Summary of Quarterly Suncor Excess Emissions Reporting (Jan 2020- March 2022).

5/9/2022

2020						
Start Date & Time	End Date & Time	Hours	Pollutants	Unit(s)	Code	Cause
1/4/20 9:00 AM	1/7/20 7:00 PM	18	СО	Plant 2 FCCU	A	Startup/Shutdown
1/3/20 8:00 PM			Opacity	Plant 2 FCCU	A	Startup/Shutdown
1/9/20 11:00 AM	1/9/20 12:00 PM	1	СО	Plant 1 FCCU	С	Process Problems
1/16/20 5:00 PM	1/17/20 5:00 PM	24	SO2	Plant 1 H-25	F	Malfunction
3/2/20 11:00 AM	3/2/20 2:00 PM	3	H2S	Plant 3 Flare	D	Other Known Problems
3/17/20 5:30 PM	3/17/20 6:12 PM	0.7	Opacity	Plant 2 FCCU	А	Startup/Shutdown
3/17/20 7:00 PM	3/18/20 5:00 AM	10	H2S	Plant 2 Flare	А	Startup/Shutdown
4/7/20 7:00 PM	4/8/20 7:00 AM	12	со	Plant 1 FCCU	С	Process Problems
4/8/20 10:00 AM	4/8/20 1:00 PM	3	H2S	Plant 1 Flare	С	Process Problems
4/29/20 9:00 PM	4/30/20 4:00 PM	19	H2S	Plant 1 Flare	А	Startup/Shutdown
4/30/20 8:00 AM	5/1/20 1:00 AM	17	SO2	Plant 1 Flare	Α	Startup/Shutdown
5/5/20 7:00 AM	5/5/20 8:00 AM	1	H2S	Plant 1 Flare	С	Process Problems
5/17/20 8:48 AM	5/22/20 11:42 AM	27.9	Opacity	Plant 1 FCCU	А	Startup/Shutdown
5/17/20 9:00 AM	5/17/20 10:00 AM	1.0	SO2	Plant 1 H-25	Α	Startup/Shutdown
5/17/20 9:00 AM	5/19/20 12:00 PM	51.0	со	Plant 1 FCCU	А	Startup/Shutdown
5/17/20 9:00 AM	5/18/20 9:00 AM	24.0	SO2	Plant 3 Flare	А	Startup/Shutdown
5/17/20 10:00 AM	5/19/20 12:00 PM	50.0	SO2	Plant 1 Flare	А	Startup/Shutdown
5/17/20 10:00 AM	5/24/20 10:00 AM	168.0	SO2	Plant 1 H-25	А	Startup/Shutdown
5/17/20 10:00 AM	5/17/20 4:00 PM	6.0	H2S	Plant 3 Flare	А	Startup/Shutdown
5/17/20 12:00 PM	5/19/20 9:00 PM	57	H2S	Plant 1 Flare	А	Startup/Shutdown
				Plant 1 Fuel Gas H2S		
5/18/20 10:00 PM	5/19/20 1:00 AM	3	H2S	Content	Α	Startup/Shutdown
5/18/20 12:00 AM	5/26/20 12:00 AM	192	Nox	Plant 1 FCCU	А	Startup/Shutdown

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				Plant 1 Fuel Gas H2S		
5/20/20 9:00 PM	5/22/20 6:00 AM	33	H2S		А	Startup/Shutdown
5/20/20 1:00 AM	5/20/20 6:00 PM	17	H2S	Plant 1 Flare	А	Startup/Shutdown
5/21/20 2:00 AM	5/21/20 7:00 AM	5	со	Plant 1 FCCU	А	Startup/Shutdown
5/21/20 11:00 AM	5/21/20 12:00 PM	1	со	Plant 1 FCCU	А	Startup/Shutdown
5/21/20 2:00 PM	5/21/20 3:00 PM	1	со	Plant 1 FCCU	А	Startup/Shutdown
5/22/20 6:00 AM	5/22/20 7:00 AM	1	со	Plant 1 FCCU	А	Startup/Shutdown
5/22/20 2:00 PM	5/23/20 3:00 AM	13	SO2	Plant 1 Flare	А	Startup/Shutdown
5/22/20 4:00 PM	5/23/20 1:00 AM	9	H2S	Plant 1 Fuel Gas H2S Content	А	Startup/Shutdown
5/22/20 2:00 AM	5/22/20 6:00 AM	4	H2S	Plant 1 Flare	А	Startup/Shutdown
5/22/20 8:00 AM	5/22/20 9:00 AM	1	H2S	Plant 1 Flare	А	Startup/Shutdown
5/22/20 3:00 PM	5/23/20 1:00 AM	10	H2S	Plant 1 Flare	А	Startup/Shutdown
5/28/20 9:00 PM	5/29/20 9:00 AM	12	SO2	Plant 1 H-25	А	Startup/Shutdown
6/7/20 8:00 AM	6/7/20 7:00 PM	11	SO2	Plant 1 H-25	А	Startup/Shutdown
6/8/20 2:00 PM	6/9/20 2:00 AM	12	SO2	Plant 1 H-25	А	Startup/Shutdown
6/11/20 7:00 PM	6/12/20 7:00 AM	12	SO2	Plant 1 H-25	С	Process Problems
6/18/20 7:00 PM	6/21/20 12:00 AM	53	SO2	Plant 1 H-25	А	Startup/Shutdown
8/1/20 11:00 AM	8/1/20 7:00 PM	8	H2S	Plant 2 Fuel Gas H2S Content	А	Startup/Shutdown
8/13/20 1:00 PM	8/13/20 5:00 PM	4	СО	Plant 1 FCCU	D	Other Known Problems
8/13/20 1:00 PM	8/13/20 1:30 PM	0.5	Opacity	Plant 1 FCCU	D	Other Known Problems
8/13/20 3:00 PM	8/13/20 4:00 PM	1	H2S	Plant 1 Fuel Gas H2S Content	D	Other Known Problems
8/13/20 3:06 PM	8/13/20 3:12 PM		Opacity		A	Startup/Shutdown
8/13/20 4:00 PM	8/13/20 5:00 PM		H2S	Plant 1 Flare	D	Other Known Problems
8/14/20 3:00 AM	8/14/20 6:00 AM		СО		А	Startup/Shutdown
8/17/20 1:18 AM	8/17/20 2:24 AM	1.1	Opacity	Plant 2 FCCU	A	Startup/Shutdown

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8/25/20 4:00 PM	8/25/20 5:00 PM	1	со	Plant 2 FCCU	A	Startup/Shutdown
8/26/20 8:00 PM	8/27/20 6:00 AM	10	со	Plant 2 FCCU	A	Startup/Shutdown
8/27/20 6:00 PM	8/27/20 8:00 PM	2	H2S	Plant 2 Fuel Gas H2S Content	Α	Startup/Shutdown
8/28/20 9:00 AM	8/28/20 11:00 AM	2	H2S	Plant 2 Fuel Gas H2S Content	A	Startup/Shutdown
8/29/20 2:00 AM	8/29/20 8:00 PM	18	H2S	Plant 2 Fuel Gas H2S Content	А	Startup/Shutdown
9/25/20 8:00 PM	9/25/20 10:00 PM	2	H2S	Plant 3 Flare	С	Process Problems
10/19/20 5:00 PM	10/19/20 8:00 PM	3	SO2	Plant 1 H-25	A	Startup/Shutdown
10/21/20 4:00 PM	10/21/20 5:00 PM	1	SO2	Plant 1 H-25	A	Startup/Shutdown
10/21/20 4:00 PM	10/21/20 5:00 PM	1	СО	Plant 1 FCCU	A	Startup/Shutdown
10/21/20 5:00 PM	10/22/20 5:00 PM	24	SO2	Plant 1 Flare	D	Other Known Problems
10/21/20 7:00 PM	10/22/20 12:00 PM	17	H2S	Plant 1 Flare	D	Other Known Problems
10/21/20 6:00 PM	10/22/20 2:00 PM	20	SO2	Plant 1 H-25	A	Startup/Shutdown
10/21/20 4:00 PM	11/20/20 3:06 AM	8.8	Opacity	Plant 1 FCCU	A	Startup/Shutdown
10/26/20 5:00 AM	10/26/20 2:00 PM	9	со	Plant 1 B-6	С	Process Problems
10/26/20 4:00 PM	11/4/20 2:00 AM	202	SO2	Plant 1 H-25	A	Startup/Shutdown
11/1/20 8:00 AM	11/1/20 10:00 AM	2	SO2	Plant 1 H-25	Α	Startup/Shutdown
11/1/20 3:00 PM	11/1/20 4:00 PM	1	SO2	Plant 1 H-25	А	Startup/Shutdown
11/1/20 11:00 PM	11/2/20 12:00 AM	1	SO2	Plant 1 H-25	Α	Startup/Shutdown
11/3/20 10:00 AM	11/3/20 3:00 PM	5	SO2	Plant 1 H-25	A	Startup/Shutdown
11/4/20 8:36 PM	11/4/20 8:42 PM	0.1	Opacity	Plant 2 FCCU	F	Malfunction
11/5/20 7:00 AM	11/5/20 5:00 PM	10	SO2	Plant 1 H-25	А	Startup/Shutdown
11/5/20 3:36 PM	11/5/20 4:06 PM	0.5	Opacity	Plant 2 FCCU	Α	Startup/Shutdown
11/5/20 7:00 PM	11/5/20 8:00 PM	1	со	Plant 2 FCCU	Α	Startup/Shutdown
11/5/20 12:00 AM	11/6/20 11:00 AM	35	H2S	Plant 2 Flare	Α	Startup/Shutdown
11/6/20 3:00 PM	11/6/20 9:00 PM	6	H2S	Plant 2 Flare	A	Startup/Shutdown

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11/6/20 10:00 AM	11/7/20 6:00 PM	32	со	Plant 2 FCCU	А	Startup/Shutdown
11/7/20 3:00 PM	11/7/20 5:00 PM	2	H2S	Plant 2 Flare	А	Startup/Shutdown
11/7/20 5:00 AM	11/7/20 12:00 PM	7	H2S	Plant 1 Flare	A	Startup/Shutdown
11/7/20 11:00 PM	11/8/20 4:00 PM	17	СО	Plant 1 FCCU	A	Startup/Shutdown
11/8/20 6:00 PM	11/9/20 12:00 PM	18	СО	Plant 1 FCCU	A	Startup/Shutdown
11/9/20 6:00 PM	11/9/20 7:00 PM	1	со	Plant 1 FCCU	А	Startup/Shutdown
11/9/20 8:00 PM	11/9/20 10:00 PM	2	H2S	Plant 1 Flare	А	Startup/Shutdown
11/9/20 10:00 PM	11/10/20 6:00 AM	8	со	Plant 1 FCCU	А	Startup/Shutdown
11/10/20 8:00 AM	11/10/20 9:00 AM	1	H2S	Plant 1 Flare	А	Startup/Shutdown
11/10/20 10:00 AM	11/10/20 1:00 PM	3	SO2	Plant 1 H-25	А	Startup/Shutdown
11/10/20 11:00 AM	11/11/20 12:00 AM	13	SO2	Plant 1 H-25	А	Startup/Shutdown
11/12/20 2:00 AM	11/12/20 3:00 AM	1	со	Plant 1 FCCU	А	Startup/Shutdown
11/12/20 6:00 AM	11/12/20 12:00 PM	6	со	Plant 1 FCCU	А	Startup/Shutdown
11/13/20 2:00 AM	11/13/20 3:00 AM	1	H2S	Plant 1 Flare	С	Process Problems
11/20/20 12:00 PM	11/20/20 1:00 PM	1	H2S	Plant 1 Flare	А	Startup/Shutdown
11/19/20 2:00 PM	11/20/20 4:00 AM	14	со	Plant 1 FCCU	А	Startup/Shutdown
11/21/20 3:00 PM	11/21/20 5:00 PM	2	H2S	Plant 2 Flare	С	Process Problems
11/26/20 10:00 AM	11/26/20 12:00 PM	2	H2S	Plant 2 Fuel Gas H2S Content	С	Process Problems
11/30/20 9:00 AM	11/30/20 8:00 PM	11	со	Plant 2 FCCU	А	Startup/Shutdown
12/10/20 2:48 PM	12/10/20 2:54 PM	0.1	Opacity	Plant 2 FCCU	С	Process Problems
12/17/20 9:00 PM	12/18/20 5:00 PM	20	H2S	Plant 1 Flare	А	Startup/Shutdown
12/18/20 3:00 AM			SO2	Plant 1 Flare	А	Startup/Shutdown
2021	Total 2020	14//	Hours			
2021 Start Date & Time	End Date & Time	Hours	Pollutants	Unit(s)		1
Start Date & Time	Liiu Date & Tillie	110015	r Unutants	Offic(s)		
6/7/2021 5:00	6/9/2021 7:00	50	со	Plant 1 B-6	А	Startup/Shutdown
6/10/2021 22:00	6/13/2021 13:00	63	со	Plant 1 B-6	А	Startup/Shutdown
10/27/2021 18:00	10/27/2021 20:00	2	со	Plant 1 B-6	С	Process Problems

10/31/2021 13:00	11/3/2021 1:00	60 CO	Plant 1 B-6	С	Process Problems
11/4/2021 11:00	11/5/2021 1:00	14 CO	Plant 1 B-6	С	Process Problems
12/16/2021 6:00	12/18/2021 15:00	57 CO	Plant 1 B-8	С	Process Problems
6/13/2021 11:00	6/14/2021 20:00	33 CO	Plant 1 B-8	А	Startup/Shutdown
6/14/2021 23:00	6/15/2021 10:00	11 CO	Plant 1 B-8	А	Startup/Shutdown
2/14/21 1:00 PM	2/15/21 2:00 AM	13 SO2	Plant 1 H-25	А	Startup/Shutdown
2/15/21 10:00 AM	2/16/21 1:00 PM	27 SO2	Plant 1 H-25	А	Startup/Shutdown
4/20/2021 17:00	4/21/2021 7:00	14 SO2	Plant 1 H-25	А	Startup/Shutdown
4/21/2021 23:00	4/22/2021 11:00	12 SO2	Plant 1 H-25	А	Startup/Shutdown
4/29/2021 15:00	5/1/2021 20:00	53 SO2	Plant 1 H-25	А	Startup/Shutdown
6/12/2021 9:00	6/13/2021 8:00	23 SO2	Plant 1 H-25	А	Startup/Shutdown
6/14/2021 6:00	6/15/2021 9:00	27 SO2	Plant 1 H-25	А	Startup/Shutdown
6/17/2021 15:00	6/17/2021 20:00	5 SO2	Plant 1 H-25	А	Startup/Shutdown
6/16/2021 17:00	6/18/2021 7:00	38 SO2	Plant 1 H-25	А	Startup/Shutdown
6/20/2021 6:00	6/20/2021 7:00	1 SO2	Plant 1 H-25	А	Startup/Shutdown
10/29/2021 4:00	10/29/2021 18:00	14 SO2	Plant 1 H-25	А	Startup/Shutdown
12/7/2021 14:00	12/9/2021 22:00	56 SO2	Plant 1 H-25	А	Startup/Shutdown
2/19/21 7:56 PM	2/19/21 8:01 PM	0.083 Opacity	Plant 1 FCCU	F	Malfunction
4/19/2021 0:00	6/22/2021 0:00	1.6 Opacity	Plant 1 FCCU	А	Startup/Shutdown
10/26/2021 7:00	10/27/2021 3:00	20 CO	Plant 1 FCCU	А	Startup/Shutdown
10/26/2021 7:12	10/26/2021 9:12	2 Opacity	Plant 1 FCCU	А	Startup/Shutdown
4/19/2021 6:00	4/19/2021 7:00	1 CO	Plant 1 FCCU	А	Startup/Shutdown
6/21/2021 23:00	6/22/2021 18:00	19 CO	Plant 1 FCCU	А	Startup/Shutdown
6/30/2021 8:00	7/1/2021 0:00	16 CO	Plant 1 FCCU	А	Startup/Shutdown
1/26/21 8:00 PM	1/26/21 10:00 PM	2 H2S	Plant 1 Flare	D	Other Known Problems
1/26/21 7:00 PM	1/27/21 7:00 PM	24 SO2	Plant 1 Flare	D	Other Known Problems
2/15/21 12:00 AM	2/15/21 2:00 AM	2 H2S	Plant 1 Flare	С	Process Problems
2/20/21 6:00 PM	2/21/21 1:00 AM	7 H2S	Plant 1 Flare	F	Malfunction

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2/20/21 5:00 PM	2/21/21 5:00 PM	24	SO2	Plant 1 Flare	F	Malfunction
3/15/21 11:00 PM	3/16/21 10:00 AM	11	H2S	Plant 1 Flare	F	Malfunction
3/30/21 9:00 PM	3/31/21 5:00 PM	20	H2S	Plant 1 Flare	А	Startup/Shutdown
3/31/21 2:00 PM	3/31/21 8:00 PM	6	SO2	Plant 1 Flare	А	Startup/Shutdown
4/18/2021 12:00	4/18/2021 14:00	2	H2S	Plant 1 Flare	А	Startup/Shutdown
4/19/2021 20:00	4/19/2021 22:00	2	H2S	Plant 1 Flare	А	Startup/Shutdown
4/20/2021 9:00	4/20/2021 12:00	3	H2S	Plant 1 Flare	А	Startup/Shutdown
6/17/2021 9:00	6/18/2021 19:00	34	H2S	Plant 1 Flare	А	Startup/Shutdown
6/20/2021 10:00	6/20/2021 15:00	5	H2S	Plant 1 Flare	А	Startup/Shutdown
6/26/2021 11:00	6/26/2021 13:00	2	H2S	Plant 1 Flare	А	Startup/Shutdown
6/27/2021 19:00	6/28/2021 0:00	5	H2S	Plant 1 Flare	А	Startup/Shutdown
10/8/2021 15:00	10/8/2021 21:00	6	H2S	Plant 1 Flare	А	Startup/Shutdown
12/8/2021 17:00	12/9/2021 13:00	20	H2S	Plant 1 Flare	А	Startup/Shutdown
12/8/2021 18:00	12/10/2021 7:00	37	SO2	Plant 1 Flare	А	Startup/Shutdown
12/17/2021 11:00	12/17/2021 13:00	2	H2S	Plant 1 Flare	F	Malfunction
12/17/2021 18:00	12/18/2021 2:00	8	H2S	Plant 1 Flare	F	Malfunction
6/14/2021 13:00	6/14/2021 14:00	1	H2S	Plant 1 Fuel Gas H2S Content	Α	Startup/Shutdown
6/17/2021 20:00	6/18/2021 3:00	7	H2S	Plant 1 Fuel Gas H2S Content	Α	Startup/Shutdown
6/19/2021 3:00	6/19/2021 18:00	15	H2S	Plant 1 Fuel Gas H2S Content	A	Startup/Shutdown
3/22/21 7:00 AM	3/22/21 7:00 PM	12	со	Plant 2 FCCU	А	Startup/Shutdown
3/22/21 11:54 AM	3/22/21 12:18 PM	0.4	Opacity	Plant 2 FCCU	А	Startup/Shutdown
3/25/2021 8:00	3/25/2021 19:00	11	со	Plant 2 FCCU	А	Startup/Shutdown
4/13/2021 7:00	4/13/2021 18:00	11	со	Plant 2 FCCU	А	Startup/Shutdown
4/30/2021 12:00	4/30/2021 13:00	1	со	Plant 2 FCCU	В	Control Equipment Problems

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4/13/2021 14:00	4/13/2021 14:06	0.1	Opacity	Plant 2 FCCU	А	Startup/Shutdown
11/2/2021 10:24	11/18/2021 15:30	21	Opacity	Plant 2 FCCU	А	Startup/Shutdown
11/2/2021 11:00	11/2/2021 22:00	11	со	Plant 2 FCCU	А	Startup/Shutdown
11/3/2021 7:00	11/3/2021 10:00	3	со	Plant 2 FCCU	А	Startup/Shutdown
11/16/2021 22:00	11/17/2021 6:00	8	со	Plant 2 FCCU	А	Startup/Shutdown
11/17/2021 14:00	11/17/2021 17:00	3	со	Plant 2 FCCU	А	Startup/Shutdown
11/18/2021 11:00	11/18/2021 16:00	5	со	Plant 2 FCCU	А	Startup/Shutdown
3/19/21 5:00 AM	3/19/21 6:00 AM	1	H2S	Plant 2 Flare	F	Malfunction
3/19/21 7:00 AM	3/19/21 12:00 PM	5	H2S	Plant 2 Flare	F	Malfunction
4/13/2021 22:00	4/13/2021 23:00	1	H2S	Plant 2 Flare	А	Startup/Shutdown
6/9/2021 8:00	6/9/2021 10:00	2	H2S	Plant 2 Flare	В	Control Equipment Problems
11/2/2021 23:00	11/3/2021 9:00		H2S	Plant 2 Flare	A	Startup/Shutdown
11/18/2021 9:00	11/18/2021 12:00		H2S	Plant 2 Flare	A	Startup/Shutdown
11/16/2021 9.00	11/18/2021 12:00	3	H23	Flatit 2 Flate	A	Startup/Silutuowii
11/19/2021 7:00	11/19/2021 10:00	3	H2S	Plant 2 Fuel Gas H2S Content	А	Startup/Shutdown
11/19/2021 6:00	11/19/2021 15:00	9	H2S	Plant 2 Flare	А	Startup/Shutdown
5/19/2021 9:00	5/19/2021 11:00	2	SO2	Plant 2 SRU	С	Process Problems
7/8/2021	7/8/2021 16:00	10:00	hydrogen sulfide, H2S	Plant 1 Fuel Gas		
7/29/2021 8:00	7/29/2021 12:00	4:00	Monitor/ Analyzer Downtime	Plant 1 Fuel Gas		
7/1/2021 7:00	7/1/2021 9:00	2:00	hydrogen sulfide, H2S	Plant 1 Flare (F1)		
7/8/2021 7:00	7/8/2021 18:00		hydrogen sulfide, H2S	Plant 1 Flare (F1)		
7/27/2021 9:00	7/27/2021 14:00		hydrogen sulfide, H2S	Plant 1 Flare (F1)		
8/23/2021 15:00	8/23/2021 21:00		hydrogen sulfide, H2S	Plant 1 Flare (F1)		

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		16 19 11		
1-1	4-4	sulfur dioxide,		
7/8/2021 7:00	7/9/2021 7:00	24:00 SO2	Plant 1 Flare (F1)	
		sulfur dioxide,		
7/9/2021 7:00	7/9/2021 15:00	8:00 SO2	Plant 1 Flare (F1)	
		sulfur dioxide,		
8/23/2021 17:00	8/24/2021 14:00	21:00 SO2	Plant 1 Flare (F1)	
		Monitor/		
		<mark>Analyzer</mark>		
9/21/2021 9:00	9/21/2021 10:00	1:00 Downtime	Plant 1 Flare (F1)	
		Monitor/		
		Analyzer		
9/21/2021 9:00	9/21/2021 10:00	1:00 Downtime	Plant 1 Flare (F1)	
-, ,			,	
		sulfur dioxide,	Plant 1 TGU	
7/1/2021 20:00	7/1/2021 23:00	3:00 SO2		
7/1/2021 20.00	7/1/2021 23.00	3.00 302	Incinerator (H-25)	
		sulfur dioxide,		
7/8/2021 4:00	7/8/2021 5:00	1:00 SO2	Incinerator (H-25)	
		sulfur dioxide,	Plant 1 TGU	
7/8/2021 9:00	7/8/2021 10:00	1:00 SO2	Incinerator (H-25)	
		sulfur dioxide,	Plant 1 TGU	
7/15/2021 22:00	7/16/2021 10:00	12:00 SO2	Incinerator (H-25)	
7,13,2021 22.00	,,10,2021 10.00	12.00 302	memerator (H-23)	
		مالورية والمناط	Diant 1 TCU	
7/46/2024 42 22	7/46/2024 45 22	sulfur dioxide,		
7/16/2021 13:00	7/16/2021 15:00	2:00 SO2	Incinerator (H-25)	
		sulfur dioxide,	Plant 1 TGU	
7/16/2021 23:00	7/17/2021 5:00	6:00 SO2	Incinerator (H-25)	
		sulfur dioxide,	Plant 1 TGU	
7/20/2021 9:00	7/20/2021 10:00	1:00 SO2	Incinerator (H-25)	
7,20,2021 3.00	,,20,2021 10.00	1.00 002	memerator (11 25)	

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8/23/2021 3:00	8/23/2021 4:00	sulfur dioxide, 1:00 SO2	Plant 1 TGU Incinerator (H-25)	
2, 2, 2	2, 2, 2			
		sulfur dioxide,	Plant 1 TGU	
9/25/2021 20:00	9/25/2021 21:00	1:00 SO2	Incinerator (H-25)	
7/1/2021 20:00	7/2/2021 10:00	sulfur dioxide,	Plant 1 TGU	
7/1/2021 20:00	7/2/2021 10:00	14:00 SO2	Incinerator (H-25)	
		16 11 11	DI 14 TOU	
7/8/2021 4:00	7/9/2021 4:00	sulfur dioxide, 24:00 SO2	Plant 1 TGU Incinerator (H-25)	
		sulfur dioxide,	Plant 1 TGU	
7/9/2021 4:00	7/9/2021 12:00	8:00 SO2	Incinerator (H-25)	
7/9/2021 13:00	7/10/2021 2:00	sulfur dioxide, 13:00 SO2	Plant 1 TGU Incinerator (H-25)	
		sulfur dioxide,	Plant 1 TGU	
7/14/2021 12:00	7/15/2021 2:00	14:00 SO2	Incinerator (H-25)	
7/15/2021 12:00	7/16/2021 12:00	sulfur dioxide, 24:00 SO2	Plant 1 TGU Incinerator (H-25)	
7,13,2021 12.00	7,10,2021 12.00	27.00 002	memerator (11 23)	
		sulfur dioxide,	Plant 1 TGU	
7/16/2021 12:00	7/17/2021 12:00	24:00 SO2	Incinerator (H-25)	
7/2-/22		sulfur dioxide,	Plant 1 TGU	
7/17/2021 12:00	7/17/2021 15:00	3:00 SO2	Incinerator (H-25)	

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9/25/2021 20:00	9/26/2021 8:00	12:00	sulfur dioxide,	Plant 1 TGU Incinerator (H-25)		
9/23/2021 20:00	9/20/2021 8.00	12.00	302	incinerator (H-23)		
			sulfur dioxide,	Plant 1 TGU		
9/25/2021 22:00	9/26/2021 0:00	2:00		Incinerator (H-25)		
			Monitor/			
			Analyzer	Plant 1 TGU		
7/3/2021 7:00	7/4/2021 7:00	24:00	Downtime	Incinerator (H-25)		
			Monitor/			
7/2/2021 7:00	7/4/2024 7:00		Analyzer	Plant 1 TGU		
7/3/2021 7:00	7/4/2021 7:00	24:00	Downtime	Incinerator (H-25)		
			Monitor/ Analyzer	Plant 1 TGU		
7/4/2021 7:00	7/4/2021 10:00		Downtime	Incinerator (H-25)		
			Monitor/			
			Analyzer	Plant 1 TGU		
7/4/2021 7:00	7/4/2021 10:00	3:00	Downtime	Incinerator (H-25)		
			Monitor/			
7/5/2024 44 00	7/5/2024 42 00		Analyzer	Plant 1 TGU		
7/5/2021 11:00	7/5/2021 12:00	1:00	Downtime	Incinerator (H-25)		
			Monitor/ Analyzer	Plant 1 TGU		
7/5/2021 11:00	7/5/2021 12:00		Downtime	Incinerator (H-25)		
, ,				, ,		
			Monitor/			
			Analyzer	Plant 1 TGU		
7/10/2021 7:00	7/11/2021 7:00		Downtime	Incinerator (H-25)		
			Monitor/			
	= 14 4 15 55 5 5		Analyzer	Plant 1 TGU		
7/10/2021 7:00	7/11/2021 7:00	24:00	Downtime	Incinerator (H-25)		

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			Monitor/			
			Analyzer	Plant 1 TGU		
7/11/2021 7:00	7/11/2021 9:00	2:00	Downtime	Incinerator (H-25)		
			Monitor/	DI 14 TOU		
7/44/2024 7:00	7/11/2021 0:00	2.00	Analyzer	Plant 1 TGU		
7/11/2021 7:00	7/11/2021 9:00	2:00	Downtime	Incinerator (H-25)		
			Monitor/			
			Analyzer	Plant 1 TGU		
7/12/2021 8:00	7/12/2021 9:00	1:00	Downtime	Incinerator (H-25)		
			Monitor/	DI 14 700		
7/42/2024 0.00	7/42/2024 0 00	4.00	Analyzer	Plant 1 TGU		
7/12/2021 8:00	7/12/2021 9:00	1:00	Downtime	Incinerator (H-25)		
			Monitor/			
			Analyzer	Plant 1 TGU		
7/14/2021 7:00	7/14/2021 8:00	1:00	Downtime	Incinerator (H-25)		
, ,	, ,			, ,		
			Monitor/			
			Analyzer	Plant 1 TGU		
8/3/2021 9:00	8/3/2021 11:00	2:00	Downtime	Incinerator (H-25)		
			Monitor/			
			Analyzer	Plant 1 TGU		
8/3/2021 9:00	8/3/2021 11:00	2:00	Downtime	Incinerator (H-25)		
3,3,2322333	5/5/======					
			Monitor/			
			Analyzer	Plant 1 TGU		
8/26/2021 4:00	8/26/2021 9:00	5:00	Downtime	Incinerator (H-25)		
			Monitor/			
			Analyzer	Plant 1 TGU		
8/31/2021 10:00	8/31/2021 11:00	1.00	Downtime	Incinerator (H-25)		
5/31/2021 10.00	0/31/2021 11.00	1.00	DOWNTHINE	memerator (H-23)		
			Monitor/			
			Analyzer	Plant 1 TGU		
8/31/2021 10:00	8/31/2021 11:00	1:00	Downtime	Incinerator (H-25)		
			l .			
7/4/2024 2 22	7/4/2024 4 4 22	4400	carbon	Plant 1 FCCU		
7/1/2021 0:00	7/1/2021 14:00	14:00	monoxide, CO	(P103)	l	

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	6.45.	carbon	Plant 1 FCCU	
7/1/2021 16:00	7/2/2021 2:00	10:00 monoxide, CO	(P103)	
		carbon	Plant 1 FCCU	
7/2/2021 13:00	7/2/2021 14:00	1:00 monoxide, CO	(P103)	
77272021 13:00	77272021 14.00	1.00 1110110X104C, CO	(1 103)	+ + +
		carbon	Plant 1 FCCU	
7/2/2021 17:00	7/2/2021 18:00	1:00 monoxide, CO	(P103)	
		carbon	Plant 1 FCCU	
7/3/2021 4:00	7/3/2021 10:00	6:00 monoxide, CO	(P103)	
- /o /o o o o o	= /2 /2 22 4 2 2 2	carbon	Plant 1 FCCU	
7/3/2021 15:00	7/3/2021 18:00	3:00 monoxide, CO	(P103)	+ + +
		carbon	Plant 1 FCCU	
7/4/2021 0:00	7/4/2021 8:00	8:00 monoxide, CO	(P103)	
7/4/2021 0.00	7/4/2021 8.00	8.00 Horioxide, CO	(F103)	
		carbon	Plant 1 FCCU	
7/12/2021 12:00	7/13/2021 12:00	24:00 monoxide, CO	(P103)	
., ==, =========	.,,	carbon	()	
7/17/2021 15:00:00 PM	7/17/2021 16:00:00	1:00 monoxide, CO	Plant 2 SRU	
		Monitor/		
		<u>Analyzer</u>	Plant 1 FCCU	
9/7/2021 10:00	9/7/2021 11:00	1:00 Downtime	(P103)	
		Monitor/		
		<mark>Analyzer </mark>	Plant 1 FCCU	
9/7/2021 10:00	9/7/2021 11:00	1:00 Downtime	(P103)	
		Monitor/	DI 14 50011	
0/7/2024 40:00	0/7/2024 44.00	Analyzer	Plant 1 FCCU	
9/7/2021 10:00	9/7/2021 11:00	1:00 Downtime	(P103)	
			Plant 1 FCCU	
7/1/2021 7:24	7/1/2021 7:30	0:06 opacity	(P103)	
7/1/2021 7:24	7/1/2021 7.50	0.00 opacity	(1 103)	+ + +
			Plant 1 FCCU	
7/2/2021 3:54	7/2/2021 4:00	0:06 opacity	(P103)	
		, ,		
			Plant 1 FCCU	
7/3/2021 0:00	7/3/2021 0:06	0:06 opacity	(P103)	
			Plant 1 FCCU	
7/12/2021 11:30	7/12/2021 11:48	0:18 opacity	(P103)	
			Diame 4 50011	
7/42/2024 40 22	7/12/2024 40 22	0.20	Plant 1 FCCU	
7/13/2021 10:00	7/13/2021 10:30	0:30 opacity	(P103)	+ +
			Plant 1 FCCU	
7/1/2021 9:16	7/1/2021 9:19	0:03 opacity	(P103)	
,,1,2021 3.10	,, 1,2021 3.13	Monitor	(. 200)	+ +
		Downtime	Plant 1 FCCU	
7/7/2021 7:26	7/7/2021 10:02	2:36 (opacity)	(P103)	
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			wntime	Plant 1 FCCU		
7/14/2021 (.24	7/14/2021 0:01					
7/14/2021 6:34	7/14/2021 9:01	2:27 (op	onitor	(P103)		
			wntime	Plant 1 FCCU		
7/20/2021 14:00	7/20/2021 14:02					
7/30/2021 14:00	7/30/2021 14:02	0:02 (op	onitor	(P103)		
			wntime	Plant 1 FCCU		
0/21/2021 16:57	0/21/2021 16:50					
9/21/2021 16:57	9/21/2021 16:58	0:01 (op	onitor	(P103)	+ +	
			wntime	Plant 1 FCCU		
9/19/2021 10:22	0/10/2021 10:22	0:01 <mark>(op</mark>		(P103)		
9/19/2021 10.22	9/19/2021 10:23		onitor	(F103)	+ +	
			wntime	Plant 1 FCCU		
9/28/2001 12:51	9/28/2001 14:52	2:01 (op		(P103)		
9/20/2001 12.31	9/20/2001 14.32		onitor/	(F103)		
			alyzer			
8/24/2021 13:00	8/25/2021 11:00	22:00 Do	*	Plant 1 B-6		
8/24/2021 13.00	8/23/2021 11.00		onitor/	Fiant 1 b-0		
			alyzer			
8/9/2021 13:00	8/9/2021 16:00	3:00 Do	•	Plant 1 B-8		
8/3/2021 13.00	8/9/2021 10.00		onitor/	Flailt 1 D-0		
			alyzer			
8/9/2021 13:00	8/9/2021 16:00	3:00 Do	•	Plant 1 B-8		
0/9/2021 13.00	8/9/2021 10.00	3.00 00	wittille	Pidill 1 D-0	+ +	
				Plant 1 FCCU		
7/12/2021 11:30	7/12/2021 11:48	0:18 opa	acity	(P103)		
7/12/2021 11.30	7/12/2021 11.40		onitor	(1 103)	+	
			wntime	Plant 1 FCCU		
7/7/2021 7:26	7/7/2021 10:02	2:36 (op		(P103)		
7/7/20217.20	77772021 10.02		onitor	(1 200)	+	
			wntime	Plant 1 FCCU		
7/14/2021 6:34	7/14/2021 9:01	2:27 (op		(P103)		
7711720210101	7721720223102		onitor	(1 200)	1	
			wntime	Plant 1 FCCU		
7/30/2021 14:00	7/30/2021 14:02	0:02 (op		(P103)		
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			wntime	Plant 1 FCCU		
9/21/2021 16:57	9/21/2021 16:58	0:01 (op		(P103)		
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			wntime	Plant 1 FCCU		
9/19/2021 10:22	9/19/2021 10:23	0:01 (op		(P103)		
5, 25, 2521 10.22	2, 20, 2022 20.20		onitor	·/		
			wntime	Plant 1 FCCU		
9/28/2001 12:51	9/28/2001 14:52	2:01 (op		(P103)		
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7/7/2021 7:26				Downtimo	Dlant 1 ECCII	
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7/14/2021 6:34	////2021 /:26	7/7/2021 10:02	2:36		(P103)	
7/14/2021 6:34					Diamet 4 FCCU	
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Monitor/	_					
	8/27/2021 11:00	8/27/2021 13:00	2:00		Plant 1 H-1716	
				,		
				Analyzer		
9/10/2021 5:00 9/10/2021 17:00 12:00 Downtime Plant 1 H-1716	9/10/2021 5:00	9/10/2021 17:00	12:00	Downtime	Plant 1 H-1716	
hydrogen				l		
8/17/2021 11:00 8/18/2021 11:00 24:00 sulfide, H2S Plant 2 Fuel Gas	8/17/2021 11:00	8/18/2021 11:00	24:00		Plant 2 Fuel Gas	
Ihvdrogen		T		hydrogen		
	8/17/2021 11:00	8/17/2021 20:00	9:00	sulfide, H2S	Plant 2 Flare	

I Inudragan I	
hydrogen	
8/18/2021 13:00 8/18/2021 21:00 8:00 sulfide, H2S Plant 2 Flare	
hydrogen	
9/10/2021 21:00 9/11/2021 3:00 6:00 sulfide, H2S Plant 2 Flare	
hydrogen	
9/15/2021 6:00 9/15/2021 11:00 5:00 sulfide, H2S Plant 2 Flare	
hydrogen	
9/15/2021 19:00 9/15/2021 22:00 3:00 sulfide, H2S Plant 2 Flare	
hydrogen	
9/18/2021 21:00 9/19/2021 0:00 3:00 sulfide, H2S Plant 2 Flare	
Monitor/	
Analyzer	
7/16/2021 15:00	
Monitor/	
Analyzer	
7/17/2021 1:00 7/17/2021 5:00 4:00 Downtime Plant 2 Flare	
Monitor/	
Analyzer	
7/22/2021 22:00 7/23/2021 3:00 5:00 Downtime Plant 2 Flare	
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Analyzer	
8/23/2021 14:00 8/23/2021 16:00 2:00 Downtime Plant 2 Flare	
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8/30/2021 13:00	
Monitor/	
<u>Analyzer</u>	
7/12/2021 11:00 7/12/2021 12:00 1:00 <mark>Downtime </mark> Plant 2 SRU	
Monitor/	
<u>Analyzer</u>	
7/17/2021 15:00	
carbon	
8/26/2021 22:00	
carbon	
8/27/2021 4:00 8/27/2021 6:00 2:00 monoxide, CO Plant 2 FCCU	
carbon	
8/28/2021 19:00 8/28/2021 22:00 3:00 monoxide, CO Plant 2 FCCU	
carbon	
8/29/2021 2:00 8/29/2021 8:00 6:00 monoxide, CO Plant 2 FCCU	
6/29/2021 2:00 8/29/2021 8:00 6:00 Inidioxide, CO Plant 2 PCCO	
9/10/2021 10:00 9/10/2021 20:00 10:00 monoxide, CO Plant 2 FCCU Monitor/	
Analyzer	
8/26/2021 14:00 8/26/2021 16:00 2:00 Downtime Plant 2 FCCU	
Monitor/	
Analyzer Analyzer	
9/8/2021 22:00 9/9/2021 0:00 2:00 Downtime Plant 2 FCCU	

8/18/2021 17:54	8/18/2021 18:00	0:06	opacity	Plant 2 FCCU		
8/26/2021 14:00	8/26/2021 14:30	0:30	opacity	Plant 2 FCCU		
8/27/2021 1:18	8/27/2021 1:54	0:36	opacity	Plant 2 FCCU		
8/28/2021 8:36			opacity	Plant 2 FCCU		
9/5/2021 8:06	9/5/2021 8:18		opacity	Plant 2 FCCU		
9/10/2021 0:06	9/10/2021 0:12	0:06	opacity Monitor	Plant 2 FCCU		
8/25/2021 8:15	8/25/2021 10:09	1.54	Downtime (opacity)	Plant 2 FCCU		
0,23,2022 0.13	0, 20, 2021 20:03	2.5	Monitor Downtime	Plant 1 FCCU		
9/21/2021 16:57	9/21/2021 16:58	0:01	(opacity)	(P103)		
			Monitor Downtime	Plant 1 FCCU		
9/19/2021 10:22	9/19/2021 10:23	0:01	(opacity) Monitor	(P103)		
9/28/2001 12:51	9/28/2001 14:52	2:01	Downtime (opacity)	Plant 1 FCCU (P103)		
3/28/2001 12.31	3/20/2001 14.32	2.01	Monitor/	(1 103)		
8/24/2021 13:00	8/25/2021 11:00	22:00	Analyzer Downtime	Plant 1 B-6		
			Monitor/ Analyzer			
8/9/2021 13:00	8/9/2021 16:00	3:00	Downtime	Plant 1 B-8		
			Monitor/ Analyzer			
7/12/2021 11:00	7/12/2021 12:00	1:00	Downtime	Plant 2 SRU	<u> </u>	
2022					_	
Start Date & Time	End Date & Time	Hours	Pollutants	Unit(s)	Code	Cause
2/24/2022 7:00	2/24/2022 11:00	4	H2S	Plant 1 Flare	А	Startup/Shutdown
2/25/2022 10:00	2/26/2022 4:00	18	H2S	Plant 1 Flare	F	Malfunction
2/26/2022 5:00	2/26/2022 22:00	17	H2S	Plant 1 Flare	F	Malfunction
2/27/2022 12:00	2/27/2022 15:00	3	H2S	Plant 1 Flare	F	Malfunction
2/28/2022 10:00	2/28/2022 13:00	3	H2S	Plant 1 Flare	А	Startup/Shutdown
3/12/2022 1:00	3/12/2022 4:00	3	H2S	Plant 1 Flare	А	Startup/Shutdown
3/17/2022 13:00	3/19/2022 21:00	56	H2S	Plant 1 Flare	F	Malfunction
3/22/2022 8:00	3/23/2022 16:00	32	H2S	Plant 1 Flare	А	Startup/Shutdown
3/24/2022 1:00	3/24/2022 20:00	19	H2S	Plant 1 Flare	А	Startup/Shutdown

						T
2/25/2022 15:00	2/26/2022 22:00	31	SO2	Plant 1 Flare	F	Malfunction
3/19/2022 10:00	3/20/2022 11:00	25	SO2	Plant 1 Flare	F	Malfunction
3/23/2022 6:00	3/24/2022 2:00	20	SO2	Plant 1 Flare	А	Startup/Shutdown
2/24/2022 11:00	2/26/2022 15:00	52	SO2	Plant 1 H-25	А	Startup/Shutdown
3/17/2022 1:00	3/17/2022 14:00	13	SO2	Plant 1 H-25	F	Malfunction
3/19/2022 0:00	3/20/2022 1:00	25	SO2	Plant 1 H-25	А	Startup/Shutdown
3/21/2022 23:00	3/22/2022 4:00	5	SO2	Plant 1 H-25	А	Startup/Shutdown
3/22/2022 10:00	3/23/2022 4:00	18	SO2	Plant 1 H-25	А	Startup/Shutdown
3/23/2022 13:00	3/24/2022 2:00	13	SO2	Plant 1 H-25	А	Startup/Shutdown
3/17/2022 12:00	3/17/2022 18:00	6	со	Plant 1 FCCU	F	Malfunction
3/19/2022 23:00	3/20/2022 0:00	1	со	Plant 1 FCCU	А	Startup/Shutdown
3/20/2022 5:00	3/20/2022 7:00	2	со	Plant 1 FCCU	А	Startup/Shutdown
3/21/2022 6:00	3/21/2022 9:00	3	со	Plant 1 FCCU	А	Startup/Shutdown
3/21/2022 10:00	3/21/2022 21:00	11	со	Plant 1 FCCU	А	Startup/Shutdown
3/17/2022 12:24	3/17/2022 12:30	0.1	Opacity	Plant 1 FCCU	F	Malfunction
3/19/2022 12:36	3/19/2022 12:42	0.1	Opacity	Plant 1 FCCU	А	Startup/Shutdown
3/20/2022 10:54	3/20/2022 11:00	0.1	Opacity	Plant 1 FCCU	А	Startup/Shutdown
3/29/2022 0:00 1/31/2022 12:00	3/29/2022 15:00 2/1/2022 0:00		co co	Plant 1 B-6 B-8	F C	Malfunction Process Problems
3/18/2022 0:00	3/22/2022 16:00	112		B-8	F	Malfunction
3/23/2022 20:00	3/25/2022 3:00		CO	B-8	F	Malfunction
3/28/2022 21:00	3/29/2022 17:00		CO	B-8	F	Malfunction
1/26/2022 3:00	1/26/2022 5:00		H2S	Plant 2 Fuel Gas H2S Content	F	Malfunction
2/3/2022 2:00	2/3/2022 9:00	7	H2S	Plant 2 Fuel Gas H2S Content	F	Malfunction
1/25/2022 22:00	1/26/2022 0:00	2	H2S	Plant 2 Flare	F	Malfunction
1/28/2022 17:00	1/29/2022 0:00	7	H2S	Plant 2 Flare	Α	Startup/Shutdown Other Known
3/2/2022 5:00	3/2/2022 8:00	3	H2S	Plant 2 Flare	D	Problems
2/25/2022 11:00	2/25/2022 12:00	1	H2S	Plant 3 Flare	F	Malfunction

2/25/2021 15:00 2/25/2021 20:00 5 H25 Plant 3 Flare F Malfunction		T		1		1	
1/27/2022 1:00	2/25/2021 15:00	2/25/2021 20:00	5	H2S	Plant 3 Flare	F	Malfunction
1/28/2022 9:00	2/25/2022 19:00	2/26/2022 8:00	13	SO2	Plant 3 Flare	F	Malfunction
2/14/2022 12:00 2/14/2022 18:00 6 CO Plant 2 FCCU A Startup/Shutdown	1/27/2022 1:00	1/27/2022 15:00	14	со	Plant 2 FCCU	A	Startup/Shutdown
2/14/2022 12:00 2/14/2022 18:00 6 CO Plant 2 FCCU A Startup/Shutdown	1/28/2022 9:00	1/28/2022 18:00	9	СО	Plant 2 FCCU	Α	Startup/Shutdown
2/14/2022 22:00 2/15/2022 1:00 3 CO							
2/9/2022 6:54 2/9/2022 7:30 0.6 Opacity Plant 2 FCCU F Malfunction							
2/13/2022 19:42 2/13/2022 19:54 0.2 Opacity Plant 2 FCCU A Startup/Shutdown							
2/13/2022 20:00							
2/14/2022 0:00 2/14/2022 0:06 0.1 Opacity Plant 2 FCCU A Startup/Shutdown							
Total: 1st Quarter 2022 643.90 Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Plant 2 Flare Pilots Out 3/19/22 - 3/29 3/19/22 - 3/29 3/19/22 - 3/29 Plant 1 - Boiler 8 3/19/22 - 3/29 Boiler 6 3/19/22 - 3/29 Plant 1 3/19/22 - 3/29 Plant 1							-
Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Plant 3/29/2022 Air Operating Plant 2 Flare Pilots Out 3/19/22 - 3/29 3/19/22 - 3/29 Plant 1 -Boiler 8 3/19/22 - 3/29 Boiler 6 3/19/22 - 3/29 Plant 1 3/19/22 - 3/29 Plant 1 Plant 1 Plant 1					Plant 2 FCCU	Α	Startup/Snutdown
Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Unit: Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Plant 3/29/2022 2 Flare Pilots Out 3/19/22 - 3/29 3/19/22 - 3/29 Plant 1 - Boiler 8 3/19/22 - 3/29 Plant 1 Plant 1 Plant 1 Plant 1	04/02/2022				Plant 2 Fluidized Catalytic Cracking		
Plant 2 Fluidized Catalytic Cracking Unit (FCC) Air Operating Plant 2 Flare Pilots Out 3/19/22 - 3/29 3/19/22 - 3/29 Plant 1 - Boiler 8 3/19/22 - 3/29 Plant 1 3/19/22 - 3/29 Boiler 6 3/19/22 - 3/29 Plant 1 3/19/22 - 3/29 Plant 1 Plant 1 Plant 1	04/02/2022				Plant 2 Fluidized Catalytic Cracking		
3/29/2022 2 Flare Pilots Out 3/19/22 - 3/29 2 Plant 1 -Boiler 8 3/19/22 - 3/29 Plant 1 3/19/22 - 3/29 Boiler 6 3/19/22 - 3/29 Plant 1 3/19/22 - 3/29 Plant 1 3/19/22 - 3/29 Plant 1	04/02/2022				Plant 2 Fluidized Catalytic Cracking		
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3/19/22 - 3/29 Boiler 6 3/19/22 - 3/29 Plant 1 3/19/22 - 3/29 Plant 1					Plant 1 -Boiler 8		
3/19/22 - 3/29 Plant 1 Plant 1 Plant 1							
3/19/22 - 3/29 Plant 1							
	3/19/22 - 3/29				Flare		+
3/19/22 - 3/29 Plant 1 - Flare							
Plant 1 Operating	2, 2, 2 2, 20						
3/19/22 - 3/29 units					units		
3/17/2022 Plant 1 - Flare	3/17/2022				Plant 1 - Flare	_	
Electrical Substation Arc Flash and Power					Arc Flash and Power Failure - Multiple		
	3/17/2022				Units		

3/12/2022		No. 4 Hydrodesulfurizatio n (#4 HDS) Unit	
3/2/2022		Plant 2 Unsaturated Gas Unit	

Start Date & Time	Attachment A: Suncor End Date & Time	Emission Exceedance Hours Pollutants	•	Code	Cause
1/3/2020 20:00	3/17/2020 18:24	4 Opacity	Plant 2 FCCU	A	Startup/Shutd own
1/4/2020 9:00	1/7/2020 19:00	18 CO	Plant 2 FCCU	Α	Startup/Shutd own
1/9/2020 11:00	1/9/2020 12:00	1 CO	Plant 1 FCCU	С	Process Problems
1/16/2020 17:00	1/17/2020 17:00	24 SO2	Plant 1 H-25	F	Malfunction
3/2/2020 11:00	3/2/2020 14:00	3 H2S	Plant 3 Flare	D	Other Known Problems
3/17/2020 17:30	3/17/2020 18:12	0.7 Opacity	Plant 2 FCCU	Α	Startup/Shutd own
3/17/2020 19:00	3/18/2020 5:00	10 H2S	Plant 2 Flare	Α	Startup/Shutd own
4/7/2020 19:00	4/8/2020 7:00	12 CO	Plant 1 FCCU	С	Process Problems Process
4/8/2020 10:00	4/8/2020 13:00	3 H2S	Plant 1 Flare	С	Problems Startup/Shutd
4/29/2020 21:00	4/30/2020 16:00	19 H2S	Plant 1 Flare	А	own Startup/Shutd
4/30/2020 8:00	5/1/2020 1:00	17 SO2	Plant 1 Flare	Α	own Process
5/5/2020 7:00	5/5/2020 8:00	1 H2S	Plant 1 Flare	С	Problems Startup/Shutd
5/17/2020 8:48	5/22/2020 11:42	27.9 Opacity	Plant 1 FCCU	Α	own Startup/Shutd
5/17/2020 9:00	5/19/2020 12:00	51 CO	Plant 1 FCCU	Α	own Startup/Shutd
5/17/2020 9:00	5/17/2020 10:00	1 SO2	Plant 1 H-25	Α	own Startup/Shutd
5/17/2020 9:00	5/18/2020 9:00	24 SO2	Plant 3 Flare	Α	own Startup/Shutd
5/17/2020 10:00	5/19/2020 12:00	50 SO2	Plant 1 Flare	Α	own
5/17/2020 10:00	5/24/2020 10:00	168 SO2	Plant 1 H-25	Α	Startup/Shutd own
5/17/2020 10:00	5/17/2020 16:00	6 H2S	Plant 3 Flare	Α	Startup/Shutd own
5/17/2020 12:00	5/19/2020 21:00	57 H2S	Plant 1 Flare	Α	Startup/Shutd own
5/18/2020 0:00	5/26/2020 0:00	192 Nox	Plant 1 FCCU	Α	Startup/Shutd own
5/18/2020 22:00	5/19/2020 1:00	3 H2S	Plant 1 Fuel Gas	Α	Startup/Shutd own
5/20/2020 1:00	5/20/2020 18:00	17 H2S	Plant 1 Flare	Α	Startup/Shutd own
5/20/2020 21:00	5/22/2020 6:00	33 H2S	Plant 1 Fuel Gas	А	Startup/Shutd own
5/21/2020 2:00	5/21/2020 7:00	5 CO	Plant 1 FCCU	Α	Startup/Shutd own
5/21/2020 11:00	5/21/2020 12:00	1 CO	Plant 1 FCCU	Α	Startup/Shutd own
5/21/2020 14:00	5/21/2020 15:00	1 CO	Plant 1 FCCU	Α	Startup/Shutd own
5/22/2020 2:00	5/22/2020 6:00	4 H2S	Plant 1 Flare	Α	Startup/Shutd own

	5/22/2020 6:00	5/22/2020 7:00	1 CO	Plant 1 FCCU	Startup/Shutd A own	
	5/22/2020 8:00	5/22/2020 9:00	1 H2S	Plant 1 Flare	Startup/Shutd A own	
	5/22/2020 14:00	5/23/2020 3:00	13 SO2	Plant 1 Flare	Startup/Shutd A own	
	5/22/2020 15:00	5/23/2020 1:00	10 H2S		Startup/Shutd A own	
					Startup/Shutd	
	5/22/2020 16:00	5/23/2020 1:00	9 H2S	Plant 1 Fuel Gas	Startup/Shutd	
	5/28/2020 21:00	5/29/2020 9:00	12 SO2	Plant 1 H-25	A own Startup/Shutd	
	6/7/2020 8:00	6/7/2020 19:00	11 SO2	Plant 1 H-25	A own Startup/Shutd	
	6/8/2020 14:00	6/9/2020 2:00	12 SO2	Plant 1 H-25	A own Process	
	6/11/2020 19:00	6/12/2020 7:00	12 SO2	Plant 1 H-25	C Problems Startup/Shutd	
	6/18/2020 19:00	6/21/2020 0:00	53 SO2	Plant 1 H-25	A own	
	8/1/2020 11:00	8/1/2020 19:00	8 H2S	Plant 2 Fuel Gas	Startup/Shutd A own	
					Other Known	
	8/13/2020 13:00	8/13/2020 17:00	4 CO	Plant 1 FCCU	D Problems	
	8/13/2020 13:00	8/13/2020 13:30	0.5 Opacity	Plant 1 FCCU	Other Known D Problems	
	5, -5, -5-5	5, 25, 2525 25.55			Other Known	
	8/13/2020 15:00	8/13/2020 16:00	1 H2S	Plant 1 Fuel Gas	D Problems	
	8/13/2020 15:06	8/13/2020 15:12	0.1 Opacity	Plant 1 FCCU	Startup/Shutd A own	
					Other Known	
	8/13/2020 16:00	8/13/2020 17:00	1 H2S	Plant 1 Flare	D Problems	
	8/14/2020 3:00	8/14/2020 6:00	3 CO	Plant 1 FCCU	Startup/Shutd A own	
	8/17/2020 1:18	8/17/2020 2:24	1.1 Opacity	Plant 2 FCCU	Startup/Shutd A own	
	8/25/2020 16:00	8/25/2020 17:00	1 CO	Plant 2 FCCU	Startup/Shutd A own	
	8/26/2020 15:54	8/26/2020 23:54	0.8 Opacity	Plant 2 FCCU	Startup/Shutd A own	
	8/26/2020 20:00	8/27/2020 6:00	10 CO	Plant 2 FCCU	Startup/Shutd A own	
	8/27/2020 18:00	8/27/2020 20:00	2 H2S	Plant 2 Fuel Gas	Startup/Shutd	
					Startup/Shutd	
	8/28/2020 9:00	8/28/2020 11:00	2 H2S	Plant 2 Fuel Gas	Startup/Shutd	
	8/29/2020 2:00	8/29/2020 20:00	18 H2S	Plant 2 Fuel Gas	A own Process	
	9/25/2020 20:00	9/25/2020 22:00	2 H2S	Plant 3 Flare	C Problems Startup/Shutd	
1	10/19/2020 17:00	10/19/2020 20:00	3 SO2	Plant 1 H-25	A own Startup/Shutd	
1	10/21/2020 16:00	10/21/2020 17:00	1 CO	Plant 1 FCCU	A own Startup/Shutd	
1	10/21/2020 16:00	11/20/2020 3:06	8.8 Opacity	Plant 1 FCCU	A own	
1	10/21/2020 16:00	10/21/2020 17:00	1 SO2	Plant 1 H-25	Startup/Shutd A own	
					Other Known	
1	10/21/2020 17:00	10/22/2020 17:00	24 SO2	Plant 1 Flare	D Problems	
1	10/21/2020 18:00	10/22/2020 14:00	20 SO2	Plant 1 H-25	Startup/Shutd A own	

					Other Known
10/21/2020 19:00	10/22/2020 12:00	17 H2S	Plant 1 Flare	D	Problems Process
10/26/2020 5:00	10/26/2020 14:00	9 CO	Plant 1 B-6	С	Problems Startup/Shutd
10/26/2020 16:00	11/4/2020 2:00	202 SO2	Plant 1 H-25	Α	own Startup/Shutd
11/1/2020 8:00	11/1/2020 10:00	2 SO2	Plant 1 H-25	Α	own Startup/Shutd
11/1/2020 15:00	11/1/2020 16:00	1 SO2	Plant 1 H-25	Α	own Startup/Shutd
11/1/2020 23:00	11/2/2020 0:00	1 SO2	Plant 1 H-25	Α	own Startup/Shutd
11/3/2020 10:00	11/3/2020 15:00	5 SO2	Plant 1 H-25	Α	own
11/4/2020 20:36	11/4/2020 20:42	0.1 Opacity	Plant 2 FCCU	F	Malfunction Startup/Shutd
11/5/2020 0:00	11/6/2020 11:00	35 H2S	Plant 2 Flare	Α	own Startup/Shutd
11/5/2020 7:00	11/5/2020 17:00	10 SO2	Plant 1 H-25	Α	own Startup/Shutd
11/5/2020 15:36	11/5/2020 16:06	0.5 Opacity	Plant 2 FCCU	Α	own Startup/Shutd
11/5/2020 19:00	11/5/2020 20:00	1 CO	Plant 2 FCCU	Α	own Startup/Shutd
11/6/2020 10:00	11/7/2020 18:00	32 CO	Plant 2 FCCU	Α	own Startup/Shutd
11/6/2020 15:00	11/6/2020 21:00	6 H2S	Plant 2 Flare	Α	own Startup/Shutd
11/7/2020 5:00	11/7/2020 12:00	7 H2S	Plant 1 Flare	Α	own Startup/Shutd
11/7/2020 15:00	11/7/2020 17:00	2 H2S	Plant 2 Flare	Α	own Startup/Shutd
11/7/2020 23:00	11/8/2020 16:00	17 CO	Plant 1 FCCU	Α	own Startup/Shutd
11/8/2020 18:00	11/9/2020 12:00	18 CO	Plant 1 FCCU	Α	own Startup/Shutd
11/9/2020 18:00	11/9/2020 19:00	1 CO	Plant 1 FCCU	Α	own Startup/Shutd
11/9/2020 20:00	11/9/2020 22:00	2 H2S	Plant 1 Flare	Α	own Startup/Shutd
11/9/2020 22:00	11/10/2020 6:00	8 CO	Plant 1 FCCU	Α	own Startup/Shutd
11/10/2020 8:00	11/10/2020 9:00	1 H2S	Plant 1 Flare	Α	own Startup/Shutd
11/10/2020 10:00	11/10/2020 13:00	3 SO2	Plant 1 H-25	Α	own Startup/Shutd
11/10/2020 11:00	11/11/2020 0:00	13 SO2	Plant 1 H-25	Α	own Startup/Shutd
11/12/2020 2:00	11/12/2020 3:00	1 CO	Plant 1 FCCU	Α	own Startup/Shutd
11/12/2020 6:00	11/12/2020 12:00	6 CO	Plant 1 FCCU	Α	own Process
11/13/2020 2:00	11/13/2020 3:00	1 H2S	Plant 1 Flare	С	Problems Startup/Shutd
11/19/2020 14:00	11/20/2020 4:00	14 CO	Plant 1 FCCU	Α	own Startup/Shutd
11/20/2020 12:00	11/20/2020 13:00	1 H2S	Plant 1 Flare	Α	own Process
11/21/2020 15:00	11/21/2020 17:00	2 H2S	Plant 2 Flare	С	Problems Process
11/26/2020 10:00	11/26/2020 12:00	2 H2S	Plant 2 Fuel Ga	! C	Problems Startup/Shutd
11/30/2020 9:00	11/30/2020 20:00	11 CO	Plant 2 FCCU	Α	own Process
12/10/2020 14:48	12/10/2020 14:54	0.1 Opacity	Plant 2 FCCU	С	Problems

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12/17/2020 21:00	12/18/2020 17:00	20 H2S	Plant 1 Flare	Α	own Startup/Shutd
12/18/2020 3:00	12/19/2020 5:00	26 SO2	Plant 1 Flare	Α	own
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					Other Known
1/26/2021 19:00	1/27/2021 19:00	24 SO2	Plant 1 Flare	D	Problems
					Other Known
1/26/2021 20:00	1/26/2021 22:00	2 H2S	Plant 1 Flare	D	Problems
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2/14/2021 13:00	2/15/2021 2:00	13 SO2	Plant 1 H-25	Α	own
2/45/2024 0 00	2/45/2024 2.00	2.1126	DI . 4.51		Process
2/15/2021 0:00	2/15/2021 2:00	2 H2S	Plant 1 Flare	С	Problems Startup/Shutd
2/15/2021 10:00	2/16/2021 13:00	27 SO2	Plant 1 H-25	Α	own
2/19/2021 19:56	2/19/2021 20:01		Plant 1 FCCU	F	Malfunction
2/20/2021 17:00	2/21/2021 17:00	24 SO2	Plant 1 Flare	F	Malfunction
2/20/2021 18:00	2/21/2021 1:00	7 H2S	Plant 1 Flare	F	Malfunction
2/25/2021 15:00	2/25/2021 20:00	5 H2S	Plant 3 Flare	F	Malfunction
3/15/2021 23:00	3/16/2021 10:00	11 H2S	Plant 1 Flare	F	Malfunction
3/19/2021 5:00	3/19/2021 6:00	1 H2S	Plant 2 Flare	F	Malfunction
3/19/2021 7:00	3/19/2021 12:00	5 H2S	Plant 2 Flare	F	Malfunction
					Startup/Shutd
3/22/2021 7:00	3/22/2021 19:00	12 CO	Plant 2 FCCU	Α	own
					Startup/Shutd
3/22/2021 11:54	3/22/2021 12:18	0.4 Opacity	Plant 2 FCCU	Α	own
					Startup/Shutd
3/25/2021 8:00	3/25/2021 19:00	11 CO	Plant 2 FCCU	Α	own
, ,					Startup/Shutd
3/30/2021 21:00	3/31/2021 17:00	20 H2S	Plant 1 Flare	Α	own
3, 33, 2322 22.03	3,31,232117.33	20 1120		,,	Startup/Shutd
3/31/2021 14:00	3/31/2021 20:00	6 SO2	Plant 1 Flare	Α	own
3/31/2021 14.00	3/31/2021 20.00	0 302	riant i riare	^	Startup/Shutd
4/13/2021 7:00	4/13/2021 18:00	11 CO	Plant 2 FCCU	۸	•
4/13/2021 7.00	4/15/2021 16.00	11 00	Platit 2 FCCO	Α	OWN
4/12/2021 14:00	4/12/2021 14:06	0.1 Oppositu	Dlant 2 FCCU	^	Startup/Shutd
4/13/2021 14:00	4/13/2021 14:06	0.1 Opacity	Plant 2 FCCU	Α	OWN
4/42/2024 22 00	4/42/2024 22 00	4 1126	Discus 2 Floor		Startup/Shutd
4/13/2021 22:00	4/13/2021 23:00	1 H2S	Plant 2 Flare	Α	own
	. / /		-11		Startup/Shutd
4/18/2021 12:00	4/18/2021 14:00	2 H2S	Plant 1 Flare	Α	own
					Startup/Shutd
4/19/2021 0:00	6/22/2021 0:00	1.6 Opacity	Plant 1 FCCU	Α	own
					Startup/Shutd
4/19/2021 6:00	4/19/2021 7:00	1 CO	Plant 1 FCCU	Α	own
					Startup/Shutd
4/19/2021 20:00	4/19/2021 22:00	2 H2S	Plant 1 Flare	Α	own
					Startup/Shutd
4/20/2021 9:00	4/20/2021 12:00	3 H2S	Plant 1 Flare	Α	own
					Startup/Shutd
4/20/2021 17:00	4/21/2021 7:00	14 SO2	Plant 1 H-25	Α	own
					Startup/Shutd
4/21/2021 23:00	4/22/2021 11:00	12 SO2	Plant 1 H-25	Α	own
					Startup/Shutd
4/29/2021 15:00	5/1/2021 20:00	53 SO2	Plant 1 H-25	Α	own
					Control
					Equipment
4/30/2021 12:00	4/30/2021 13:00	1 CO	Plant 2 FCCU	В	Problems
					Process
5/19/2021 9:00	5/19/2021 11:00	2 SO2	Plant 2 SRU	С	Problems
-,,	0, -0, -0				Startup/Shutd
6/7/2021 5:00	6/9/2021 7:00	50 CO	Plant 1 B-6	Α	own
5, 7, 2021 3.00	5,5,2021 7.00	30 00	1 0 0	, ,	Control
					Equipment
6/9/2021 8:00	6/9/2021 10:00	2 H2S	Plant 2 Flare	В	Problems
3, 3, 2021 0.00	5,5,2021 10.00	2 1125	3 2 1 101 0	_	Startup/Shutd
6/10/2021 22:00	6/13/2021 13:00	63 CO	Plant 1 B-6	Α	own
0, 10, 2021 22.00	5, 15, 2021 15.00	03 00	1 0 0	, ,	· · · ·

6/12/2021 0:00	6/13/2021 8:00	23 SO2	Plant 1 H-25 A	Startup/Shutd
6/12/2021 9:00	0/13/2021 8.00	23 302	Pidiit I H-25 A	own Startup/Shutd
6/13/2021 11:00	6/14/2021 20:00	33 CO	Plant 1 B-8 A	own
				Startup/Shutd
6/14/2021 6:00	6/15/2021 9:00	27 SO2	Plant 1 H-25 A	own
6/14/2021 13:00	6/14/2021 14:00	1 H2S	Plant 1 Fuel Ga: A	Startup/Shutd own
0/14/2021 13:00	0/14/2021 14.00	1 1123	Flant 1 ruel Ga: A	Startup/Shutd
6/14/2021 23:00	6/15/2021 10:00	11 CO	Plant 1 B-8 A	own
				Startup/Shutd
6/16/2021 17:00	6/18/2021 7:00	38 SO2	Plant 1 H-25 A	OWN
6/17/2021 9:00	6/18/2021 19:00	34 H2S	Plant 1 Flare A	Startup/Shutd own
0,17,2021 3.00	0, 10, 2021 13.00	311123	Traine 2 Traine 7	Startup/Shutd
6/17/2021 15:00	6/17/2021 20:00	5 SO2	Plant 1 H-25 A	own
6/47/2024 22 22	6/40/2024 2 22	7.1106	51 .45 .60 4	Startup/Shutd
6/17/2021 20:00	6/18/2021 3:00	7 H2S	Plant 1 Fuel Ga: A	own Startup/Shutd
6/19/2021 3:00	6/19/2021 18:00	15 H2S	Plant 1 Fuel Ga: A	own
0, 10, 1011 0.00	0, 20, 2022 20:00			Startup/Shutd
6/20/2021 6:00	6/20/2021 7:00	1 SO2	Plant 1 H-25 A	own
6/20/2024 40 00	6/20/2024 45 00	5 4400	51 . 4 51	Startup/Shutd
6/20/2021 10:00	6/20/2021 15:00	5 H2S	Plant 1 Flare A	own Startup/Shutd
6/21/2021 23:00	6/22/2021 18:00	19 CO	Plant 1 FCCU A	own
				Startup/Shutd
6/26/2021 11:00	6/26/2021 13:00	2 H2S	Plant 1 Flare A	own
6/27/2021 10:00	6/29/2021 0:00	E 1136	Diant 1 Flara	Startup/Shutd
6/27/2021 19:00	6/28/2021 0:00	5 H2S	Plant 1 Flare A	own Startup/Shutd
6/30/2021 8:00	7/1/2021 0:00	16 CO	Plant 1 FCCU A	own
7/1/2021 0:00	7/1/2021 14:00	14 CO	Plant 1 FCCU	
7/1/2021 16:00	7/2/2021 2:00	10 CO	Plant 1 FCCU	
7/2/2021 13:00	7/2/2021 14:00	1 CO	Plant 1 FCCU	
7/2/2021 17:00	7/2/2021 18:00	1 CO	Plant 1 FCCU	
7/3/2021 4:00	7/3/2021 10:00	6 CO	Plant 1 FCCU	
7/3/2021 15:00	7/3/2021 18:00	3 CO	Plant 1 FCCU	
7/4/2021 0:00	7/4/2021 8:00	8 CO	Plant 1 FCCU	
7/12/2021 12:00	7/13/2021 12:00	24 CO	Plant 1 FCCU	
8/26/2021 22:00	8/26/2021 23:00	1 CO	Plant 2 FCCU	
8/27/2021 4:00	8/27/2021 6:00	2 CO	Plant 2 FCCU	
8/28/2021 19:00	8/28/2021 22:00	3 CO	Plant 2 FCCU	
8/29/2021 2:00	8/29/2021 8:00	6 CO	Plant 2 FCCU	
9/10/2021 10:00	9/10/2021 20:00	10 CO	Plant 2 FCCU Plant 1 Fuel Gas H2	25 Contont
7/8/2021 6:00 7/1/2021 7:00	7/8/2021 16:00 7/1/2021 9:00	10 H2S 2 H2S	Plant 1 Flare	23 Content
7/1/2021 7:00	7/8/2021 18:00	11 H2S	Plant 1 Flare	
7/8/2021 7:00	7/3/2021 18:00	5 H2S	Plant 1 Flare	
8/23/2021 15:00	8/23/2021 21:00	6 H2S	Plant 1 Flare	
8/17/2021 11:00	8/18/2021 11:00	24 H2S	Plant 2 Fuel Gas H2	2S Content
8/18/2021 11:00	8/18/2021 20:00	9 H2S	Plant 2 Fuel Gas H2	
8/17/2021 11:00	8/17/2021 20:00	9 H2S	Plant 2 Flare	
8/18/2021 13:00	8/18/2021 21:00	8 H2S	Plant 2 Flare	
9/10/2021 21:00	9/11/2021 3:00	6 H2S	Plant 2 Flare	
9/15/2021 6:00	9/15/2021 11:00	5 H2S	Plant 2 Flare	
9/15/2021 19:00	9/15/2021 22:00	3 H2S	Plant 2 Flare	
9/18/2021 21:00	9/19/2021 0:00	3 H2S	Plant 2 Flare	
7/1/2021 7:24	7/1/2021 7:30	0.1 Opacity	Plant 1 FCCU	
7/2/2021 3:54	7/2/2021 4:00	0.1 Opacity	Plant 1 FCCU	
7/3/2021 0:00	7/3/2021 0:06	0.1 Opacity	Plant 1 FCCU	
7/12/2021 11:30	7/12/2021 11:48	0.3 Opacity	Plant 1 FCCU	
7/13/2021 10:00	7/13/2021 10:30	0.5 Opacity	Plant 1 FCCU	
7/1/2021 9:16	7/1/2021 9:19	0.05 Opacity	Plant 1 FCCU	
7/12/2021 11:30	7/12/2021 11:48	0.3 Opacity	Plant 1 FCCU	
8/18/2021 17:54 8/26/2021 14:00	8/18/2021 18:00 8/26/2021 14:30	0.1 Opacity 0.5 Opacity	Plant 2 FCCU Plant 2 FCCU	
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				Process	
12/16/2021 6:00	12/18/2021 15:00	57 CO	Plant 1 B-8	C Problems	
12/17/2021 11:00	12/17/2021 13:00	2 H2S	Plant 1 Flare	F Malfunction	
12/17/2021 18:00	12/18/2021 2:00	8 H2S	Plant 1 Flare	F Malfunction	
1/25/2022 22:00	1/26/2022 0:00	2 H2S	Plant 2 Flare	F Malfunction	
1/26/2022 3:00	1/26/2022 5:00	2 H2S	Plant 2 Fuel Gas		
_, ,	_,,			Startup/Shutd	
1/27/2022 1:00	1/27/2022 15:00	14 CO	Plant 2 FCCU	A own	
1,2,,2022 1.00	1,27,2022 13.00	11.00	1 10111 2 1 000	Startup/Shutd	
1/28/2022 9:00	1/28/2022 18:00	9 CO	Plant 2 FCCU	A own	
1/20/2022 3.00	1/20/2022 10.00	3 60	Tidile 2 Teeo	Startup/Shutd	
1/28/2022 17:00	1/29/2022 0:00	7 H2S	Plant 2 Flare	A own	
1/28/2022 17.00	1/23/2022 0.00	7 1123	Flatit 2 Flate	Process	
1/31/2022 12:00	2/1/2022 0:00	12 CO	Plant 1 B-8	C Problems	
2/3/2022 2:00	2/3/2022 9:00	7 H2S	Plant 2 Fuel Gas		
2/9/2022 6:54	2/9/2022 7:30	0.6 Opacity	Plant 2 FCCU	F Malfunction	
2/42/2022 40 42	2/42/2022 42.54		DI . 0 50011	Startup/Shutd	
2/13/2022 19:42	2/13/2022 19:54	0.2 Opacity	Plant 2 FCCU	A own	
- 4 - 4				Startup/Shutd	
2/13/2022 20:00	2/13/2022 20:42	0.7 Opacity	Plant 2 FCCU	A own	
				Startup/Shutd	
2/14/2022 0:00	2/14/2022 0:06	0.1 Opacity	Plant 2 FCCU	A own	
				Startup/Shutd	
2/14/2022 12:00	2/14/2022 18:00	6 CO	Plant 2 FCCU	A own	
				Startup/Shutd	
2/14/2022 22:00	2/15/2022 1:00	3 CO	Plant 2 FCCU	A own	
				Startup/Shutd	
2/24/2022 7:00	2/24/2022 11:00	4 H2S	Plant 1 Flare	A own	
				Startup/Shutd	
2/24/2022 11:00	2/26/2022 15:00	52 SO2	Plant 1 H-25	A own	
2/25/2022 10:00	2/26/2022 4:00	18 H2S	Plant 1 Flare	F Malfunction	
2/25/2022 11:00	2/25/2022 12:00	1 H2S	Plant 3 Flare	F Malfunction	
2/25/2022 15:00	2/26/2022 22:00	31 SO2	Plant 1 Flare	F Malfunction	
2/25/2022 19:00	2/26/2022 8:00	13 SO2	Plant 3 Flare	F Malfunction	
2/26/2022 5:00	2/26/2022 22:00	17 H2S	Plant 1 Flare	F Malfunction	
2/27/2022 12:00	2/27/2022 15:00	3 H2S	Plant 1 Flare	F Malfunction	
2/27/2022 12:00	2/27/2022 13:00	3 1123	riant I riaic	Startup/Shutd	
2/28/2022 10:00	2/28/2022 13:00	3 H2S	Plant 1 Flare	A own	
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				Other Known	
3/2/2022 5:00	3/2/2022 8:00	3 H2S	Plant 2 Flare	D Problems	
3/2/2022 5.00	3/2/2022 8.00	3 П23	Platit 2 Flate		
2/12/2022 1:00	2/12/2022 4:00	2 1126	Dlamt 4 Flama	Startup/Shutd	
3/12/2022 1:00	3/12/2022 4:00	3 H2S		A own	
3/17/2022 1:00	3/17/2022 14:00	13 SO2	Plant 1 H-25	F Malfunction	
3/17/2022 12:00	3/17/2022 18:00	6 CO	Plant 1 FCCU	F Malfunction	
3/17/2022 12:24	3/17/2022 12:30	0.1 Opacity		F Malfunction	
3/17/2022 13:00	3/19/2022 21:00	56 H2S	Plant 1 Flare	F Malfunction	
3/18/2022 0:00	3/22/2022 16:00	112 CO	Plant 1 B-8	F Malfunction	
				Startup/Shutd	
3/19/2022 0:00	3/20/2022 1:00	25 SO2		A own	
3/19/2022 10:00	3/20/2022 11:00	25 SO2	Plant 1 Flare	F Malfunction	
				Startup/Shutd	
3/19/2022 12:36	3/19/2022 12:42	0.1 Opacity	Plant 1 FCCU	A own	
				Startup/Shutd	
3/19/2022 23:00	3/20/2022 0:00	1 CO	Plant 1 FCCU	A own	
				Startup/Shutd	
3/20/2022 5:00	3/20/2022 7:00	2 CO	Plant 1 FCCU	A own	
				Startup/Shutd	
3/20/2022 10:54	3/20/2022 11:00	0.1 Opacity	Plant 1 FCCU	A own	
		, ,		Startup/Shutd	
3/21/2022 6:00	3/21/2022 9:00	3 CO	Plant 1 FCCU	A own	
, , === 0.00	-, , ==================================			Startup/Shutd	
3/21/2022 10:00	3/21/2022 21:00	11 CO	Plant 1 FCCU	A own	
5, -1, 2022 10.00	5, 22, 2022 21.00	00	2 1 000	Startup/Shutd	
3/21/2022 23:00	3/22/2022 4:00	5 SO2	Plant 1 H-25	A own	
5, -1, 2022 20.00	5, 22, 2022 4.00	3 302	2 11 23	Startup/Shutd	
3/22/2022 8:00	3/23/2022 16:00	32 H2S	Plant 1 Flare	A own	
5, 22, 2022 0.00	3, 23, 2022 10.00	JZ 112J	. MILL FIME	54411	

3/22/2022 10:00	3/23/2022 4:00	18 SO2	Plant 1 H-25	Α	Startup/Shutd own Startup/Shutd
3/23/2022 6:00	3/24/2022 2:00	20 SO2	Plant 1 Flare	Α	own
					Startup/Shutd
3/23/2022 13:00	3/24/2022 2:00	13 SO2	Plant 1 H-25	Α	own
3/23/2022 20:00	3/25/2022 3:00	31 CO	Plant 1 B-8	F	Malfunction
					Startup/Shutd
3/24/2022 1:00	3/24/2022 20:00	19 H2S	Plant 1 Flare	Α	own
3/28/2022 21:00	3/29/2022 17:00	20 CO	Plant 1 B-8	F	Malfunction
3/29/2022 0:00	3/29/2022 15:00	15 CO	Plant 1 B-6	F	Malfunction
					Startup/Shutd
4/2/2022 23:00	4/5/2022 6:00	54 CO	Plant 2 FCC	Α	own
					Startup/Shutd
4/2/2022 23:00	4/5/2022 6:00	54 H2S	Plant 2 FCC	Α	own
					Startup/Shutd
4/2/2022 23:00	4/5/2022 6:00	54 Opacity	Plant 2 FCC	Α	own

6:00 AM

Excess Emission Codes

Code	Cuase
Code	Cuase

A Startup/Shutdown

B Control Equipment Problems

C Process Problems

D Other Known Problems
E Unknown Problems

F Malfunction

Date	Media Impact	Location/Unit	Suncor Air Exceeda Summary	Exceedance	Permit Limit	Community Impact
	Impact	Air Operating	While starting up the Plant 2 FCC, torch oil was	Executive	T CITITE LITTLE	The Commerce City North
		Unit: Plant 2 Fluidized	introduced to the unit which caused elevated carbon monoxide (CO) emissions. Additionally,			Denver Air Monitoring network of sensors within
		Catalytic Cracking Unit	while starting up the main air blower for the FCC, an opacity spike was measured at the FCC stack	2,031 ppm CO at 0% O2 for a		a three-mile radius of the refinery did not detect any
04/02/2022	Air	(FCC) Air Operating	which was above the permit limits. During the While starting up the Plant 2 FCC, torch oil was	1-hour average	500 ppm CO at 0% O2 for	1
		Unit: Plant 2 Fluidized	introduced to the unit which caused elevated carbon monoxide (CO) emissions. Additionally,			Denver Air Monitoring network of sensors within
		Catalytic Cracking Unit	while starting up the main air blower for the FCC, an opacity spike was measured at the FCC stack	177 ppm H2S in flare gas for a	162 ppm H2S in flare gas	a three-mile radius of the refinery did not detect any
04/02/2022		(FCC) Air Operating	which was above the permit limits. During the While starting up the Plant 2 FCC, torch oil was	1	for a 3-hour average	levels above the acute The Commerce City North
		Unit: Plant 2 Fluidized	introduced to the unit which caused elevated carbon monoxide (CO) emissions. Additionally,			Denver Air Monitoring network of sensors within
		Catalytic Cracking Unit	while starting up the main air blower for the FCC, an opacity spike was measured at the FCC stack		Opacity not to exceed 20% for a 6-minute	a three-mile radius of the refinery did not detect any
4/2/2022	Air	(FCC)	which was above the permit limits. During the	28% for a 6-minute average	average	levels above the acute
			While relieving arrest			The Commerce City North
			While relieving pressure from the Plant 2 Reformer Unit, the Plant 2 Flare pilots and flame were			Denver Air Monitoring network of sensors within
		Air Operating	inadvertently snuffed when the steam output exceeded the gas output from the Reformer. Operations personnel reduced the Reformer		The flare shall be	a three-mile radius of the refinery did not detect any levels above the acute
3/29/2022		Air Operating Plant 2 Flare Pilots Out	pressure relief and worked quickly to re-light the flare and the pilots.	Unlit flare	operated with a flame present at all times	health reference guidelines during this event.
3/29	Air		10 day event - see below	Reported at 23 lb/hr of SO2 for Reported at 0.170 lb of CO per	15.68 lb/hr of SO2 1-	CCD - Not Verified
3/29 3/29 3/29		Plant 1 -Boiler 8 Plant 1 Boiler 6	10 day event - see below 10 day event - see below	<u>'</u>	Permit limit of opacity not	
3/29 3/29		Plant 1	10 day event - see below 10 day event - see below	Reported at 2,030 ppm CO at 0	500 ppm CO at 0% O2 for	CCD - Not Verified
3/29		Plant 1	10 day event - see below	Reported at 561 ppm SO2 at	250 ppm SO2 at 0%	CCD - Not Verified
2/10/22					Heat content of the flare shall not drop below 270 btu/scf (Plant 1 Main	
3/19/22 - 3/29	Air	Flare	10 day event - see below	Reported at 258 btu/scf	btu/scf (Plant 1 Main Plant Flare) Emergency Planning and	CCD - Not Verified
					Emergency Planning and Community Right-to- Know Act (EPCRA)	
					reportable quantity (RQ) exceedance for SO2 –	
3/19/22 -					500 lbs 24-hour rolling total (Plant 1 Main Plant	
	Air	Plant 1 - Flare	10 day event - see below	624 lbs of SO2	Flare)	CCD - Not Verified
			While starting up the after the power failure on 03/17/2022, there were multiple permit			
			exceedances as the units were being stabilized. Many of the exceedances were related to			
			instrumentation issues which required recalibration or replacement after power was restored. This			
3/19/22 -		Plant 1	event began 03/19/2022 at 12:00 a.m. and ended on 03/29/2022 at 5:00 p.m. once all units were		162 ppm H2S in flare gas for a 3-hour average	
	Air	Operating units	operational and running stably.		(Plant 1 Main Plant Flare)	CCD - Not Verified
			While under normal operation, an electrical arc			
			flash occurred at the refinery from an onsite Power Distribution Center (PDC) in Plant 2, which resulted			
			in multiple refinery operating units shutting down. These units shutting down caused the gases			
			normally processed in the units to be sent to the Plant 1 Main Plant Flare for safe combustion. H2S			
			is combusted at the flare, which results in the generation of SO2 and water vapor. The refinery		Emergency Planning and	
			plant alarm system was sounded which, per procedure, activated the Suncor Emergency		Community Right-to- Know Act (EPCRA)	
			Operations Center (EOC) and the Refinery Emergency Response Team (ERT). All refinery		reportable quantity (RQ) exceedance for SO2 –	
2/47/2255	Λ:-	Dlant 4 El	operating units were brought to a safe state by refinery operations personnel and no injuries were	1 174 lbs of CO2	500 lbs 24-hour rolling total (Plant 1 Main Plant	CCD No+V
3/17/2022	All	Plant 1 - Flare	reported in associated with this incident.	1,174 lbs of SO2	Flare	CCD - Not Verified
			While under normal operation, an electrical arc flash occurred at the refinery from an onsite Power			
			Distribution Center (PDC) in Plant 2, which resulted in multiple refinery operating units shutting down.			
			These units shutting down caused the gases normally processed in the units to be sent to the			
			Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the			
			generation of SO2 and water vapor. The refinery plant alarm system was sounded which, per			
		Electrical	procedure, activated the Suncor Emergency Operations Center (EOC) and the Refinery			
	. '	1	Emergency Response Team (ERT). All refinery			
		Substation Arc Flash and Power	operating units were brought to a safe state by		I	i
3/17/2022	Air	Flash and Power	operating units were brought to a safe state by refinery operations personnel and no injuries were reported in associated with this incident.	Reported at 300 ppm H2S in flare gas for a 3-hour average	162 ppm H2S in flare gas f	CCD - Not Verified
3/17/2022	Air	Flash and Power Failure - Multiple	refinery operations personnel and no injuries were reported in associated with this incident.	flare gas for a 3-hour average	162 ppm H2S in flare gas f	
3/17/2022	Air	Flash and Power Failure - Multiple	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main	flare gas for a 3-hour average	162 ppm H2S in flare gas f	The Commerce City North Denver Air Monitoring
3/17/2022	Air	Flash and Power Failure - Multiple	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown,	flare gas for a 3-hour average	162 ppm H2S in flare gas f	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the
3/17/2022	Air	Flash and Power Failure - Multiple Units No. 4 Hydrodesulfuriza	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare,	flare gas for a 3-hour average		The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute
3/17/2022		Flash and Power Failure - Multiple Units No. 4	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare	flare gas for a 3-hour average Reported at 248 ppm H2S in	162 ppm H2S in flare gas f	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any
		Flash and Power Failure - Multiple Units No. 4 Hydrodesulfuriza tion (#4 HDS)	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water	flare gas for a 3-hour average Reported at 248 ppm H2S in	162 ppm H2S for a three-	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event.
		Flash and Power Failure - Multiple Units No. 4 Hydrodesulfuriza tion (#4 HDS)	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water	flare gas for a 3-hour average Reported at 248 ppm H2S in	162 ppm H2S for a three-	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring
		Flash and Power Failure - Multiple Units No. 4 Hydrodesulfuriza tion (#4 HDS)	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor	flare gas for a 3-hour average Reported at 248 ppm H2S in	162 ppm H2S for a three-	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the
	Air	Flash and Power Failure - Multiple Units No. 4 Hydrodesulfuriza tion (#4 HDS) Unit	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor While purging the Unsaturated gas unit to prepare for maintenance work, some residual sour gases from the unit were sent to the flare for safe	Reported at 248 ppm H2S in flare gas for a 3-hour average	162 ppm H2S for a three-hour avaerage	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute
3/12/2022	Air	Flash and Power Failure - Multiple Units No. 4 Hydrodesulfuriza tion (#4 HDS) Unit Plant 2 Unsaturated Gas Unit	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor While purging the Unsaturated gas unit to prepare for maintenance work, some residual sour gases from the unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor	Reported at 248 ppm H2S in flare gas for a 3-hour average Reported at 222 ppm for a 3-hour average	162 ppm H2S for a three-	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any
3/12/2022 3/2/2022 3/22/2022 3/24/2022	Air Air Air	Flash and Power Failure - Multiple Units No. 4 Hydrodesulfuriza tion (#4 HDS) Unit Plant 2 Unsaturated Gas Unit Plant 1 Flare Plant 1 Flare	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor While purging the Unsaturated gas unit to prepare for maintenance work, some residual sour gases from the unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor Startup/Shutdown Startup/Shutdown	Reported at 248 ppm H2S in flare gas for a 3-hour average Reported at 222 ppm for a 3-hour average H2S H2S	162 ppm H2S for a three-hour avaerage	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines
3/12/2022 3/2/2022 3/22/2022	Air Air Air	Flash and Power Failure - Multiple Units No. 4 Hydrodesulfuriza tion (#4 HDS) Unit Plant 2 Unsaturated Gas Unit Plant 1 Flare	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor While purging the Unsaturated gas unit to prepare for maintenance work, some residual sour gases from the unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor Startup/Shutdown	Reported at 248 ppm H2S in flare gas for a 3-hour average Reported at 222 ppm for a 3-hour average H2S	162 ppm H2S for a three-hour avaerage	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines
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3/12/2022 3/22/2022 3/24/2022 2/25/2022 2/25/2022 2/24/2022 2/25/2022 2/25/2022	Air Air Air Air Air Air	Flash and Power Failure - Multiple Units No. 4 Hydrodesulfuriza tion (#4 HDS) Unit Plant 2 Unsaturated Gas Unit Plant 1 Flare	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor While purging the Unsaturated gas unit to prepare for maintenance work, some residual sour gases from the unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor Startup/Shutdown Startup/Shutdown The Plant 1 Hydrogen Unit was shut down to perform maintenance on equipment. During the shutdown, the Flare Gas Recovery Unit (FGRU) was temporarily bypassed and gases from the Hydrogen Unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor	Reported at 248 ppm H2S in flare gas for a 3-hour average Reported at 222 ppm for a 3-hour average H2S H2S SO2 Reported at 241 ppm H2S in flare gas for a 3-hour average	162 ppm H2S for a three-hour avaerage 162 ppm H2S for a three-hour avaerage	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. A A F The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event.
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3/2/2022 3/22/2022 3/24/2022 2/25/2022 2/25/2022 2/25/2022 2/25/2022 2/26/2022 2/27/2022 2/28/2022 2/28/2022 1/31/2022	Air	Flash and Power Failure - Multiple Units No. 4 Hydrodesulfurization (#4 HDS) Unit Plant 2 Unsaturated Gas Unit Plant 1 Flare	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor While purging the Unsaturated gas unit to prepare for maintenance work, some residual sour gases from the unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor Startup/Shutdown Startup/Shutdown The Plant 1 Hydrogen Unit was shut down to perform maintenance on equipment. During the shutdown, the Flare Gas Recovery Unit (FGRU) was temporarily bypassed and gases from the Hydrogen Unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor Malfunction Startup/Shutdown Malfunction Malfunction Malfunction Malfunction Malfunction Startup/Shutdown Process Problems An overflow of the water draw pan. Personnel collected soil samples (diesel and water). The stained soil area was excavated found and backfilled with clean soil During maintenance unit tripped causing excess	Reported at 248 ppm H2S in flare gas for a 3-hour average Reported at 222 ppm for a 3-hour average H2S H2S SO2 Reported at 241 ppm H2S in flare gas for a 3-hour average SO2 H2S H2S H2S H2S H2S H2S H2S H2S CO 1 barrel of diesel/water mix	162 ppm H2S for a three-hour avaerage 162 ppm H2S for a three-hour avaerage 162 ppm H2S for a three-hour avaerage N/A 162 ppm H2S in Plant 1 Flare Gas for a 3-hour	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. A A F The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event.
3/12/2022 3/22/2022 3/24/2022 2/25/2022 2/25/2022 2/26/2022 2/26/2022 2/28/2022 2/28/2022 1/31/2022	Air	Flash and Power Failure - Multiple Units No. 4 Hydrodesulfurization (#4 HDS) Unit Plant 2 Unsaturated Gas Unit Plant 1 Flare No. 3 Unit (No. 3	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor While purging the Unsaturated gas unit to prepare for maintenance work, some residual sour gases from the unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor Startup/Shutdown Startup/Shutdown The Plant 1 Hydrogen Unit was shut down to perform maintenance on equipment. During the shutdown, the Flare Gas Recovery Unit (FGRU) was temporarily bypassed and gases from the Hydrogen Unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor Malfunction Startup/Shutdown Malfunction Malfunction Malfunction Malfunction Malfunction Startup/Shutdown Process Problems An overflow of the water draw pan. Personnel collected soil samples (diesel and water). The stained soil area was excavated found and backfilled with clean soil During maintenance unit tripped causing excess	Reported at 248 ppm H2S in flare gas for a 3-hour average Reported at 222 ppm for a 3-hour average H2S H2S SO2 Reported at 241 ppm H2S in flare gas for a 3-hour average SO2 H2S H2S H2S H2S H2S H2S H2S H2S CO 1 barrel of diesel/water mix	162 ppm H2S for a three-hour avaerage 162 ppm H2S for a three-hour avaerage 162 ppm H2S for a three-hour avaerage N/A 162 ppm H2S in Plant 1 Flare Gas for a 3-hour	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. A A F The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event.
3/12/2022 3/22/2022 3/24/2022 2/25/2022 2/25/2022 2/24/2022 2/25/2022 2/26/2022 2/27/2022 2/28/2022 1/31/2022	Air	Flash and Power Failure - Multiple Units No. 4 Hydrodesulfurization (#4 HDS) Unit Plant 2 Unsaturated Gas Unit Plant 1 Flare	refinery operations personnel and no injuries were reported in associated with this incident. The No. 4 HDS unit was required to be shut down to make the necessary repairs to the main compressor. This work was related to the unit trip on February 24. During the planned shutdown, gases were routed to the Plant 1 Main Plant Flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor While purging the Unsaturated gas unit to prepare for maintenance work, some residual sour gases from the unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor Startup/Shutdown Startup/Shutdown The Plant 1 Hydrogen Unit was shut down to perform maintenance on equipment. During the shutdown, the Flare Gas Recovery Unit (FGRU) was temporarily bypassed and gases from the Hydrogen Unit were sent to the flare for safe combustion. H2S is combusted at the flare, which results in the generation of SO2 and water vapor Malfunction Startup/Shutdown Malfunction Malfunction Malfunction Malfunction Malfunction Startup/Shutdown Process Problems An overflow of the water draw pan. Personnel collected soil samples (diesel and water). The stained soil area was excavated found and backfilled with clean soil During maintenance unit tripped causing excess	Reported at 248 ppm H2S in flare gas for a 3-hour average Reported at 222 ppm for a 3-hour average H2S H2S SO2 Reported at 241 ppm H2S in flare gas for a 3-hour average SO2 H2S H2S H2S H2S H2S H2S H2S H2S CO 1 barrel of diesel/water mix	162 ppm H2S for a three-hour avaerage 162 ppm H2S for a three-hour avaerage 162 ppm H2S for a three-hour avaerage N/A 162 ppm H2S in Plant 1 Flare Gas for a 3-hour average.	The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event. A A F The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event.

	od Community Right-to-Know Act (FPCRA) reportable quantity (RO) exceedance for SO2 – 500 lbs 24-hour rolling total (Plant 1 Main Plant Flare) • 1 174 lbs of SO2 • 15 68 lb/b	or of SO2 1-hour average from the tail gas incinerator (H-25) • Reported at 156 lb/hr of SO2 for a 1-hour average (maximum) • 250 ppm SO2 at 0% O2 for a 12-h	nour rolling average from the tail gas incinerator (H-25) • Reported at 2,212 ppm SO2 at 0% O2 for a 12-hour average • Permit limit of 0.060 lb of CO per MMBtu for a 24	4-hour period (average) (Boiler B8) • Reported at 0.240 lb of CO per MMBtu for a 24-hour period (average) • 500 ppm CO at 0% O2 for a 1-hour average (Plant 1 Fluidized Catalytic Cr	Tracking Unit – FCC) • Reported at 2,030 ppm CO at 0% O2 for a 1-hour average • Permit limit of opacity not to exceed 20% for a 3-hour average (Plant 1 FCC) • Reported at 33% opacity for a 6-min bl
62 ppm H2S in flare gas for a 3-hour average (Plant 1 Main Plant Flare) • Reported at 300 ppm H2S in flare gas for a 3-hour average • Emergency Planning and 0	is community highe to know her (Er civit) reportable quantity (her) exceedance for 302 - 300 is 24 floar folling total (haire haire) - 1,174 is 301 302 - 13.00 is) in				
62 ppm H2S in flare gas for a 3-hour average (Plant 1 Main Plant Flare) • Reported at 300 ppm H2S in flare gas for a 3-hour average • Emergency Planning and (
62 ppm H2S in flare gas for a 3-hour average (Plant 1 Main Plant Flare) • Reported at 300 ppm H2S in flare gas for a 3-hour average • Emergency Planning and the state of the					
62 ppm H2S in flare gas for a 3-hour average (Plant 1 Main Plant Flare) • Reported at 300 ppm H2S in flare gas for a 3-hour average • Emergency Planning and the state of the					
62 ppm H25 in flare gas for a 3-hour average (Plant 1 Main Plant Flare) • Reported at 300 ppm H25 in flare gas for a 3-hour average • Emergency Planning and the state of the					
62 ppm H2S in flure gas tor a 3-hour average (Plant I Main Plant Flare) • Reported at 300 ppm H2S in flare gas for a 3-hour average • Emergency Planning and the state of the					
62 ppm H25 in thre gas for a 3-hour average (Plant 1 Main Plant Flive) - Reported at 300 ppm H25 in flare gas for a 3-hour average - Emergency Planning and to the state of th					
cz pom 1925 in tare gas tor a 3-hour average (Paint 2 Main Plant Flave) - Reported at 300 pom 1925 in tare gas for a 3-hour average - Emergency Planning and					
62 ppm MZS in Trave gas for a 3-hour average (Panel I, Malin Pan I Pane) - Reported at 300 gpm PaS in fate gas for a 3-hour average - € preigrency Planning and					
argum PSS in tang gas for a 3-hourswonge (Poert I. Main Rent Famy). Reported all 500 pare MSS in tang gas for a 3-hour average - Emergency Plasming and					

•All levels are expressed as parts per million or milligrams per cubic meter (ppm or mg/m³) of a substance above which it is predicted that the general population could experience, including susceptible individuals:

Below AEGL Level 1

•Airborne concentrations below the AEGL-1 represent exposure levels that could produce mild and progressively increasing but transient and non-disabling odor, taste, and sensory irritation or certain asymptomatic, non-sensory effects

sensory effects.
•AEGL values represent threshold levels for the general public. As mentioned, that includes susceptible subpopulations, such as infants, children, the elderly, persons with asthma, and those with other illnesses. However, it is recognized that individuals, subject to unique or idiosyncratic responses, could experience the effects described at concentrations below the corresponding AEGL.

*primary	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
*secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

			Outfall	Output	Outfall Type	Parameter		Max Violation	Compliance
NPDES ID	Start Date	End Date	Number	Type	Description	Code	Parameter Desc	Status	Status
					·		Temperature,		
							water deg.	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	10	centigrade	Identified	Identified
								No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	94	Conductivity	Identified	Identified
		, ,					Oxygen,	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	300	dissolved [DO]	Identified	Identified
	. ,	, ,					BOD, 5-day, 20	Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	310	deg. C	Identified	Identified
	, ,	, ,							
							Oxygen demand,		
							chem. [high	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	340	level] [COD]	Identified	Identified
	_, _, _,	5, 25, 2522	_					No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	400	рН	Identified	Identified
	2/2/2020	3, 20, 2022	_				Bicarbonate ion-	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	440	[as HCO3]	Identified	Identified
	2/ 2/ 2020	3, 20, 2022	_			1.0	Solids, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	530	suspended	Identified	Identified
00001117	1/1/2013	3,20,2022	_	EXC	External outrain	330	Nitrogen,	lacitifica	lacitanea
							ammonia total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	610	[as N]	Identified	Identified
200001147	1/1/2013	3/20/2022		LXO	External outrain	010	-	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	745	, -	Identified	Identified
CO0001147	1/1/2013	3/20/2022		LXO	External Outrain	743	Calcium, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	,	EXO	External Outfall	018	recoverable	Identified	Identified
CO0001147	1/1/2019	3/20/2022		LXO	External Outrain	310	Magnesium,	laentinea	luentineu
							total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	,	EXO	External Outfall	021	recoverable	Identified	Identified
CO0001147	1/1/2019	3/20/2022		LAU	External Outrail	921	Sodium, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	,	EXO	External Outfall	022	recoverable	Identified	Identified
CO0001147	1/1/2019	3/20/2022		LXO	External Outrain	923	recoverable	laentinea	luentineu
							Sodium	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	,	EXO	External Outfall	021	adsorption ratio	Identified	Identified
CO0001147	1/1/2019	3/20/2022		LAU	External Outrail	931	Arsenic, total	No Violation	No Violation
CO0001147	1/1/2019	E /20 /2022	,	EXO	External Outfall	079	recoverable	Identified	Identified
CO0001147	1/1/2019	5/20/2022		EXO	External Outrail	976	Iron, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	,	EXO	External Outfall	080	recoverable	Identified	Identified
CO0001147	1/1/2019	3/20/2022		LAU	External Outrail	360	Chromium,	luentineu	luentineu
							hexavalent [as	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	,	EXO	External Outfall	1032	_	Identified	Identified
CO0001147	1/1/2019	3/20/2022		EXO	External Outrail	1052		No Violation	No Violation
CO0001147	1/1/2010	E /20 /2022	,	EVO	External Outfall	1024			
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	1034	[as Cr]	Identified	Identified
							Zinc notontially	No Violation	No Violatian
CO0001147	1/1/2010	E /20 /2022	_	EVO	Extornal Outfall	1202	Zinc, potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	1303	dissolved	Identified	Identified
							Silver,	No Violetia	No Violatia
CO0001117	1/1/2010	E /20 /2022	_	EVO	Extornal Outfall	1204	potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022		EXO	External Outfall	1304	dissolved	Identified	Identified
							Copper,	No Violeties	No Vieletie
CO0001117	1/1/2010	E /20 /2022	_	EVO	Evetorinal Ovettall	1300	potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	1306	dissolved	Identified	Identified
								No Welet	NI - A C - L- C
00000111	4/4/2015	F /20 /222	_	EV.C	Estamal C. (C.)	4010	Lead, potentially		No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	1318	dissolvd	Identified	Identified
							Manganese,	No Victoria	NI - A C - L - · ·
00000111	4/4/05:-	F 100 1005	_	EV.0	F 1 10	4	potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	1 2	EXO	External Outfall	1319	dissolvd	Identified	Identified

							Nickel,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	1222	dissolvd	Identified	Identified
CO0001147	1/1/2019	3/20/2022		EXO	External Outrail	1322	Selenium,	luentineu	identified
							potentially	No Violation	No Violation
CO0001147	1/1/2010	E /20 /2022	2	EXO	External Outfall	1222	dissolvd	Identified	Identified
CO0001147	1/1/2019	5/20/2022		EXO	External Outrail	1323	Uranium,	laentinea	identified
							•	No Violation	No Violation
CO0001117	1 /1 /2010	F /20 /2022	2	EVO.	External Outfall	1226	potentially		Identified
CO0001147	1/1/2019	5/20/2022		EXO	External Outrail	1320	dissolvd	Identified No Violation	No Violation
CO0001147	1/1/2010	F /20 /2022	2	EVO.	External Outfall	2502	Oil and grosss	Identified	Identified
CO0001147	1/1/2019	5/20/2022		EXO	External Outfall	3582	Oil and grease	identified	identified
							Methyl tert-	No Wieleties	No Violeties
600001117	1 /1 /2010	F /20 /2022	2	5V0	5 1 2 2 2 1 0 1 (2 1)	22447	butyl ether	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	22417	[MTBE]	Identified	Identified
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	30383	Benzene, ethylbenzene, toluene, xylene combination	No Violation Identified	No Violation Identified
							Phenolics, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	า	EXO	External Outfall	22720	recoverable	Identified	Identified
CO0001147	1/1/2019	3/20/2022		EXO	External Outrail	32/30	recoverable	No Violation	No Violation
CO0001147	1/1/2010	E /20 /2022	2	EXO	External Outfall	24020	Benzene	Identified	Identified
CO0001147	1/1/2019	5/20/2022		EXO	External Outrail	34030	Бепгепе	identified	identified
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	50050	Flow, in conduit or thru treatment plant	No Violation Identified	No Violation Identified
CO0001147	1/1/2019	5/20/2022	2	EXO	External Outfall	51202	Sulfide-hydrogen sulfide [undissociated]	No Violation Identified	No Violation Identified
CO0001147	1/1/2010	E /20 /2022	2	EXO	External Outfall	71000	Mercury, total	No Violation Identified	No Violation Identified
CO0001147	1/1/2019	5/20/2022		EXO	External Outrail	71900	[as Hg]	identified	identified
							Temperature,	No Violation	No Violation
600001117	1 /1 /2010	F /20 /2022	2	EVO.	Futamed Outfall	10	water deg.	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022		EXO	External Outfall	10	centigrade	Identified	Identified
600001117	4 /4 /2040	F /20 /2022	2	EV.O	Fortamed Outfall	0.4	Considerationity	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022		EXO	External Outfall	94	Conductivity	Identified	Identified
							0		
							Oxygen demand,	No Malatia	No Violetie
COCCC4447	1/1/2010	F /20 /2022	_	רעס	Futermed Out Coll	225	chem. [low level]		No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	335	[COD]	Identified	Identified
CO0004447	1/1/2010	E /20 /2022	_	רעס	Esternal Out Cul	400	mil	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	400	•	Identified	Identified
600004447	4 /4 /2012	F /20 /200	-	5V.0	Enternal Conf. II		Bicarbonate ion-	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	440	[as HCO3]	Identified	Identified
	4 /4 /5 = : =	= /c = /=	_				Solids, total	Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	530	suspended	Identified	Identified
							Calcium, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	918	recoverable	Identified	Identified
							Magnesium,		
							total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	921	recoverable	Identified	Identified
							Sodium, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	923	recoverable	Identified	Identified
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	931	Sodium adsorption ratio	No Violation Identified	No Violation Identified

	Г	1		Ī			A	N	Ni - Malaila
600001147	1 /1 /2010	F /20 /2022	2	EVO.	Estamal Outfall	070	Arsenic, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022		EXO	External Outfall	9/8	recoverable	Identified	Identified
000001117	4 /4 /2040	5 /20 /2022	2	51/0	5	000	Iron, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	980	recoverable	Identified	Identified
							Zinc, potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	1303	dissolved	Identified	Identified
CO0001147	1/1/2013	3/20/2022		LAG	External Outrain	1303	Silver,	lacitifica	lacritimea
							-	No Violation	No Violation
CO0001117	1 /1 /2010	F /20 /2022	2	EVO.	Esternal Outfall	1204	potentially		Identified
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	1304	dissolved	Identified	identified
							Copper,		
		- / /					potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	1306	dissolved	Identified	Identified
							Lood potentially	No Violation	No Violation
000001117	1 /1 /2010	5 /20 /2022	2	51/0	5	1010	Lead, potentially		No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall		dissolvd	Identified	Identified
							Manganese,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	1319	dissolvd	Identified	Identified
							Nickel,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	1322	dissolvd	Identified	Identified
							Selenium,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	1323	dissolvd	Identified	Identified
	_, _,	0, = 0, = 0 = =					Uranium,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	1326	dissolvd	Identified	Identified
CO0001147	1/1/2013	3/20/2022		LXO	External Outrain	1320	dissolva	No Violation	No Violation
CO0001147	1 /1 /2010	E /20 /2022	2	EVO	External Outfall	2502	Oil and grosse	Identified	Identified
CO0001147	1/1/2019	5/20/2022		EXO	External Outrail	3582	Oil and grease	identified	identified
							Methyl tert-		
							butyl ether	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	22417	[MTBE]	Identified	Identified
							Benzene,		
							ethylbenzene,		
							toluene, xylene	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	30383	combination	Identified	Identified
								No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	34030	Benzene	Identified	Identified
							Flow, in conduit		
							or thru	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	50050	treatment plant	Identified	Identified
							Sulfide-hydrogen		
							sulfide	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	51202	[undissociated]	Identified	Identified
	, -,	-,,					Mercury, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	3	EXO	External Outfall	71900	[as Hg]	Identified	Identified
20001147	-, -, -013	5, 20, 2022			External outrain	, 1500	[D]	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	ΩΛ	Conductivity	Identified	Identified
CO000114/	1/1/2019	3/20/2022	10	LAU	LATEITIAI OULIAII	94	Bicarbonate ion-	No Violation	No Violation
CO0004447	1/1/2010	E /20 /2022	4.0	רעס	Full control Control	440			
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	440	[as HCO3]	Identified	Identified
							Cuppida!	No Malatia	No Wieles
	4 / 4 /			_,			Cyanide, weak	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	718	acid, dissociable	Identified	Identified
							Calcium, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	918	recoverable	Identified	Identified

	<u> </u>					1	Magnosium	I	
							Magnesium, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall		recoverable	Identified	Identified
CO0001147	1/1/2013	3/20/2022	10	LAO	External Odtiali	321	Sodium, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	923	recoverable	Identified	Identified
		3, 23, 2322				320			1.00
							Sodium	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	931	adsorption ratio	Identified	Identified
	_, _, _,	-,,					Iron, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	980	recoverable	Identified	Identified
							Arsenic, total [as	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	1002	As]	Identified	Identified
							Zinc, potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	1303	dissolved	Identified	Identified
							Silver,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	1304	dissolved	Identified	Identified
							Copper,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	1306	dissolved	Identified	Identified
							Lead, potentially		No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	1318	dissolvd	Identified	Identified
							Manganese,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	1319	dissolvd	Identified	Identified
							Nickel,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	1322	dissolvd	Identified	Identified
							Selenium,		
	. /. /2.2.2	- /2.2 /2.2.2				4000	potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	1323	dissolvd	Identified	Identified
							Uranium,		
600001117	4 /4 /2040	F /20 /2022	40	57.0	5 1 2 2 2 1 0 1 5 2 1	4226	potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	1326	dissolvd	Identified	Identified
							Methyl tert-	No Violetian	No Wieleties
CO0001147	1/1/2019	E /20/2022	10	EXO	External Outfall		butyl ether [MTBE]	No Violation Identified	No Violation Identified
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outrail	22417	[IVII DE]	luentineu	luentineu
							Benzene,		
							ethylbenzene,		
							toluene, xylene	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	30383	combination	Identified	Identified
00001117	2/ 2/ 2023	3, 23, 2322		2/10	ZACCING! Oderan	30000		No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	34030	Benzene	Identified	Identified
		2, 22, 222							
							Flow, in conduit		
							or thru	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	50050	treatment plant	Identified	Identified
							-		
							Sulfide-hydrogen		
							sulfide	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	51202	[undissociated]	Identified	Identified
							Mercury, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	71900	[as Hg]	Identified	Identified
		T					Static Renewal 7		
							Day Chronic		
							Ceriodaphnia	No Violation	No Violation
	1/1/2019	5/20/2022		EXO	External Outfall	ТКРЗВ	dubia	Identified	Identified

	T T			ī	1		r	T	1
							Static Renewal 7		
							Day Chronic		
							Pimephales	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	10	EXO	External Outfall	TKP6C	promelas	Identified	Identified
							Temperature,		
							water deg.	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	10	centigrade	Identified	Identified
								No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	94	Conductivity	Identified	Identified
							Oxygen,	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	300	dissolved [DO]	Identified	Identified
								No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	400	pН	Identified	Identified
							Bicarbonate ion-	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	440	[as HCO3]	Identified	Identified
							Cyanide, weak	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	718	acid, dissociable	Identified	Identified
							Calcium, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	918	recoverable	Identified	Identified
							Magnesium,		
							total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	921	recoverable	Identified	Identified
		3, 23, 2322		27.0		1 322	Sodium, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	923	recoverable	Identified	Identified
200001147	1/1/2013	3/20/2022		LAG	External outrain	323	recoverable	lacitemea	lacitimea
							Sodium	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	021	adsorption ratio	Identified	Identified
CO0001147	1/1/2019	3/20/2022	20	LXO	External Outrain	931	Arsenic, total	No Violation	No Violation
CO0001147	1/1/2010	F /20 /2022	20	EVO.	External Outfall	079	recoverable		Identified
C00001147	1/1/2019	5/20/2022	20	EXO	External Outrail			Identified	
600001117	4 /4 /2040	F /20 /2022	20	5 VO	Fortament Ociticall		Iron, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	980	recoverable	Identified	Identified
	4 /4 /2040	5 /2 0 /2 0 2 2	20		5	4000	Zinc, potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	1303	dissolved	Identified	Identified
							Silver,		
		- 1 1					potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	1304	dissolved	Identified	Identified
							Copper,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	1306	dissolved	Identified	Identified
							Lead, potentially		No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	1318	dissolvd	Identified	Identified
							Manganese,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	1319	dissolvd	Identified	Identified
							Nickel,		
1							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	1322	dissolvd	Identified	Identified
							Selenium,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	1323	dissolvd	Identified	Identified
						1	Uranium,		
							potentially	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	1326	dissolvd	Identified	Identified
30000117	_, _, _010	5, 25, 2522				1320	Methyl tert-		
							butyl ether	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	22/17	[MTBE]	Identified	Identified
200001147	1, 1, 2013	3/20/2022	20	L//-	External Outlan	2241/	[.*	iacitanca	identified

	ı ı	1				T	Ι	1	
							Benzene,		
							ethylbenzene,		
							toluene, xylene	Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	30383	combination	Identified	Identified
	, ,							Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	34030	Benzene	Identified	Identified
							Flow, in conduit		
		- / /					or thru	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	50050	treatment plant	Identified	Identified
							Sulfide-hydrogen		
							sulfide	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	51202	[undissociated]	Identified	Identified
							Mercury, total	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	71900	[as Hg]	Identified	Identified
							Static Renewal 7		
							Day Chronic		
							Ceriodaphnia	No Violation	No Violation
CO0001147	1/1/2019	5/20/2022	20	EXO	External Outfall	ТКРЗВ	dubia	Identified	Identified
							Static Renewal 7		
							Day Chronic		
							Pimephales	No Violation	No Violation
#NAME?	1/1/2019	5/20/2022	20	EXO	External Outfall	TKP6C	promelas	Identified	Identified