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October 29, 2019

Ms. Cristina Fernandez
Director, Air Protection Division
U.S. Environmental Protection Agency, Region 3
Mail Code 3AD00
1650 Arch Street
Philadelphia, PA 19103-2029

RECEIVED
OCT 31 2019
Air & Radiation Division

SUBJECT: 40 CFR 60 Subpart OOOOa Annual Compliance Report

Dear Ms. Fernandez:

This annual compliance report is being submitted to meet the requirements of 40 CFR 60 Subpart OOOOa by Antero Resources Corporation (Antero) for the reporting period August 2, 2018 through August 1, 2019. Affected facilities as defined in Subpart OOOOa that are included in this report are gas well affected facilities, fugitive affected facilities, and storage vessel affected facilities associated with Antero's operations in West Virginia.

Based upon a review of the information in the enclosed tables, Antero's West Virginia affected facilities are in compliance with Subpart OOOOa for this reporting period. If you have any questions, please contact Jena Resnick at (303) 357-7344 or jresnick@anteroresources.com .

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete.

Sincerely,

ANTERO RESOURCES CORPORATION

Troy Roach
Vice President of Health, Safety, Security and Environmental, Antero Resources

Enclosures: Affected Facilities Tables

cc: William F. Durham, Director, WVDEP Division of Air Quality
Lisa Carty, Director of Environmental and Regulatory Compliance, Antero Resources
Jena Resnick, Sr Environmental and Regulatory Manager, Antero Resources

Gas Well Affected Facilities

Well Name	Pad Name	Surface Lattitude	Surface Longitude	API Number	Date and Time of Onset of Flowback Following Hydraulic Fracturing	Date and Time of Each Attempt to Direct Flowback to a Separator	Date and Time of Each Return to Initial Flowback Stage	Date and Time of Startup of Production	Duration of Flowback (Hours)	Duration of Recovery and Disposition of Recovery (ie: Flare, Sales Line)	Duration of Combustion	Duration of Venting (Hours)	Specific Reasons for Venting in Lieu of Capture or Combustion[1]
CONVAIR UNIT 1H	Alexander Pad (WV)	39.33576	-80.77524	47017068580000	12/30/2018 5:00	NA	NA	2/15/2019 0:00	39	39	39	0	See FN1.
CONVAIR UNIT 2H	Alexander Pad (WV)	39.33579	-80.77525	47017068590000	11/26/2018 18:00	NA	NA	2/15/2019 0:00	39	39	39	0	See FN1.
CONVAIR UNIT 3H	Alexander Pad (WV)	39.33581	-80.77526	47017068530000	12/20/2018 16:00	NA	NA	2/15/2019 0:00	50	50	50	0	See FN1.
EDGAR UNIT 1H	Alexander Pad (WV)	39.33589	-80.77531	47017068540000	12/30/2018 18:00	NA	NA	2/15/2019 0:00	46	46	46	0	See FN1.
EDGAR UNIT 2H	Alexander Pad (WV)	39.33591	-80.77532	47017068550000	11/26/2018 18:00	NA	NA	2/15/2019 0:00	51	51	51	0	See FN1.
EDGAR UNIT 3H	Alexander Pad (WV)	39.33594	-80.77533	47017068560000	12/20/2018 17:00	NA	NA	2/15/2019 0:00	52	52	52	0	See FN1.
SCORPIO UNIT 2H	Alexander Pad (WV)	39.33586	-80.77529	47017068610000	1/3/2019 7:00	NA	NA	2/15/2019 0:00	41	41	41	0	See FN1.
BILL UNIT 1H	Bison Pad (WV)	39.29528	-80.90140	47085102400000	4/11/2019 22:00	NA	NA	5/7/2019 0:00	30	30	30	0	See FN1.
BILL UNIT 2H	Bison Pad (WV)	39.29528	-80.90137	47085102410000	4/14/2019 19:00	NA	NA	5/7/2019 0:00	25	25	25	0	See FN1.
BILL UNIT 3H	Bison Pad (WV)	39.29528	-80.90133	47085102570000	4/17/2019 7:00	NA	NA	5/7/2019 0:00	34	34	34	0	See FN1.
BUFFALO UNIT 1H	Bison Pad (WV)	39.29528	-80.90130	47085102490000	4/20/2019 2:00	NA	NA	5/7/2019 0:00	31	31	31	0	See FN1.
BUFFALO UNIT 2H	Bison Pad (WV)	39.29528	-80.90126	47085102430000	4/22/2019 17:00	NA	NA	5/7/2019 0:00	26	26	26	0	See FN1.
WACO UNIT 1H	Bison Pad (WV)	39.29529	-80.90108	47085103540000	4/20/2019 8:00	NA	NA	5/7/2019 0:00	52	52	52	0	See FN1.
WACO UNIT 2H	Bison Pad (WV)	39.29529	-80.90104	47085103560000	4/24/2019 18:00	NA	NA	5/7/2019 0:00	39	39	39	0	See FN1.
WALDO UNIT 1H	Bison Pad (WV)	39.29528	-80.90115	47085103530000	4/10/2019 11:00	NA	NA	5/7/2019 0:00	51	51	51	0	See FN1.
WALDO UNIT 2H	Bison Pad (WV)	39.29528	-80.90111	47085103550000	4/15/2019 16:00	NA	NA	5/7/2019 0:00	52	52	52	0	See FN1.
BLAKE UNIT 3H	Gadd Pad (WV)	39.55004	-80.75510	47103032390000	4/10/2019 7:00	NA	NA	4/30/2019 0:00	68	68	68	0	See FN1.
KEYSTONE UNIT 3H	Gadd Pad (WV)	39.55004	-80.75506	47103032220000	4/15/2019 18:00	NA	NA	4/30/2019 0:00	54	54	54	0	See FN1.
CENTERVILLE UNIT 2H	Hichman Pad (WV)	39.33867	-80.88427	47085103380000	3/21/2019 4:00	NA	NA	4/13/2019 0:00	59	59	59	0	See FN1.
GRABEN UNIT 1H	Hichman Pad (WV)	39.33870	-80.88426	47085103340000	3/23/2019 21:00	NA	NA	4/13/2019 0:00	31	31	31	0	See FN1.
GRABEN UNIT 3H	Hichman Pad (WV)	39.33875	-80.88424	47085103360000	3/29/2019 0:00	NA	NA	4/13/2019 0:00	29	29	29	0	See FN1.
GRIFF UNIT 2H	Hichman Pad (WV)	39.33851	-80.88432	47085103300000	3/27/2019 2:00	NA	NA	4/13/2019 0:00	77	77	77	0	See FN1.
GRIFF UNIT 3H	Hichman Pad (WV)	39.33854	-80.88432	47085103310000	4/1/2019 7:00	NA	NA	4/13/2019 0:00	60	60	60	0	See FN1.
HEX UNIT 1H	Hichman Pad (WV)	39.33841	-80.88437	47085103320000	3/9/2019 0:00	NA	NA	4/19/2019 0:00	84	84	84	0	See FN1.
HEX UNIT 3H	Hichman Pad (WV)	39.33846	-80.88434	47085103330000	3/20/2019 21:00	NA	NA	4/13/2019 0:00	63	63	63	0	See FN1.
SHORT RUN UNIT 1H	Hichman Pad (WV)	39.33857	-80.88431	47085103390000	3/9/2019 21:00	NA	NA	4/13/2019 0:00	59	59	59	0	See FN1.
SHORT RUN UNIT 2H	Hichman Pad (WV)	39.33859	-80.88430	47085103400000	3/16/2019 13:00	NA	NA	4/13/2019 0:00	53	53	53	0	See FN1.
HUGHES RIVER UNIT 3H	Ireland North Pad (WV)	39.17277	-80.89903	47085102650000	7/28/2019 4:00	NA	NA	Not yet in production	69	69	69	0	See FN1.
HOUSER UNIT 1H	Kirk Hadley Pad	39.46319	-80.93231	47095024800000	8/23/2018 11:00	NA	NA	10/5/2018 0:00	108	108	108	0	See FN1.
MIDGE UNIT 2H	Lemuel Pad (WV)	39.42233	-80.91359	47095024490000	10/20/2018 0:00	NA	NA	11/16/2018 0:00	40	40	40	0	See FN1.
MIDGE UNIT 3H	Lemuel Pad (WV)	39.42235	-80.91356	47095024390000	10/16/2018 2:00	NA	NA	11/16/2018 0:00	45.25	45.25	45.25	0	See FN1.
OLIVE UNIT 2H	Lemuel Pad (WV)	39.42241	-80.91349	47095024510000	10/11/2018 14:00	NA	NA	11/16/2018 0:00	53.25	53.25	53.25	0	See FN1.
OLIVE UNIT 3H	Lemuel Pad (WV)	39.42243	-80.91347	47095024520000	10/7/2018 9:00	NA	NA	11/14/2018 0:00	49.5	49.5	49.5	0	See FN1.
CHRISTOPHER UNIT 1H	Lettie Pad (WV)	39.36492	-80.91022	47085103570000	6/25/2019 21:00	NA	NA	7/23/2019 0:00	37	37	37	0	See FN1.
CHRISTOPHER UNIT 2H	Lettie Pad (WV)	39.36492	-80.91019	47085103580000	7/1/2019 19:00	NA	NA	7/22/2019 0:00	43	43	43	0	See FN1.
HAYES UNIT 1H	Lettie Pad (WV)	39.36492	-80.91029	47085103650000	6/19/2019 18:00	NA	NA	7/23/2019 0:00	34	11	11	0	See FN1.
HAYES UNIT 2H	Lettie Pad (WV)	39.36492	-80.91026	47085103660000	6/22/2019 14:00	NA	NA	7/23/2019 0:00	47	47	47	0	See FN1.
LEEROY UNIT 2H	Lettie Pad (WV)	39.36493	-80.91047	47085103630000	6/21/2019 10:00	NA	NA	7/23/2019 0:00	43	43	43	0	See FN1.
LEEROY UNIT 3H	Lettie Pad (WV)	39.36493	-80.91043	47085103640000	6/25/2019 1:00	NA	NA	7/23/2019 0:00	32	32	32	0	See FN1.
MASTER UNIT 1H	Lettie Pad (WV)	39.36493	-80.91040	47085103600000	6/28/2019 0:00	NA	NA	7/23/2019 0:00	43	43	43	0	See FN1.
MASTER UNIT 2H	Lettie Pad (WV)	39.36493	-80.91036	47085103220000	7/2/2019 2:00	NA	NA	7/23/2019 0:00	51	51	51	0	See FN1.
MASTER UNIT 3H	Lettie Pad (WV)	39.36493	-80.91033	47085103610000	7/6/2019 2:00	NA	NA	7/23/2019 0:00	64	64	64	0	See FN1.
ALLI UNIT 1H	McKim Pad (WV)	39.38559	-80.95141	47095024210000	11/18/2018 9:14	NA	NA	12/17/2018 0:00	101.75	101.75	101.75	0	See FN1.
ALLI UNIT 2H	McKim Pad (WV)	39.38556	-80.95140	47095023690000	11/25/2018 17:00	NA	NA	12/17/2018 0:00	64	64	64	0	See FN1.
ALLI UNIT 3H	McKim Pad (WV)	39.38553	-80.95139	47095024220000	11/30/2018 21:45	NA	NA	12/17/2018 0:00	78.5	78.5	78.5	0	See FN1.
HAGA UNIT 1H	McKim Pad (WV)	39.38551	-80.95138	47095024230000	12/6/2018 7:00	NA	NA	12/18/2019 0:00	77	77	77	0	See FN1.
HAGA UNIT 2H	McKim Pad (WV)	39.38548	-80.95137	47095024240000	11/9/2018 13:00	NA	NA	12/18/2019 0:00	72	72	72	0	See FN1.
HAGA UNIT 3H	McKim Pad (WV)	39.38545	-80.95136	47095024250000	11/17/2018 15:00	NA	NA	12/18/2019 0:00	45	45	45	0	See FN1.
MCKIM UNIT 1H	McKim Pad (WV)	39.38543	-80.95135	47095024180000	11/22/2018 19:00	NA	NA	12/18/2019 0:00	64	64	64	0	See FN1.
MCKIM UNIT 2H	McKim Pad (WV)	39.38540	-80.95134	47095024190000	11/27/2018 15:00	NA	NA	12/18/2019 0:00	67.25	67.25	67.25	0	See FN1.
MCKIM UNIT 3H	McKim Pad (WV)	39.38537	-80.95133	47095024200000	12/2/2018 22:00	NA	NA	12/18/2019 0:00	77	77	77	0	See FN1.

Well Name	Pad Name	Surface Lattitude	Surface Longitude	API Number	Date and Time of Onset of Flowback Following Hydraulic Fracturing	Date and Time of Each Attempt to Direct Flowback to a Separator	Date and Time of Each Return to Initial Flowback Stage	Date and Time of Startup of Production	Duration of Flowback (Hours)	Duration of Recovery and Disposition of Recovery (ie: Flare, Sales Line)	Duration of Combustion	Duration of Venting (Hours)	Specific Reasons for Venting in Lieu of Capture or Combustion[1]
CABOOSE UNIT 1H	Middle Pad (WV)	39.32250	-80.80667	47017068160000	9/10/2019 16:00	NA	NA	10/10/2018 0:00	51	51	51	0	See FN1.
CABOOSE UNIT 2H	Middle Pad (WV)	39.32249	-80.80664	47017068170000	9/14/2018 19:00	NA	NA	10/10/2018 0:00	67	67	67	0	See FN1.
CHALK UNIT 1H	Middle Pad (WV)	39.32242	-80.80641	47017068180000	9/16/2018 12:00	NA	NA	10/10/2018 0:00	57.5	57.5	57.5	0	See FN1.
CHALK UNIT 2H	Middle Pad (WV)	39.32241	-80.80638	47017068190000	9/22/2018 4:00	NA	NA	10/10/2018 0:00	48	48	48	0	See FN1.
GOLDSMITH UNIT 1H	Middle Pad (WV)	39.32246	-80.80654	47017068200000	9/24/2018 10:00	NA	NA	10/10/2018 0:00	55.5	55.5	55.5	0	See FN1.
GOLDSMITH UNIT 2H	Middle Pad (WV)	39.32245	-80.80651	47017068210000	9/28/2018 5:00	NA	NA	10/10/2018 0:00	45	45	45	0	See FN1.
JAY UNIT 1H	Middle Pad (WV)	39.32244	-80.80647	47017068220000	9/16/2018 19:00	NA	NA	10/10/2018 0:00	60	60	60	0	See FN1.
JAY UNIT 2H	Middle Pad (WV)	39.32243	-80.80644	47017068230000	9/11/2018 21:00	NA	NA	10/10/2018 0:00	57.5	57.5	57.5	0	See FN1.
PICKNEY UNIT 2H	Middle Pad (WV)	39.32247	-80.80657	47017068460000	9/20/2018 8:00	NA	NA	10/10/2018 0:00	48	48	48	0	See FN1.
NILEY UNIT 1H	Mulvay Pad (WV)	39.32259	-80.89915	47085102500000	8/11/2018 22:00	NA	NA	8/24/2018 0:00	30.5	30.5	30.5	0	See FN1.
PENNY UNIT 1H	Mulvay Pad (WV)	39.32238	-80.89909	47085102980000	7/27/2018 17:00	NA	NA	8/28/2018 0:00	62.25	62.25	62.25	0	See FN1.
PENNY UNIT 2H	Mulvay Pad (WV)	39.32241	-80.89909	47085102990000	8/2/2018 1:00	NA	NA	8/28/2018 0:00	45	45	45	0	See FN1.
PENNY UNIT 3H	Mulvay Pad (WV)	39.32243	-80.89910	47085103000000	8/6/2018 21:00	NA	NA	8/28/2018 0:00	44	44	44	0	See FN1.
STRONSNIDER UNIT 1H	Mulvay Pad (WV)	39.32251	-80.89913	47085102010000	7/31/2018 10:00	NA	NA	8/27/2018 0:00	46	46	46	0	See FN1.
STRONSNIDER UNIT 2H	Mulvay Pad (WV)	39.32254	-80.89913	47085102020000	8/4/2018 15:00	NA	NA	8/27/2018 0:00	46	46	46	0	See FN1.
STRONSNIDER UNIT 3H	Mulvay Pad (WV)	39.32257	-80.89914	47085102030000	8/8/2018 15:00	NA	NA	8/27/2018 0:00	40	40	40	0	See FN1.
TRUST UNIT 1H	Mulvay Pad (WV)	39.32246	-80.89911	47085103010000	8/11/2018 2:00	NA	NA	8/29/2018 0:00	43	43	43	0	See FN1.
CROWN UNIT 1H	Neat Pad (WV)	39.42166	-80.93746	47095024530000	3/25/2019 19:00	NA	NA	4/8/2019 0:00	46	46	46	0	See FN1.
CROWN UNIT 3H	Neat Pad (WV)	39.42170	-80.93743	47095024550000	3/28/2019 20:00	NA	NA	4/8/2019 0:00	44	44	44	0	See FN1.
JACK UNIT 1H	Neat Pad (WV)	39.42160	-80.93752	47095024610000	3/17/2019 22:00	NA	NA	4/8/2019 0:00	65	65	65	0	See FN1.
JACK UNIT 3H	Neat Pad (WV)	39.42164	-80.93749	47095024630000	3/22/2019 15:00	NA	NA	4/8/2019 0:00	53	53	53	0	See FN1.
JAMESON UNIT 1H	Neat Pad (WV)	39.42146	-80.93765	47095024690000	3/17/2019 22:00	NA	NA	4/8/2019 0:00	48	48	48	0	See FN1.
JAMESON UNIT 3H	Neat Pad (WV)	39.42151	-80.93760	47095024710000	3/22/2019 1:00	NA	NA	4/8/2019 0:00	45	45	45	0	See FN1.
JIM UNIT 1H	Neat Pad (WV)	39.42152	-80.93759	47095024080000	3/25/2019 13:00	NA	NA	4/26/2019 0:00	39	39	39	0	See FN1.
JIM UNIT 3H	Neat Pad (WV)	39.42157	-80.93754	47095024100000	3/28/2019 16:00	NA	NA	4/8/2019 0:00	49	49	49	0	See FN1.
BARR UNIT 1H	Pool Pad (WV)	39.29805	-80.91164	47085103670000	10/13/2018 17:00	NA	NA	10/25/2018 0:00	55	55	55	0	See FN1.
BARR UNIT 2H	Pool Pad (WV)	39.29802	-80.91163	47085103680000	10/9/2018 8:00	NA	NA	10/24/2018 0:00	53	53	53	0	See FN1.
VERNON UNIT 1H	Pool Pad (WV)	39.29800	-80.91162	47085103520000	10/3/2018 16:00	NA	NA	10/25/2018 0:00	77.5	77.5	77.5	0	See FN1.
BEEM UNIT 3H	Pyle Run Pad (WV)	39.40027	-80.90382	47095024740000	4/22/2019 1:00	NA	NA	6/1/2019 0:00	48	48	48	0	See FN1.
HEINTZMAN UNIT 1H	Pyle Run Pad (WV)	39.40015	-80.90413	47095025260000	4/30/2019 20:00	NA	NA	6/1/2019 0:00	46	46	46	0	See FN1.
HEINTZMAN UNIT 2H	Pyle Run Pad (WV)	39.40016	-80.90409	47095025270000	4/27/2019 18:00	NA	NA	6/1/2019 0:00	38	38	38	0	See FN1.
HEINTZMAN UNIT 3H	Pyle Run Pad (WV)	39.40018	-80.90406	47095025280000	4/24/2019 2:00	NA	NA	6/1/2019 0:00	42	42	42	0	See FN1.
SPOCK UNIT 1H	Pyle Run Pad (WV)	39.40028	-80.90379	47095024780000	4/25/2019 17:00	NA	NA	6/1/2019 0:00	65	65	65	0	See FN1.
SPOCK UNIT 2H	Pyle Run Pad (WV)	39.40029	-80.90375	47095024270000	4/29/2019 15:00	NA	NA	6/1/2019 0:00	57	57	57	0	See FN1.
SPOCK UNIT 3H	Pyle Run Pad (WV)	39.40031	-80.90372	47095024280000	5/22/2019 13:00	NA	NA	6/1/2019 0:00	63	63	63	0	See FN1.
ABU UNIT 4H	Reel Pad (WV)	39.54017	-80.88314	47095024930000	2/24/2019 23:00	NA	NA	3/11/2019 0:00	85	85	85	0	See FN1.
PACKERS UNIT 3H	Ritchie Petroleum Pad (WV)	39.35916	-80.97548	47095023920000	8/1/2018 12:00	NA	NA	8/20/2018 0:00	60.5	60.5	60.5	0	See FN1.
SHEPHERD UNIT 1H	Ritchie Petroleum Pad (WV)	39.35918	-80.97545	47095023850000	8/7/2018 7:00	NA	NA	8/20/2018 0:00	73	73	73	0	See FN1.
TAMARIND UNIT 1H	Ritchie Petroleum Pad (WV)	39.35933	-80.97529	47095023980000	8/4/2018 23:00	NA	NA	8/21/2018 0:00	35.5	35.5	35.5	0	See FN1.
TAMARIND UNIT 2H	Ritchie Petroleum Pad (WV)	39.35931	-80.97531	47095023200000	8/1/2018 9:00	NA	NA	8/22/2018 0:00	60	60	60	0	See FN1.
ORVIS UNIT 2H	Sine Pad (WV)	39.41512	-80.95624	47095025320000	5/27/2019 1:00	NA	NA	6/21/2019 0:00	52	52	52	0	See FN1.
REMINGTON UNIT 1H	Sine Pad (WV)	39.41513	-80.95651	47095025330000	6/11/2019 1:00	NA	NA	6/21/2019 0:00	56	56	56	0	See FN1.
REMINGTON UNIT 2H	Sine Pad (WV)	39.41513	-80.95645	47095025350000	6/10/2019 13:00	NA	NA	6/21/2019 0:00	49	49	49	0	See FN1.
WINCHESTER UNIT 1H	Sine Pad (WV)	39.41513	-80.95640	47095025150000	6/3/2019 14:00	NA	NA	6/21/2019 0:00	60	60	60	0	See FN1.
WINCHESTER UNIT 2H	Sine Pad (WV)	39.41512	-80.95634	47095025340000	5/31/2019 4:00	NA	NA	6/21/2019 0:00	51	51	51	0	See FN1.
COOL UNIT 1H	Stanley Pad (WV)	39.23682	-80.87963	47017068330000	11/14/2018 8:00	NA	NA	12/11/2018 0:00	64	64	64	0	See FN1.
COOL UNIT 2H	Stanley Pad (WV)	39.23685	-80.87962	47017068340000	11/11/2018 2:00	NA	NA	12/11/2018 0:00	43.5	43.5	43.5	0	See FN1.
HATTIE UNIT 3H	Stanley Pad (WV)	39.23679	-80.87964	47017068370000	11/18/2018 3:00	NA	NA	12/11/2018 0:00	42	42	42	0	See FN1.
COPPER JOHN UNIT 1H	Stonefly Pad (WV)	39.41793	-80.92255	47095024040000	12/4/2018 21:00	NA	NA	1/9/2019 0:00	44	44	44	0	See FN1.
COPPER JOHN UNIT 2H	Stonefly Pad (WV)	39.41790	-80.92255	47095024050000	12/8/2018 16:00	NA	NA	1/9/2019 0:00	38	38	38	0	See FN1.
COPPER JOHN UNIT 3H	Stonefly Pad (WV)	39.41787	-80.92254	47095024060000	12/11/2018 21:00	NA	NA	1/9/2019 0:00	44	44	44	0	See FN1.
PHEASANT UNIT 2H	Stonefly Pad (WV)	39.41797	-80.92257	47095024350000	12/26/2018 21:00	NA	NA	1/9/2019 0:00	65	65	65	0	See FN1.
PHEASANT UNIT 3H	Stonefly Pad (WV)	39.41795	-80.92256	47095024370000	11/30/2018 3:00	NA	NA	1/9/2019 0:00	46	46	46	0	See FN1.
TUASCHER UNIT 1H	Stonefly Pad (WV)	39.41785	-80.92253	47095023570000	12/15/2018 4:00	NA	NA	1/9/2019 0:00	33	33	33	0	See FN1.
TUASCHER UNIT 2H	Stonefly Pad (WV)	39.41782	-80.92251	47095024070000	12/18/2018 19:00	NA	NA	1/10/2019 0:00	35	35	35	0	See FN1.
TUASCHER UNIT 3H	Stonefly Pad (WV)	39.41779	-80.92250	47095024560000	12/21/2018 17:00	NA	NA	1/10/2019 0:00	35	35	35	0	See FN1.
BUFFETT UNIT 1H	Strickling Pad (WV)	39.33216	-80.78400	47017068470000	10/8/2018 12:00	NA	NA	11/20/2018 0:00	52.5	52.5	52.5	0	See FN1.
BUFFETT UNIT 2H	Strickling Pad (WV)	39.33216	-80.78397	47017068480000	10/5/2018 6:00	NA	NA	11/20/2018 0:00	48.75	48.75	48.75	0	See FN1.
JIMMY UNIT 1H	Strickling Pad (WV)	39.33216	-80.78393	47017068380000	10/1/2018 22:00	NA	NA	11/20/2018 0:00	50	50	50	0	See FN1.
JIMMY UNIT 2H	Strickling Pad (WV)	39.33217	-80.78390	47017067900000	9/28/2018 10:00	NA	NA	11/20/2018 0:00	50.5	50.5	50.5	0	See FN1.
JIMMY UNIT 3H	Strickling Pad (WV)	39.33217	-80.78386	47017068390000	9/24/2018 19:00	NA	NA	11/21/2018 0:00	55	55	55	0	See FN1.
SMITHERS UNIT 1H	Strickling Pad (WV)	39.33218	-80.78383	47017068450000	10/17/2018 0:00	NA	NA	11/20/2018 0:00	54.5	54.5	54.5	0	See FN1.
SMITHERS UNIT 2H	Strickling Pad (WV)	39.33218	-80.78379	47017068440000	10/11/2018 3:00	NA	NA	11/20/2018 0:00	55	55	55	0	See FN1.
TAUNUS UNIT 1H	Strickling Pad (WV)	39.33218	-80.78376	47017068400000	10/7/2018 19:00	NA	NA	11/20/2018 0:00	42.5	42.5	42.5	0	See FN1.
TAUNUS UNIT 2H	Strickling Pad (WV)	39.33219	-80.78372	47017068410000	10/4/2018 2:00	NA	NA	11/20/2018 0:00	53	53	53	0	See FN1.
TAUNUS UNIT 3H	Strickling Pad (WV)	39.33219	-80.78369	47017068420000	9/25/2018 18:00	NA	NA	11/20/2018 0:00	47	47	47	0	See FN1.

Well Name	Pad Name	Surface Lattitude	Surface Longitude	API Number	Date and Time of Onset of Flowback Following Hydraulic Fracturing	Date and Time of Each Attempt to Direct Flowback to a Separator	Date and Time of Each Return to Initial Flowback Stage	Date and Time of Startup of Production	Duration of Flowback (Hours)	Duration of Recovery and Disposition of Recovery (ie: Flare, Sales Line)	Duration of Combustion	Duration of Venting (Hours)	Specific Reasons for Venting in Lieu of Capture or Combustion[1]
DEAN UNIT 1H	Weigle East Pad (WV)	39.46628	-80.85285	47095023460000	8/27/2018 12:00	NA	NA	9/23/2018 0:00	43	34	34	0	See FN1.
DEAN UNIT 2H	Weigle East Pad (WV)	39.46630	-80.85286	47095023470000	8/24/2018 9:00	NA	NA	9/23/2018 0:00	41.75	41.75	41.75	0	See FN1.
GOODFELLOW UNIT 1H	Weigle East Pad (WV)	39.46633	-80.85288	47095023240000	8/21/2018 11:00	NA	NA	9/24/2018 0:00	39	39	39	0	See FN1.
GOODFELLOW UNIT 2H	Weigle East Pad (WV)	39.46635	-80.85289	47095023250000	8/18/2018 13:00	NA	NA	9/24/2018 0:00	36	36	36	0	See FN1.
OWENS UNIT 1H	Weigle East Pad (WV)	39.46618	-80.85267	47095023660000	9/6/2018 0:00	NA	NA	9/24/2018 0:00	46.5	46.5	46.5	0	See FN1.
OWENS UNIT 2H	Weigle East Pad (WV)	39.46616	-80.85266	47095023670000	9/8/2018 19:00	NA	NA	9/23/2018 0:00	45	45	45	0	See FN1.
OWENS UNIT 3H	Weigle East Pad (WV)	39.46613	-80.85265	47095023260000	9/11/2018 23:00	NA	NA	9/23/2018 0:00	48	48	48	0	See FN1.

[1] Antero conducts balanced drillouts during all of its completion operations; much of the gas that would otherwise escape the wellbore is maintained downhole. As such, very little gas comes from the wellbore and the pressure of that gas stream is consquentially low. Antero has determined that it is technically infeasible for the gas recovered during balanced drillout (via a Superloop separator) be routed to the sales line, as the gas separated during the balanced drillout process is not of sufficient pressure to enter the sales line or of salable quality (in addition, Antero was not able to route the gas pursuant to any of the other three options identified in 40 C.F.R. § 60.5375a(1)(iii), for the same reasons that the pressure is not sufficiently high and the gas is not of proper quality). As such, Antero now routes gas recovered from balanced drillout by the Superloop separator to a combustor/flare with at least 95% reduction efficiency in compliance with 40 C.F.R. § 60.5375a.

Storage Vessel Affected Facilities

Pad Name	Storage Vessel ID	Was the storage vessel constructed, modified or reconstructed during the reporting period?	Latitude of Storage Vessel (Decimal Degrees to 5 Decimals Using the North American Datum of 1983)	Longitude of Storage Vessel (Decimal Degrees to 5 Decimals Using the North American Datum of 1983)	Documentation of the VOC emission rate determination according to §60.5365d(a)	Records of deviations where the storage vessel was not operated in compliance with requirements	I have fulfilled the requirements of §60.5420a(b)(1) and (5).	Removed from service during the reporting period?	If removed from service, the date removed from service.	Returned to service during the reporting period?	If returned to service, the date returned to service.	Storage Vessels Constructed, Modified, Reconstructed or Returned to Service During Reporting Period that Comply with §60.5395a(a)(1) with a Control Device Tested Under § 60.18 (Tab4)													
												Make of Purchased Device	Model of Purchased Device	Serial Number of Purchased Device	Date of Purchase	Copy of Purchase Order	Latitude of Control Device (Decimal Degrees to 5 Decimals Using the North American Datum of 1983)	Longitude of Control Device (Decimal Degrees to 5 Decimals Using the North American Datum of 1983)	Inlet Gas Flow Rate	Please provide the file name that contains the Records of Pilot Flame Present at All Times of Operation	Please provide the file name that contains the Records of No Visible Emissions Periods Greater Than 1 Minute During Any 15 Minute Period	Please provide the file name that contains the Records of Maintenance and Repair Log	Please provide the file name that contains the Records of Visible Emissions Test Following Return to Operation from Maintenance/Repair Activity	Please provide the file name that contains the Records of Manufacturer's Written Operating Instructions, Procedures and Maintenance Schedule
Donnelly	TANK1 - TANK8	Yes	39.41787	-80.82268	0.8 per tank	See attached Method 22 log	Yes	No	NA	No	NA	Cimmr Energy EDC	Model 200	# 15-SCE-04-10/96 # 15-SCG-04-11/96 # 15-SCE-04-18/96 # 15-SCE-04-15/96	11/30/2016	See attached Purchase Order	39.41787	-80.82268	See attached P & I certification	See attached Method 22 Inspection Records	See attached Method 22 Inspection Records	NA	NA	See attached manufacturer records
Buck Run	TANK1 - TANK6	No	39.31384	-80.94732	-	See attached Method 22 Log	Yes	No	NA	No	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Charlene	TANK1 - TANK2	No	39.22972	-80.90384	-	See attached Method 22 Log	Yes	No	NA	No	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cofer	TANK1 - TANK10	No	39.29954	-80.80623	-	See attached Method 22 Log	Yes	No	NA	No	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Edwin	TANK1 - TANK10	No	39.23033	-80.855	-	See attached Method 22 Log	Yes	No	NA	No	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gilbert	TANK1 - TANK8	No	39.41875	-80.87807	-	See attached Method 22 Log	Yes	No	NA	No	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Noland	TANK1 - TANK10	No	39.29904	-80.87838	-	See attached Method 22 Log	Yes	No	NA	No	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Walnut West	TANK1 - TANK10	No	39.31313	-80.89838	-	See attached Method 22 Log	Yes	No	NA	No	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yvonne	TANK1 - TANK10	No	39.30898	-80.90865	-	See attached Method 22 Log	Yes	No	NA	No	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Method 22 Inspection Log

Facility Name	Month	Method 22 Inspection Completed Date	Comments
Buck Run	Aug-18	8/28/2018	
	Sep-18	9/26/2018	
	Oct-18	10/25/2018	
	Nov-18	12/5/2018	Inspection in later calendar month, but by less than 7 days
	Dec-18	1/2/2019	Inspection in later calendar month, but by less than 7 days
	Jan-19	1/31/2019	
	Feb-19	2/19/2019	
	Mar-19	3/28/2019	
	Apr-19	4/30/2019	
	May-19	5/15/2019	
	Jun-19	6/5/2019	
	Jul-19	7/11/2019	
Charlene	Aug-18	8/28/2018	
	Sep-18	9/26/2018	
	Oct-18	10/25/2018	
	Nov-18	11/13/2018	
	Dec-18	1/2/2019	Inspection in later calendar month, but by less than 7 days
	Jan-19	1/31/2019	
	Feb-19	2/26/2019	
	Mar-19	3/28/2019	
	Apr-19		Inspection not conducted
	May-19	5/14/2019	
	Jun-19	6/19/2019	
	Jul-19	7/31/2019	
Cofor	Aug-18	8/15/2018	
	Sep-18	9/25/2018	
	Oct-18	10/30/2018	
	Nov-18	12/11/2018	Inspection in later calendar month and greater than 7 days
	Dec-18	1/3/2019	Inspection in later calendar month, but by less than 7 days
	Jan-19	1/31/2019	
	Feb-19	2/22/2019	
	Mar-19	3/28/2019	
	Apr-19		Inspection not conducted
	May-19	5/7/2019	
	Jun-19	6/18/2019	
	Jul-19	7/9/2019	
Edwin	Aug-18	8/29/2018	
	Sep-18	9/25/2018	
	Oct-18	10/30/2018	
	Nov-18	12/5/2018	Inspection in later calendar month, but by less than 7 days
	Dec-18	1/2/2019	Inspection in later calendar month, but by less than 7 days
	Jan-19	1/31/2019	
	Feb-19	2/25/2019	
	Mar-19	3/18/2019	
	Apr-19		Inspection not conducted
	May-19	5/14/2019	
	Jun-19	6/11/2019	
	Jul-19	7/15/2019	
Estlack	Aug-18	8/28/2018	
	Sep-18	9/25/2018	
	Oct-18	10/30/2018	
	Nov-18	12/4/2018	Inspection in later calendar month, but by less than 7 days
	Dec-18	1/4/2019	Inspection in later calendar month, but by less than 7 days
	Jan-19	1/11/2019	Inspection not separated by at least 14 calendar days
	Feb-19	2/12/2019	
	Mar-19	3/19/2019	
	Apr-19	5/12/2019	Inspection in later calendar month and greater than 7 days
	May-19	5/30/2019	
	Jun-19	6/28/2019	
	Jul-19	7/31/2019	

Method 22 Inspection Log

Noland	Aug-18	8/28/2018	
	Sep-18	9/25/2018	
	Oct-18	10/30/2018	
	Nov-18	12/5/2018	Inspection in later calendar month, but by less than 7 days
	Dec-18	1/2/2019	Inspection in later calendar month, but by less than 7 days
	Jan-19	1/29/2019	
	Feb-19	3/5/2019	Inspection in later calendar month, but by less than 7 days
	Mar-19	3/28/2019	
	Apr-19	4/30/2019	
	May-19	5/14/2019	
	Jun-19	6/19/2019	
	Jul-19	7/31/2019	
Stonefly	Aug-18	Not yet storage tank affected facility	
	Sep-18	Not yet storage tank affected facility	
	Oct-18	Not yet storage tank affected facility	
	Nov-18	Not yet storage tank affected facility	
	Dec-18	Not yet storage tank affected facility	
	Jan-19	Not yet storage tank affected facility	
	Feb-19	Not yet storage tank affected facility	
	Mar-19	3/5/2019	
	Apr-19		Inspection not conducted
	May-19	5/30/2019	
	Jun-19	6/28/2019	
	Jul-19	7/31/2019	
Walnut West	Aug-18	8/28/2018	
	Sep-18	9/26/2018	
	Oct-18	10/24/2018	
	Nov-18	12/5/2018	Inspection in later calendar month, but by less than 7 days
	Dec-18	1/4/2019	Inspection in later calendar month, but by less than 7 days
	Jan-19	1/29/2019	
	Feb-19	3/5/2019	Inspection in later calendar month, but by less than 7 days
	Mar-19	3/28/2019	
	Apr-19	5/1/2019	Inspection in later calendar month, but by less than 7 days
	May-19	5/30/2019	
	Jun-19	6/19/2019	
	Jul-19	7/31/2019	
Yvonne	Aug-18	8/28/2018	
	Sep-18	9/25/2018	
	Oct-18	10/16/2018	
	Nov-18	12/5/2018	Inspection in later calendar month, but by less than 7 days
	Dec-18	1/3/2019	Inspection in later calendar month, but by less than 7 days
	Jan-19	2/14/2019	Inspection in later calendar month and greater than 7 days
	Feb-19	2/12/2019	
	Mar-19	3/27/2019	
	Apr-19	5/21/2019	
	May-19	6/4/2019	
	Jun-19	6/19/2019	
	Jul-19	7/31/2019	

COMM Engineering, Inc.
PO BOX 53463
Lafayette, LA 70505
Tel: (337) 237-4373 Fax: (337) 234-1805
http://www.commengineering.com

Invoice

ANTERO RESOURCES CORPORATION
1615 Wynkoop Street
Denver, CO 80202

Invoice Date: Nov 30, 2016
Invoice Num: 1223519

Q-Various(8) Model 4 Combustor (160969:) - **PO#:** CEA12222016AS - Managed by (SCHNEIDER III GEORGE W)

Ordered by Dustin Haddox
Project Manager Anthony Smith
AFE# A04773
JIB Category # LWE140

Description	Units	Rate	Cost	Tax %	Amount
Model 200 Combustor - Serial Numbers - 15-SCG-04-009/096, 15-SCG-04-010/096, 15-SCG-04-011/096, 15-SCG-04-012/096, 15-SCG-04-014/096, 15-SCG-04-015/096, 15-SCG-04-016/096, 15-SCG-04-018/096	8.00	$18,099.00	$144,792.00		$144,792.00
ProFire control panel, solar package, and brackets	8.00	$3,452.96	$27,623.68		$27,623.68
4" Piping and fittings (pre-assembled)	8.00	$2,399.53	$19,196.24		$19,196.24
Instrument regulators, tubing and fittings	8.00	$552.18	$4,417.44		$4,417.44
Shipping	8.00	$1,051.76	$8,414.08		$8,414.08
		Subtotal:	**$204,443.44**		**$204,443.44**

Amount Due This Invoice: **$204,443.44**

This invoice is due on 11/30/2016

A Finance Charge of 1 1/2% per month (18% per annum) will be charged on all past due balances.

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NSPS OOOOa Well Pad Applicability Summary and P.E. Certification

Facility: Stonefly Pad

Determination Summary:

- Flow rates for this pad were determined from the initial 30 days of production.
- Promax modeling was performed using these flow rates, site specific line pressures, site specific gas analysis, and representative liquids analysis.
- Promax modelling indicates that controlled emissions from onsite tanks are greater than 6 tpy per tank.
- Therefore, the site is subject to the storage vessel requirements of OOOOa and the design of the closed vent system must be certified by a Professional Engineer.

"I certify that the closed vent system design and capacity assessment was prepared under my direction or supervision. I further certify that the closed vent system design and capacity assessment was conducted and this report was prepared pursuant to the requirements of subpart OOOOa of 40 CFR part 60. Based on my professional knowledge and experience, and inquiry of personnel involved in the assessment, the certification submitted herein is true, accurate, and complete. I am aware that there are penalties for knowingly submitting false information".

Kevin Kilstrom, Senior Vice President - Production, P.E.

COLORADO REGISTERED
KEVIN J. KILSTROM
33566
6/10/19
PROFESSIONAL ENGINEER

Production Pad Facility Modeling Assumptions:

Gas, condensate and water are blended to make a wellhead stream

- Pressure
- Temperature
- Composition – based on closest collected gas analysis (C1-C6+) and extended oil analysis (C1-C31+).
- Flow rate – Based on the initial 30 day pad average production
    - Gas and condensate flow rates are actually set for at the outlet and then back calculated to get an inlet rate that will achieve the designated outlet rates.

Primary vessel operating conditions

- Pressure – based on actual collected GPU pressures
- Temperature - values are based typical temperatures recorded on multiple pads during initial production

Secondary vessel operating conditions

- Pressure - values are estimated at "worst case", based on collected flow data, to create the highest expected flash gas rate to VRU(s)
- Temperature - values are based typical temperatures recorded on multiple pads during initial production

Tank operating conditions

- Pressure - values are estimated at "worst case", based on collected flow data, to create the highest expected flash gas rate to combustors
- Temperature – based on "Tanks 4.09d" temperature shown for the area

Tank Pressure Relief Settings

Assumed PVRV settings staggered from 10 oz to 11 oz.

- Thief Hatch: Lockdown (no pressure setting)
- EPRV: 14 oz

Combustor operation

- 98% burn efficiency
- Pilot gas taken from the sales gas stream
- Induced draft air stream added into the burner
- Piping losses estimated from "Combustor Piping Losses Piping Configuration Comparison"

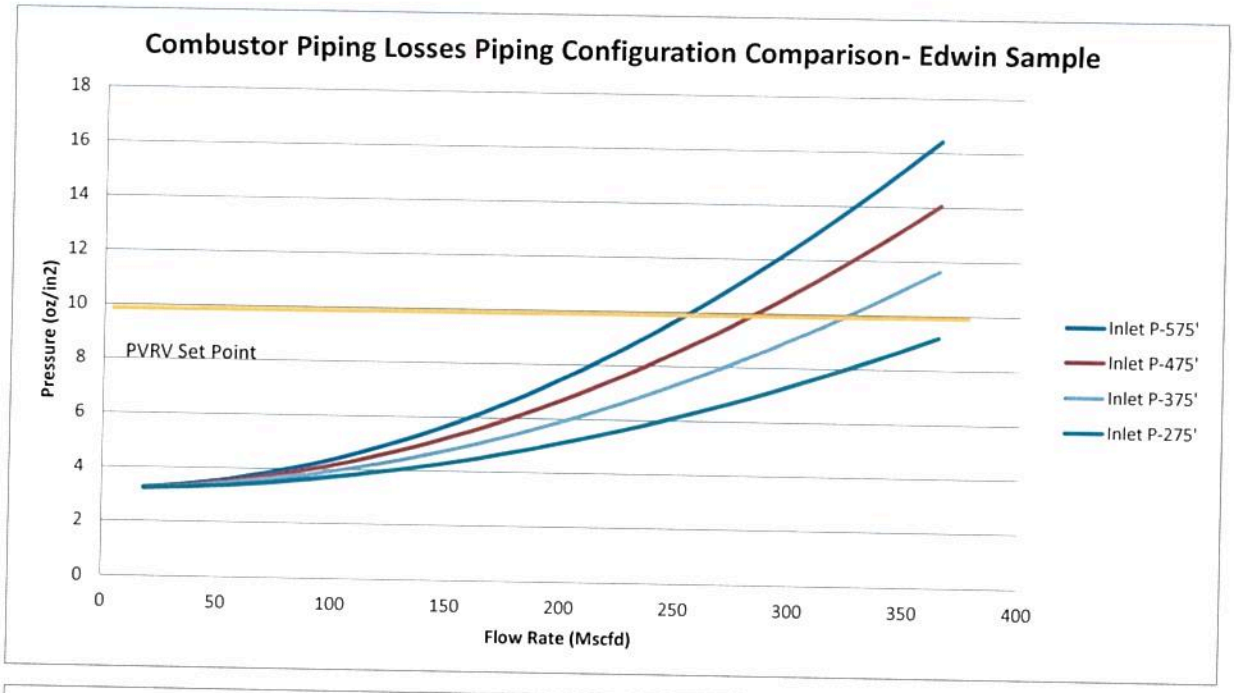
Equipment assumptions for higher condensate yielding pads

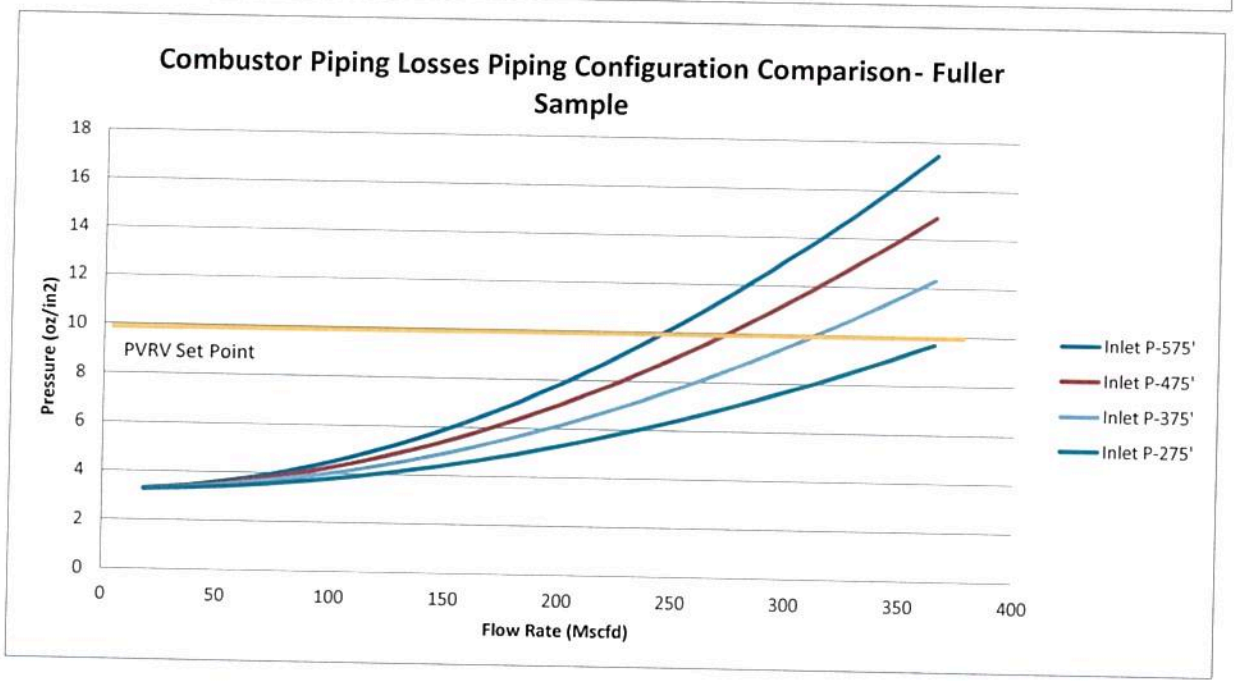
VRT operating conditions

- Pressure - values are estimated at "worst case" to create the highest expected flash gas rate to VRU(s)

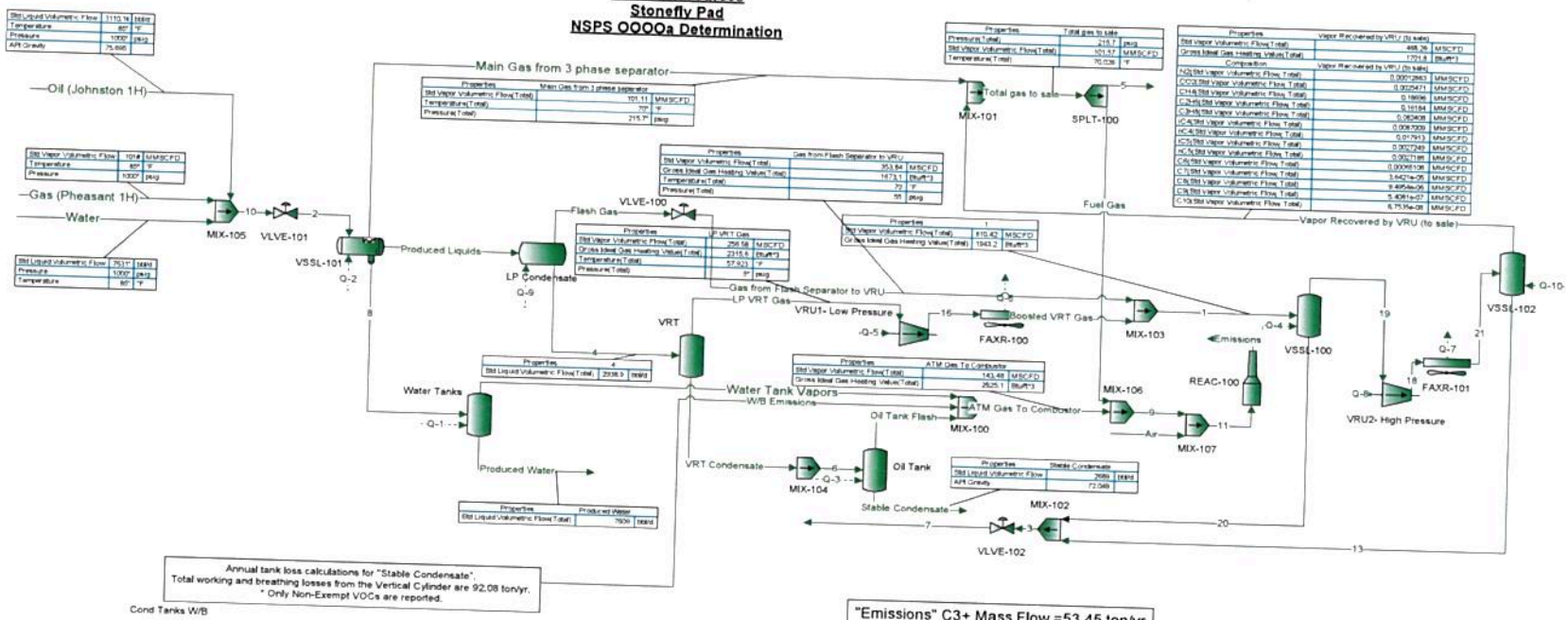
VRU(s) operating conditions

- Pressure – suction and discharge pressures based on the already set vessels/sales gas pressures
- Engine efficiency – required to have the model run. Actual sizing is based off of VRU performance curves and the calculated evolved gas from the secondary vessel and VRT
- Outlet temperature post cooler– estimated at 100 ◦F


Combustor Piping Losses Piping Configuration Comparison- Edwin Sample
Pressure (oz/in2)
Flow Rate (Mscfd)
PVRV Set Point
Inlet P-575'
Inlet P-475'
Inlet P-375'
Inlet P-275'
0
2
4
6
8
10
12
14
16
18
0
50
100
150
200
250
300
350
400


Combustor Piping Losses Piping Configuration Comparison- Fuller Sample
Pressure (oz/in2)
Flow Rate (Mscfd)
PVRV Set Point
Inlet P-575'
Inlet P-475'
Inlet P-375'
Inlet P-275'
0
2
4
6
8
10
12
14
16
18
0
50
100
150
200
250
300
350
400

Antero Resources
Stonefly Pad
NSPS OOOOa Determination



Annual tank loss calculations for "Stable Condensate".
Total working and breathing losses from the Vertical Cylinder are 92.08 ton/yr.
* Only Non-Exempt VOCs are reported.

"Emissions" C3+ Mass Flow =53.45 ton/yr

"Emissions" BTEX = 0.124 ton/yr

EAM

Print Work Order

Work Order

Work Order	20867612 WV Air Compliance Inspection Checklist (30 Day)	**Scheduled Start Date**	02/01/2019
Status	10-Closed	**Scheduled End Date**	03/02/2019
Created By	AWRATCHFORD	**Date Started**	03/05/2019 09:15
Created	02/01/2019	**Date Completed**	03/05/2019
		Time Completed	09:30

WO Type	PM Preventive maintenance	**Parent WO**	
Department	PRODWV Production West Virginia	**Class**	REG
		Priority	ROUTINE
PM Schedule	PROD-AIR-004 Method 22 (Monthly)	**Warranty**	
		Safety	
Cost Code		**Equipment Criticality**	
		Assigned To	LLEE
Problem Code		**Reported By**	AWRATCHFORD
		Assigned By	ENV
Project		**Campaign**	
Standard WO		**Campaign Event**	

Equipment

Equipment	STONEFLYPAD Stonefly Pad	**Location**	STONEFLYPAD-L
Manufacturer		**Reliability Ranking**	
Model		**Reliability Ranking Index**	
Serial Number		**Reliability Ranking Score**	

Activity List

Activity	Task Plan Description	Trade	Start Date	End Date	Supplier
10	Method 22 (Monthly)	FT	02/01/2019	02/01/2019	

Checklist

Sequence	Description	Result
1	Type of inspection	Finding: MONT
20	Weather	Finding: CLR
30	Temperature	Value: 11 Degree Fahrenheit
40	Wind speed	Value: 7 Miles Per Hour
50	Number of flares on site	Value: 4 ALL UNITS OF MEASURE
60	Number of flares in operation	Value: 4 ALL UNITS OF MEASURE
70	Is the pilot lit on the flare	Finding: YES
80	MFG of Flare?	Finding: CIM
90	Flare operarated with flame present if gasses being vented to it?	Finding: YES
100	Type of automatic ignition system installed?	Finding: PFIR
110	Is ther an alrm system alerting the lack of flame in the pilot?	Finding: NO
130	Air vent obstruction?	Finding: NO
140	Is there evidence of liquids reaching the flare?	Finding: NO
150	Were gasses vented through flare without a flame present?	Finding: NO
160	Flare shutdown? If yes,why.	Finding: NO
170	Method 22 complete?	Finding: YES
180	Tank inspestion completed?	Finding: YES
190	Tank inventory(list in comments)	Completed: Yes
200	Gpu inspection completed?	Finding: YES
210	GPU inventory(list in comments)	Completed: Yes
220	VRU inspection completed?	Finding: YES
230	VRU niventory(list in comments)	Completed: Yes
240	VRU hours	Value: 0 Hour
300	List any associated work orders	Value: 0 ALL UNITS OF MEASURE

Booked Hours

Activity List

Activity	Task Plan Description		Trade	Start Date	End Date	Supplier
	Employee	**Date**	**Time On**	**Time Off**	**Total Time**	**Type of Hours**

EAM

Print Work Order

Work Order

Work Order	20897988	**Scheduled Start Date**	03/01/2019
	WV Air Compliance Inspection Checklist (30 Day)	**Scheduled End Date**	03/30/2019
Status	10-Closed		Reprint
Created By	AWRATCHFORD	**Date Started**	03/05/2019 09:15
Created	02/28/2019	**Date Completed**	03/05/2019
		Time Completed	09:30

WO Type	PM Preventive maintenance	**Parent WO**	
Department	PRODWV Production West Virginia	**Class**	REG
PM Schedule	PROD-AIR-004 Method 22 (Monthly)	**Priority**	ROUTINE
Cost Code		**Warranty**	
		Safety	
		Equipment Criticality	
		Assigned To	LLEE
Problem Code		**Reported By**	AWRATCHFORD
		Assigned By	ENV
Project		**Campaign**	
Standard WO		**Campaign Event**	

Equipment

Equipment	STONEFLYPAD Stonefly Pad	**Location**	STONEFLYPAD-L
Manufacturer		**Reliability Ranking**	
Model		**Reliability Ranking Index**	
Serial Number		**Reliability Ranking Score**	

Activity List

Activity	Task Plan Description	Trade	Start Date	End Date	Supplier
10	Method 22 (Monthly)	FT	03/01/2019	03/01/2019	

Checklist

Sequence	Description	Result
1	Type of inspection	Finding: MONT
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30	Temperature	Value: 11 Degree Fahrenheit
40	Wind speed	Value: 7 Miles Per Hour
50	Number of flares on site	Value: 4 ALL UNITS OF MEASURE
60	Number of flares in operation	Value: 4 ALL UNITS OF MEASURE
70	Is the pilot lit on the flare	Finding: YES
70	Is the pilot lit on the flare	Finding: _____
80	MFG of Flare?	Finding: CIM
80	MFG of Flare?	Finding: _____
90	Flare operarated with flame present if gasses being vented to it?	Finding: YES
100	Type of automatic ignition system installed?	Finding: PFIR
110	Is ther an alrm system alerting the lack of flame in the pilot?	Finding: NO
130	Air vent obstruction?	Finding: NO
140	Is there evidence of liquids reaching the flare?	Finding: NO
150	Were gasses vented through flare without a flame present?	Finding: NO
160	Flare shutdown? If yes,why.	Finding: NO
170	Method 22 complete?	Finding: YES
180	Tank inspestion completed?	Finding: YES
190	Tank inventory(list in comments)	Completed: Yes
200	Gpu inspection completed?	Finding: YES
210	GPU inventory(list in comments)	Completed: Yes
220	VRU inspection completed?	Finding: YES
230	VRU niventory(list in comments)	Completed: Yes
240	VRU hours	Value: 0 Hour
240	VRU hours	Value: _____ Hour
300	List any associated work orders	Value: 0 ALL UNITS OF MEASURE

Activity List

Activity	Task Plan Description	Trade	Start Date	End Date	Supplier
	300 List any associated work orders Value: _____ ALL UNITS OF MEASURE				

Booked Hours

Employee	Date	Time On	Time Off	Total Time	Type of Hours

EAM

Print Work Order

Antero Resources

Work Order

Work Order	20962397
	Method 22 (Monthly)
Status	10-Closed
Created By	AWRATCHFORD
Created	04/30/2019
WO Type	PM
	Preventive maintenance
Department	ENV
	Environmental
PM Schedule	PROD-AIR-004
	Method 22 (Monthly)
Cost Code	
Problem Code	
Project	
Standard WO	

Scheduled Start Date	05/01/2019
Scheduled End Date	05/30/2019
Date Started	
Date Completed	05/30/2019
Time Completed	12:32
Parent WO	
Class	ENV
Priority	ROUTINE
Warranty	
Safety	
Equipment Criticality	
Assigned To	DGRIMES
Reported By	JKINNEY
Assigned By	
Campaign	
Campaign Event	

Equipment

Equipment	STONEFLYPAD
	Stonefly Pad
Manufacturer	
Model	
Serial Number	

Location	STONEFLYPAD-L
Reliability Ranking	
Reliability Ranking Index	
Reliability Ranking Score	

Activity List

Activity	Task Plan Description	Trade	Start Date	End Date	Supplier
10	Method 22 (Monthly)	FT	05/01/2019	05/01/2019	

Checklist

Sequence	Description	Result
10	How many incinerators are on site?	Value: 4 ALL UNITS OF MEASURE
20	How many incinerators are in operation (pilots lit)?	Value: 4 ALL UNITS OF MEASURE
30	Were any visible emissions noted during incineration?	Finding: NO
40	Were there any AVO observations noted with tank structures?	No
50	Attach Method 22 Form, including sketch, to this report.	Completed: Yes
60	Was an environmental representative notified of any issues?	No

Booked Hours

Employee	Date	Time On	Time Off	Total Time	Type of Hours

3:38 PM Wed May 29

1x 84

Method22

Antero - Method 22 Inspection Form

Method 22 Site Photos

Pad Name: Stonefly

Date: 5/29/2019

Weather: Cloudy

Temp: 79 F

Inspector / Daniel Grimes

Company: [X] Antero [ ] Other..

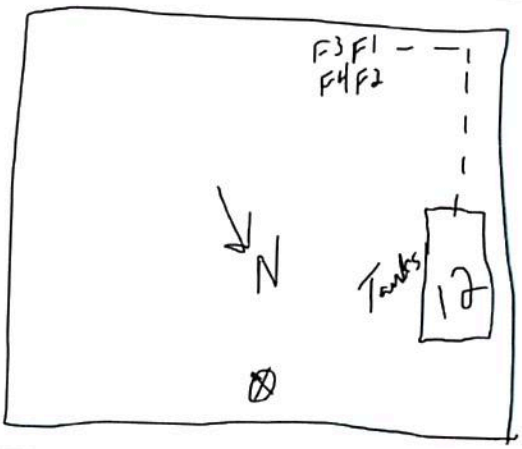
If "Other", describe

Inspection Type: [X] Monthly [ ] Quarterly [ ] Other..

If another reason, please describe

Drawing

Sketch Process Unit:
Indicate Observer's position relative to source;
Indicate emission points (actual and potential);
Indicate wind direction and record speed in the Comments box.



Wind Direction WSW

Comments

11 mph

1. Observations

Clock Time	Observation period duration (minutes)	Duration visible emission (minutes)
3:20:52 PM	18	0
3:38:07 PM		

Total observed emissions 0 Min

EAM

Print Work Order

Antero Resources

Work Order

Work Order	20986534 Method 22 (Monthly)	**Scheduled Start Date**	06/01/2019
Status	10-Closed	**Scheduled End Date**	06/30/2019
Created By	JKINNEY	**Date Started**	
Created	06/04/2019	**Date Completed**	06/28/2019
		Time Completed	10:55
WO Type	PM Preventive maintenance	**Parent WO**	
Department	ENV Environmental	**Class**	REG
		Priority	ROUTINE
PM Schedule	PROD-AIR-004 Method 22 (Monthly)	**Warranty**	
		Safety	
Cost Code		**Equipment Criticality**	
		Assigned To	DGRIMES
Problem Code		**Reported By**	JKINNEY
		Assigned By	ENV
Project		**Campaign**	
Standard WO		**Campaign Event**	

Equipment

Equipment	STONEFLYPAD Stonefly Pad	**Location**	STONEFLYPAD-L
Manufacturer		**Reliability Ranking**	
Model		**Reliability Ranking Index**	
Serial Number		**Reliability Ranking Score**	

Activity List

Activity	Task Plan Description	Trade	Start Date	End Date	Supplier
10	Method 22 (Monthly)	FT	06/01/2019	06/01/2019	

Checklist

Sequence	Description	Result
10	How many incinerators are on site?	Value: 4 ALL UNITS OF MEASURE
20	How many incinerators are in operation (pilots lit)?	Value: 4 ALL UNITS OF MEASURE
30	Were any visible emissions noted during incineration?	Finding: NO
40	Were there any AVO observations noted with tank structures?	No
50	Attach Method 22 Form, including sketch, to this report.	Completed: Yes
60	Was an environmental representative notified of any issues?	No

Booked Hours

Employee	Date	Time On	Time Off	Total Time	Type of Hours

9:05 AM Tue Jun 25

1x 95

Method22

Antero - Method 22 Inspection Form

Method 22 Site Photos

Pad Name: Stonefly

Date: 6/25/2019

Weather: Partly Cloudy

Temp: 70 F

Inspector / Daniel Grimes

Company: [X] Antero [ ] Other..

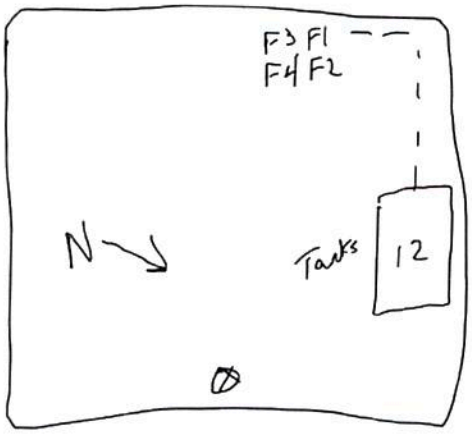
If "Other", describe

Inspection Type: [X] Monthly [ ] Quarterly [ ] Other..

If another reason, please describe

Drawing

Sketch Process Unit:
Indicate Observer's position relative to source;
Indicate emission points (actual and potential);
Indicate wind direction and record speed in the Comments box.



Wind Direction WSW

Comments

5 mph

1. Observations

Clock Time	Observation period duration (minutes)	Duration visible emission (minutes)
8:42:07 AM	22	0
9:04:51 AM		

Total observed emissions 0 Min

EAM

Print Work Order

Work Order

Work Order	21016772 Method 22 (Monthly)	**Scheduled Start Date**	07/01/2019
Status	10-Closed	**Scheduled End Date**	07/30/2019
Created By	JKINNEY	**Date Started**	
Created	07/01/2019	**Date Completed**	07/31/2019
		Time Completed	09:41
WO Type	PM Preventive maintenance	**Parent WO**	
Department	ENV Environmental	**Class**	REG
PM Schedule	PROD-AIR-004 Method 22 (Monthly)	**Priority**	ROUTINE
Cost Code		**Warranty**	
Problem Code		**Safety**	
Project		**Equipment Criticality**	
Standard WO		**Assigned To**	DGRIMES
		Reported By	JKINNEY
		Assigned By	ENV
		Campaign	
		Campaign Event	

Equipment

Equipment	STONEFLYPAD Stonefly Pad	**Location**	STONEFLYPAD-L
Manufacturer		**Reliability Ranking**	
Model		**Reliability Ranking Index**	
Serial Number		**Reliability Ranking Score**	

Activity List

Activity	Task Plan Description	Trade	Start Date	End Date	Supplier
10	Method 22 (Monthly)	FT	07/01/2019	07/01/2019	

Checklist

Sequence	Description	Result
10	How many incinerators are on site?	Value: 4 ALL UNITS OF MEASURE
20	How many incinerators are in operation (pilots lit)?	Value: 2 ALL UNITS OF MEASURE
30	Were any visible emissions noted during incineration?	Finding: NO
40	Were there any AVO observations noted with tank structures?	No
50	Attach Method 22 Form, including sketch, to this report.	Completed: Yes
60	Was an environmental representative notified of any issues?	No

Booked Hours

Employee	Date	Time On	Time Off	Total Time	Type of Hours

12:00 PM Tue Jul 23

1x 87

Method22

Antero - Method 22 Inspection Form

Method 22 Site Photos

Pad Name: Stonefly

Date: 7/23/2019

Weather: Partly Cloudy

Temp: 69 F

Inspector / Daniel Grimes

Company: [X] Antero [ ] Other..

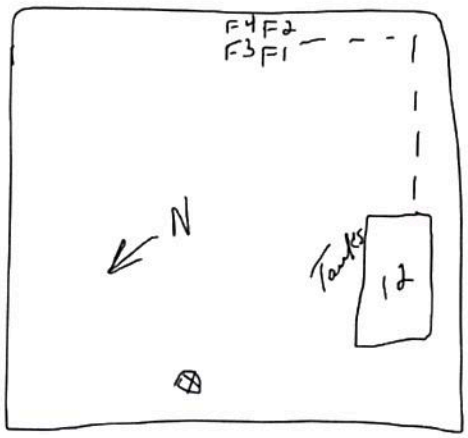
If "Other", describe

Inspection Type: [X] Monthly [ ] Quarterly [ ] Other..

If another reason, please describe

Drawing

Sketch Process Unit:
Indicate Observer's position relative to source;
Indicate emission points (actual and potential);
Indicate wind direction and record speed in the Comments box.



Wind Direction North

Comments

5 mph

1. Observations

Clock Time	Observation period duration (minutes)	Duration visible emission (minutes)
11:38:21	22	0
12:00:41		

Total observed emissions 0 Min

EAM

Print Work Order

Antero Resources

Work Order

Work Order	20837264		
	WV Air Compliance Inspection Checklist (Quarterly)	**Scheduled Start Date**	01/08/2019
Status	10-Closed	**Scheduled End Date**	04/07/2019
Created By	AWRATCHFORD		Reprint
Created	01/07/2019	**Date Started**	
		Date Completed	03/05/2019
WO Type	PM	**Time Completed**	09:15
	Preventive maintenance	**Parent WO**	
Department	PRODWV	**Class**	REG
	Production West Virginia	**Priority**	ROUTINE
PM Schedule	PROD-AIR-001	**Warranty**	
	WV Air Compliance Inspection (Quarterly)	**Safety**	
Cost Code		**Equipment Criticality**	
		Assigned To	NSUMMERFIELD
Problem Code		**Reported By**	AWRATCHFORD
		Assigned By	ENV
Project		**Campaign**	
Standard WO		**Campaign Event**	

Equipment

Equipment	STONEFLYPAD	**Location**	STONEFLYPAD-L
	Stonefly Pad	**Reliability Ranking**	
Manufacturer		**Reliability Ranking Index**	
Model		**Reliability Ranking Score**	
Serial Number			

Comments

NSUMMERFIELD [03/22/2019 11:45]:

Inspection took place on 3/5/19 between 9:10 am to 11:20 am All first attempt repairs were made by roustabout Leaks were detected within the closed vent system

Combustor(s):

SN# Status

1. 15-SOG-04 15/96 Off
2. 15-SOG-04 11/96 On
3. 15-SOG-04 10/96 On
4. 15-SOG-04 14/96 Off

VRU(s):

Brand Skid Hours Pressure

1. Zenith (T) 10100 6821 Low
2. Ford (T) 12643 4956 Low
3. Zenith (T) 9426 Off Low
4. Zenith (T) 9740 7602 Low
5. Ford *2545 Off Low
6. Ford * 2547 Off Low
7. Ford *2544 Off Low
8. Ford *2546 Off Low
9. Ford 2537 1274 High
10. Ford 2536 1267 High
11. Ford 2535 1334 High
12. Ford 2567 1330 High
13. Ford 2570 1333 High
14. Ford 2539 1341 High
15. Ford 2538 Off High
16. Ford 2568 1325 High
17. Ford 2569 1279 High
18. JW (T) 0286 Off High

(T) = Temp VRU* = VRU lines were frozen and were not in operation

Leaks with work orders:

* Combustor 10/96 supply gas line threads at flange WO# 20901617
* GPU Copper John 3H Aray ESD leaking through weep holes WO# 20901620
* VRU 2570 Tee leaking around threads WO# 20901623
* VRU 2570 Tee leaking around threads WO# 20901624
* VRU 2539 Tee leaking around threads WO# 20901625
* VRU 2537 fuel line hammer union leaking WO# 20901627

Leaks fixed on site:

* Combustor 15/96 regulator leaking from weep holes: adjusted spring

Comments

* GPU Copper John 1H stainless fitting into ESD: tightened

NSUMMERFIELD [04/23/2019 13:24]:
WO# 20901617

* Repair made on 3/19/19 and re-monitored on 3/19/19. Leak detected work order reopened.
* Repair made on 3/26/19 and re-monitored on 3/26/19 . No leak detected work order closed.

WO# 20901620

* Repair made on 3/19/19 and re-monitored on 3/19/19. Leak detected work order reopened.
* Technician was told by roustabout this work order will be on delayed repair due to waiting on parts. Once parts arrive issue will be resolved.
* Repair made on 3/28/19 and re-monitored on 4/3/19. Leak detected work order re-opened.
* Repair made on 4/12/19 and re-monitored on 4/23/19. Leak was detected on stainless fitting going into elbow on ESD. Technician was able to tighten up fitting which solved issue. No leak was detected work order closed.

WO# 20901623

* Repair made on 3/19/19 and re-monitored on 3/19/19. Leak detected work order reopened.
* Repair made on 3/26/19 and re-monitored on 3/26/19 . No leak detected work order closed.

WO# 20901624

Repair made on 3/19/19 and re-monitored on 3/19/19. No leak detected work order closed.

WO# 20901625

Repair made on 3/15/19 and re-monitored on 3/18/19. No leak detected work order closed.

WO# 20901627

* Repair made on 3/15/19 and re-monitored on 3/18/19. Leak detected work order reopened.
* On 3/22/19 field technician talked to production supervisor about resolving this issue. Production supervisor said that there was to much pressure on line to do it now and will have to wait till next quarter to resolve issue once pressure came down.

Activity List

Activity	Task Plan Description	Trade	Start Date	End Date	Supplier
10	WV air compliance inspection Quarterly	FT	01/08/2019	01/08/2019	

Checklist

Sequence	Description	Result
10	Type of inspection	Finding: INIT
20	Weather	Finding: CLR
30	Temperature	Value: 11 Degree Fahrenheit
40	Wind speed	Value: 7 Miles Per Hour
50	Number of flares on site	Value: 4 ALL UNITS OF MEASURE
60	Number of flares in operation	Value: 2 ALL UNITS OF MEASURE
70	Is the pilot lit on the flare	Finding: YES
80	MFG of Flare?	Finding: N/A
90	Flare operarated with flame present if gasses being vented to it?	Finding: YES
100	Type of automatic ignition system instlled?	Finding: PFIR
110	Is ther an alrm system alerting the lack of flame in the pilot?	Finding: NO
130	Air vent obstruction?	Finding: NO
140	Is there evidence of liquids reaching the flare?	Finding: NO
150	Were gasses vented through	Finding: NO

Activity List

Activity	Task Plan Description	Trade	Start Date	End Date	Supplier
	flare without a flame present?				
	160 Flare shutdown? If yes,why.		Finding: NO		
	170 Method 22 complete?		Finding: YES		
	180 Tank inspestion completed?		Finding: YES		
	190 Tank inventory(list in comments)		Completed: Yes		
	200 Gpu inspection completed?		Finding: YES		
	210 GPU inventory(list in comments)		Completed: Yes		
	220 VRU inspection completed?		Finding: YES		
	230 VRU niventory(list in comments)		Completed: Yes		
	240 VRU hours		Value: 0 Hour		
	250 LDAR inspection completed?		Finding: YES		
	260 Type of LDAR inspection?		Finding: INIT		
	270 LDAR camera calibrated?		Finding: YES		
	280 Calibration bottle number		Value: 1,003 ALL UNITS OF MEASURE		
	290 Were any leaks detected?Specify in closing comments		Finding: YES		
	300 List any associated work orders		Value: 6 ALL UNITS OF MEASURE		

Booked Hours

Employee	Date	Time On	Time Off	Total Time	Type of Hours

EAM

Print Work Order

Antero Resources

Work Order

Work Order	20930189	**Scheduled Start Date**	04/01/2019
	WV Air Compliance Inspection Checklist (Quarterly)	**Scheduled End Date**	06/29/2019
Status	10-Closed		Reprint
Created By	AWRATCHFORD	**Date Started**	
Created	03/29/2019	**Date Completed**	05/07/2019
		Time Completed	13:45

WO Type	PM Preventive maintenance	**Parent WO**	
Department	ENV Environmental	**Class**	REG
PM Schedule	PROD-AIR-001 WV Air Compliance Inspection (Quarterly)	**Priority**	ROUTINE
Cost Code		**Warranty**	
Problem Code		**Safety**	
Project		**Equipment Criticality**	
Standard WO		**Assigned To**	NSUMMERFIELD
		Reported By	AWRATCHFORD
		Assigned By	
		Campaign	
		Campaign Event	

Equipment

Equipment	STONEFLYPAD Stonefly Pad	**Location**	STONEFLYPAD-L
Manufacturer		**Reliability Ranking**	
Model		**Reliability Ranking Index**	
Serial Number		**Reliability Ranking Score**	

Comments

NSUMMERFIELD [05/13/2019 15:37]:

Inspection took place on 5/7/19 between 9:00 am to 11:00 am All first attempt repairs were made by roustabout No leaks were detected within the closed vent system

Combustor(s):

SN# Status

1. 15-SOG-04 15/96 On
2. 15-SOG-04 14/96 On
3. 15-SOG-04 10/96On
4. 15-SOG-04 11/96On

VRU(s):

Brand Skid HoursPressures

1. Ford 2545 Off Low
2. Ford 2547 Off Low
3. Ford 2544 2802 Low
4. Ford 2546 2514 Low
5. Ford 2537 2784 High
6. Ford 2536 2777 High
7. Ford 2535 2844 High
8. Ford 2567 2840 High
9. Ford 2570 Off High
10. Ford 2539 2760 High
11. Ford 2538 Off High
12. Ford 2568 Off High
13. Ford 2569 Off High
14. JW CV04165OffHighTemp

Leaks with work orders:

* VRU 2539 stainless solenoid WO# 20967941
* VRU discharge line hammer union WO# 20967942

Leaks fixed on site:

* VRU 2536 stainless fitting into elbow: tightened
* VRU 2536 level controller continued bleed from bleeder: cleaned

NSUMMERFIELD [06/11/2019 10:35]:

WO# 20967941

Repair made on 5/9/19 and re-monitored on 5/10/19. No leak detected work order closed.

WO# 20967942

Comments

VRU Technician made a attempt at repair on 6/5/19 , but due to line pressure was unable to make repair this will be a delayed repair and will be re-monitored during the 3rd quarter inspection.

Activity List

Activity	Task Plan Description	Trade	Start Date	End Date	Supplier
10	WV air compliance inspection Quarterly	FT	04/01/2019	04/01/2019	

Checklist

Sequence	Description	Result
10	Type of inspection	Finding: QUAR
20	Weather	Finding: CLR
30	Temperature	Value: 67 Degree Fahrenheit
40	Wind speed	Value: 2 Miles Per Hour
50	Number of flares on site	Value: 4 ALL UNITS OF MEASURE
60	Number of flares in operation	Value: 4 ALL UNITS OF MEASURE
70	Is the pilot lit on the flare	Finding: YES
80	MFG of Flare?	Finding: N/A
90	Flare operarated with flame present if gasses being vented to it?	Finding: YES
100	Type of automatic ignition system instlled?	Finding: PFIR
110	Is ther an alrm system alerting the lack of flame in the pilot?	Finding: NO
130	Air vent obstruction?	Finding: NO
140	Is there evidence of liquids reaching the flare?	Finding: NO
150	Were gasses vented through flare without a flame present?	Finding: NO
160	Flare shutdown? If yes,why.	Finding: NO
170	Method 22 complete?	Finding: YES
180	Tank inspestion completed?	Finding: YES
190	Tank inventory(list in comments)	Completed: Yes
200	Gpu inspection completed?	Finding: YES
210	GPU inventory(list in comments)	Completed: Yes
220	VRU inspection completed?	Finding: YES
230	VRU niventory(list in comments)	Completed: Yes
240	VRU hours	Value: 0 Hour
250	LDAR inspection completed?	Finding: YES
260	Type of LDAR inspection?	Finding: QUAR
270	LDAR camera calibrated?	Finding: YES
280	Calibration bottle number	Value: 1,003 ALL UNITS OF MEASURE
290	Were any leaks detected?Specify in closing comments	Finding: YES
300	List any associated work orders	Value: 2 ALL UNITS OF MEASURE

Booked Hours

Employee	Date	Time On	Time Off	Total Time	Type of Hours

COMM OOOO Combustor 200

The COMM OOOO Combustor 200 is an effective emissions control device that has been designed to meet both federal and state requirements. The COMM Combustor is an enclosed combustion system in an insulated stack that can achieve >99% destruction efficiency.

Base Design Features

- Dual Stainless Steel burners for atmospheric (oz.) and low pressure (psig) applications
- 24VDC Control Panel with Auto Re-Ignite Pilot
- Air Inlet Flame Arrestor
- Integral Liquid Knock Out Vessel
- View Port with Sight Glass
- Stack Sample Ports
- Stainless Steel Bird Screen
- Dual Layered Stack Insulation
- Smokeless Operation
- Enclosed Combustion (no visible flame)

Optional Features

- Solenoid Valves for pilot and burner gas controls
- In-line Flame Arrestor
- Solar Panel and Battery Package
- Thermal Mass Flow Meter

SPECIFICATIONS	
Dimensions	48" diameter x 23' long
Volume	Up to 200 MSCFD (7.7 MMBTU/HR)
Waste Gas Pressure	> ½ oz/sq in
Pilot Gas	Natural gas, propane
Air Requirements	Natural draft

1319 West Pinhook Road
Lafayette, LA 70503
(337) 237-4373
www.commengineering.com

Safety Notice

WARNING

Improper installation and operation of the product could cause personal injury or property damage.

1. Wear fire resistant clothing, hard hats, safety glasses, and steel toe boots when installing and operating this equipment.
2. Prior to lifting the combustor, make sure proper lifting cables and fittings are used to lift the unit. Make sure that all persons are clear of the lifting area. Do not release the cabling until the unit has been secured to the ground.
3. Test for gas leaks prior to start-up. Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for detection of leaks to check all connections. If there are leaks, a fire or explosion may result causing property damage, personal injury or loss of life.
4. If the pilot flame goes out for an extended period of time, as indicated by a pilot fail alarm on the control panel, make sure the manual shut off valve on the main burner inlet gas line is closed before attempting to re-ignite the pilot. Allow the stack chamber and surrounding area to clear as needed before attempting to re-ignite the pilot.

Combustor Installation Procedure

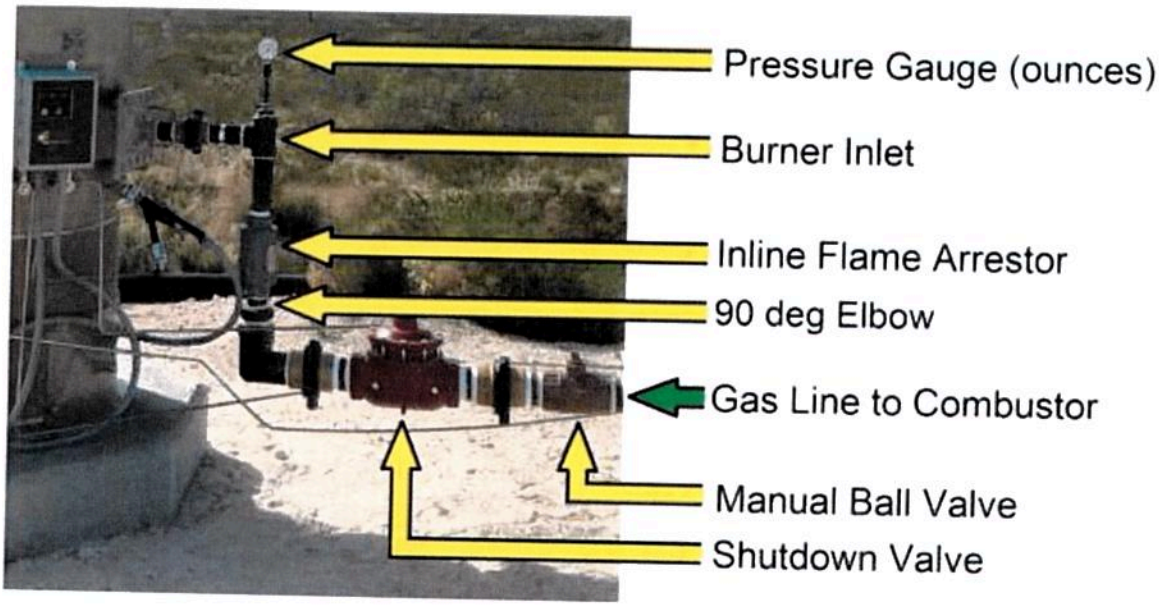
1. Set properly sized concrete slab on a level and compacted surface.
2. Prior to standing up the combustor, remove any wood blocking and plastic wrapping on the inside and outside of combustor. Remove Control Panel Mounting plate from the inside of the combustor stack. The Control Panel Mounting plate will either be attached to the SS burner at the base of the unit or the SS bird screen at the top of the unit.
3. Raise the stack chamber into the upright position and set in place on slab.
4. Secure the stack to the concrete slab with guy wires and/or anchor bolts.

Remove plastic wrapping from the top and base of the stack.

Combustor Installation Procedure (continued)

Step 1 - Combustor piping option for **Stock Tank / HP / LP / VRT applications**

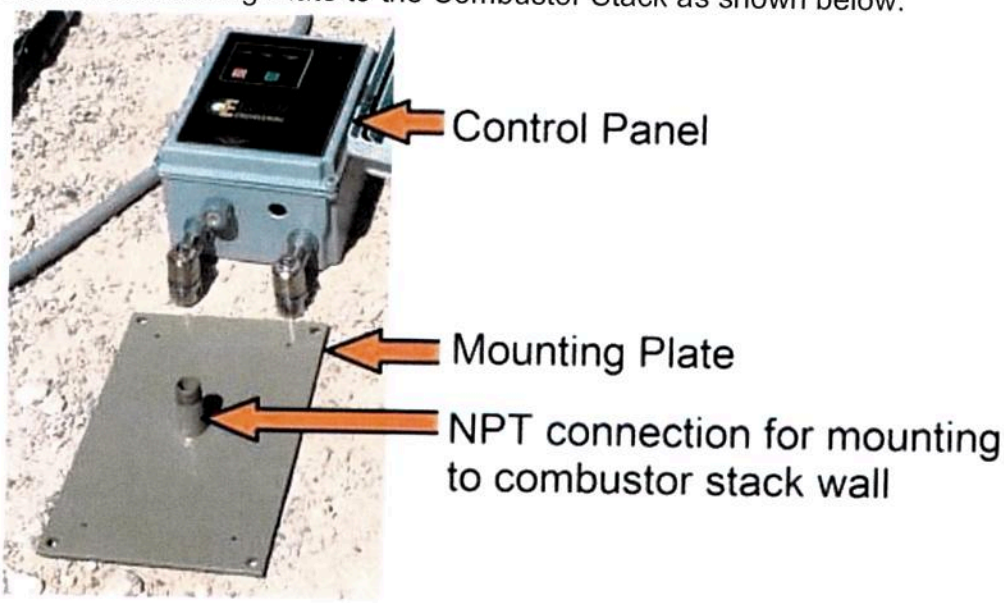
- Install piping from the vent gas source (Stock Tank / HP / LP / VRT) to the 3" Burner Inlet Gas connections as shown.



Step 2 - Mount Control Panel to Combustor Stack (optional)

Note: Control Panel can also be mounted remotely on a standalone post/support near the combustor

- Insert and fasten the 4 plastic mounting tabs to the outside of the Control Panel enclosure.
- Align the mounting tabs with the 4 inner holes on the Control Panel Mounting Plate and secure the Control Panel to the Mounting Plate using the bolts, washers, and nuts provided.
- Use the threaded nipple on the back side of the Control Panel Mounting Plate to attach the Mounting Plate to the Combustor Stack as shown below.

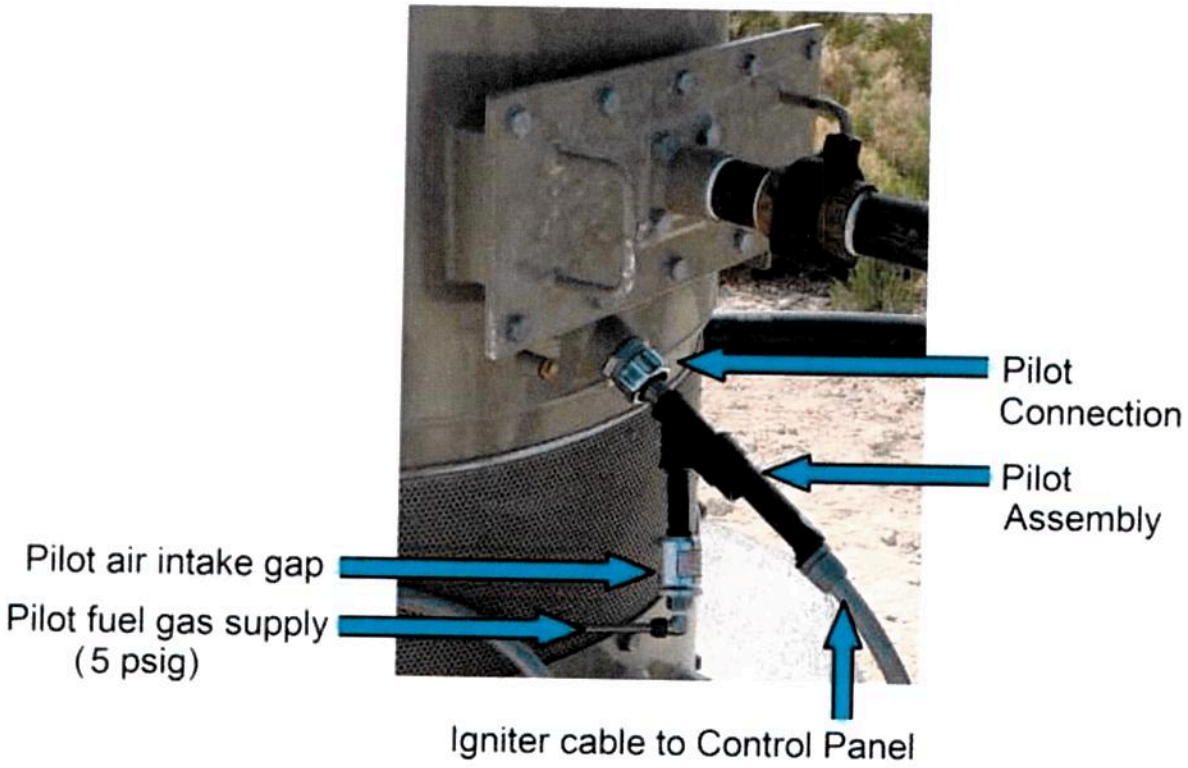


Step 3 – Install Sight Glass

- On the back side of the Combustor Stack, there is a threaded connection for the Sight Glass.
- Check to make sure there is no insulation blocking the view at the Sight Glass connection. If insulation is blocking the view, **cut away a 2" hole** in the insulation to allow a clear view of the Pilot and Burners.
- Thread the Sight Glass into the connection as shown below. **Hand tight only!** (Caution: do not overtighten the Sight Glass as excess force can cause the Sight Glass to crack.)

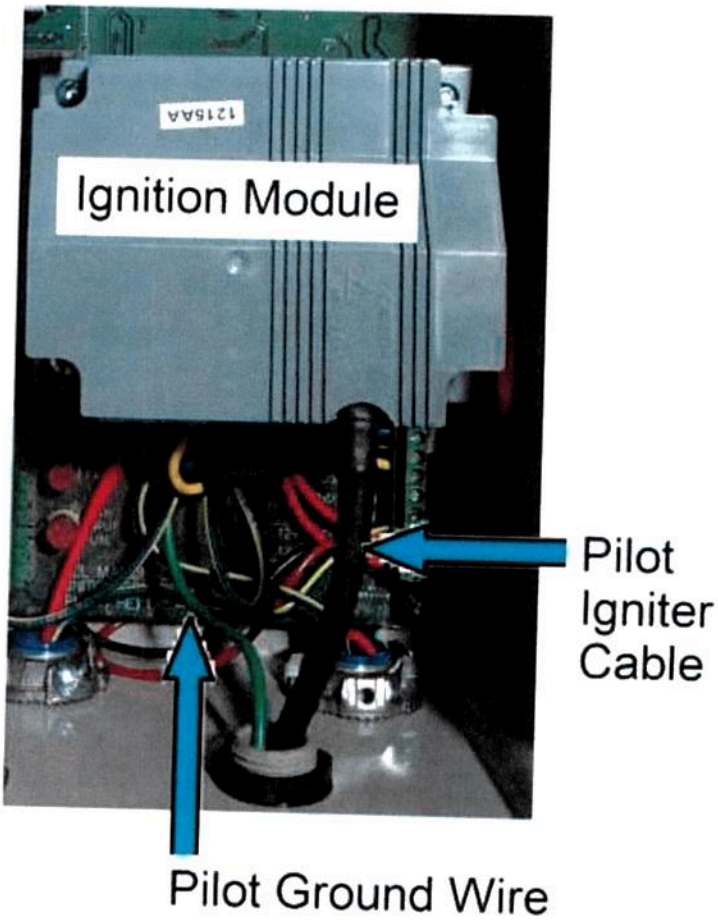
Step 4 – Install Pilot

- Remove the 1-1/2" plug from the pilot connection on the combustor stack.
- **Cut a hole in the insulation** to create an insertion point for the pilot.
- Insert pilot through threaded connection just below burner inlets as shown below.
- Tighten the threaded union to the combustor stack.
- Insert the pilot all the way into the combustor stack and tighten the compression fitting to secure the pilot in place as shown below.
- Make sure there is at least a ¼" (0.25") gap for the pilot air inlet. The air inlet is located on the silver air/fuel mixing chamber where the fuel gas connects to the pilot. Rotate the silver disk open to increase the air inlet gap.



Step 4 – Install Pilot (continued)

- Connect the Pilot Igniter Cable assembly to the Control Panel.
- Terminate the Pilot ground wire (green or yellow) to pilot ground inside the panel.
- Plug the Pilot Igniter Cable (black) into the Ignition Module as shown below.

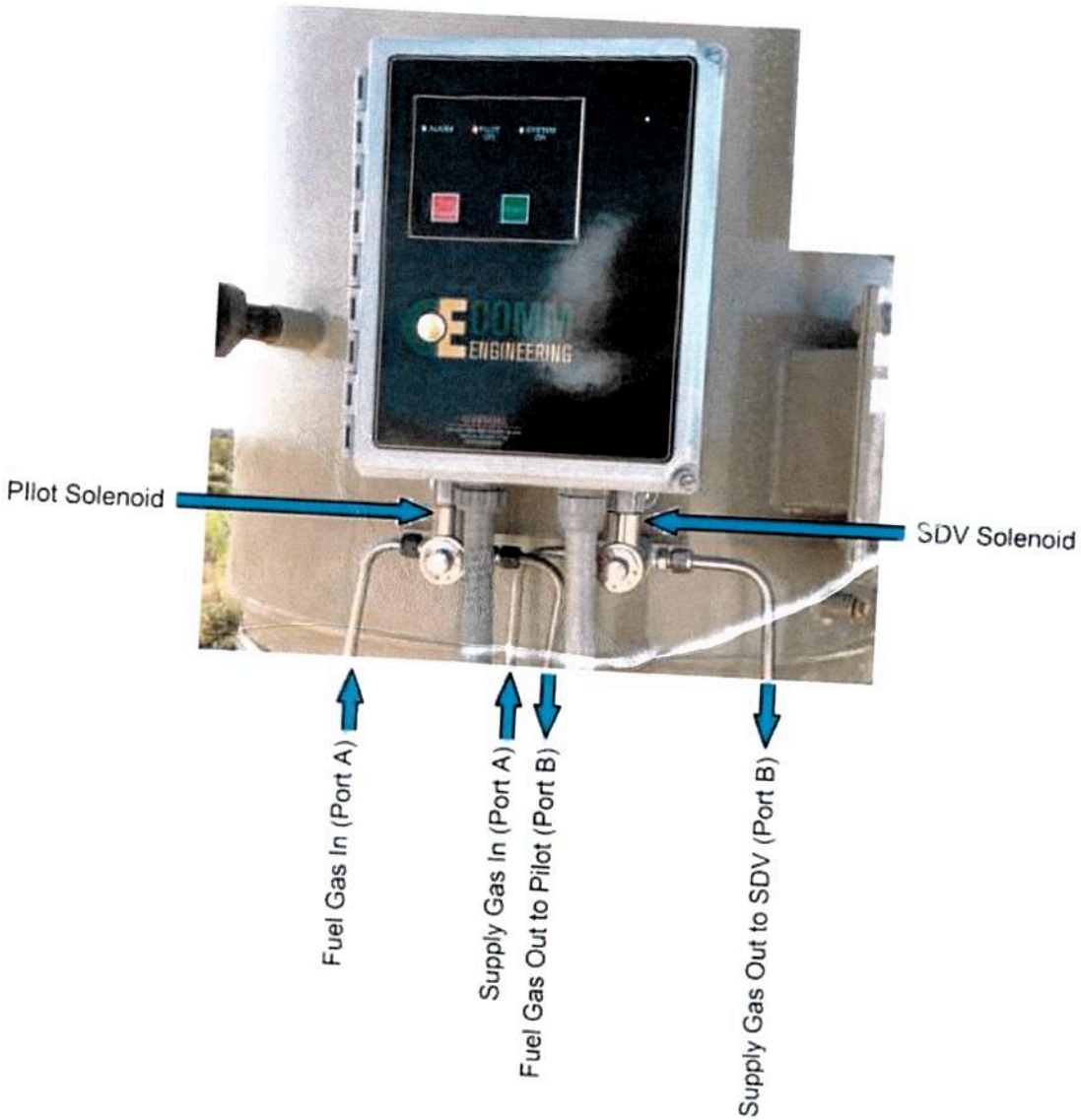


The pilot ignition cable plug is a "B" shaped connector. Make sure the flat side of the connector is facing the back of the contorl panel when plugging the black cable into the Ignition Module.

Step 5 – Install Solenoid tubing
(Only applicable if Solenoid Option is included)

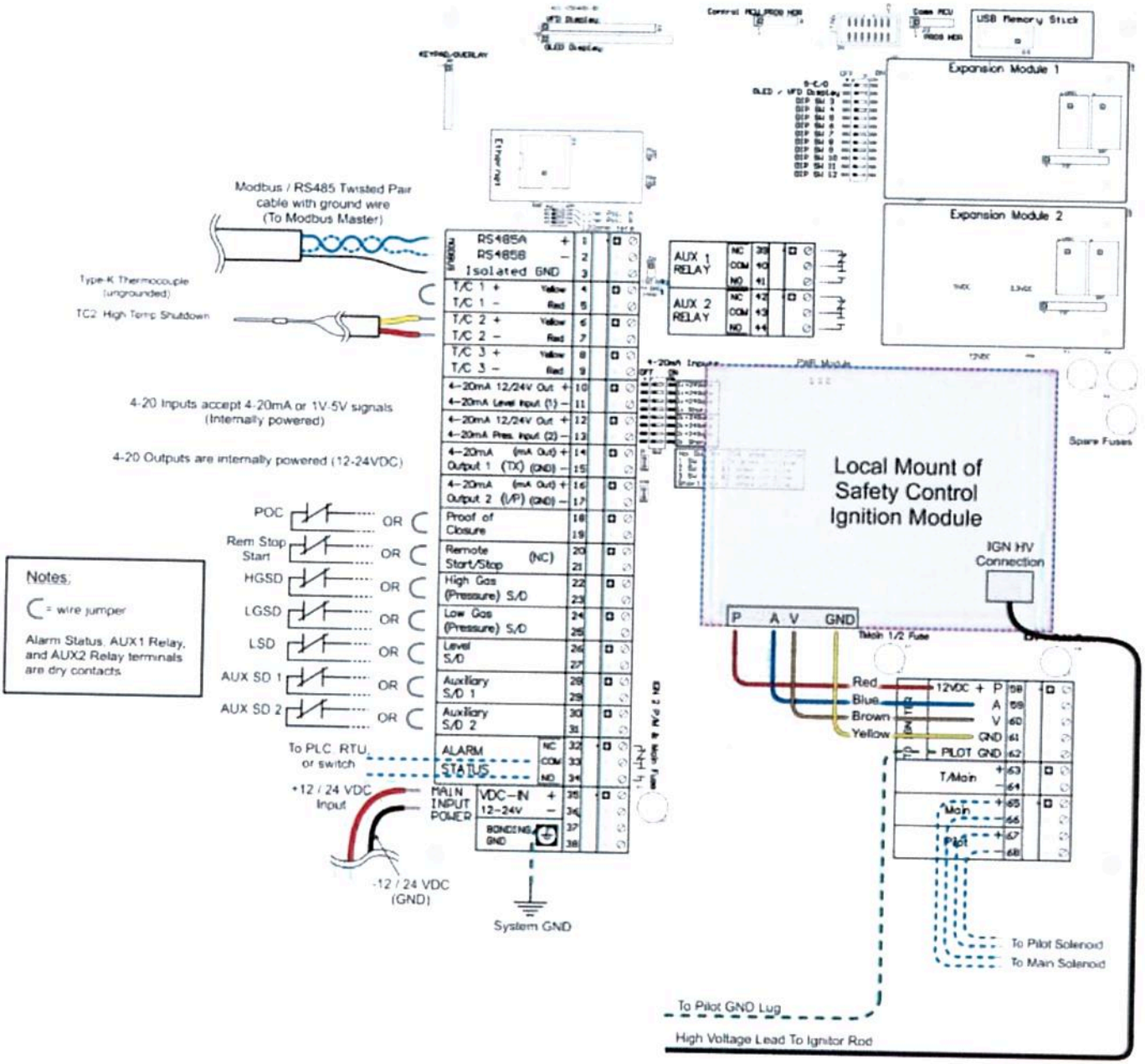
- The Solenoid on the left side of the Control Panel is the **Pilot Solenoid**.
- Run tubing from the 5 psig fuel gas source to Port A on the Pilot Solenoid.
- Run tubing from Port B of the Pilot Solenoid to the Fuel Gas inlet on the Pilot assembly. (at base of air/fuel mixing chamber – silver canister)

- The Solenoid on the right side of the Control Panel is the **SDV Solenoid**.
- Run tubing from the 10+ psig supply gas source to Port A on the SDV Solenoid.
- Run tubing from Port B of the SDV Solenoid to the SDV actuator/source inlet.



Step 6 - Connect **24 VDC** power to TB 35 & 36. Install earth ground and wire to TB 37.

Wiring Diagram - FI Mode, Local IGN Module Mounting



Combustor Startup Procedure

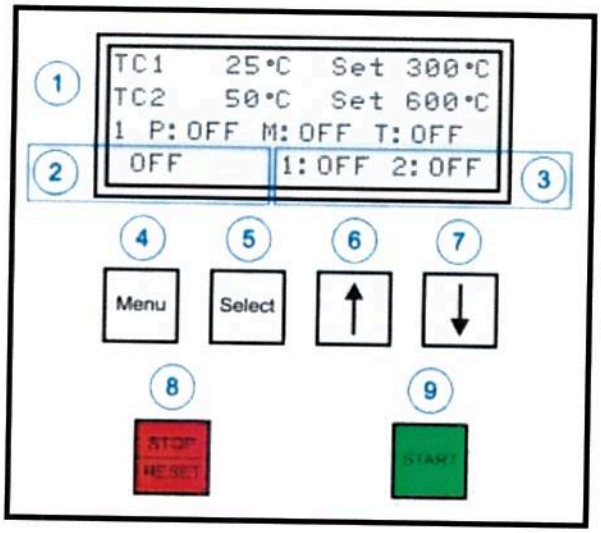
Please confirm the following prior to starting up a combustor:

- All plastic wrapping and the control panel mounting plate have been removed from the top, base and inside of the combustor stack
- Gas lines and fittings are installed and gas tight
- Gas pressure going to burner is within combustor operating limits
- Manual ball valves and shutdown valves are installed and operational
- Inlet air flame arrestor cell doors are securely fastened to combustor stack base

Control Panel General Operation

The CSC400 Control panel uses a continuous pilot and a high voltage sparker to light the pilot. It uses a single ignitor/flame rod to provide both flame acknowledgment and ignition. An alarm will signal if the CSC400 detects that either the pilot is out, or if the flame failed to light. Once the Start button is pressed on the front of the unit, the CSC400 will automatically start sparking in regular intervals based on the onboard timer settings until it detects that the pilot is lit.

Control Panel Buttons and Display



1. LED Display shows settings, temps, and status
2. Shutdown status; (blank - when operating)
3. Ignitor Status Area; (FF – indicates pilot fail)
4. Menu button
5. Select button
6. Up button for scrolling and incrementing values
7. Down button for scrolling and decrementing values
8. Stop/Reset button – will cause the system to stop. Stop/Reset button will also clear any shutdowns.
9. Start button – will cause the system to start. Start button will also clear any shutdowns.

Common Shutdown indicators:

a. Hi Temp – high stack temperature (+1800F)
b. PWRF – power fail
c. FF – flame fail or No pilot flame detected
d. Open – open connection in panel

Control Panel Settings

Menu – Configuration –

IGN1: Enabled
IGN2: Disabled
Temp: °F
TC2: Enabled
TC3: Disabled
I/C Pilot: Continuous
4-20 In 1/2 Settings: goes to submenu
Lo Alarm: Disabled
Hi Alarm: Disabled

Menu – Line Display Configuration –

Line 1: TC2 with Setpoints
Line 2: FI mode (2 lines)
Line 3: Blank

Menu – Temp Setpoints & DB –

TC1 IGN1 Set: 200 °F
TC1 IGN2 Set: 200 °F
TC2 Set: 1800 °F
TC3 Set: 300 °F
Low Temp Set: 200 °F

Startup Procedure

1. Make sure combustor stack and the surrounding area are clear of gas before continuing with the Startup.
2. Press the green start button on the control panel to begin sparking the pilot. The Pilot indicator should change to "On" while sparking.
3. Open the manual ball valve on the pilot fuel line to supply gas to the pilot or pilot solenoid valve. (5 psig)
4. Once the pilot is lit, the Pilot indicator should remain "On". Operator can verify that the pilot flame is lit by looking through the sight glass on the opposite side of the stack. The pilot flame may be clear and hard to see.
5. Once the pilot flame is confirmed, the control panel will wait 10 seconds before energizing the main solenoid valve to open the main burner shutdown valve. At this point, slowly open the manual ball valve on the main burner inlet gas line. You should be able to hear the burner gas combust once the pilot ignites the incoming main burner gas. Operator can confirm that the burners are lit by looking through the sight glass.

Troubleshooting

Item	Shutdown Event	Cause(s)	Solution(s)
1	Power Fail	Loss of supply power	Check supply voltage coming into control panel (24 VDC)
		Bad wire connection at terminal blocks	Check wire connections
2	Flame Fail	Igniter not sparking	Confirm secure wire connections at pilot, ignition coil, and terminal blocks. Check condition of Igniter Rod (Spark Plug) within the Pilot Assembly.
		No pilot flame present	Confirm fuel supply at 5 psig. Confirm ¼" gap in pilot air inlet. Confirm solenoid is operating.
		Loss of pilot fuel supply	Confirm fuel supply at 5 psig. Confirm solenoid is operating.
		Pilot flame present, but not detected	Confirm secure wire connections at pilot, ignition coil, and terminal blocks. Check condition of Igniter Rod (Spark Plug) within the Pilot Assembly.
3	High Temperature	High Stack Temperature due to excess Waste Gas	Check inlet pressure of Waste Gas stream to combustor
		High Stack Temperature due to liquid carryover to combustor	Check liquid level in KO vessel upstream of combustor
		High Stack Temperature due to lack of air flow	Check air inlet panels for restrictions (dirt/mud, ice, debris)
4	High Level	High liquid level in inlet KO vessel	Check liquid level in KO vessel upstream of combustor; drain liquids accordingly
5	Remote ESD	Remote shutdown contact is open	Check remote shutdown signal to panel; check wiring at terminal block

When in doubt, ask! Please call the following number to report any problems.
Technical Support: 1-337-237-4373

Helpful information:
Name of Company calling
Field Person placing call
Field/Site location
COMM Job #
Time & date problem discovered
Short description of problem

Performance Testing for Combustion Control Devices

Manufacturers' Performance Test[1]

NSPS OOOO and MACT HH/HHH

Manufacturer	Model Number	Date of Performance Test Submittal	Control Device Demonstrates Performance Requirements[2]	Maximum Inlet Flow Rate[3]
ABUTEC	ABUTEC 20	02/12/2013	Yes	1500 scfh
ABUTEC	ABUTEC 100	02/12/2013	Yes	6000 scfh
ABUTEC	ABUTEC 200	10/30/2014	Under Review	
Big Iron Oilfield Service	BNECU PI36	08/08/2014	Yes	314 scfh
Big Iron Oilfield Service	BNECU PI48	08/08/2014	Yes	725 scfh
Black Gold Rush	BGR-18	08/12/2014	Yes	319 scfh
Black Gold Rush	BGR-24	08/12/2014	Under Review	
Cimmaron	CEI 1-24	08/12/2014	Yes	383 scfh
Cimmaron	CEI 1-30	08/12/2014	Yes	625 scfh
Cimmaron	CEI 1-48	08/12/2014	Yes	1250 scfh
Cimmaron	CEI 1-60	08/12/2014	Yes	2400 scfh
Cimmaron	48" HV ECD	08/12/2014	Yes	4553 scfh
COMM Engineering	COMM OOOO Combustor 200	03/06/2013	Yes	3300 scfh
Edge Manufacturing	Edge XXV	10/14/2014	Under Review	
Edge Manufacturing	Edge CXV	10/14/2014	Under Review	
Hy-Bon/EDI	CH2.5	09/16/2015	Yes	1500 SCFH
Hy-Bon/EDI	CH10.0	06/16/2015	Yes	4170 SCFH
JLCC Combustion	FC 20	09/09/2014	Yes	1090 scfh
John Zink	ZTOF025X15PF	06/26/2014	Under Review	
John Zink	ZTOF040X30PF	06/26/2014	Yes	4120 scfh
Kimark	KSF 1-48	12/18/2013	Yes	1250 scfh
Leed Fabrication	24" Combustor	07/22/2013	Under Review	

Manufacturer	Model Number	Date of Performance Test Submittal	Control Device Demonstrates Performance Requirements[2]	Maximum Inlet Flow Rate[3]
Leed Fabrication	36" Combustor	11/18/2015	Under Review	
Leed Fabrication	48" Combustor	11/18/2015	Under Review	
Leed Fabrication	24" Combustor	01/20/2016	Under Review	
MESSCO	Vocinerator 30"	07/30/2014	Under Review	
MESSCO	Vocinerator 36"	05/29/2014	Under Review	
NOV	MEVC 20	02/12/2013	Yes	1500 scfh
NOV	MEVC 100	02/12/2013	Yes	6000 scfh
OVO, LLC	PHX-36	09/15/2015	Under Review	
Questor Technology	Q100	04/24/2015	Yes	875 scfh
Questor Technology	Q250	03/20/2015	Yes	2292 scfh
REM Technology (Spartan Controls)	SlipStream GTS-12	02/16/2015	Yes	164 scfh
Superior Fabrication Inc	SCD-36	09/19/2014	Under Review	
Superior Fabrication, Inc	SCD-48	09/19/2014	Under Review	
Superior Fabrication, Inc	SCD-60	09/19/2014	Under Review	

[1] The purpose of the table is to inform owners or operators the combustion control devices that have been manufacturer tested and for which the test results have been submitted to EPA for review. Inclusion on this list is for informational purposes only. EPA does not endorse any of these manufacturers or their products.

[2] "Yes" means that the manufacturer has demonstrated that the specific model of control device listed achieves the combustion control device performance requirements in NSPS subpart OOOO and NESHAP subparts HH and HHH through performance testing conducted as specified in these subparts. An owner or operator who uses a device listed above as "YES" is exempt from conducting performance tests under 40 CFR §60.5413(a)(7), §63.772(e) and/or §63.1282(d), and from submitting test results under §60.5413(e)(6), §63.775(d)(1)(ii) and/or §63.1285(d)(1)(ii), as applicable. "Yes" does not constitute an endorsement by EPA. Operation

of such a device does not relieve the owner or operator of an affected facility from other compliance obligations under the rule.

[3]This column provides the maximum inlet flow rate determined by the manufacturer for the specified model, as required under§60.5413(d)(11)(ii), §63.772(h)(7)(ii), §63.1282(g)(7)(ii), as applicable.

[Updated 03/15/2016]

Fugitive Affected Facilies

Facility	Location	Date of Survey	Beginning Time	End Time	Operator(s) Name Performing Survey	Operator Training	Ambient Temperature (F)	Sky Conditions	Max Wind Speed (mph)	Monitoring Instrument Used	Deviations from Monitoring Plan	Number of Components Leaking	Type of Components Leaking	Date of Successful Repair for Each Component	Remonitoring Instrument Used	Number and Type of Components Added to Delay of Repair List	Reason for Delay of Repair	Number and Type of Difficult or unsafe to Monitor Components
Addie	39.33352, -80.80568	9/20/2018	8:00	9:00	N. Summerfield	FLIR Certified	68	Clear	7	FLIR GF320	None	1	Enardo Valve	9/26/18	FLIR GF320	NA	NA	NA
												2	Threaded Connection	9/26/18	FLIR GF320	NA	NA	NA
		10/31/2018	11:30	12:30	N. Summerfield	FLIR Certified	66	Clear	17	FLIR GF320	None	1	Level Controller	11/7/18	FLIR GF320	NA	NA	NA
												2	Threaded Connection	11/7/18	FLIR GF320	NA	NA	NA
												1	Threaded Connection	11/6/18	FLIR GF320	NA	NA	NA
												4	Threaded Connection	11/5/18	FLIR GF320	NA	NA	NA
		1/25/2019	12:00	13:00	N. Summerfield	FLIR Certified	26	Clear	15	FLIR GF320	None	1	Connector	2/12/19	FLIR GF320	NA	NA	NA
												1	Connector	2/21/19	FLIR GF320	NA	NA	NA
												1	Regulator	2/27/19	FLIR GF320	NA	NA	NA
												2	Regulator	1/25/19	FLIR GF320	NA	NA	NA
												1	Valve	1/25/19	FLIR GF320	NA	NA	NA
		4/5/2019	12:30	13:30	N. Summerfield	FLIR Certified	58	Cloudy	10	FLIR GF320	None	1	Connector	5/10/19	FLIR GF320	NA	NA	NA
												3	Valve	4/5/19	FLIR GF320	NA	NA	NA
												1	Connector	4/5/19	FLIR GF320	NA	NA	NA
												1	Thief Hatch	4/5/19	FLIR GF320	NA	NA	NA
Alexander	39.33588, -80.77557	4/1/2019	9:00	10:00	N. Summerfield	FLIR Certified	30	Clear	6	FLIR GF320	None	1	Regulator	4/17/19	FLIR GF320	NA	NA	NA
												2	Connector	4/29/19	FLIR GF320	NA	NA	NA
												5	Connector	4/1/19	FLIR GF320	NA	NA	NA
												1	Valve	4/1/19	FLIR GF320	NA	NA	NA
												1	Thief Hatch	4/1/19	FLIR GF320	NA	NA	NA
Alvadore	39.27339, -80.88282	8/9/2018	11:30	12:30	N. Summerfield	FLIR Certified	78	Clear	9	FLIR GF320	None	1	Valve	9/11/18	FLIR GF320	1	Repair technically infeasible without shutdown	NA
		12/12/2018	10:45	11:45	N. Summerfield	FLIR Certified	32	Clear	5	FLIR GF320	None	1	Valve	8/14/18	FLIR GF320	NA	NA	NA
		2/13/2019	11:45	12:45	N. Summerfield	FLIR Certified	32	Snow	18	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		5/14/2019	9:30	10:30	N. Summerfield	FLIR Certified	49	Clear	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
Annie	39.32735, -80.92558	10/23/2018	13:45	14:45	N. Summerfield	FLIR Certified	60	Clear	17	FLIR GF320	None	1	Thief Hatch	5/14/19	FLIR GF320	NA	NA	NA
		2/5/2019	10:00	11:00	N. Summerfield	FLIR Certified	54	Rainy	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
												1	Enardo Valve	2/5/19	FLIR GF320	NA	NA	NA
												1	Valve	2/5/19	FLIR GF320	NA	NA	NA
		4/9/2019	10:15	11:15	N. Summerfield	FLIR Certified	63	Cloudy	9	FLIR GF320	None	2	Connector	4/9/19	FLIR GF320	NA	NA	NA
												1	Enardo Valve	4/9/19	FLIR GF320	NA	NA	NA
												1	Thief Hatch	4/9/19	FLIR GF320	NA	NA	NA
Bachelor	39.31150, -81.01526	11/16/2018	10:45	11:45	N. Summerfield	FLIR Certified	32	Snow	15	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/24/2019	11:45	12:45	N. Summerfield	FLIR Certified	35	Snow	9	FLIR GF320	None	1	Thief Hatch	1/24/19	FLIR GF320	NA	NA	NA
		5/7/2019	12:30	13:30	N. Summerfield	FLIR Certified	74	Clear	4	FLIR GF320	None	1	Regulator	5/20/19	FLIR GF320	NA	NA	NA
Balli	39.30214, -80.84392	8/27/2018	12:00	13:00	N. Summerfield	FLIR Certified	65	Clear	5	FLIR GF320	None	1	Valve	8/30/18	FLIR GF320	NA	NA	NA
		12/11/2018	8:15	9:15	N. Summerfield	FLIR Certified	30	Clear	0	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/4/2019	13:15	14:15	N. Summerfield	FLIR Certified	60	Cloudy	0	FLIR GF320	None	1	Valve	2/18/19	FLIR GF320	NA	NA	NA
												1	Enardo Valve	2/4/19	FLIR GF320	NA	NA	NA
												2	Connector	2/4/19	FLIR GF320	NA	NA	NA
		5/8/2019	10:00	11:00	N. Summerfield	FLIR Certified	66	Clear	1	FLIR GF320	None	1	Thief Hatch	5/8/19	FLIR GF320	NA	NA	NA
												1	Connector	5/8/19	FLIR GF320	NA	NA	NA
Buck Run	39.31584, -80.94732	10/25/2018	9:30	10:30	N. Summerfield	FLIR Certified	30	Clear	0	FLIR GF320	None	1	Connector	11/2/18	FLIR GF320	NA	NA	NA
		2/9/2019	10:30	11:30	N. Summerfield	FLIR Certified	21	Clear	5	FLIR GF320	None	1	Connector	11/6/18	FLIR GF320	NA	NA	NA
		4/29/2019	13:45	14:45	N. Summerfield	FLIR Certified	73	Clear	8	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
Charlene	39.29972, -80.96384	10/25/2018	8:30	9:30	N. Summerfield	FLIR Certified	30	Clear	0	FLIR GF320	None	1	Thief Hatch	4/29/19	FLIR GF320	NA	NA	NA
		2/19/2019	13:00	14:00	N. Summerfield	FLIR Certified	21	Cloudy	5	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		4/29/2019	15:00	16:00	N. Summerfield	FLIR Certified	73	Clear	8	FLIR GF320	None	1	Connector	2/19/19	FLIR GF320	NA	NA	NA
Coastal 1	39.42344, -80.73433	10/1/2018	9:00	10:00	N. Summerfield	FLIR Certified	71	Clear	3	FLIR GF320	None	1	Thief Hatch	4/29/19	FLIR GF320	NA	NA	NA
		2/15/2019	9:45	10:45	N. Summerfield	FLIR Certified	52	Clear	15	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		4/1/2019	13:15	14:15	N. Summerfield	FLIR Certified	39	Clear	2	FLIR GF320	None	1	Connector	2/15/19	FLIR GF320	NA	NA	NA
		7/2/2019	9:45	10:45	N. Summerfield	FLIR Certified	77	Clear	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
Coastal 2	39.42876, -80.72603	8/15/2018	9:00	10:00	N. Summerfield	FLIR Certified	76	Clear	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		10/30/2018	11:45	12:45	N. Summerfield	FLIR Certified	48	Clear	2	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/15/2019	8:30	9:30	N. Summerfield	FLIR Certified	52	Cloudy	13	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		4/1/2019	12:00	13:00	N. Summerfield	FLIR Certified	37	Clear	2	FLIR GF320	None	1	Connector	4/1/19	FLIR GF320	NA	NA	NA
												2	Thief Hatch	4/1/19	FLIR GF320	NA	NA	NA
		7/2/2019	10:45	11:45	N. Summerfield	FLIR Certified	82	Clear	8	FLIR GF320	None	1	Valve	7/12/19	FLIR GF320	NA	NA	NA

Facility	Location	Date of Survey	Beginning Time	End Time	Operator(s) Name Performing Survey	Operator Training	Ambient Temperature (F)	Sky Conditions	Max Wind Speed (mph)	Monitoring Instrument Used	Deviations from Monitoring Plan	Number of Components Leaking	Type of Components Leaking	Date of Successful Repair for Each Component	Remonitoring Instrument Used	Number and Type of Components Added to Delay of Repair List	Reason for Delay of Repair	Number and Type of Difficult or unsafe to Monitor Components
Cofor	39.29934, -80.80023	8/15/2018	9:00	10:00	N. Summerfield	FLIR Certified	67	Clear	3	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		10/30/2018	11:45	12:45	N. Summerfield	FLIR Certified	48	Clear	2	FLIR GF320	None	1	Connector	11/29/18	NA	NA	NA	NA
												1	Thief Hatch	11/8/18	NA	NA	NA	NA
												1	Thief Hatch	11/12/18	NA	NA	NA	NA
		2/21/2019	9:30	10:30	N. Summerfield	FLIR Certified	43	Clear	10	FLIR GF320	None	2	Thief Hatch	11/2/18	NA	NA	NA	NA
		5/9/2019	10:15	11:15	N. Summerfield	FLIR Certified	78	Clear	8	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
Corder East	39.22230, -80.55358	8/22/2018	13:00	14:00	N. Summerfield	FLIR Certified	71	Clear	9	FLIR GF320	None	1	Connector	5/9/19	FLIR GF320	NA	NA	NA
		11/20/2018	11:30	12:30	N. Summerfield	FLIR Certified	39	Cloudy	11	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		3/1/2019	12:00	13:00	N. Summerfield	FLIR Certified	34	Snow	2	FLIR GF320	None	1	Valve	12/3/18	NA	NA	NA	NA
												3	Connector	3/19/19	FLIR GF320	NA	NA	NA
												2	Valve	3/1/19	FLIR GF320	NA	NA	NA
		5/30/2019	10:15	11:15	N. Summerfield	FLIR Certified	78	Clear	8	FLIR GF320	None	1	Valve	5/31/19	FLIR GF320	NA	NA	NA
												1	Thief Hatch	6/19/19	FLIR GF320	NA	NA	NA
Dale	39.43197, -80.86251	10/4/2018	11:45	12:45	N. Summerfield	FLIR Certified	77	Cloudy	9	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/10/2019	10:30	11:30	N. Summerfield	FLIR Certified	22	Snow	9	FLIR GF320	None	3	Enardo Valve	1/10/19	FLIR GF320	NA	NA	NA
		4/5/2019	8:30	9:30	N. Summerfield	FLIR Certified	58	Rainy	8	FLIR GF320	None	2	Connector	4/5/19	FLIR GF320	NA	NA	NA
												1	Thief Hatch	4/5/19	FLIR GF320	NA	NA	NA
												1	Valve	4/5/19	FLIR GF320	NA	NA	NA
Dawson	39.38110, -80.87391	8/27/2018	9:00	10:00	N. Summerfield	FLIR Certified	73	Clear	3	FLIR GF320	None	1	Connector	8/29/18	FLIR GF320	NA	NA	NA
												4	Connector	9/5/18	FLIR GF320	NA	NA	NA
		10/18/2018	13:00	14:00	N. Summerfield	FLIR Certified	51	Clear	4	FLIR GF320	None	2	Connector	9/10/18	FLIR GF320	NA	NA	NA
		1/11/2019	12:45	13:45	N. Summerfield	FLIR Certified	25	Cloudy	0	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
												1	Connector	2/19/19	FLIR GF320	1	Repair technically infeasible without shutdown	NA
												1	Enardo Valve	1/11/19	FLIR GF320	NA	NA	NA
												1	Connector	1/11/19	FLIR GF320	NA	NA	NA
												3	Connector	1/11/19	FLIR GF320	NA	NA	NA
		4/4/2019	10:45	11:45	N. Summerfield	FLIR Certified	50	Cloudy	0	FLIR GF320	None	1	Regulator	4/4/19	FLIR GF320	NA	NA	NA
												7	Connector	4/4/19	FLIR GF320	NA	NA	NA
												1	Valve	4/4/19	FLIR GF320	NA	NA	NA
Diane Davis	39.30402, -80.82288	8/15/2018	12:00	13:00	N. Summerfield	FLIR Certified	77	Clear	5	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		11/14/2018	12:15	13:15	N. Summerfield	FLIR Certified	30	Clear	1	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/21/2019	10:45	11:45	N. Summerfield	FLIR Certified	43	Clear	8	FLIR GF320	None	1	Connector	2/25/19	FLIR GF320	NA	NA	NA
		5/9/2019	12:45	13:45	N. Summerfield	FLIR Certified	82	Cloudy	17	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
Dotson Holland	39.27340, -80.87310	8/9/2018	12:45	13:45	N. Summerfield	FLIR Certified	78	Clear	9	FLIR GF320	None	1	Valve	8/15/19	FLIR GF320	NA	NA	NA
		12/12/2018	13:00	14:00	N. Summerfield	FLIR Certified	73	Clear	7	FLIR GF320	None	1	Valve	12/13/18	FLIR GF320	NA	NA	NA
		2/14/2019	8:30	9:30	N. Summerfield	FLIR Certified	30	Clear	3	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		5/14/2019	10:30	11:30	N. Summerfield	FLIR Certified	49	Cloudy	10	FLIR GF320	None	1	Valve	5/16/19	FLIR GF320	NA	NA	NA
												1	Valve	5/14/19	FLIR GF320	NA	NA	NA
												1	Connector	5/14/19	FLIR GF320	NA	NA	NA
Edna Monroe	39.42266, -80.87317	10/5/2018	12:30	13:30	N. Summerfield	FLIR Certified	65	Cloudy	0	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/11/2019	10:45	11:45	N. Summerfield	FLIR Certified	26	Snow	0	FLIR GF320	None	1	Regulator	1/11/19	FLIR GF320	NA	NA	NA
												2	Connector	1/11/19	FLIR GF320	NA	NA	NA
		4/3/2019	11:30	12:30	N. Summerfield	FLIR Certified	54	Clear	15	FLIR GF320	None	4	Thief Hatch	4/3/19	FLIR GF320	NA	NA	NA
												2	Connector	4/3/19	FLIR GF320	NA	NA	NA
Edwin	39.23051, -80.90300	10/30/2018	8:45	9:45	N. Summerfield	FLIR Certified	33	Clear	0	FLIR GF320	None	1	Thief Hatch	11/7/18	FLIR GF320	NA	NA	NA
		2/25/2019	13:45	14:45	N. Summerfield	FLIR Certified	34	Clear	19	FLIR GF320	None	1	Valve	3/15/19	FLIR GF320	NA	NA	NA
		5/22/2019	12:15	13:15	N. Summerfield	FLIR Certified	79	Clear	5	FLIR GF320	None	2	Valve	6/6/19	FLIR GF320	NA	NA	NA
												3	Thief Hatch	5/22/19	FLIR GF320	NA	NA	NA
												1	Valve	5/22/19	FLIR GF320	NA	NA	NA
Estlack	39.41403, -80.87807	10/18/2018	10:00	11:00	N. Summerfield	FLIR Certified	38	Clear	5	FLIR GF320	None	1	Connector	10/26/18	FLIR GF320	NA	NA	NA
		1/11/2019	9:00	10:00	N. Summerfield	FLIR Certified	25	Snow	0	FLIR GF320	None	4	Connector	1/11/19	FLIR GF320	NA	NA	NA
												1	Enardo Valve	1/11/19	FLIR GF320	NA	NA	NA
		4/3/2019	10:15	11:15	N. Summerfield	FLIR Certified	50	Clear	7	FLIR GF320	None	1	Connector	4/3/19	FLIR GF320	NA	NA	NA
												1	Thief Hatch	4/3/19	FLIR GF320	NA	NA	NA
Fritz	39.23410, -80.84004	8/9/2018	8:30	9:30	N. Summerfield	FLIR Certified	73	Clear	7	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		11/8/2018	8:30	9:30	N. Summerfield	FLIR Certified	31	Clear	0	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		3/1/2019	10:30	11:30	N. Summerfield	FLIR Certified	33	Snow	0	FLIR GF320	None	1	Connector	3/6/19	FLIR GF320	NA	NA	NA
												1	Valve	3/11/19	FLIR GF320	NA	NA	NA
												2	Valve	3/6/19	FLIR GF320	NA	NA	NA
												1	Connector	3/1/19	FLIR GF320	NA	NA	NA
												1	Thief Hatch	3/1/19	FLIR GF320	NA	NA	NA
		5/16/2019	9:45	10:45	N. Summerfield	FLIR Certified	61	Clear	9	FLIR GF320	None	1	Thief Hatch	5/16/19	FLIR GF320	NA	NA	NA

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Hamilton	39.36772, -80.74372	10/3/2018	8:30	9:30	N. Summerfield	FLIR Certified	70	Cloudy	7	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/15/2019	12:30	13:30	N. Summerfield	FLIR Certified	29	Cloudy	6	FLIR GF320	None	2	Thief Hatch	1/15/19	FLIR GF320	NA	NA	NA
		4/8/2019	11:00	12:00	N. Summerfield	FLIR Certified	68	Cloudy	14	FLIR GF320	None	1	Thief Hatch	4/24/19	FLIR GF320	NA	NA	NA
Hartley East	39.36525, -80.99324	10/19/2018	8:30	9:30	N. Summerfield	FLIR Certified	33	Clear	0	FLIR GF320	None	1	Enardo Valve	4/8/19	FLIR GF320	NA	NA	NA
		1/22/2019	12:15	13:15	N. Summerfield	FLIR Certified	24	Clear	3	FLIR GF320	None	1	Connector	11/6/18	FLIR GF320	NA	NA	NA
												1	Valve	1/24/19	FLIR GF320	NA	NA	NA
												1	Enardo Valve	1/24/19	FLIR GF320	NA	NA	NA
		5/2/2019	12:00	13:00	N. Summerfield	FLIR Certified	77	Clear	9	FLIR GF320	None	1	Enardo Valve	1/29/19	FLIR GF320	NA	NA	NA
												1	Connector	5/31/19	FLIR GF320	NA	NA	NA
												1	Enardo Valve	5/2/19	FLIR GF320	NA	NA	NA
												3	Thief Hatch	5/2/19	FLIR GF320	NA	NA	NA
Hichman	39.33842, -80.88440	6/7/2019	8:45	9:45	N. Summerfield	FLIR Certified	67	Clear	3	FLIR GF320	None	1	Valve	8/21/19	FLIR GF320	1	Repair technically infeasible without shutdown	NA
												1	Valve	8/2/19	FLIR GF320	1	Repair technically infeasible without shutdown	NA
												9	Connector	8/2/19	FLIR GF320	9	Repair technically infeasible without shutdown	NA
												4	Connector	6/17/19	FLIR GF320	NA	NA	NA
												1	Connector	6/11/19	FLIR GF320	NA	NA	NA
												9	Connector	6/7/19	FLIR GF320	NA	NA	NA
												1	Thief Hatch	6/7/19	FLIR GF320	NA	NA	NA
Hubert	39.25341, -80.56035	8/22/2018	10:40	11:40	N. Summerfield	FLIR Certified	64	Clear	8	FLIR GF320	None	2	Level Controller	9/11/18	FLIR GF320	NA	NA	NA
		11/20/2018	10:30	11:30	N. Summerfield	FLIR Certified	37	Cloudy	11	FLIR GF320	None	1	Regulator	9/5/18	FLIR GF320	NA	NA	NA
		2/28/2019	10:00	11:00	N. Summerfield	FLIR Certified	31	Clear	6	FLIR GF320	None	1	Thief Hatch	11/20/18	FLIR GF320	NA	NA	NA
												1	Valve	3/21/19	FLIR GF320	NA	NA	NA
												1	Valve	3/22/19	FLIR GF320	NA	NA	NA
		5/30/2019	8:10	9:10	N. Summerfield	FLIR Certified	73	Cloudy	4	FLIR GF320	None	2	Connector	2/28/19	FLIR GF320	NA	NA	NA
Hughes	39.21931, -80.62070	8/29/2018	13:45	14:45	N. Summerfield	FLIR Certified	81	Clear	11	FLIR GF320	None	1	Thief Hatch	5/30/19	FLIR GF320	NA	NA	NA
		12/13/2018	13:00	14:00	N. Summerfield	FLIR Certified	49	Cloudy	8	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		3/7/2019	11:05	12:05	N. Summerfield	FLIR Certified	30	Clear	9	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		5/31/2019	9:10	10:10	N. Summerfield	FLIR Certified	68	Cloudy	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
James Webb	39.23852, -80.87340	8/8/2018	10:30	11:30	N. Summerfield	FLIR Certified	71	Clear	6	FLIR GF320	None	2	Valve	5/31/19	FLIR GF320	NA	NA	NA
		11/13/2018	9:00	10:00	N. Summerfield	FLIR Certified	37	Rainy	5	FLIR GF320	None	1	Regulator	5/31/19	FLIR GF320	NA	NA	NA
		2/6/2019	11:00	12:00	N. Summerfield	FLIR Certified	50	Rainy	5	FLIR GF320	None	1	Level Controller	8/10/18	FLIR GF320	NA	NA	NA
		5/15/2019	11:30	12:30	N. Summerfield	FLIR Certified	63	Clear	1	FLIR GF320	None	1	Regulator	11/30/18	FLIR GF320	NA	NA	NA
												2	Wellheads	11/30/18	FLIR GF320	NA	NA	NA
												1	Connector	2/6/19	FLIR GF320	NA	NA	NA
												1	Valve	5/23/19	FLIR GF320	NA	NA	NA
												3	Thief Hatch	5/15/19	FLIR GF320	NA	NA	NA
												2	Enardo Valve	5/15/19	FLIR GF320	NA	NA	NA
												1	Valve	5/15/19	FLIR GF320	NA	NA	NA
John Richards	39.20537, -80.91968	11/2/2018	9:00	10:00	N. Summerfield	FLIR Certified	52	Cloudy	10	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/25/2019	11:45	12:45	N. Summerfield	FLIR Certified	32	Clear	17	FLIR GF320	None	3	Thief Hatch	2/25/2019	FLIR GF320	NA	NA	NA
		5/22/2019	11:00	12:00	N. Summerfield	FLIR Certified	73	Clear	6	FLIR GF320	None	1	Connector	5/22/2019	FLIR GF320	NA	NA	NA
Kelly	39.31418, -80.96267	10/24/2018	11:30	12:30	N. Summerfield	FLIR Certified	49	Clear	8	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/29/2019	10:15	11:15	N. Summerfield	FLIR Certified	27	Clear	12	FLIR GF320	None	2	Thief Hatch	1/29/2019	FLIR GF320	NA	NA	NA
		4/9/2019	13:00	14:00	N. Summerfield	FLIR Certified	70	Clear	13	FLIR GF320	None	1	Thief Hatch	4/9/2019	FLIR GF320	NA	NA	NA
Kirk Hadley	39.46320, -80.93236	11/26/2018	9:15	10:15	N. Summerfield	FLIR Certified	47	Rainy	5	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/21/2019	10:15	11:15	N. Summerfield	FLIR Certified	6	Clear	9	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		5/6/2019	11:45	12:45	N. Summerfield	FLIR Certified	68	Clear	6	FLIR GF320	None	1	Regulator	5/8/2019	FLIR GF320	NA	NA	NA
												1	Connector	5/6/2019	FLIR GF320	NA	NA	NA
												1	Thief Hatch	5/6/2019	FLIR GF320	NA	NA	NA
Lemuel	39.42265, -80.91331	1/9/2019	9:00	10:00	N. Summerfield	FLIR Certified	38	Snow	15	FLIR GF320	None	2	Connector	1/9/2019	FLIR GF320	NA	NA	NA
		5/3/2019	8:30	9:30	N. Summerfield	FLIR Certified	68	Cloudy	0	FLIR GF320	None	2	Valve	1/9/2019	FLIR GF320	NA	NA	NA
												4	Connector	5/3/2019	FLIR GF320	NA	NA	NA
												1	Regulator	5/3/2019	FLIR GF320	NA	NA	NA
												1	Thief Hatch	5/3/2019	FLIR GF320	NA	NA	NA
Leonard	39.26532, -80.59657	8/22/2018	9:45	10:45	N. Summerfield	FLIR Certified	67	Clear	7	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		11/7/2018	12:30	13:30	N. Summerfield	FLIR Certified	52	Cloudy	12	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/28/2019	9:00	10:00	N. Summerfield	FLIR Certified	31	Clear	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		5/29/2019	10:30	11:30	N. Summerfield	FLIR Certified	69	Clear	7	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA

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Lockhart Heirs West	39.19101, -80.89039	11/1/2018	11:00	12:00	N. Summerfield	FLIR Certified	54	Clear	5	FLIR GF320	None	1	Thief Hatch	11/6/2018	FLIR GF320	NA	NA	NA
												1	Enardo Valve	11/6/2018	FLIR GF320	NA	NA	NA
		2/25/2019	11:00	12:00	N. Summerfield	FLIR Certified	33	Clear	19	FLIR GF320	None	1	Thief Hatch	11/7/2018	FLIR GF320	NA	NA	NA
		5/17/2019	13:00	14:00	N. Summerfield	FLIR Certified	71	Cloudy	9	FLIR GF320	None	1	Valve	2/25/2019	FLIR GF320	NA	NA	NA
Long Run	39.30031, -80.86409	8/21/2018	8:15	9:15	N. Summerfield	FLIR Certified	70	Clear	3	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		12/12/2018	9:30	10:30	N. Summerfield	FLIR Certified	27	Clear	3	FLIR GF320	None	1	Connector	8/24/2018	FLIR GF320	NA	NA	NA
		1/24/2019	14:00	15:00	N. Summerfield	FLIR Certified	33	Snow	12	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
												1	Valve	1/28/2019	FLIR GF320	NA	NA	NA
												1	Thief Hatch	1/24/2019	FLIR GF320	NA	NA	NA
												1	Connector	1/24/2019	FLIR GF320	NA	NA	NA
		5/7/2019	13:30	14:30	N. Summerfield	FLIR Certified	75	Clear	1	FLIR GF320	None	1	Valve	5/7/2019	FLIR GF320	NA	NA	NA
												4	Connector	5/7/2019	FLIR GF320	NA	NA	NA
Mackay	39.23833, -80.89709	8/9/2018	10:00	11:00	N. Summerfield	FLIR Certified	74	Clear	8	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		11/16/2018	12:15	13:15	N. Summerfield	FLIR Certified	32	Snow	15	FLIR GF320	None	1	Valve	3/21/2019	FLIR GF320	1	Repair technically infeasible without shutdown	NA
		2/13/2019	8:30	9:30	N. Summerfield	FLIR Certified	33	Snow	19	FLIR GF320	None	1	Connector	2/28/2019	FLIR GF320	NA	NA	NA
		6/3/2019	12:35	13:35	N. Summerfield	FLIR Certified	66	Clear	13	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
McGill	39.27461, -80.84882	8/9/2018	13:30	14:30	N. Summerfield	FLIR Certified	81	Clear	8	FLIR GF320	None	1	Valve	8/13/2018	FLIR GF320	NA	NA	NA
		12/11/2018	10:45	11:45	N. Summerfield	FLIR Certified	17	Clear	4	FLIR GF320	None	1	Valve	12/14/2018	FLIR GF320	NA	NA	NA
		2/14/2019	10:30	11:30	N. Summerfield	FLIR Certified	40	Clear	7	FLIR GF320	None	1	Valve	2/18/2019	FLIR GF320	NA	NA	NA
												1	Regulator	2/28/2019	FLIR GF320	NA	NA	NA
												1	Valve	2/28/2019	FLIR GF320	NA	NA	NA
		5/9/2019	13:45	14:45	N. Summerfield	FLIR Certified	84	Cloudy	15	FLIR GF320	None	3	Thief Hatch	5/9/2019	FLIR GF320	NA	NA	NA
McKim	39.38563, -80.95141	2/8/2019	9:00	10:00	N. Summerfield	FLIR Certified	39	Clear	18	FLIR GF320	None	1	Valve	2/28/2019	FLIR GF320	NA	NA	NA
												3	Connector	2/8/2019	FLIR GF320	NA	NA	NA
		4/30/2019	9:00	10:00	N. Summerfield	FLIR Certified	65	Cloudy	0	FLIR GF320	None	1	Valve	5/23/2019	FLIR GF320	NA	NA	NA
												1	Connector	4/30/2019	FLIR GF320	NA	NA	NA
Melody	39.35837, -80.75935	10/3/2018	11:00	12:00	N. Summerfield	FLIR Certified	73	Cloudy	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/18/2019	10:30	12:30	N. Summerfield	FLIR Certified	39	Rainy	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		4/8/2019	13:15	14:15	N. Summerfield	FLIR Certified	70	Cloudy	14	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
Middle	39.32245, -80.80656	12/6/2018	8:30	9:30	N. Summerfield	FLIR Certified	32	Clear	9	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/27/2019	8:30	9:30	N. Summerfield	FLIR Certified	26	Clear	3	FLIR GF320	None	1	Connector	3/14/2019	FLIR GF320	NA	NA	NA
												2	Connector	2/27/2019	FLIR GF320	NA	NA	NA
		4/25/2019	8:45	9:45	N. Summerfield	FLIR Certified	54	Clear	4	FLIR GF320	None	7	Connector	4/25/2019	FLIR GF320	NA	NA	NA
												5	Valve	4/25/2019	FLIR GF320	NA	NA	NA
Misery	39.36061, -80.74902	10/3/2018	9:30	10:30	N. Summerfield	FLIR Certified	70	Cloudy	8	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/15/2019	13:15	14:15	N. Summerfield	FLIR Certified	29	Cloudy	6	FLIR GF320	None	1	Enardo Valve	1/18/2019	FLIR GF320	NA	NA	NA
												1	Valve	1/18/2019	FLIR GF320	NA	NA	NA
												1	Regulator	1/15/2019	FLIR GF320	NA	NA	NA
												1	Connector	1/15/2019	FLIR GF320	NA	NA	NA
												2	Valve	1/15/2019	FLIR GF320	NA	NA	NA
		4/8/2019	12:00	13:00	N. Summerfield	FLIR Certified	68	Cloudy	14	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
Mulvay	39.32250, -80.89923	10/23/2018	8:30	9:30	N. Summerfield	FLIR Certified	41	Clear	5	FLIR GF320	None	2	Connector	11/15/2018	FLIR GF320	NA	NA	NA
												2	Connector	11/19/2018	FLIR GF320	NA	NA	NA
		1/29/2019	9:00	10:00	N. Summerfield	FLIR Certified	33	Snow	8	FLIR GF320	None	1	Valve	1/29/2019	FLIR GF320	NA	NA	NA
												2	Connector	1/29/2019	FLIR GF320	NA	NA	NA
		4/29/2019	10:00	11:00	N. Summerfield	FLIR Certified	56	Clear	6	FLIR GF320	None	1	Valve	5/7/2019	FLIR GF320	NA	NA	NA
												2	Thief Hatch	4/29/2019	FLIR GF320	NA	NA	NA
Neat	39.42165, -80.93746	6/5/2019	8:30	9:30	N. Summerfield	FLIR Certified	66	Rainy	4	FLIR GF320	None	1	Connector	7/30/2019	FLIR GF320	1	Repair technically infeasible without shutdown	NA
												4	Connector	8/1/2019	FLIR GF320	4	Repair technically infeasible without shutdown	NA
												1	Connector	7/24/2019	FLIR GF320	1	Repair technically infeasible without shutdown	NA
												1	Connector	6/14/2019	FLIR GF320	NA	NA	NA
												1	Connector	6/21/2019	FLIR GF320	NA	NA	NA
												2	Connector	6/5/2019	FLIR GF320	NA	NA	NA
Noland	39.29904, -80.97838	10/24/2018	13:00	14:00	N. Summerfield	FLIR Certified	55	Cloudy	3	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/29/2019	11:15	12:15	N. Summerfield	FLIR Certified	33	Snow	8	FLIR GF320	None	1	Valve	2/14/2019	FLIR GF320	NA	NA	NA
												1	Connector	1/29/2019	FLIR GF320	NA	NA	NA
		4/29/2019	12:45	13:45	N. Summerfield	FLIR Certified	56	Clear	6	FLIR GF320	None	1	Thief Hatch	4/29/2019	FLIR GF320	NA	NA	NA
												1	Valve	4/29/2019	FLIR GF320	NA	NA	NA

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Pierpoint	39.45202, -80.85897	10/4/2018	9:00	10:00	N. Summerfield	FLIR Certified	71	Clear	5	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/10/2019	8:45	9:45	N. Summerfield	FLIR Certified	23	Snow	12	FLIR GF320	None	1	Valve	1/14/2019	FLIR GF320	NA	NA	NA
												1	Valve	1/21/2019	FLIR GF320	NA	NA	NA
		4/4/2019	13:00	14:00	N. Summerfield	FLIR Certified	61	Cloudy	9	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
Pool	39.29781, -80.91166	12/17/2018	9:00	10:00	N. Summerfield	FLIR Certified	42	Clear	11	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/24/2019	13:00	14:00	N. Summerfield	FLIR Certified	34	Snow	11	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		5/2/2019	10:30	11:30	N. Summerfield	FLIR Certified	69	Clear	11	FLIR GF320	None	1	Valve	5/14/2019	FLIR GF320	NA	NA	NA
		7/1/2019	11:45	12:45	N. Summerfield	FLIR Certified	77	Clear	4	FLIR GF320	None	1	Valve	7/1/2019	FLIR GF320	NA	NA	NA
												1	Connector	7/1/2019	FLIR GF320	NA	NA	NA
												1	Regulator	7/1/2019	FLIR GF320	NA	NA	NA
												1	Thief Hatch	7/1/2019	FLIR GF320	NA	NA	NA
Revival	39.32398, -80.69038	8/17/2018	9:15	10:15	N. Summerfield	FLIR Certified	68	Cloudy	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		12/6/2018	12:15	13:15	N. Summerfield	FLIR Certified	36	Clear	13	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/27/2019	11:30	12:30	N. Summerfield	FLIR Certified	42	Clear	0	FLIR GF320	None	1	Valve	3/25/2019	FLIR GF320	NA	NA	NA
												1	Regulator	3/25/2019	FLIR GF320	NA	NA	NA
												2	Thief Hatch	2/27/2019	FLIR GF320	NA	NA	NA
												3	Connector	2/27/2019	FLIR GF320	NA	NA	NA
		6/18/2019	12:45	13:45	N. Summerfield	FLIR Certified	75	Rainy	7	FLIR GF320	None	1	Valve	6/18/2019	FLIR GF320	NA	NA	NA
												1	Connector	6/18/2019	FLIR GF320	NA	NA	NA
Ritchie Petroleum	39.36301, -80.96814	10/17/2018	8:45	9:45	N. Summerfield	FLIR Certified	42	Clear	7	FLIR GF320	None	1	Connector	10/22/2018	FLIR GF320	NA	NA	NA
		1/22/2019	9:00	10:00	N. Summerfield	FLIR Certified	11	Clear	1	FLIR GF320	None	1	Thief Hatch	10/19/2018	FLIR GF320	NA	NA	NA
												1	Connector	1/22/2019	FLIR GF320	NA	NA	NA
												1	Valve	1/22/2019	FLIR GF320	NA	NA	NA
												1	Regulator	1/22/2019	FLIR GF320	NA	NA	NA
		4/30/2019	11:15	12:15	N. Summerfield	FLIR Certified	69	Clear	0	FLIR GF320	None	2	Valve	4/30/2019	FLIR GF320	NA	NA	NA
RJ Smith	39.36573, -80.73296	10/1/2018	13:00	14:00	N. Summerfield	FLIR Certified	80	Clear	5	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/15/2019	9:30	10:30	N. Summerfield	FLIR Certified	28	Cloudy	7	FLIR GF320	None	1	Connector	1/15/2019	FLIR GF320	NA	NA	NA
		4/8/2019	10:00	11:00	N. Summerfield	FLIR Certified	66	Cloudy	9	FLIR GF320	None	1	Connector	4/8/2019	FLIR GF320	NA	NA	NA
Rock Run	39.30484, -80.81482	8/15/2018	10:15	11:15	N. Summerfield	FLIR Certified	67	Clear	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		10/30/2018	13:00	14:00	N. Summerfield	FLIR Certified	48	Clear	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/21/2019	8:30	9:30	N. Summerfield	FLIR Certified	45	Cloudy	12	FLIR GF320	None	1	Valve	2/21/2019	FLIR GF320	NA	NA	NA
		5/9/2019	8:45	9:45	N. Summerfield	FLIR Certified	72	Clear	8	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
Rush Fork	39.41714, -80.96956	10/5/2018	10:00	11:00	N. Summerfield	FLIR Certified	59	Cloudy	2	FLIR GF320	None	1	Connector	10/18/2018	FLIR GF320	NA	NA	NA
		3/13/2019	9:00	10:00	N. Summerfield	FLIR Certified	32	Clear	0	FLIR GF320	None	1	Connector	10/10/2018	FLIR GF320	NA	NA	NA
												1	Thief Hatch	3/26/2019	FLIR GF320	NA	NA	NA
												2	Regular	3/13/2019	FLIR GF320	NA	NA	NA
Stanley	39.23680, -80.87963	2/6/2019	8:45	9:45	N. Summerfield	FLIR Certified	47	Rainy	0	FLIR GF320	None	1	Valve	2/6/2019	FLIR GF320	NA	NA	NA
		5/15/2019	12:30	13:30	N. Summerfield	FLIR Certified	66	Clear	6	FLIR GF320	None	1	Connector	2/6/2019	FLIR GF320	NA	NA	NA
												1	Connector	5/15/2019	FLIR GF320	NA	NA	NA
												3	Valve	5/15/2019	FLIR GF320	NA	NA	NA
Stewart	39.18849, -80.66160	9/5/2018	10:45	11:45	N. Summerfield	FLIR Certified	80	Clear	4	FLIR GF320	None	1	Valve	9/26/2018	FLIR GF320	NA	NA	NA
		11/30/2018	9:00	10:00	N. Summerfield	FLIR Certified	38	Rainy	0	FLIR GF320	None	1	Valve	12/4/2018	FLIR GF320	NA	NA	NA
		3/12/2019	9:15	10:15	N. Summerfield	FLIR Certified	34	Clear	3	FLIR GF320	None	1	Enardo Valve	3/12/2019	FLIR GF320	NA	NA	NA
												1	Valve	3/12/2019	FLIR GF320	NA	NA	NA
		6/3/2019	10:30	11:30	N. Summerfield	FLIR Certified	61	Clear	7	FLIR GF320	None	1	Valve	6/21/2019	FLIR GF320	NA	NA	NA
												1	Thief Hatch	6/3/2019	FLIR GF320	NA	NA	NA
Stonefly	39.41797, -80.92268	3/5/2019	9:15	10:15	N. Summerfield	FLIR Certified	15	Clear	7	FLIR GF320	None	2	Connector	3/26/2019	FLIR GF320	NA	NA	NA
												1	Valve	4/21/2019	FLIR GF320	1	Repair technically infeasible without shutdown	NA
												1	Connector	3/19/2019	FLIR GF320	NA	NA	NA
												1	Connector	3/15/2019	FLIR GF320	NA	NA	NA
												1	Connector	3/22/2019	FLIR GF320	NA	NA	NA
												1	Regulator	3/5/2019	FLIR GF320	NA	NA	NA
												1	Connector	3/5/2019	FLIR GF320	NA	NA	NA
		5/7/2019	13:45	14:45	N. Summerfield	FLIR Certified	74	Clear	3	FLIR GF320	None	1	Connector	5/9/2019	FLIR GF320	NA	NA	NA
												1	Connector	6/5/2019	FLIR GF320	NA	NA	NA
												1	Connector	5/7/2019	FLIR GF320	NA	NA	NA
												1	Valve	5/7/2019	FLIR GF320	NA	NA	NA
Strickling	39.33219, -80.78376	1/14/2019	9:15	10:15	N. Summerfield	FLIR Certified	30	Snow	3	FLIR GF320	None	3	Valve	1/14/2019	FLIR GF320	NA	NA	NA
		4/24/2019	12:15	13:15	N. Summerfield	FLIR Certified	64	Clear	7	FLIR GF320	None	1	Regulator	5/2/2019	FLIR GF320	NA	NA	NA
												4	Connector	4/24/2019	FLIR GF320	NA	NA	NA
												2	Valve	4/24/2019	FLIR GF320	NA	NA	NA
												1	Thief Hatch	4/24/2019	FLIR GF320	NA	NA	NA

Facility	Location	Date of Survey	Beginning Time	End Time	Operator(s) Name Performing Survey	Operator Training	Ambient Temperature (F)	Sky Conditions	Max Wind Speed (mph)	Monitoring Instrument Used	Deviations from Monitoring Plan	Number of Components Leaking	Type of Components Leaking	Date of Successful Repair for Each Component	Remonitoring Instrument Used	Number and Type of Components Added to Delay of Repair List	Reason for Delay of Repair	Number and Type of Difficult or unsafe to Monitor Components
Susie Jane	39.25381, -80.63222	8/22/2018	8:00	9:00	N. Summerfield	FLIR Certified	66	Cloudy	7	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		12/13/2018	13:00	14:00	N. Summerfield	FLIR Certified	32	Snow	8	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/28/2019	8:15	9:15	N. Summerfield	FLIR Certified	31	Clear	8	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		5/29/2019	8:40	9:40	N. Summerfield	FLIR Certified	72	Clear	7	FLIR GF320	None	1	Connector	5/29/2019	FLIR GF320	NA	NA	NA
Terry Snider	39.36814, -80.96422	10/19/2018	10:00	11:00	N. Summerfield	FLIR Certified	43	Clear	0	FLIR GF320	None	1	Regulator	10/24/2018	FLIR GF320	NA	NA	NA
		1/21/2019	12:15	13:15	N. Summerfield	FLIR Certified	9	Clear	9	FLIR GF320	None	1	Connector	1/21/2019	FLIR GF320	NA	NA	NA
		4/30/2019	12:45	13:45	N. Summerfield	FLIR Certified	74	Clear	6	FLIR GF320	None	1	Regulator	1/21/2019	FLIR GF320	NA	NA	NA
												1	Connector	5/2/2019	FLIR GF320	NA	NA	NA
												1	Valve	4/30/2019	FLIR GF320	NA	NA	NA
												1	Connector	4/30/2019	FLIR GF320	NA	NA	NA
												1	Thief Hatch	4/30/2019	FLIR GF320	NA	NA	NA
Trent	39.20922, -80.62939	8/29/2018	12:45	13:45	N. Summerfield	FLIR Certified	81	Clear	12	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		12/13/2018	12:10	13:10	N. Summerfield	FLIR Certified	49	Cloudy	9	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		3/7/2019	10:25	11:25	N. Summerfield	FLIR Certified	26	Clear	9	FLIR GF320	None	1	Thief Hatch	3/13/2019	FLIR GF320	NA	NA	NA
		5/31/2019	10:00	11:00	N. Summerfield	FLIR Certified	70	Cloudy	6	FLIR GF320	None	1	Valve	3/8/2019	FLIR GF320	NA	NA	NA
												1	Valve	5/31/2019	FLIR GF320	NA	NA	NA
												1	Connector	5/31/2019	FLIR GF320	NA	NA	NA
Vogt	39.27749, -80.86229	8/21/2018	9:00	10:00	N. Summerfield	FLIR Certified	70	Clear	6	FLIR GF320	None	1	Valve	11/14/2018	FLIR GF320	1	Repair technically infeasible without shutdown	NA
		11/14/2018	14:15	15:15	N. Summerfield	FLIR Certified	38	Clear	5	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		2/14/2019	11:15	12:15	N. Summerfield	FLIR Certified	40	Clear	7	FLIR GF320	None	1	Valve	2/14/2019	FLIR GF320	NA	NA	NA
		5/8/2019	8:30	9:30	N. Summerfield	FLIR Certified	61	Clear	3	FLIR GF320	None	3	Thief Hatch	5/8/2019	FLIR GF320	NA	NA	NA
Walnut West	39.31313, -80.99816	10/24/2018	12:15	13:15	N. Summerfield	FLIR Certified	51	Clear	9	FLIR GF320	None	1	Thief Hatch	10/24/2018	FLIR GF320	NA	NA	NA
		1/29/2019	9:00	10:00	N. Summerfield	FLIR Certified	33	Snow	8	FLIR GF320	None	1	Thief Hatch	1/29/2019	FLIR GF320	NA	NA	NA
		4/29/2019	11:45	12:45	N. Summerfield	FLIR Certified	65	Clear	8	FLIR GF320	None	1	Thief Hatch	4/29/2019	FLIR GF320	NA	NA	NA
Weigle East	39.46620, -80.85281	9/21/2018	10:30	11:30	N. Summerfield	FLIR Certified	79	Clear	10	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		11/27/2018	9:30	10:30	N. Summerfield	FLIR Certified	30	Snow	14	FLIR GF320	None	2	Valve	12/3/2018	FLIR GF320	NA	NA	NA
		1/17/2019	8:15	9:15	N. Summerfield	FLIR Certified	32	Cloudy	0	FLIR GF320	None	2	Connector	1/24/2019	FLIR GF320	NA	NA	NA
		4/4/2019	8:30	9:30	N. Summerfield	FLIR Certified	41	Clear	0	FLIR GF320	None	1	Regulator	1/24/2019	FLIR GF320	NA	NA	NA
												1	Valve	4/4/2019	FLIR GF320	NA	NA	NA
												2	Connector	4/4/2019	FLIR GF320	NA	NA	NA
Yvonne	39.34848, -80.76965	10/16/2018	8:30	9:30	N. Summerfield	FLIR Certified	40	Clear	0	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		1/18/2019	8:30	9:30	N. Summerfield	FLIR Certified	39	Rainy	6	FLIR GF320	None	0	NA	NA	NA	NA	NA	NA
		4/24/2019	9:15	10:15	N. Summerfield	FLIR Certified	58	Clear	5	FLIR GF320	None	1	Enardo Valve	4/24/2019	FLIR GF320	NA	NA	NA
												1	Thief Hatch	4/24/2019	FLIR GF320	NA	NA	NA
												2	Connector	4/24/2019	FLIR GF320	NA	NA	NA
Zinn	39.32011, -80.93834	10/25/2018	10:45	11:45	N. Summerfield	FLIR Certified	39	Clear	0	FLIR GF320	None	14	Thief Hatch	11/26/2018	FLIR GF320	NA	Repair technically infeasible without shutdown	NA
		2/19/2019	9:15	10:15	N. Summerfield	FLIR Certified	24	Clear	5	FLIR GF320	None	1	Valve	2/19/2019	FLIR GF320	NA	NA	NA
		5/2/2019	9:15	10:15	N. Summerfield	FLIR Certified	67	Clear	5	FLIR GF320	None	1	Enardo Valve	2/19/2019	FLIR GF320	NA	NA	NA
												1	Connector	5/2/2019	FLIR GF320	NA	NA	NA