mg/L							
Duplicate (B3E2411-DUP1)					Source: Y305528-05 Prepared: 05/24/2023 Analyzed: 05/25/2023					
Boron	0.0669	0.0996	mg/L		0.0565			16.9	50	

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 Project Number: [none]
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Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E2415 - Saturated Paste pH/EC										
Blank (B3E2415-BLK1)					Prepared: 05/24/2023 Analyzed: 05/25/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B3E2415-DUP1)					Source: Y305512-10 Prepared: 05/24/2023 Analyzed: 05/25/2023					
Specific Conductance (EC)	0.321	0.00500	mmhos/cm		0.279		14.2	25		
pH	7.92		pH Units		8.32		4.93	25		
Batch B3E3111 - Saturated Paste pH/EC										
Duplicate (B3E3111-DUP1)					Source: Y305725-03 Prepared: 05/31/2023 Analyzed: 06/01/2023					
pH	5.68		pH Units		5.53		2.68	25		

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Total Metals by 7196A - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L685498 -										
DUP (L 81326-DUP)		Source: Y305528-04			Prepared: Analyzed: 06/02/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
MS (L 81326-MS)		Source: Y305528-04			Prepared: Analyzed: 06/02/2023					
Chromium, Hexavalent	32.8	2.5	mg/Kg	39.6	<1.22	83	75-125			
LCS (LCS)		Prepared: Analyzed: 06/02/2023								
Chromium, Hexavalent	6.42	0.5	mg/Kg	8		80	75-125			
LRB (LRB)		Prepared: Analyzed: 06/02/2023								
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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 Project: Noble - Gutterson State CC 20-03

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L683854 - 3550B

MSD (L 96781-MSD-L683854)		Source: 96781			Prepared: 05/24/2023 Analyzed: 05/25/2023					
1-Methylnaphthalene	0.111	0.00201	mg/Kg	0.166	<0.00109	66.8	30-130	7.4	30	
2-Methylnaphthalene	0.097	0.00201	"	0.166	<0.00194	58.4	30-130	7.1	30	
Pyrene	0.127	0.00067	"	0.166	<0.000643	76.5	30-130	4	30	
Indeno(1,2,3-cd)pyrene	0.112	0.00067	"	0.166	<0.000627	67.4	30-130	26.7	30	
Fluorene	0.102	0.00067	"	0.166	0.00069	61	30-130	2.6	30	
Fluoranthene	0.129	0.00067	"	0.166	<0.000394	77.7	30-130	6.4	30	
Anthracene	0.111	0.00067	"	0.166	<0.000334	66.8	30-130	2.7	30	
Benzo(a)anthracene	0.114	0.00067	"	0.166	<0.000493	68.6	30-130	3.5	30	
Benzo(a)pyrene	0.118	0.00067	"	0.166	<0.000468	71	30-130	2.5	30	
Benzo(b)fluoranthene	0.0892	0.00067	"	0.166	<0.000585	53.7	30-130	8.7	30	
Benzo(k)fluoranthene	0.135	0.00067	"	0.166	<0.000437	81.3	30-130	30.8	30	*
Chrysene	0.13	0.00067	"	0.166	<0.000624	78.3	30-130	3.1	30	
Dibenz(a,h)anthracene	0.14	0.00067	"	0.166	<0.000614	84.3	30-130	21.3	30	
Acenaphthene	0.107	0.00067	"	0.166	0.000401	64.2	30-130	5.7	30	
Surrogate: Nitrobenzene-d5	54.5		"	0.332	155	54.5	29-110			
Surrogate: 2-Fluorobiphenyl	59.6		"	0.332	180	59.6	33-115			
Surrogate: 4-Terphenyl-d14	81.3		"	0.332	221	81.3	33-122			

MS (L 96781-MS-L683854)		Source: 96781			Prepared: 05/24/2023 Analyzed: 05/25/2023					
Benzo(a)anthracene	0.11	0.00067	mg/Kg	0.167	<0.000493	65.8	30-130			
Indeno(1,2,3-cd)pyrene	0.0856	0.00067	"	0.167	<0.000627	51.2	30-130			
Pyrene	0.122	0.00067	"	0.167	<0.000643	73	30-130			
Acenaphthene	0.101	0.00067	"	0.167	0.000401	60.2	30-130			
Fluorene	0.0993	0.00067	"	0.167	0.00069	59	30-130			
Benzo(b)fluoranthene	0.0817	0.00067	"	0.167	<0.000585	48.9	30-130			
Chrysene	0.126	0.00067	"	0.167	<0.000624	75.4	30-130			
Benzo(k)fluoranthene	0.0989	0.00067	"	0.167	<0.000437	59.2	30-130			

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 Project: Noble - Gutterson State CC 20-03

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L683854 - 3550B

MS (L 96781-MS-L683854)		Source: 96781			Prepared: 05/24/2023 Analyzed: 05/25/2023					
Anthracene	0.108	0.00067	mg/Kg	0.167	<0.000334	64.6	30-130			
2-Methylnaphthalene	0.0903	0.00201	"	0.167	<0.00194	54	30-130			
1-Methylnaphthalene	0.103	0.00201	"	0.167	<0.00109	61.6	30-130			
Dibenz(a,h)anthracene	0.113	0.00067	"	0.167	<0.000614	67.6	30-130			
Fluoranthene	0.121	0.00067	"	0.167	<0.000394	72.4	30-130			
Benzo(a)pyrene	0.121	0.00067	"	0.167	<0.000468	72.4	30-130			
Surrogate: Nitrobenzene-d5	50.7		"	0.333	155	50.7	29-110			
Surrogate: 4-Terphenyl-d14	75		"	0.333	221	75	33-122			
Surrogate: 2-Fluorobiphenyl	58.5		"	0.333	180	58.5	33-115			

LCS (LCS-L683854)					Prepared: 05/24/2023 Analyzed: 05/25/2023					
Indeno(1,2,3-cd)pyrene	0.105	0.00067	mg/Kg	0.167		62.8	30-130			
Pyrene	0.111	0.00067	"	0.167		66.4	30-130			
Benzo(b)fluoranthene	0.0792	0.00067	"	0.167		47.4	30-130			
1-Methylnaphthalene	0.098	0.00201	"	0.167		58.6	30-130			
2-Methylnaphthalene	0.0872	0.00201	"	0.167		52.2	30-130			
Acenaphthene	0.0951	0.00067	"	0.167		56.9	30-130			
Anthracene	0.103	0.00067	"	0.167		61.6	30-130			
Benzo(a)pyrene	0.106	0.00067	"	0.167		63.4	30-130			
Fluorene	0.0913	0.00067	"	0.167		54.6	30-130			
Benzo(k)fluoranthene	0.112	0.00067	"	0.167		67	30-130			
Chrysene	0.11	0.00067	"	0.167		65.8	30-130			
Dibenz(a,h)anthracene	0.121	0.00067	"	0.167		72.4	30-130			
Fluoranthene	0.112	0.00067	"	0.167		67	30-130			
Benzo(a)anthracene	0.0992	0.00067	"	0.167		59.4	30-130			
Surrogate: Nitrobenzene-d5	52.2		"	0.333		52.2	29-110			
Surrogate: 2-Fluorobiphenyl	59.1		"	0.333		59.1	33-115			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L683854 - 3550B										
LCS (LCS-L683854)					Prepared: 05/24/2023 Analyzed: 05/25/2023					
Surrogate: 4-Terphenyl-d14	75.3		mg/Kg	0.333		75.3	33-122			
LRB (LRB-L683854)					Prepared: 05/24/2023 Analyzed: 05/25/2023					
Fluoranthene	ND	0.00067	mg/Kg				-			
Fluorene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00201	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00201	"				-			
Acenaphthene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	48		"	0.333		48	29-110			
Surrogate: 4-Terphenyl-d14	73.2		"	0.333		73.2	33-122			
Surrogate: 2-Fluorobiphenyl	58.5		"	0.333		58.5	33-115			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Guttersen State CC 20-03

Notes and Definitions

U Sample is Non-Detect.

QR-DUP RPD exceeds QC acceptance criteria, this indicates source sample is not homogenous.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

J Estimated Value. Analyte below reported quantitation limit.

* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



June 05, 2023

Eagle Environmental Consulting, LLC

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble - Guttersen State CC 20-03 Project Number - [none]

Attached are your analytical results for Noble - Guttersen State CC 20-03 received by Origins Laboratory, Inc. May 30, 2023. This project is associated with Origins project number Y305765-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Guttersen State CC 20-03

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Background-01@2'	Y305765-01	Soil	May 19, 2023 9:05	05/30/2023 16:11

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ORIGINS

LABORATORY, INC

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersten State CC 20-03

www.originslaboratory.com

4305765

page **1** of **1**

ORIGINS
 LABORATORY, INC


Client: Eagle Env. Consulting
 Address: 8000 W 44th Ave
Wheat Ridge, CO 80033
 Telephone Number: 303-433-0479
 Email Address: mce@eagle-enviro.com

Project Manager: Martin Eckert III
 Project Name: Guttersten State CC #20-03
 Project Number: _____
 Samples Collected By: GF

Fax: 303.265.9645 | Phone: 303.433.1322 | Denver, CO 80211 | 1725 Elk Place

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions				
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Canister #	Other	Metric #1		Metric #2			
Background - 01 @ 2'	5/19/23	0905	2	X	X	X	X	X	X							pH = saturated	
																	paste prep
																	MOLs needed
Requisitioned By: <i>Bypduu</i>	Date: 5/30/23	Time: 1611	Received By: <i>Ud</i>	Date: 5/30/23	Time: 1101	Received By: <i>SB</i>	Date: 5/30/23	Time: 1101	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>								

Bill to Cole Temp Received: 4.5 Date Results Needed *Noble*

Origins Laboratory, Inc.


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Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 4305765 Client: Eagle
 Client Project ID: Gutterson State CC #20
 Checklist Completed by: EHS Shipped Via: HD
 Date/time completed: 5/30/23 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: NA
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 1 MS °C / _____ °C / _____ °C (Describe)
 Thermometer ID: T004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)			/	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)			/	
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? if yes, contact client and note in narrative.			/	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)(pH <=2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)			/	
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by: [Signature] Date/Time Reviewed: 5/31/23

Origins Laboratory, Inc.

[Signature]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersen State CC 20-03

Background-01@2'
5/19/2023 9:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y305765-01 (Soil)

pH in Soil by 9045D

pH	8.12		pH Units	1	B3F0112	HJD	06/01/2023	06/02/2023	
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Table 915 metals by EPA 6020B

Arsenic	1.38	0.0864	mg/kg	10	B3E3032	EDM	05/30/2023	06/01/2023	
Barium	42.6	8.64	"	"	"	EDM	"	"	
Cadmium	ND	0.0864	"	"	"	EDM	"	"	
Copper	ND	8.64	"	"	"	EDM	"	"	
Lead	ND	8.64	"	"	"	EDM	"	"	
Nickel	ND	8.64	"	"	"	EDM	"	"	
Selenium	0.109	0.0864	"	"	"	EDM	"	"	
Silver	ND	0.0864	"	"	"	EDM	"	"	
Zinc	ND	86.4	"	"	"	EDM	"	"	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersen State CC 20-03

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E3032 - EPA 3050B

Blank (B3E3032-BLK1)

Prepared: 05/30/2023 Analyzed: 06/01/2023

Arsenic	ND	0.000100	mg/kg							
Barium	ND	0.0100	"							
Cadmium	ND	0.000100	"							
Copper	ND	0.0100	"							
Lead	ND	0.0100	"							
Nickel	ND	0.0100	"							
Selenium	ND	0.000100	"							
Silver	ND	0.000100	"							
Zinc	ND	0.100	"							

LCS (B3E3032-BS1)

Prepared: 05/30/2023 Analyzed: 06/01/2023

Arsenic	0.0421	0.000100	mg/kg	0.0500		84.2	80-120			
Barium	4.75	0.0100	"	5.00		95.0	80-120			
Cadmium	0.0504	0.000100	"	0.0500		101	80-120			
Copper	0.474	0.0100	"	0.500		94.9	80-120			
Lead	0.0520	0.0100	"	0.0500		104	80-120			
Nickel	0.0454	0.0100	"	0.0500		90.8	80-120			
Selenium	0.0444	0.000100	"	0.0500		88.9	80-120			
Silver	0.0497	0.000100	"	0.0500		99.5	80-120			
Zinc	0.435	0.100	"	0.500		86.9	80-120			

Matrix Spike (B3E3032-MS1)

Source: Y305528-04

Prepared: 05/30/2023 Analyzed: 06/01/2023

Arsenic	5.74	0.0922	mg/kg	4.61	2.04	80.3	75-125			
Barium	472	9.22	"	461	45.5	92.6	75-125			
Cadmium	4.84	0.0922	"	4.61	0.0885	103	75-125			
Copper	48.6	9.22	"	46.1	5.09	94.5	75-125			
Lead	21.3	9.22	"	4.61	41.7	NR	75-125			QM-07

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Gutterson State CC 20-03

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3E3032 - EPA 3050B

Matrix Spike (B3E3032-MS1)

Source: Y305528-04

Prepared: 05/30/2023 Analyzed: 06/01/2023

Nickel	7.05	9.22	mg/kg	4.61	3.43	78.6	75-125			
Selenium	4.13	0.0922	"	4.61	0.0699	88.0	75-125			
Silver	4.15	0.0922	"	4.61	0.0221	89.6	75-125			
Zinc	55.7	92.2	"	46.1	17.9	81.9	75-125			

Matrix Spike Dup (B3E3032-MSD1)

Source: Y305528-04

Prepared: 05/30/2023 Analyzed: 06/01/2023

Arsenic	6.48	0.0879	mg/kg	4.39	2.04	101	75-125	12.0	20	
Barium	530	8.79	"	439	45.5	110	75-125	11.5	20	
Cadmium	4.90	0.0879	"	4.39	0.0885	109	75-125	1.11	20	
Copper	49.4	8.79	"	43.9	5.09	101	75-125	1.52	20	
Lead	124	8.79	"	4.39	41.7	NR	75-125	142	20	QM-07, QR-DUP
Nickel	8.47	8.79	"	4.39	3.43	115	75-125	18.3	20	
Selenium	3.99	0.0879	"	4.39	0.0699	89.3	75-125	3.32	20	
Silver	4.17	0.0879	"	4.39	0.0221	94.5	75-125	0.535	20	
Zinc	62.1	87.9	"	43.9	17.9	100	75-125	10.9	20	

Origins Laboratory, Inc.



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 8000 W 44th Ave
 Wheat Ridge CO 80033

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Guttersen State CC 20-03

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3F0112 - Saturated Paste pH/EC

Duplicate (B3F0112-DUP1)		Source: Y305735-01		Prepared: 06/01/2023 Analyzed: 06/02/2023	
pH	8.17		pH Units	8.24	0.853 25

Origins Laboratory, Inc.



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Eagle Environmental Consulting, LLC
8000 W 44th Ave
Wheat Ridge CO 80033

Martin C Eckert III
Project Number: [none]
Project: Noble - Guttersen State CC 20-03

Notes and Definitions

QR-DUP RPD exceeds QC acceptance criteria, this indicates source sample is not homogenous.

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

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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