

SECOND QUARTER 2020 SITE MONITORING DATA

BEEBE DRAW RG 26-9, 23

COGCC SPILL TRACKING # 455231
COGCC REMEDIATION # 11925

Prepared for:



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Prepared by:



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TABLE 1
GROUNDWATER ELEVATION DATA
NOBLE ENERGY, INC. - BEEBE DRAW RG 26-9, 23

Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.) ⁽²⁾	Depth to LNAPL (ft.) ⁽²⁾	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH01	10/22/18	4774.24	NM	12.33	ND	ND	4761.91
BH01	01/10/19	4774.24	27.75	12.57	ND	ND	4761.67
BH01	04/18/19	4774.24	27.52	12.84	ND	ND	4761.40
BH01	07/10/19	4774.24	27.19	11.12	ND	ND	4763.12
BH01	10/02/19	4774.24	26.80	6.61	ND	ND	4764.76
BH01	01/07/20	4774.24	26.78	7.21	ND	ND	4764.16
BH01	04/20/20	4774.24	26.45	7.42	ND	ND	4763.95
BH02	10/22/18	4772.28	NM	11.83	ND	ND	4760.45
BH02	01/10/19	4772.28	32.65	11.88	ND	ND	4760.40
BH02	04/18/19	4772.28	32.64	12.27	ND	ND	4760.01
BH02	07/10/19	4772.28	32.64	10.68	ND	ND	4761.60
BH02 ⁽³⁾	10/02/19	NM	15.55	NM	ND	ND	NM
BH02 ⁽⁵⁾	01/07/20	NM	24.06	NM	ND	ND	NM
BH02	04/20/20	4773.25	24.53	NM	ND	ND	4762.65
BH03	10/22/18	4770.72	NM	11.76	ND	ND	4758.96
BH03	01/10/19	4770.72	31.41	11.44	ND	ND	4759.28
BH03	04/18/19	4770.72	27.95	11.69	ND	ND	4759.03
BH03	07/10/19	4770.72	31.91	10.31	ND	ND	4760.41
BH03	10/02/19	4770.72	32.24	6.22	ND	ND	4761.52
BH03 ⁽⁵⁾	01/07/20	NM	28.47	NM	ND	ND	NM
BH03	04/20/20	4771.19	28.48	NM	ND	ND	4761.62
BH04	10/22/18	4773.76	NM	14.11	ND	ND	4759.65
BH04	01/10/19	4773.76	29.58	14.19	ND	ND	4759.57
BH04	04/18/19	4773.76	29.14	14.38	ND	ND	4759.38
BH04	07/10/19	4773.76	29.06	13.15	ND	ND	4760.61
BH04	10/02/19	4773.76	28.75	10.34	ND	ND	4761.53
BH04	01/07/20	4773.76	28.58	10.41	ND	ND	4761.46
BH04	04/20/20	4773.76	28.47	10.40	ND	ND	4761.47
BH05	10/22/18	4770.06	NM	11.55	ND	ND	4758.51
BH05	01/10/19	4770.06	27.91	11.17	ND	ND	4758.89
BH05	04/18/19	4770.06	27.57	11.21	ND	ND	4758.85
BH05	07/10/19	4770.06	27.56	9.92	ND	ND	4760.14
BH05 ⁽³⁾	10/02/19	NM	26.94	NM	ND	ND	NM
BH05 ⁽⁵⁾	01/07/20	NM	26.38	NM	ND	ND	NM
BH05	04/20/20	4770.07	26.10	NM	ND	ND	4761.64
BH06	10/22/18	4772.62	NM	14.42	ND	ND	4758.20
BH06	01/10/19	4772.62	33.62	14.33	ND	ND	4758.29
BH06	04/18/19	4772.62	33.59	14.53	ND	ND	4758.09
BH06	07/10/19	4772.62	33.61	13.29	ND	ND	4759.33

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Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.) ⁽²⁾	Depth to LNAPL (ft.) ⁽²⁾	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH06	10/02/19	Unable to locate - Well Destroyed					
BH06R	01/07/20	4772.60	27.47	9.33	ND	ND	4760.12
BH06R	04/20/20	4772.60	27.15	8.93	ND	ND	4760.52
BH07	10/22/18	4768.79	NM	10.60	ND	ND	4758.19
BH07	01/10/19	4768.79	27.85	10.89	ND	ND	4757.90
BH07	04/18/19	4768.79	27.83	10.92	ND	ND	4757.87
BH07	07/10/19	4768.79	27.84	9.56	ND	ND	4759.23
BH07	10/02/19	4768.79	26.86	5.24	ND	ND	4760.49
BH07	01/07/20	4768.79	27.35	NM	ND	ND	4759.99
BH07	04/20/20	4768.79	27.39	NM	ND	ND	4760.54
BH08	10/22/18	4769.60	NM	9.68	ND	ND	4759.92
BH08	01/10/19	4769.60	21.63	9.95	ND	ND	4759.65
BH08	04/18/19	4769.60	21.12	9.68	ND	ND	4759.92
BH08	07/10/19	4769.60	20.79	8.70	ND	ND	4760.90
BH08	10/02/19	4769.60	19.65	3.85	ND	ND	4762.66
BH08	01/07/20	4769.60	19.37	NM	ND	ND	4762.03
BH08	04/20/20	4769.60	19.32	NM	ND	ND	4762.46
BH09	10/22/18	4771.81	NM	9.95	ND	ND	4761.86
BH09	01/10/19	4771.81	22.97	10.52	ND	ND	4761.29
BH09	04/18/19	4771.81	22.39	10.34	ND	ND	4761.47
BH09	07/10/19	4771.81	22.16	8.92	ND	ND	4762.89
BH09	10/02/19	4771.81	22.08	3.80	ND	ND	4764.94
BH09	01/07/20	4771.81	21.88	NM	ND	ND	4763.90
BH09	04/20/20	4771.81	21.74	NM	ND	ND	4763.80
BH10	11/06/18	4775.10	27.30	12.42	ND	ND	4762.68
BH10	01/10/19	4775.10	27.15	12.89	ND	ND	4762.21
BH10	04/18/19	4775.10	26.71	13.22	ND	ND	4761.88
BH10	07/10/19	4775.10	26.66	11.25	ND	ND	4763.85
BH10	10/02/19	4775.10	26.21	6.78	ND	ND	4765.34
BH10	01/07/20	4775.10	26.09	NM	ND	ND	4764.78
BH10	04/20/20	4775.10	25.96	NM	ND	ND	4764.60
BH11	11/06/18	4775.53	27.21	14.04	ND	ND	4761.49
BH11	01/10/19	4775.53	26.94	14.27	ND	ND	4761.26
BH11	04/18/19	4775.53	26.44	14.60	ND	ND	4760.93
BH11	07/10/19	4775.53	26.05	13.04	ND	ND	4762.49
BH11 ⁽³⁾	10/02/19	NM	12.20	NM	ND	ND	NM
BH11	01/07/20	Unable to Locate					
BH11	04/20/20	4775.88	24.40	9.68	ND	ND	4763.42
BH12	11/06/18	4775.39	27.50	13.06	ND	ND	4762.33

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BH12	01/10/19	4775.39	27.10	13.34	ND	ND	4762.05
BH12	04/18/19	4775.39	26.62	13.73	ND	ND	4761.66
BH12	07/10/19	4775.39	26.52	11.95	ND	ND	4763.44
BH12	10/02/19	4775.39	25.88	7.80	ND	ND	4765.07
BH12	01/07/20	4775.39	25.81	8.31	ND	ND	4764.56
BH12	04/20/20	4775.39	25.66	8.57	ND	ND	4764.30
BH13	11/06/18	4775.22	25.60	14.72	ND	ND	4760.50
BH13	01/10/19	4775.22	24.87	15.02	ND	ND	4760.20
BH13	04/18/19	4775.22	24.48	15.24	ND	ND	4759.98
BH13	07/10/19	4775.22	24.38	14.00	ND	ND	4761.22
BH13	10/02/19	4775.22	23.68	10.07	ND	ND	4762.07
BH13	01/07/20	4775.22	23.51	10.07	ND	ND	4762.07
BH13	04/20/20	4775.22	23.44	9.99	ND	ND	4762.15
BH14	11/06/18	4774.89	26.00	15.80	ND	ND	4759.09
BH14	01/10/19	4774.89	25.66	15.89	ND	ND	4759.00
BH14	04/18/19	4774.89	24.94	16.02	ND	ND	4758.87
BH14 ⁽¹⁾	07/10/19	4774.89	24.80	14.82	ND	ND	4760.07
BH14 ⁽⁵⁾	10/02/19	NM	22.08	NM	ND	ND	NM
BH14 ^(4,5)	01/07/20	NM	20.84	NM	ND	ND	NM
BH14	04/20/20	4774.92	20.80	10.79	ND	ND	4761.00
BH15	01/10/19	4773.89	25.00	11.49	ND	ND	4762.40
BH15	04/18/19	4773.89	24.55	11.64	ND	ND	4762.25
BH15	07/10/19	4773.89	24.34	9.67	ND	ND	4764.22
BH15	10/02/19	4773.89	19.93	5.84	ND	ND	4765.96
BH15	01/07/20	4773.89	23.98	6.70	ND	ND	4765.10
BH15	04/20/20	4773.89	23.83	7.00	ND	ND	4764.80
BH16	01/10/19	4776.93	27.87	13.94	ND	ND	4762.99
BH16	04/18/19	4776.93	26.75	14.56	ND	ND	4762.37
BH16	07/10/19	4776.93	26.80	12.38	ND	ND	4764.55
BH16	10/02/19	4776.93	26.18	7.69	ND	ND	4766.11
BH16	01/07/20	4776.93	26.14	8.30	ND	ND	4765.50
BH16	04/20/20	4776.93	26.08	8.61	ND	ND	4765.19
BH17	01/10/19	4778.81	28.27	15.24	ND	ND	4763.57
BH17	04/18/19	4778.81	27.99	15.94	ND	ND	4762.87
BH17	07/10/19	4778.81	27.91	13.44	ND	ND	4765.37
BH17	10/02/19	4778.81	27.82	8.70	ND	ND	4766.88
BH17	01/07/20	4778.81	27.71	9.37	ND	ND	4766.21
BH17	04/20/20	4778.81	27.58	9.79	ND	ND	4765.79
BH18	01/10/19	4777.44	30.00	15.72	ND	ND	4761.72

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BH18	04/18/19	4777.44	29.18	16.15	ND	ND	4761.29
BH18	07/10/19	4777.44	29.02	14.58	ND	ND	4762.86
BH18	10/02/19	4777.44	28.69	11.00	ND	ND	4764.30
BH18	01/07/20	4777.44	28.50	11.20	ND	ND	4764.10
BH18	04/20/20	4777.44	28.35	11.35	ND	ND	4763.95
BH19	01/07/20	4775.05	27.72	11.67	ND	ND	4759.98
BH19	04/20/20	4775.05	27.75	11.34	ND	ND	4760.31
BH20	01/07/20	4776.72	27.34	11.33	ND	ND	4761.64
BH20	04/20/20	4776.72	26.90	11.11	ND	ND	4761.86
BH21	01/07/20	4778.10	26.92	11.65	ND	ND	4763.36
BH21	04/20/20	4778.10	26.65	11.51	ND	ND	4763.50

Notes:

ft. = Feet

AMSL = Above mean sea level

BTOC = Below top of casing

LNAPL = Light non-aqueous phase liquid

ND = No LNAPL detected

NM = Not Measured

1. Trace LNAPL observed

2. Depth to water measurements collected prior to third quarter 2019 were measured from top of well casing. Subsequent measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

3. Well casing was damaged and wells were sampled before casing repair, therefore elevation control lost

4. LNAPL observed in bailer at start of purge. Three volumes plus one gallon was purged from well before sample collected. LNAPL was not observed in sample bottle.

5. Well casing damaged, therefore elevation control lost.

* Groundwater elevation was corrected for product thickness (when present) using the following calculation:

Groundwater elevation = (TOC Elevation - Measured Depth to Water) + (LNAPL Thickness in Well x LNAPL Relative Density)

LNAPL relative density was estimated to be approximately 0.75

TABLE 2
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - BEEBE DRAW RG 26-9,23

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Standard		5	560	700	1,400
BH01	10/22/18	210	1.5	240	3,300
BH01	01/10/19	140	<1.0	380	3,500
BH01	04/18/19	96	<1.0	140	1,900
BH01	07/10/19	78	<1.0	200	2,300
BH01	10/02/19	28	<1.0	<1.0	130
BH01	01/07/20	35	<1.0	73	170
BH01	04/20/20	72	<1.0	<1.0	110
BH02	10/22/18	<1.0	<1.0	1.1	7.9
BH02	01/10/19	<1.0	<1.0	<1.0	<2.0
BH02	04/18/19	<1.0	<1.0	<1.0	<2.0
BH02	07/10/19	<1.0	<1.0	<1.0	<2.0
BH02	10/02/19	<1.0	<1.0	<1.0	<2.0
BH02	01/07/20	<1.0	<1.0	<1.0	<2.0
BH02	04/20/20	<1.0	<1.0	<1.0	<2.0
BH03	10/22/18	<1.0	<1.0	<1.0	<2.0
BH03	01/10/19	<1.0	<1.0	<1.0	<2.0
BH03	04/18/19	<1.0	<1.0	<1.0	<2.0
BH03	07/10/19	<1.0	<1.0	<1.0	<2.0
BH03	10/02/19	<1.0	<1.0	<1.0	<2.0
BH03	01/07/20	<1.0	<1.0	<1.0	<2.0
BH03	04/20/20	<1.0	<1.0	<1.0	<2.0
BH04	10/22/18	48	<1.0	150	590
BH04	01/10/19	16	<1.0	21	130
BH04	04/18/19	3.6	<1.0	3.5	26
BH04	07/10/19	17	<1.0	28	170
BH04	10/02/19	2.6	<1.0	<1.0	62
BH04	01/07/20	23	<1.0	31	200
BH04	04/20/20	36	<1.0	30	180
BH05	10/22/18	<1.0	<1.0	<1.0	2.9
BH05	01/10/19	<1.0	<1.0	<1.0	<2.0
BH05	04/18/19	<1.0	<1.0	<1.0	<2.0
BH05	07/10/19	<1.0	<1.0	<1.0	<2.0
BH05	10/02/19	<1.0	<1.0	<1.0	<2.0
BH05	01/07/20	<1.0	<1.0	<1.0	<2.0
BH05	04/20/20	<1.0	<1.0	<1.0	<2.0
BH06	10/22/18	<1.0	<1.0	6.1	19.0
BH06	01/10/19	<1.0	<1.0	<1.0	<2.0
BH06	04/18/19	<1.0	<1.0	1.9	<2.0
BH06	07/10/19	<1.0	<1.0	<1.0	<2.0
BH06	10/02/19	Unable to locate - Well Destroyed			
BH06R	01/07/20	2.0	<1.0	67	25

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Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Standard		5	560	700	1,400
BH06R	04/20/20	<1.0	<1.0	<1.0	<2.0
BH07	10/22/18	<1.0	<1.0	<1.0	<2.0
BH07	01/10/19	<1.0	<1.0	<1.0	<2.0
BH07	04/18/19	<1.0	<1.0	<1.0	<2.0
BH07	07/10/19	<1.0	<1.0	<1.0	<2.0
BH07	10/02/19	<1.0	<1.0	<1.0	<2.0
BH07	01/07/20	<1.0	<1.0	<1.0	<2.0
BH07	04/20/20	<1.0	<1.0	<1.0	<2.0
BH08	10/22/18	<1.0	<1.0	<1.0	<2.0
BH08	01/10/19	<1.0	<1.0	<1.0	<2.0
BH08	04/18/19	<1.0	<1.0	<1.0	<2.0
BH08	07/10/19	<1.0	<1.0	<1.0	<2.0
BH08	10/02/19	<1.0	<1.0	<1.0	<2.0
BH08	01/07/20	<1.0	<1.0	<1.0	<2.0
BH08	04/20/20	<1.0	<1.0	<1.0	<2.0
BH09	10/22/18	<1.0	<1.0	16	130
BH09	01/10/19	<1.0	<1.0	<1.0	<2.0
BH09	04/18/19	<1.0	<1.0	<1.0	<2.0
BH09	07/10/19	<1.0	<1.0	<1.0	<2.0
BH09	10/02/19	<1.0	<1.0	<1.0	<2.0
BH09	01/07/20	<1.0	<1.0	<1.0	<2.0
BH09	04/20/20	<1.0	<1.0	<1.0	<2.0
BH10	11/06/18	8.6	<1.0	120	990
BH10	01/10/19	1.3	<1.0	1.8	16
BH10	04/18/19	1.2	<1.0	1.6	13
BH10	07/10/19	2.9	<1.0	11	120
BH10	10/02/19	<1.0	<1.0	<1.0	<2.0
BH10	01/07/20	2.5	<1.0	4.1	46
BH10	04/20/20	<1.0	<1.0	<1.0	<2.0
BH11	11/06/18	9.4	<1.0	23	110
BH11	01/10/19	9.7	<1.0	18	77
BH11	04/18/19	11	<1.0	23	98
BH11	07/10/19	17	<1.0	39	180
BH11	10/02/19	<1.0	<1.0	<1.0	<2.0
BH11	01/07/20		Unable to locate - Well Destroyed		
BH11	04/20/20	<1.0	<1.0	<1.0	<2.0
BH12	11/06/18	4.2	<1.0	51	250
BH12	01/10/19	1.6	<1.0	<1.0	<2.0
BH12	04/18/19	2.5	<1.0	1.8	11
BH12	07/10/19	1.6	<1.0	<1.0	<2.0
BH12	10/02/19	<1.0	<1.0	<1.0	<2.0

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Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Standard		5	560	700	1,400
BH12	01/07/20	1.1	<1.0	1.1	8.6
BH12	04/20/20	<1.0	<1.0	<1.0	<2.0
BH13	11/06/18	<1.0	<1.0	<1.0	<2.0
BH13	01/10/19	<1.0	<1.0	<1.0	<2.0
BH13	04/18/19	<1.0	<1.0	<1.0	<2.0
BH13	07/10/19	<1.0	<1.0	<1.0	<2.0
BH13	10/02/19	<1.0	<1.0	<1.0	<2.0
BH13	01/07/20	<1.0	<1.0	<1.0	<2.0
BH13	04/20/20	<1.0	<1.0	<1.0	<2.0
BH14	11/06/18	<1.0	<1.0	42	220
BH14	01/10/19	<1.0	<1.0	<1.0	21
BH14	04/18/19	<1.0	<1.0	130	3.2
BH14	07/10/19	2.4	<1.0	130	1,300
BH14	10/02/19	1.3	<1.0	1.9	300
BH14	01/07/20	3.2	<1.0	55	950
BH14	04/20/20	<1.0	<1.0	<1.0	540
BH15	01/10/19	<1.0	<1.0	<1.0	<2.0
BH15	04/18/19	<1.0	<1.0	<1.0	<2.0
BH15	07/10/19	<1.0	<1.0	<1.0	<2.0
BH15	10/02/19	<1.0	<1.0	<1.0	<2.0
BH15	01/07/20	<1.0	<1.0	<1.0	5.6
BH15	04/20/20	<1.0	<1.0	<1.0	<2.0
BH16	01/10/19	2.2	<1.0	22	150
BH16	04/18/19	1.4	<1.0	<1.0	5.6
BH16	07/10/19	<1.0	<1.0	<1.0	<2.0
BH16	10/02/19	<1.0	<1.0	<1.0	<2.0
BH16	01/07/20	1.6	<1.0	<1.0	<2.0
BH16	04/20/20	<1.0	<1.0	<1.0	<2.0
BH17	01/10/19	<1.0	<1.0	<1.0	<2.0
BH17	04/18/19	<1.0	<1.0	<1.0	<2.0
BH17	07/10/19	<1.0	<1.0	<1.0	<2.0
BH17	10/02/19	<1.0	<1.0	<1.0	<2.0
BH17	01/07/20	<1.0	<1.0	<1.0	<2.0
BH17	04/20/20	<1.0	<1.0	<1.0	<2.0
BH18	01/10/19	58	<1.0	25	350
BH18	04/18/19	2.4	<1.0	<1.0	<2.0
BH18	07/10/19	16	<1.0	<1.0	<2.0
BH18	10/02/19	<1.0	<1.0	<1.0	<2.0
BH18	01/07/20	<1.0	<1.0	<1.0	<2.0
BH18	04/20/20	<1.0	<1.0	<1.0	<2.0
BH19	01/07/20	3.5	<1.0	200	1,600

TABLE 2
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - BEEBE DRAW RG 26-9,23

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Standard		5	560	700	1,400
BH19	04/20/20	<1.0	<1.0	<1.0	200
BH20	01/07/20	1.9	<1.0	<1.0	18
BH20	04/20/20	<1.0	<1.0	<1.0	<2.0
BH21	01/07/20	<1.0	<1.0	<1.0	<2.0
BH21	04/20/20	<1.0	<1.0	<1.0	<2.0

Notes:

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

< = Analytical result is less than the indicated laboratory reporting limit

Groundwater standards referenced from COGCC Table 910-1

Highlighted results are equal to or exceed the COGCC Table 910-1 standard

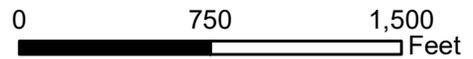
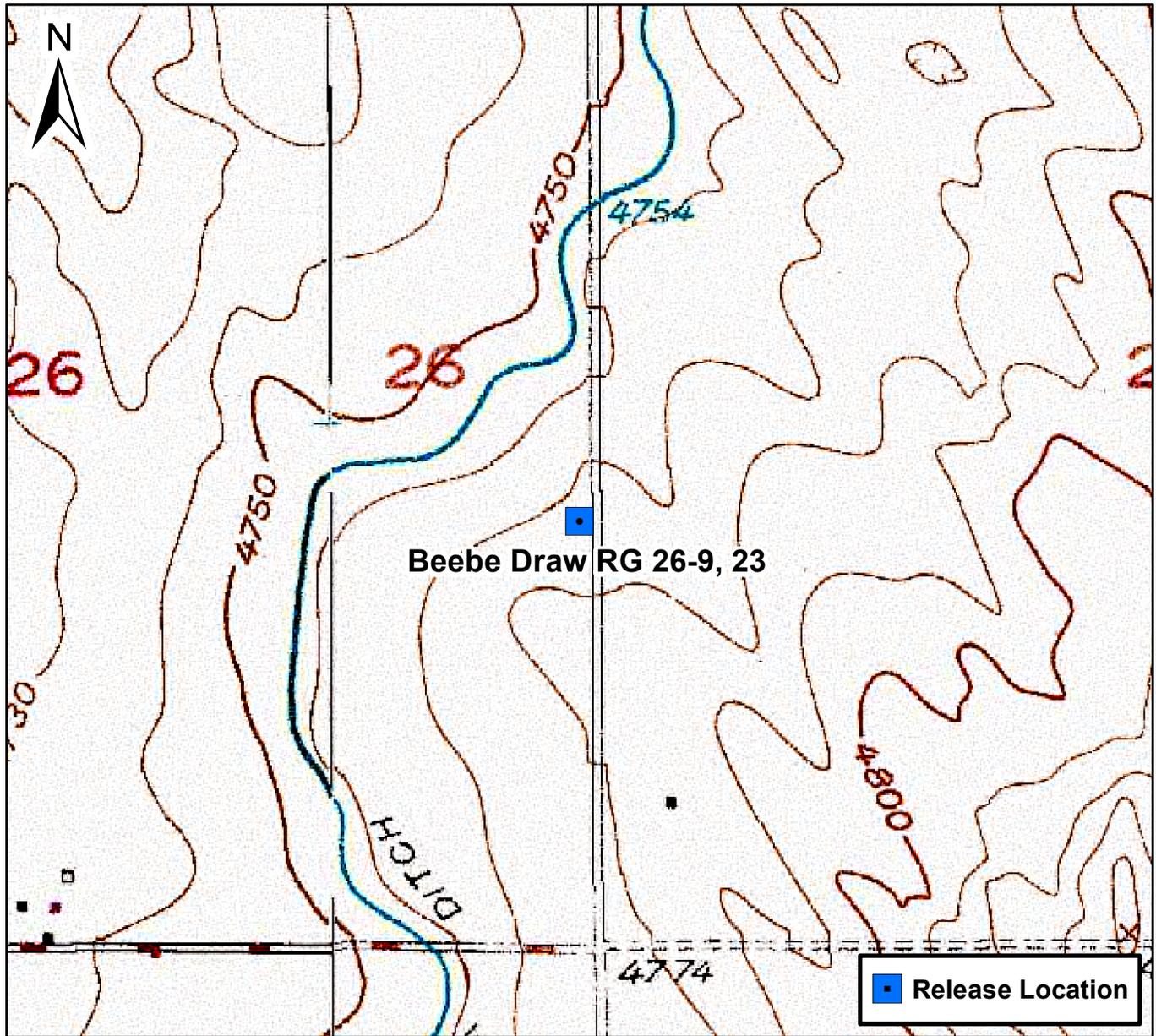


Figure 1

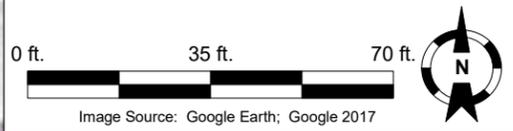
Site Location Map
 Beebe Draw RG 26-9, 23
 NESE Sec. 26-T4N-R65W
 Weld County, Colorado





- Legend**
- Excavation Extent
(Collected via Trimble GPS)
 - - - DCP Line
(Collected via Trimble GPS)
 - Williams Pipeline
(Collected via Trimble GPS)
 - Monitoring Well
(Collected via Trimble GPS)
 - Destroyed Monitoring Well
(Collected via Trimble GPS)
 - X Release Location

- Notes**
- 1) All locations are approximate unless otherwise noted
 - 2) Site Infrastructure has been removed; shown for illustrative purposes only.



DATE:	05/05/2020
DESIGNED BY:	JW
DRAWN BY:	TC

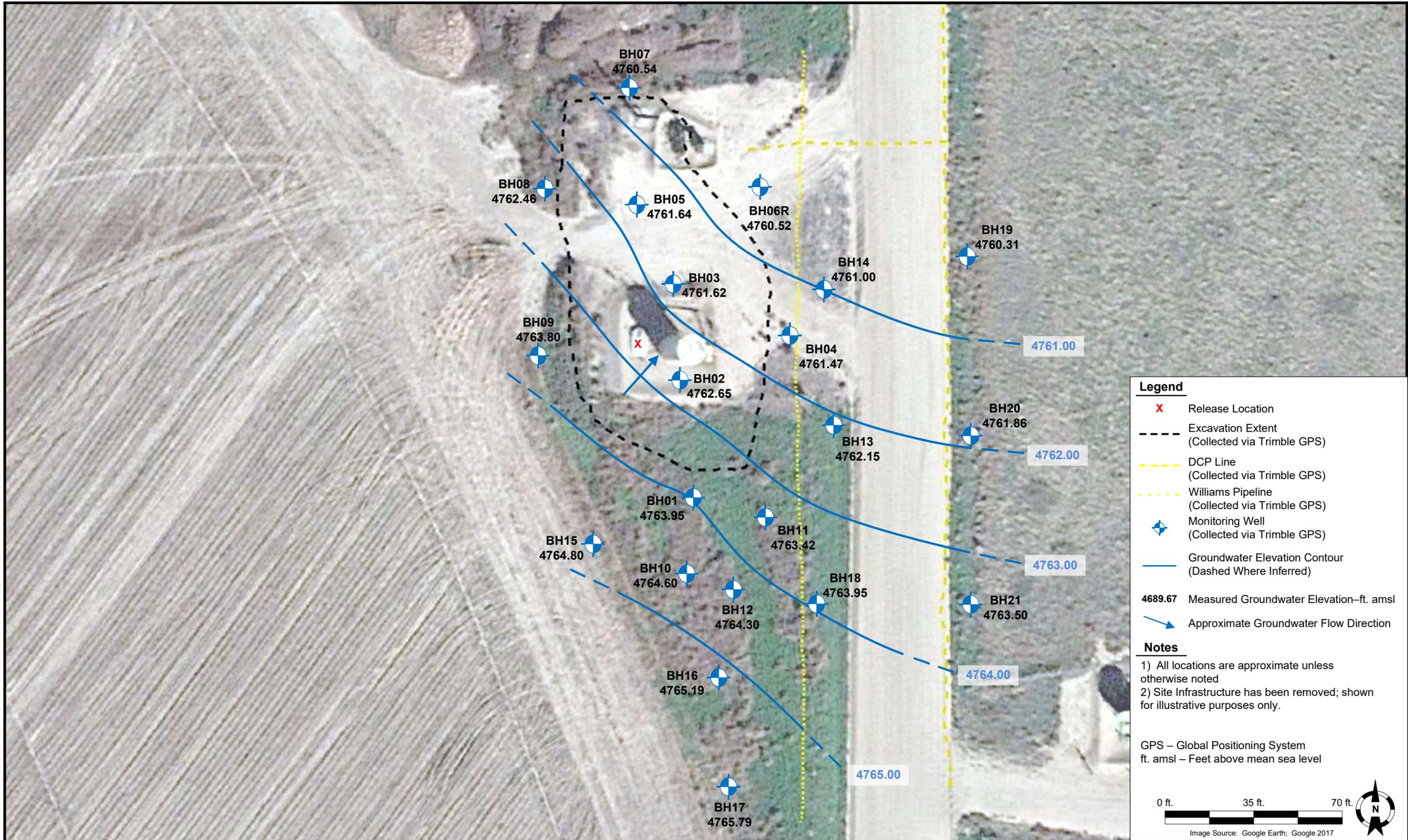
TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Beebe Draw RG 26-9, 23
 NESE, Section 26, Township 4 North, Range 65 West
 Weld County, Colorado

Site Overview Map

FIGURE
2



- Legend**
- X Release Location
 - Excavation Extent (Collected via Trimble GPS)
 - - - DCP Line (Collected via Trimble GPS)
 - Williams Pipeline (Collected via Trimble GPS)
 - ⊕ Monitoring Well (Collected via Trimble GPS)
 - Groundwater Elevation Contour (Dashed Where Inferred)
- 4689.67 Measured Groundwater Elevation—ft. amsl
- ➔ Approximate Groundwater Flow Direction

- Notes**
- 1) All locations are approximate unless otherwise noted
 - 2) Site Infrastructure has been removed; shown for illustrative purposes only.

GPS – Global Positioning System
ft. amsl – Feet above mean sea level

0 ft. 35 ft. 70 ft.

Image Source: Google Earth; Google 2017

DATE:	05/05/2020
DESIGNED BY:	JW
DRAWN BY:	TC

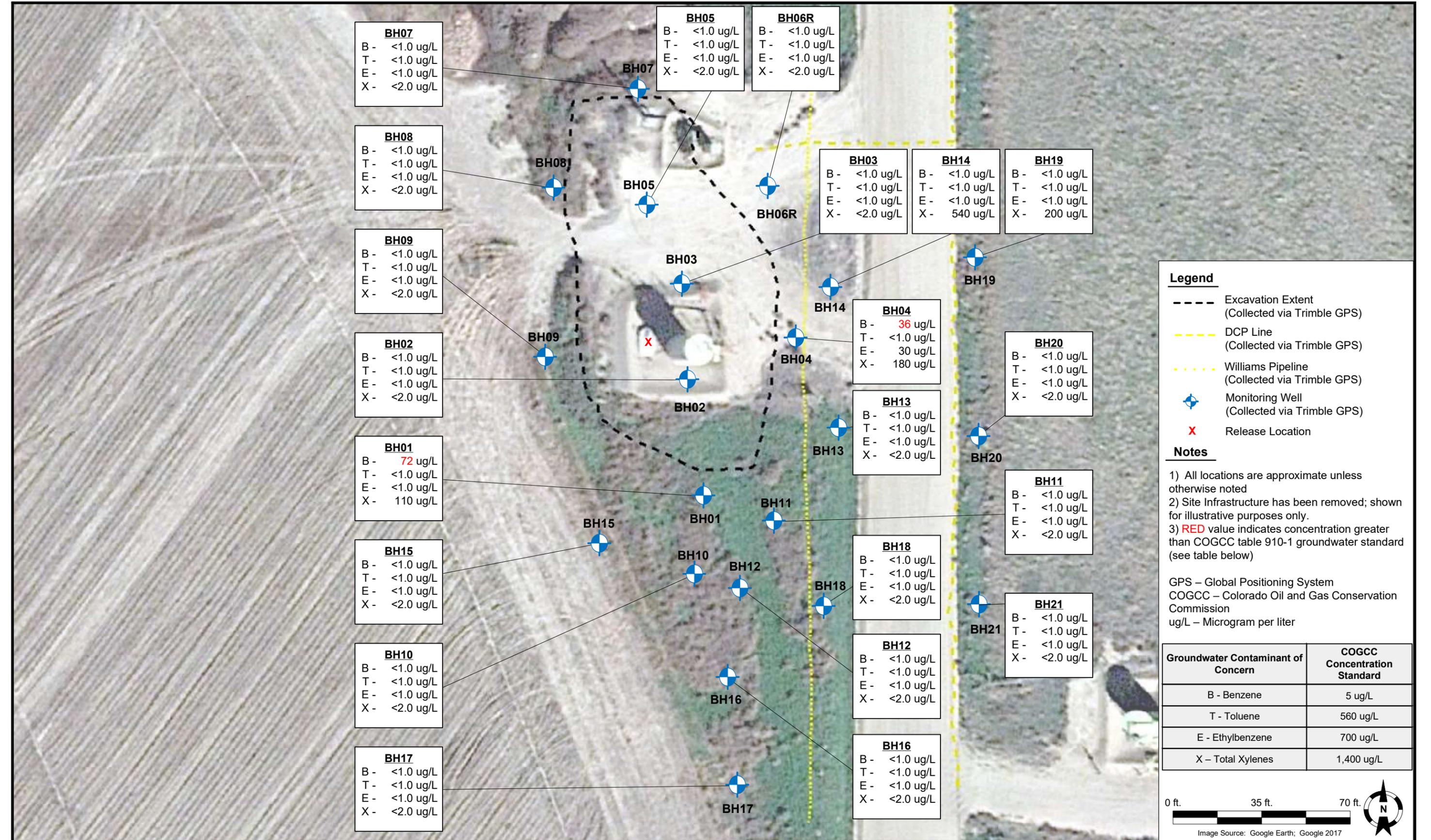
TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W. 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Beebe Draw RG 26-9, 23
NESE, Section 26, Township 4 North, Range 65 West
Weld County, Colorado

Groundwater Potentiometric
Surface Contour Map
(04/20/2020)

FIGURE
3



DATE: 04/28/2020

DESIGNED BY: JW

DRAWN BY: TC



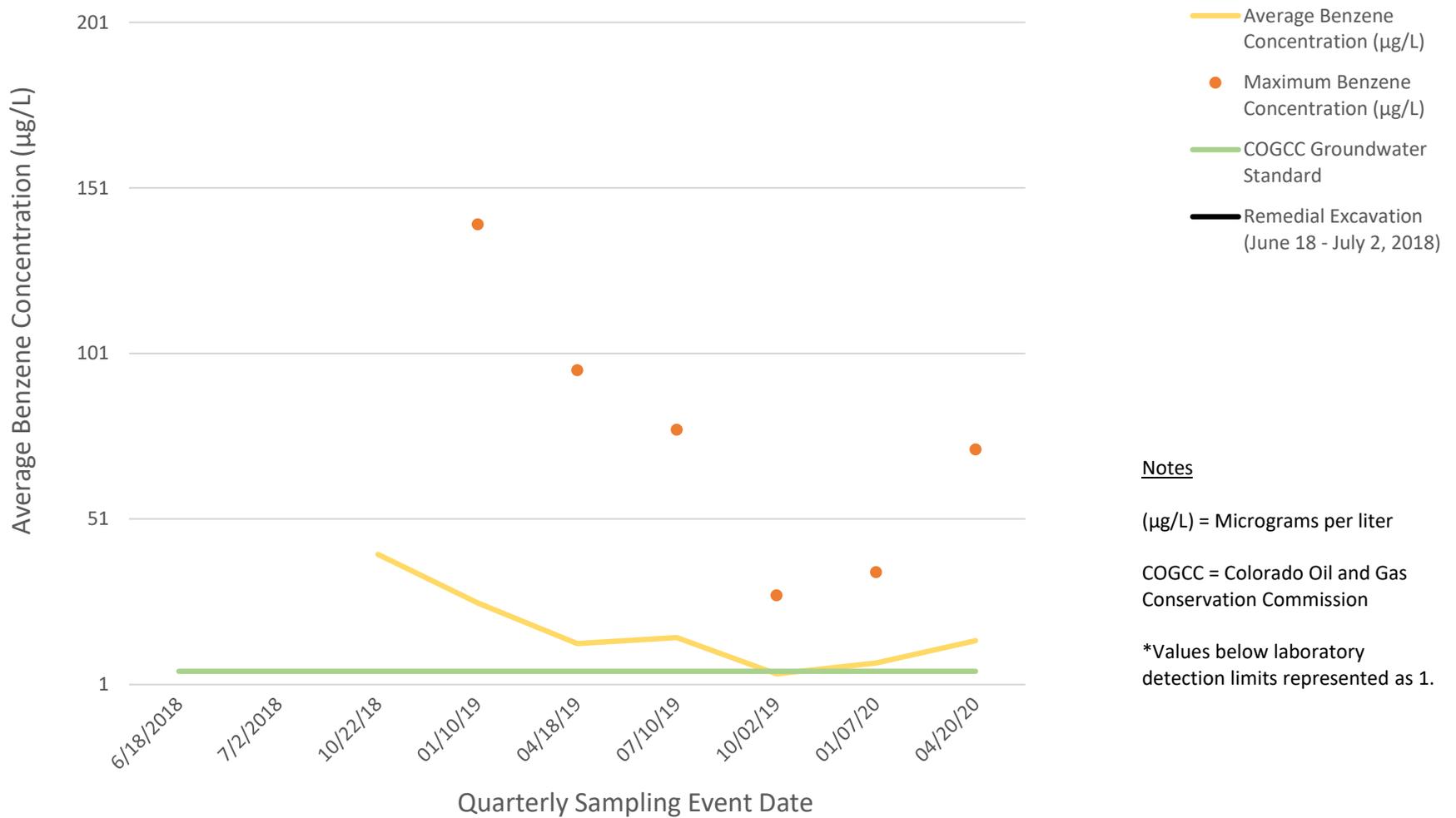
Tasman Geosciences, Inc.
6855 W 119th Ave.
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Beebe Draw RG 26-9, 23
NESE, Section 26, Township 4 North, Range 65 West
Weld County, Colorado

Groundwater Analytical
Results Map
(04/20/2020)

FIGURE
4

Figure 5
 Beebe Draw RG 26-9, 23
 Quarterly Benzene Concentrations



Notes

(µg/L) = Micrograms per liter

COGCC = Colorado Oil and Gas Conservation Commission

*Values below laboratory detection limits represented as 1.

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 19, 2020

Brandon Bruns

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Beebe Draw RG 26-9,23

Work Order #2004257

Enclosed are the results of analyses for samples received by Summit Scientific on 04/20/20 17:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury
President



Tasman Geosciences
 6855 W. 119th Ave.
 Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 05/19/20 09:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2004257-01	Water	04/20/20 12:00	04/20/20 17:20
BH02	2004257-02	Water	04/20/20 12:10	04/20/20 17:20
BH03	2004257-03	Water	04/20/20 12:05	04/20/20 17:20
BH04	2004257-04	Water	04/20/20 12:25	04/20/20 17:20
BH05	2004257-05	Water	04/20/20 11:45	04/20/20 17:20
BH06R	2004257-06	Water	04/20/20 11:55	04/20/20 17:20
BH07	2004257-07	Water	04/20/20 11:25	04/20/20 17:20
BH08	2004257-08	Water	04/20/20 11:35	04/20/20 17:20
BH09	2004257-09	Water	04/20/20 12:25	04/20/20 17:20
BH10	2004257-10	Water	04/20/20 11:15	04/20/20 17:20
BH11	2004257-11	Water	04/20/20 11:30	04/20/20 17:20
BH12	2004257-12	Water	04/20/20 11:40	04/20/20 17:20
BH13	2004257-13	Water	04/20/20 11:15	04/20/20 17:20
BH14	2004257-14	Water	04/20/20 12:15	04/20/20 17:20
BH15	2004257-15	Water	04/20/20 11:00	04/20/20 17:20
BH16	2004257-16	Water	04/20/20 10:40	04/20/20 17:20
BH17	2004257-17	Water	04/20/20 10:25	04/20/20 17:20
BH18	2004257-18	Water	04/20/20 10:50	04/20/20 17:20
BH19	2004257-19	Water	04/20/20 11:00	04/20/20 17:20
BH20	2004257-20	Water	04/20/20 10:45	04/20/20 17:20
BH21	2004257-21	Water	04/20/20 10:35	04/20/20 17:20

Sample ID has been changed per request of MG 05/19/20
 Sample ID BH11R has been changed to BH11

Summit Scientific

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.

2004-257-1

Summit Scientific

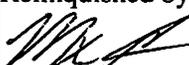
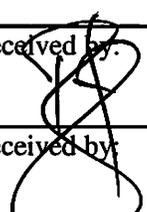
S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Client: Noble / Tasman Project Manager: Brandon Bruns, Invoice: Jacob Evans
 Address: 6855 W 119th Avenue E-Mail: Bbruns@tasman-geo.com
 City/State/Zip: Broomfield, CO, 80020
 Phone: 979-255-4235 Project Name: Bebe Draw RG 26-923
 Sampler Name: Max Garza Project Number: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO		pH, EC, SAR
1	BH01	4/20/10	12:00	3			X		X				X				
2	BH02		12:10														
3	BH03		12:05														
4	BH04		12:25														
5	BH05		11:45														
6	BH06R		11:55														
7	BH07		11:25														
8	BH08		11:35														
9	BH09		12:25														
10	BH10		11:15														

Relinquished by: 	Date/Time: 14 00 4/20/10	Received by: Tasman's Lock Box	Date/Time: 14 00 4/20/10	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 04/20/2026 17:00	Received by: 	Date/Time: 04/20/2026 17:00	Sample Integrity: Temperature Upon Receipt: 2.7	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Client: Noble / Tasman	Project Manager: Brandon Bruns, Invoice:
Address: 6855 W 119th Avenue	E-Mail: Bbruns@tasman-geo.com
City/State/Zip: Broomfield, CO, 80020	
Phone: 979-255-4235	Project Name: Beebe Draw R6 26-9, 23
Sampler Name: Max Garza	Project Number: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH, EC, SAR		
1	BH1R	4/20/20	11:30	3			X		X					X				
2	BH1Z		11:40															
3	BH13		11:15															
4	BH14		12:15															
5	BH15		11:00															
6	BH16		10:40															
7	BH17		10:25															
8	BH18		10:50															
9	BH19		11:00															
10	BH20		10:45															

Relinquished by: 	Date/Time: 14:00 4/20/20	Received by: Tasman's Lock Box	Date/Time: 14:00 4/20/20	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 04/20/2026 17:20	Received by: 	Date/Time: 04/20/2020 17:20	Sample Integrity: Temperature Upon Receipt: 27	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Client: Noble / Tasman Project Manager: Brandon Bruns, Invoice:
Address: 6855 W 119th Avenue E-Mail: Bbruns@tasman-geo.com
City/State/Zip: Broomfield, CO, 80020
Phone: 979-255-4235 Project Name: Beebe Draw R6 26-9, 23
Sampler Name: Max Garza Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO		pH, EC, SAR
1	BH21	4/20/20	1035	3			X		X				X				
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished by: <i>Max Garza</i>	Date/Time: 14 00 4/20/20	Received by: Tasman's Lock Box	Date/Time: 14 00 4/20/20	Turn Around Time (Check) Same Day ___ 72 hours ___ 24 hours ___ Standard <input checked="" type="checkbox"/> 48 hours ___ Sample Integrity: Temperature Upon Receipt: <u>2.7</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 04/20/2026 1700	Received by: <i>[Signature]</i>	Date/Time: 04/20/2026 1700		
Relinquished by:	Date/Time:	Received by: <i>[Signature]</i>	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2004257

Client: NOBLE / TASMAN Client Project ID: BEEBE DRAW RG 26-9,23

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

Matrix (check all that apply): Air Soil/Solid Water Other: _____
(Describe)

Temp (°C)	2.7
-----------	-----

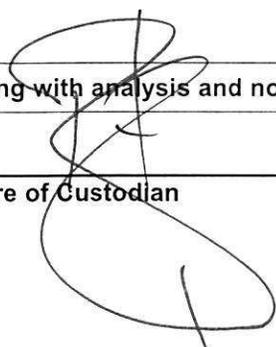
Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input 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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form 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 w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace 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 (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

RZ
Custodian Printed Name or Initials


Signature of Custodian

4/20/20
Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
05/19/20 09:28

BH01
2004257-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	72	1.0	ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	110	2.0	"	"	"	"	"	"	

Date Sampled: **04/20/20 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		153 %	21-167		"	"	"	"	

Summit Scientific

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH02
2004257-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %		21-167		"	"	"	"	

Summit Scientific



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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH03
2004257-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.8 %		21-167		"	"	"	"	

Summit Scientific

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH04
2004257-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	36	10		ug/l	10	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	1	"	"	"	"	
Ethylbenzene	30	10		"	10	"	"	"	"	
Xylenes (total)	180	20		"	"	"	"	"	"	

Date Sampled: **04/20/20 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		90.2 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH05
2004257-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		95.2 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		21-167		"	"	"	"	

Summit Scientific

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
05/19/20 09:28

BH06R
2004257-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		103 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		138 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH07
2004257-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		93.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH08
2004257-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		100 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
05/19/20 09:28

BH09
2004257-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH10
2004257-10 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH11
2004257-11 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		95.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
05/19/20 09:28

BH12
2004257-12 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		70.8 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH13
2004257-13 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		95.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH14
2004257-14 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	540	20		"	10	"	"	"	"	

Date Sampled: **04/20/20 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		91.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %		21-167		"	"	"	"	

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH15
2004257-15 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		95.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH16
2004257-16 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH17
2004257-17 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %		21-167		"	"	"	"	

Summit Scientific

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH18
2004257-18 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH19
2004257-19 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	200	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		100 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %		21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH20
2004257-20 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004250	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		93.2 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		21-167		"	"	"	"	

Summit Scientific

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brun

Reported:
05/19/20 09:28

BH21
2004257-21 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/20/20 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004249	04/21/20	04/22/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/20/20 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		75.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %		21-167		"	"	"	"	

Summit Scientific

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
05/19/20 09:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2004249 - EPA 5030 Water MS

Blank (2004249-BLK1)

Prepared & Analyzed: 04/21/20

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	2.0	"								
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		81.0		23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102		20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.8		21-167			

LCS (2004249-BS1)

Prepared & Analyzed: 04/21/20

Benzene	24.0	1.0	ug/l	33.3		72.1		51-132			
Toluene	23.7	1.0	"	33.3		71.2		51-138			
Ethylbenzene	28.6	1.0	"	33.3		85.9		58-146			
m,p-Xylene	55.0	2.0	"	66.7		82.5		57-144			
o-Xylene	28.2	1.0	"	33.3		84.7		53-146			
Surrogate: 1,2-Dichloroethane-d4	10.1		"	13.3		75.7		23-173			
Surrogate: Toluene-d8	12.9		"	13.3		96.8		20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.8		21-167			

Matrix Spike (2004249-MS1)

Source: 2004256-01

Prepared & Analyzed: 04/21/20

Benzene	26.3	1.0	ug/l	33.3	2.66	70.8		34-141			
Toluene	22.4	1.0	"	33.3	ND	67.2		27-151			
Ethylbenzene	31.5	1.0	"	33.3	2.09	88.4		29-160			
m,p-Xylene	58.7	2.0	"	66.7	2.01	85.1		20-166			
o-Xylene	28.9	1.0	"	33.3	ND	86.8		33-159			
Surrogate: 1,2-Dichloroethane-d4	9.08		"	13.3		68.1		23-173			
Surrogate: Toluene-d8	12.0		"	13.3		90.4		20-170			
Surrogate: 4-Bromofluorobenzene	16.8		"	13.3		126		21-167			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
05/19/20 09:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch 2004249 - EPA 5030 Water MS

Matrix Spike Dup (2004249-MSD1)

Source: 2004256-01

Prepared & Analyzed: 04/21/20

Benzene	26.6	1.0	ug/l	33.3	2.66	71.7	34-141	1.10	30	
Toluene	23.6	1.0	"	33.3	ND	70.9	27-151	5.34	30	
Ethylbenzene	29.6	1.0	"	33.3	2.09	82.6	29-160	6.28	30	
m,p-Xylene	55.4	2.0	"	66.7	2.01	80.1	20-166	5.89	30	
o-Xylene	28.4	1.0	"	33.3	ND	85.3	33-159	1.71	30	
Surrogate: 1,2-Dichloroethane-d4	12.0		"	13.3		89.9	23-173			
Surrogate: Toluene-d8	12.7		"	13.3		95.0	20-170			
Surrogate: 4-Bromofluorobenzene	16.7		"	13.3		125	21-167			

Batch 2004250 - EPA 5030 Water MS

Blank (2004250-BLK1)

Prepared: 04/21/20 Analyzed: 04/22/20

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.7		"	13.3		95.5	23-173			
Surrogate: Toluene-d8	12.7		"	13.3		95.5	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

LCS (2004250-BS1)

Prepared: 04/21/20 Analyzed: 04/22/20

Benzene	19.5	1.0	ug/l	33.3		58.5	51-132			
Toluene	23.7	1.0	"	33.3		71.2	51-138			
Ethylbenzene	22.7	1.0	"	33.3		68.2	58-146			
m,p-Xylene	44.2	2.0	"	66.7		66.4	57-144			
o-Xylene	22.6	1.0	"	33.3		67.9	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.2		"	13.3		91.1	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	21-167			

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Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
05/19/20 09:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch 2004250 - EPA 5030 Water MS

Matrix Spike (2004250-MS1)	Source: 2004257-01			Prepared: 04/21/20		Analyzed: 04/22/20				
Benzene	68.3	1.0	ug/l	33.3	71.6	NR	34-141			QM-07
Toluene	24.5	1.0	"	33.3	ND	73.6	27-151			
Ethylbenzene	24.4	1.0	"	33.3	ND	73.3	29-160			
m,p-Xylene	131	2.0	"	66.7	112	28.0	20-166			
o-Xylene	24.1	1.0	"	33.3	ND	72.2	33-159			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>12.7</i>		<i>"</i>	<i>13.3</i>		<i>95.1</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>96.6</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>16.9</i>		<i>"</i>	<i>13.3</i>		<i>127</i>	<i>21-167</i>			

Matrix Spike Dup (2004250-MSD1)	Source: 2004257-01			Prepared: 04/21/20		Analyzed: 04/22/20				
Benzene	57.6	1.0	ug/l	33.3	71.6	NR	34-141	17.0	30	QM-07
Toluene	23.7	1.0	"	33.3	ND	71.1	27-151	3.40	30	
Ethylbenzene	24.6	1.0	"	33.3	ND	73.8	29-160	0.612	30	
m,p-Xylene	114	2.0	"	66.7	112	3.08	20-166	13.6	30	QM-06
o-Xylene	24.2	1.0	"	33.3	ND	72.5	33-159	0.332	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>99.0</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.8</i>		<i>"</i>	<i>13.3</i>		<i>95.7</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>17.6</i>		<i>"</i>	<i>13.3</i>		<i>132</i>	<i>21-167</i>			

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Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
05/19/20 09:28

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- QM-06 Due to noted non-homogeneity of the QC sample matrix, the MS/MSD did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference