



FIGURES

Figure 1: Monitoring Well Groundwater Analytical Map (09/14/17)

Figure 2: Groundwater Elevation Map (09/14/17)

Figure 3: Grab Surface Water Sample Location Map



LEGEND

APPROXIMATE LOCATION OF UNINTENTIONAL RELEASE

APPROXIMATE FLOW LINE LOCATION

APPROXIMATE EXCAVATION BOUNDARIES

APPROXIMATE MONITORING WELL LOCATIONS

DESTROYED MONITORING WELL LOCATIONS

PARAMETERS

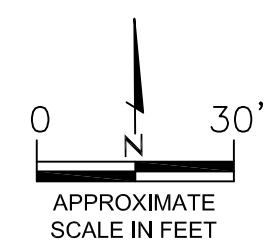
SAMPLE LOCATION
DATE
B = BENZENE (µg/L)
T = TOLUENE (µg/L)
E = ETHYLBENZENE (µg/L)
X = TOTAL XYLENES (µg/L)

µg/L = MICROGRAMS PER LITER

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

VALUES PRESENTED IN **BOLD** TYPEFACE EXCEED COGCC TABLE 910-1 REGULATORY LIMITS

COGCC – COLORADO OIL AND GAS CONSERVATION COMMISSION



MONITORING WELL GROUNDWATER ANALYTICAL MAP
(09/14/17)
WARDLAW #20-28
FLOW LINE RELEASE
40.452377 / -104.550395
SE1/4 SE1/4 SEC.28 T6N R64W 6PM
WELD COUNTY, COLORADO
REMEDATION # 10185

DATE	10/18/17	
FIG. NO.	1	DRAWN BY AMN

EAGLE
ENVIRONMENTAL
CONSULTING, INC.
4101 INCA STREET, DENVER, CO 80211
Ph: 303-433-0479 • F: 303-325-5449



LEGEND

APPROXIMATE LOCATION OF UNINTENTIONAL RELEASE

APPROXIMATE FLOW LINE LOCATION

APPROXIMATE EXCAVATION BOUNDARIES

APPROXIMATE MONITORING WELL LOCATIONS

DESTROYED MONITORING WELL LOCATIONS

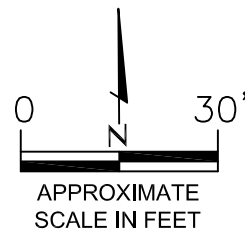
(4748.25) GROUNDWATER ELEVATION (FT.)

INFERRED GROUNDWATER ELEVATION CONTOUR (FT.)

APPROXIMATE GROUNDWATER FLOW DIRECTION

FT. = FEET

NOTE:
GROUNDWATER ELEVATION DATA WAS COLLECTED ON 09/14/17.



GROUNDWATER ELEVATION MAP
(09/14/17)
WARDLAW #20-28
FLOW LINE RELEASE
40.452377 / -104.550395
SE1/4 SE1/4 SEC.28 T6N R64W 6PM
WELD COUNTY, COLORADO
REMEDATION # 10185

DATE 10/18/17		 EAGLE ENVIRONMENTAL CONSULTING, INC. 4101 INCA STREET, DENVER, CO 80211 Ph: 303-433-0479 • F: 303-325-5449
FIG. NO. 2	DRAWN BY AMN	



×

APPROXIMATE LOCATION OF UNINTENTIONAL RELEASE

□

WELL HEAD LOCATION

●

APPROXIMATE LOCATION OF SURFACE WATER SAMPLES
SUBMITTED FOR LABORATORY ANALYSIS

PARAMETERS

SURFACE WATER SAMPLE LOCATION
DATE

B = BENZENE (µg/L)

T = TOLUENE (µg/L)

E = ETHYLBENZENE (µg/L)

X = TOTAL XYLENES (µg/L)

µg/L = MICROGRAMS PER LITER

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

0

400

SCALE IN FEET

DATE:

10/18/17

FIG.
NO.

3

DRAWN BY:

RAL

GRAB SURFACE WATER SAMPLE LOCATION MAP


WARDLAW #20-28

FLOW LINE RELEASE

40.452377 / -104.550395

SE1/4 SE1/4 SEC.28 T6N R64W 6PM

REMEDATION # 10185



EAGLE

ENVIRONMENTAL
CONSULTING, INC.

4101 INCA STREET, DENVER, CO 80211
Ph: 303-433-0479 • F: 303-325-5449



TABLES

Table 1: Water Analytical Results Summary

Table 2: Groundwater Elevation Summary

TABLE 1
WATER ANALYTICAL RESULTS SUMMARY
WARDLAW #20-28
FLOW LINE RELEASE
40.452377 / -104.550395
SE1/4 SE1/4 SEC.28 T6N R64W 6PM
WELD COUNTY, COLORADO
REMEDATION # 10185

Sample Location (Latitude/Longitude)	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Table 910-1 Regulatory Limits (µg/L)		5	560	700	1400
SW-01 (40.452432487/-104.550326268)	02/09/17	<1.00	2.54	<1.00	2.58
	02/13/17	<1.00	<1.00	<1.00	<1.00
	02/20/17	<1.00	<1.00	<1.00	<1.00
	03/17/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
SW-02 (40.451283697/-104.550667387)	02/09/17	100	514	54.9	659
	02/13/17	11.3	83.8	9.64	240
	02/20/17	<1.00	<1.00	<1.00	3.18
	03/17/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
SW-03 (40.451208284/-104.550759293)	02/09/17	90.7	459	48.8	605
	02/10/17	6.24	40.2	4.92	109
	02/13/17	8.52	42.8	4.36	152
	02/20/17	<1.00	<1.00	<1.00	2.45
	03/17/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
SW-04 (40.450779462/-104.551161230)	02/10/17	4.92	28.4	<4.00	90.9
	02/13/17	6.80	32.0	<4.00	147
	02/20/17	<1.00	<1.00	<1.00	1.49
	03/17/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
SW-05 (40.449982352/-104.551611892)	02/10/17	<4.00	8.20	<4.00	73.8
	02/13/17	<1.00	1.06	<1.00	22.8
	02/20/17	<1.00	<1.00	<1.00	<1.00
	03/17/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00

TABLE 1
WATER ANALYTICAL RESULTS SUMMARY
WARDLAW #20-28
FLOW LINE RELEASE
40.452377 / -104.550395
SE1/4 SE1/4 SEC.28 T6N R64W 6PM
WELD COUNTY, COLORADO
REMEDATION # 10185

Sample Location (Latitude/Longitude)	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Table 910-1 Regulatory Limits (µg/L)		5	560	700	1400
SW-06 (40.449897202/-104.551692223)	02/10/17	<4.00	<4.00	<4.00	16.5
	02/13/17	<1.00	<1.00	<1.00	<1.00
	02/20/17	<1.00	<1.00	<1.00	<1.00
	03/17/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
SW-07 (40.449690628/-104.551677355)	02/10/17	<4.00	<4.00	<4.00	<4.00
	02/13/17	<1.00	<1.00	<1.00	<1.00
	02/20/17	<1.00	<1.00	<1.00	<1.00
	03/17/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
SW-08 (40.448928873/-104.551685603)	02/10/17	<4.00	<4.00	<4.00	<4.00
	02/13/17	<1.00	<1.00	<1.00	<1.00
	02/20/17	<1.00	<1.00	<1.00	<1.00
	03/17/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
SW-09 (40.448299817/-104.551680172)	02/10/17	<4.00	<4.00	<4.00	<4.00
	02/13/17	<1.00	<1.00	<1.00	<1.00
	02/20/17	<1.00	<1.00	<1.00	<1.00
	03/17/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
GW-01	02/11/17	434	1560	138	1530

TABLE 1
WATER ANALYTICAL RESULTS SUMMARY
WARDLAW #20-28
FLOW LINE RELEASE
40.452377 / -104.550395
SE1/4 SE1/4 SEC.28 T6N R64W 6PM
WELD COUNTY, COLORADO
REMEDATION # 10185

Sample Location (Latitude/Longitude)	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Table 910-1 Regulatory Limits (µg/L)		5	560	700	1400
MW-01 (40.452393003/-104.550433142)	03/27/17	188	<4.00	12.6	327
	06/15/17	614	<1.00	<1.00	2.26
	09/14/17	DES			
MW-02 (40.452504816/-104.550455313)	03/30/17	<1.00	<1.00	6.58	43.4
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-03 (40.452454447/-104.550546129)	03/30/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-04 (40.452342502/-104.550577837)	03/27/17	<4.00	<4.00	<4.00	<4.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-05 (40.452208431/-104.550603406)	03/27/17	<4.00	<4.00	<4.00	<4.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-06 (40.452070696/-104.550630887)	03/27/17	<4.00	<4.00	<4.00	<4.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-07 (40.452002981/-104.55055025)	03/27/17	<4.00	<4.00	<4.00	<4.00
	06/15/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-08 (40.451924937/-104.550467803)	03/27/17	<4.00	<4.00	<4.00	<4.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-09 (40.452077465/-104.550441169)	03/27/17	<4.00	<4.00	<4.00	<4.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	3.15	<1.00	<1.00	<1.00

TABLE 1
WATER ANALYTICAL RESULTS SUMMARY
WARDLAW #20-28
FLOW LINE RELEASE
40.452377 / -104.550395
SE1/4 SE1/4 SEC.28 T6N R64W 6PM
WELD COUNTY, COLORADO
REMEDIATION # 10185

Sample Location (Latitude/Longitude)	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Table 910-1 Regulatory Limits (µg/L)		5	560	700	1400
MW-10 (40.452207178/-104.55040854)	03/28/17	<4.00	<4.00	<4.00	<4.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-11 (40.452321549/-104.550383609)	03/30/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-12 (40.45239442/-104.550368154)	03/30/17	210	480	19.8	424
	06/13/17	2120	5560	251	3510
	09/14/17	1310	<1.00	52.3	344
MW-13 (40.452664489/-104.550339323)	03/30/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	<1.00	<1.00	<1.00	<1.00
MW-14 (40.452664489/-104.550339323)	03/28/17	<4.00	<4.00	<4.00	<4.00
	06/15/17	96.0	<1.00	<1.00	23.6
	09/14/17	73.6	<1.00	<1.00	<1.00
MW-15 (40.452232004/-104.550269649)	03/30/17	<1.00	<1.00	<1.00	<1.00
	06/15/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	DES			
MW-16 (40.452334255/-104.550243785)	03/30/17	<1.00	<1.00	<1.00	<1.00
	06/15/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	DES			
MW-17 (40.452418346/-104.55022411)	03/30/17	<1.00	<1.00	<1.00	<1.00
	06/13/17	<1.00	<1.00	<1.00	<1.00
	09/14/17	DES			

COGCC = Colorado Oil and Gas Conservation Commission
NS = Not Sampled
DES - Destroyed
µg/L - micrograms per liter
Note: Values presented with a less than symbol (<) indicate concentrations were not observed at or above the laboratory reporting limit.

Values presented in **bold** typeface exceed their respective COGCC - Regulatory Limits (Table 910-1).



TABLE 2
GROUNDWATER ELEVATION SUMMARY
WARDLAW #20-28
FLOW LINE RELEASE
40.452377 / -104.550395
SE1/4 SE1/4 SEC.28 T6N R64W 6PM
WELD COUNTY, COLORADO
REMEDATION # 10185

Sample Location (Latitude/Longitude)	Date	TOC Elevation (feet)	Depth to Groundwater from TOC (feet)	Relative Groundwater Elevation (feet)	Depth to Groundwater (bgs) (feet)	Stickup Height (feet)
MW-01 (40.452393003/-104.550433142)	03/28/17	98.78	7.74	91.04	4.88	2.86
	06/15/17		7.20	91.58	4.34	
	09/14/17	DES				
MW-02 (40.452504816/-104.550455313)	03/28/17	99.22	NM	NA	NA	2.92
	03/30/17		9.83	89.39	6.91	
	06/13/17		5.54	93.68	2.62	
	09/14/17		5.41	93.81	2.49	
MW-03 (40.452454447/-104.550546129)	03/28/17	99.62	NM	NA	NA	3.10
	03/30/17		12.97	86.65		
	06/13/17		6.00	93.62	2.90	
	09/14/17		5.89	93.73	2.79	
MW-04 (40.452342502/-104.550577837)	03/28/17	99.20	6.78	92.42	3.80	2.98
	06/13/17		6.00	93.20	3.02	
	09/14/17		5.86	93.34	2.88	
MW-05 (40.452208431/-104.550603406)	03/28/17	98.64	6.63	92.01	3.63	3.00
	06/13/17		6.05	92.59	3.05	
	09/14/17		5.93	92.71	2.93	
MW-06 (40.452070696/-104.550630887)	03/28/17	98.38	6.44	91.94	3.49	2.95
	06/13/17		6.04	92.34	3.09	
	09/14/17		5.93	92.45	2.98	
MW-07 (40.452002981/-104.55055025)	03/28/17	98.37	6.57	91.80	3.65	2.92
	06/15/17		6.66	91.71	3.74	
	09/14/17		6.56	91.81	3.64	
MW-08 (40.451924937/-104.550467803)	03/28/17	98.32	6.60	91.72	3.89	2.71
	06/13/17		6.53	91.79	3.82	
	09/14/17		6.41	91.91	3.70	
MW-09 (40.452077465/-104.550441169)	03/28/17	98.78	7.14	91.64	4.48	2.66
	06/13/17		6.85	91.93	4.19	
	09/14/17		6.76	92.02	4.10	

TABLE 2
GROUNDWATER ELEVATION SUMMARY
WARDLAW #20-28
FLOW LINE RELEASE
40.452377 / -104.550395
SE1/4 SE1/4 SEC.28 T6N R64W 6PM
WELD COUNTY, COLORADO
REMEDATION # 10185

Sample Location (Latitude/Longitude)	Date	TOC Elevation (feet)	Depth to Groundwater from TOC (feet)	Relative Groundwater Elevation (feet)	Depth to Groundwater (bgs) (feet)	Stickup Height (feet)
MW-10 (40.452207178/-104.55040854)	03/28/17	98.91	NM	NA	NA	2.83
	06/13/17		6.60	92.31	3.77	
	09/14/17		6.48	92.43	3.65	
MW-11 (40.452321549/-104.550383609)	03/28/17	99.27	NM	NA	NA	2.74
	06/13/17		6.64	92.63	3.90	
	09/14/17		6.38	92.89	3.64	
MW-12 (40.45239442/-104.550368154)	03/28/17	99.34	NM	NA	NA	2.71
	03/30/17		13.64	85.70	10.93	
	06/13/17		6.48	92.86	3.77	
	09/14/17		6.26	93.08	3.55	
MW-13 (40.452664489/-104.550339323)	03/28/17	100.00	NM	NA	NA	2.64
	06/13/17		6.55	93.45	3.91	
	09/14/17		6.31	93.69	3.67	
MW-14 (40.452664489/-104.550339323)	03/28/17	98.41	7.32	91.09	4.60	2.72
	06/15/17		6.60	91.81	3.88	
	09/14/17		6.48	91.93	3.76	
MW-15 (40.452232004/-104.550269649)	03/28/17	99.54	NM	NA	NA	2.82
	06/15/17		7.33	92.21	4.51	
	09/14/17	DES				
MW-16 (40.452334255/-104.550243785)	03/28/17	99.73	NM	NA	NA	2.86
	06/15/17		7.11	92.62	4.25	
	09/14/17	DES				
MW-17 (40.452418346/-104.55022411)	03/28/17	99.72	NM	NA	NA	2.75
	06/15/17		8.42	91.30	5.67	
	09/14/17	DES				
NOTES: All wells completed as PVC stick ups. bgs= below ground surface						
TOC = top of casing NA = not applicable						
PVC = polyvinyl chloride DES = Destroyed						
NM = not measured						



ATTACHMENT A

Laboratory Analytical Reports



September 21, 2017

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Wardlaw #20-28

Project Number - [none]

Attached are your analytical results for Noble - Wardlaw #20-28 received by Origins Laboratory, Inc. September 15, 2017. This project is associated with Origins project number Y709191-01.

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, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-02	Y709191-01	Water	September 14, 2017 13:40	09/15/2017 09:03
MW-03	Y709191-02	Water	September 14, 2017 13:50	09/15/2017 09:03
MW-04	Y709191-03	Water	September 14, 2017 14:00	09/15/2017 09:03
MW-05	Y709191-04	Water	September 14, 2017 14:10	09/15/2017 09:03
MW-06	Y709191-05	Water	September 14, 2017 14:20	09/15/2017 09:03
MW-07	Y709191-06	Water	September 14, 2017 14:30	09/15/2017 09:03
MW-08	Y709191-07	Water	September 14, 2017 14:40	09/15/2017 09:03
MW-09	Y709191-08	Water	September 14, 2017 14:50	09/15/2017 09:03
MW-10	Y709191-09	Water	September 14, 2017 15:00	09/15/2017 09:03
MW-11	Y709191-10	Water	September 14, 2017 15:10	09/15/2017 09:03
MW-12	Y709191-11	Water	September 14, 2017 15:20	09/15/2017 09:03
MW-13	Y709191-12	Water	September 14, 2017 15:30	09/15/2017 09:03
MW-14	Y709191-13	Water	September 14, 2017 15:40	09/15/2017 09:03
SW-01	Y709191-14	Water	September 14, 2017 16:05	09/15/2017 09:03

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, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-02	Y709191-15	Water	September 14, 2017 16:10	09/15/2017 09:03
SW-03	Y709191-16	Water	September 14, 2017 16:15	09/15/2017 09:03
SW-04	Y709191-17	Water	September 14, 2017 16:20	09/15/2017 09:03
SW-05	Y709191-18	Water	September 14, 2017 16:25	09/15/2017 09:03
SW-06	Y709191-19	Water	September 14, 2017 16:30	09/15/2017 09:03
SW-07	Y709191-20	Water	September 14, 2017 16:35	09/15/2017 09:03
SW-08	Y709191-21	Water	September 14, 2017 16:40	09/15/2017 09:03
SW-09	Y709191-22	Water	September 14, 2017 16:45	09/15/2017 09:03

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

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page 1 of 3

Y709191

ORIGINS
LABORATORY, INC

Client: EAGLE
Address: 4101 Inca St.
DANVER, CO 80211
Telephone Number: 303-487-0479
Email Address: NOELLE.EAGLE-ENV.COM

Project Manager: MARTIN ECKERT
Project Name: WARDLAW 20-28
Project Number: SV
Samples Collected By: SV

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
MW-2	9/14/17	1340	3									1
MW-3		1350										2
MW-4		1400										3
MW-5		1410										4
MW-6		1420										5
MW-7		1430										6
MW-8		1440										7
MW-9		1450										8
MW-10		1500										9
MW-11		1510										10
Relinquished By: <u>[Signature]</u>	Date: <u>9/15/17</u>	Time: <u>1403</u>	Received By: <u>[Signature]</u>	Date: <u>9/15/17</u>	Time: <u>0903</u>	Turnaround Time: <input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input checked="" type="checkbox"/> Standard						

Date Results Needed NOBLE

Temp Received: 58°C

Bill to JACOB

Origins Laboratory, Inc.

Jefe Pellegrini

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Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

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page 2 of 3

1704191

ORIGINS LABORATORY, INC

Client: EAGLE

Address: 4101 Inca St.
DENVER, CO 80211

Telephone Number: 303-433-0979

Email Address: MCE3@EAGLE-ENV.COM

Project Manager: MARTIN ECKERT III

Project Name: WARDLAW 20-28

Project Number: -

Samples Collected By: SV/KP

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other		
MW-12	9/14/17	1520	3										1
MW-13		1530											2
MW-14		1540											3
SW-01		1605											4
SW-02		1610											5
SW-03		1615											6
SW-04		1620											7
SW-05		1625											8
SW-06		1630											9
SW-07		1635											10
Relinquished By: <u>[Signature]</u>	Date: <u>9/15/17</u>	Time: <u>0905</u>		Received By: <u>[Signature]</u>				Date: <u>9/15/17</u>	Time: <u>0903</u>	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard			

Temp Received: 5.8°C

Date Results Needed: 9/15/17

Relinquished By: [Signature]

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

ORIGINS

LABORATORY, INC

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page 3 of 3

Client: EAGLE
 Address: 4101 INDIAN ST.
DENVER, CO 80211
 Telephone Number: 303-433-0977
 Email Address: MCGEO-EAGLE-EDWARDS.COM

Project Manager: MARTIN EDWARDS III
 Project Name: LARSENDALE 20-28
 Project Number: -
 Samples Collected By: SV

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
SW-03	9/14/17	1640	3									1
SW-04	9/14/17	1645	1									2
												3
												4
												5
												6
												7
												8
												9
												10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
<i>[Signature]</i>	9/15/17	0903	<i>[Signature]</i>	9/15/17	0903	Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>

Call to JAGS

Temp Received: 58°C

Date Results Needed: NOBLE

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

Origins Laboratory, Inc.

Jeff Pellgrini

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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver

CO

80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

Origins Laboratory

F-012207-01-R1

Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 4709191

Client: Eagle Env

Client Project ID: Noble - Wardlaw 20-28

Checklist Completed by: Dan Lu

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 9-15-17 1259

Airbill #: NA

Matrix(s) Received: (Check all that apply): ☐ Soil/Solid ☒ Water ☐ Other: _____

Cooler Number/Temperature: 1 / 5.8 °C / _____ °C / _____ °C (Describe)

Thermometer ID: TD03

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	<input checked="" type="checkbox"/>	<input 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any): <u>2 of 3 vials for MW-5 broke due to sample freezing.</u>				

⁽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) Dan Lu

9-15-17 1300
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

MW-02
9/14/2017 1:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y709191-01 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

MW-03

9/14/2017 1:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y709191-02 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

102 %

84-121

"

"

"

Surrogate: Toluene-d8

97.0 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

101 %

84-114

"

"

"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

MW-04

9/14/2017 2:00:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	84-121	"	"	"
Surrogate: Toluene-d8	98.9 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	84-114	"	"	"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

MW-05

9/14/2017 2:10:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-04 (Water)

BTEX by EPA 8260C

Benzene	ND	4.00	ug/L	4	B711906	09/19/2017	09/19/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	ND	4.00	"	"	"	"	"	U
Xylenes, total	ND	4.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	84-121	"	"	"
Surrogate: Toluene-d8	101 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	84-114	"	"	"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

MW-06

9/14/2017 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y709191-05 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

103 %

84-121

"

"

"

Surrogate: Toluene-d8

98.0 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

101 %

84-114

"

"

"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

MW-07

9/14/2017 2:30:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-06 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	84-121	"	"	"
Surrogate: Toluene-d8	99.0 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	84-114	"	"	"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

MW-08

9/14/2017 2:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y709191-07 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.1 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.7 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

MW-09

9/14/2017 2:50:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-08 (Water)

BTEX by EPA 8260C

Benzene	3.15	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	84-121			"	"	"
Surrogate: Toluene-d8	98.8 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

MW-10
9/14/2017 3:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y709191-09 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.2 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

MW-11

9/14/2017 3:10:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-10 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	84-121	"	"	"
Surrogate: Toluene-d8	99.3 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	84-114	"	"	"

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, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

MW-12
9/14/2017 3:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y709191-11 (Water)

BTEX by EPA 8260C

Benzene	1310	50.0	ug/L	50	B711906	09/19/2017	09/21/2017	
Toluene	ND	1.00	"	1	"	"	09/19/2017	U
Ethylbenzene	52.3	1.00	"	"	"	"	"	
Xylenes, total	344	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	117 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

MW-13

9/14/2017 3:30:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-12 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	84-121	"	"	"
Surrogate: Toluene-d8	101 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	84-114	"	"	"

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, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

MW-14
9/14/2017 3:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y709191-13 (Water)

BTEX by EPA 8260C

Benzene	73.6	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	108 %	84-121			"	"	"	
Surrogate: Toluene-d8	98.2 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

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, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

SW-01

9/14/2017 4:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y709191-14 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

102 %

84-121

"

"

"

Surrogate: Toluene-d8

98.9 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

104 %

84-114

"

"

"

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, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

SW-02

9/14/2017 4:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y709191-15 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.7 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

SW-03

9/14/2017 4:15:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-16 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	106 %	84-121	"	"	"
Surrogate: Toluene-d8	101 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	84-114	"	"	"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

SW-04

9/14/2017 4:20:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-17 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/19/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

104 %

84-121

"

"

"

Surrogate: Toluene-d8

99.4 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

102 %

84-114

"

"

"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

SW-05

9/14/2017 4:25:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-18 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/20/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

103 %

84-121

"

"

"

Surrogate: Toluene-d8

99.4 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

103 %

84-114

"

"

"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

SW-06

9/14/2017 4:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y709191-19 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/20/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

105 %

84-121

"

"

"

Surrogate: Toluene-d8

98.1 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

99.8 %

84-114

"

"

"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

SW-07

9/14/2017 4:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y709191-20 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/20/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

103 %

84-121

"

"

"

Surrogate: Toluene-d8

98.6 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

101 %

84-114

"

"

"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

SW-08

9/14/2017 4:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y709191-21 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/20/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

102 %

84-121

"

"

"

Surrogate: Toluene-d8

101 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

105 %

84-114

"

"

"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

SW-09

9/14/2017 4:45:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y709191-22 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B711906	09/19/2017	09/20/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	101 %	84-121	"	"	"
Surrogate: Toluene-d8	100 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	84-114	"	"	"

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

Volatile Organic Compounds by GC/MS SW846 8260C - 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 B7I1906 - EPA 5030B (Water)

Blank (B7I1906-BLK1)

Prepared: 09/19/2017 Analyzed: 09/19/2017

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5	102		84-121			
Surrogate: Toluene-d8	64		"	62.5	102		85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5	101		84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

Volatile Organic Compounds by GC/MS SW846 8260C - 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 B711906 - EPA 5030B (Water)

Blank (B711906-BLK2)

Prepared: 09/19/2017 Analyzed: 09/19/2017

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5	102		84-121			
Surrogate: Toluene-d8	62		"	62.5	99.2		85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5	103		84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

Volatile Organic Compounds by GC/MS SW846 8260C - 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 B7I1906 - EPA 5030B (Water)

LCS (B7I1906-BS1)

Prepared: 09/19/2017 Analyzed: 09/19/2017

Benzene	48.8	1.00	ug/L	50.0		97.6	73.3-129			
Toluene	47.0	1.00	"	50.0		94.1	76.2-123			
Ethylbenzene	48.2	1.00	"	50.0		96.4	73.6-130			
m,p-Xylene	93.3	2.00	"	100		93.3	76.1-126			
o-Xylene	46.2	1.00	"	50.0		92.4	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.4	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.8	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	84-114			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

Volatile Organic Compounds by GC/MS SW846 8260C - 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 B711906 - EPA 5030B (Water)

LCS (B711906-BS2)

Prepared: 09/19/2017 Analyzed: 09/19/2017

Benzene	49.6	1.00	ug/L	50.0		99.2	73.3-129			
Toluene	47.5	1.00	"	50.0		95.0	76.2-123			
Ethylbenzene	48.6	1.00	"	50.0		97.2	73.6-130			
m,p-Xylene	93.7	2.00	"	100		93.7	76.1-126			
o-Xylene	46.1	1.00	"	50.0		92.2	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.1	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.2	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

Volatile Organic Compounds by GC/MS SW846 8260C - 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 B711906 - EPA 5030B (Water)

Matrix Spike (B711906-MS1)		Source: Y709191-01			Prepared: 09/19/2017 Analyzed: 09/19/2017					
Benzene	49.5	1.00	ug/L	50.0	ND	99.1	74-130			
Toluene	48.8	1.00	"	50.0	ND	97.6	73-131			
Ethylbenzene	49.7	1.00	"	50.0	ND	99.3	76-132			
m,p-Xylene	97.0	2.00	"	100	ND	97.0	69-139			
o-Xylene	48.1	1.00	"	50.0	ND	96.2	74-131			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.7	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	84-114			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

Volatile Organic Compounds by GC/MS SW846 8260C - 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 B711906 - EPA 5030B (Water)

Matrix Spike (B711906-MS2)		Source: Y709191-02			Prepared: 09/19/2017 Analyzed: 09/19/2017					
Benzene	51.7	1.00	ug/L	50.0	ND	103	74-130			
Toluene	50.8	1.00	"	50.0	ND	102	73-131			
Ethylbenzene	51.7	1.00	"	50.0	ND	103	76-132			
m,p-Xylene	99.9	2.00	"	100	ND	99.9	69-139			
o-Xylene	50.7	1.00	"	50.0	ND	101	74-131			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.0	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B711906 - EPA 5030B (Water)

Matrix Spike Dup (B711906-MSD1)		Source: Y709191-01			Prepared: 09/19/2017 Analyzed: 09/19/2017					
Benzene	48.6	1.00	ug/L	50.0	ND	97.3	74-130	1.83	20	
Toluene	46.2	1.00	"	50.0	ND	92.5	73-131	5.41	20	
Ethylbenzene	46.1	1.00	"	50.0	ND	92.1	76-132	7.52	20	
m,p-Xylene	89.5	2.00	"	100	ND	89.5	69-139	7.96	20	
o-Xylene	45.5	1.00	"	50.0	ND	90.9	74-131	5.64	20	
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.8	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.4	85-115			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wardlaw #20-28

Volatile Organic Compounds by GC/MS SW846 8260C - 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 B711906 - EPA 5030B (Water)

Matrix Spike Dup (B711906-MSD2)		Source: Y709191-02			Prepared: 09/19/2017 Analyzed: 09/19/2017					
Benzene	55.5	1.00	ug/L	50.0	ND	111	74-130	7.20	20	
Toluene	55.0	1.00	"	50.0	ND	110	73-131	7.82	20	
Ethylbenzene	55.8	1.00	"	50.0	ND	112	76-132	7.46	20	
m,p-Xylene	108	2.00	"	100	ND	108	69-139	7.38	20	
o-Xylene	53.9	1.00	"	50.0	ND	108	74-131	6.21	20	
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		97.0	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wardlaw #20-28

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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