

Site	Equipment Type	HP	Status	Rod Packing Vents	Blowdown Vent	Wet Seal Degass	Starter Vent	Rod Packing Seal Leaks	Discharge PRV	Lube Oil Tank	IR Screening	Component Leaks
Site 1	Recip 1	2,650	Idle but pressurized	X	X	N/A	X					
	Recip 2	2,650	Idle but pressurized	X	X	N/A	X					
	Recip 3	2,650	Idle but pressurized		X	N/A	X				X	X
	Recip 4	4,200	Idle but pressurized		X	N/A	X					
	Recip 5	8,200	Idle, Depressurized, open		X	N/A	X					
	Debrine piping	N/A	Idle but pressurized		X	N/A	X					
Site 2	Recip 1	2,800	Idle but pressurized		X	N/A		X				
	Recip 2	2,800	Idle but pressurized		X	N/A		X				
	Recip 3	2,800	Idle but pressurized		X	N/A		X				
	Recip 4	2,800	Idle but pressurized		X	N/A		X				
	Recip 5	2,800	Idle but pressurized		X	N/A		X			X	X
	Recip 6	2,800	Idle but pressurized		X	N/A		X				
	Station BD Vent #1 - Yard Piping	N/A			X	N/A						
	Station BD Vent #2 - Idle Line piping	N/A				N/A						
Station BD Vent #3 - Yard Piping	N/A			X	N/A							
Site 3	Centrif 1	4,800	Idle, depressurized		X						X	X
	Centrif 2	4,800	Running		X							
	Centrif 3	4,680	Running		X							
Site 4	Recip 1	1,235	Idle, depressured		X	N/A			X			
	Recip 2	1,235	Running		X	N/A			X			
	Recip 3	1,235	Idle, depressured	X	X	N/A			X			
	Recip 4	1,235	Running		X	N/A			X			
	Recip 5	1,235	Idle, depressured	X	X	N/A			X			
	Recip 6	1,235	Running		X	N/A			X			
	Recip 7	1,235	Idle, depressured	X	X	N/A			X			
	Recip 8	1,235	Running		X	N/A			X		X	X
	Recip 9	1,235	Idle, depressured	X	X	N/A			X			
	Recip 10	1,235	Idle, depressured		X	N/A			X			
	Recip 11	1,800	Idle, depressured		X	N/A			X			
	Recip 12	1,235	Idle, depressured		X	N/A			X			
	Recip 13	3,500	Idle, depressured		X	N/A			X			
	Recip 14	3,500	Idle, depressured		X	N/A			X			
	Recip 15	1,800	Idle, depressured		X	N/A			X			
Site 5	Recip 1	1,002	Running		X	N/A					X	X
	Recip 2	1,002	Idle, depressured		X	N/A						
	Recip 3	1,002	Idle, depressured		X	N/A						
	Recip 4	1,002	Running		X	N/A						
	Recip 5	1,002	Idle, depressured		X	N/A						
	Recip 6	2,278	Idle, depressured	X		N/A						
	Recip 7	2,278	Idle, depressured			N/A						
Site 6	Recip 1		Running	X	X	N/A			X	X		
	Recip 2		Running	X	X	N/A			X	X		
	Recip 3		Running	X	X	N/A			X	X		
	Recip 4		Running	X	X	N/A			X	X		
	Recip 5		Running	X	X	N/A			X	X		
	Recip 6		Running		X	N/A			X			
	Recip 7		Idle, Depressured		X	N/A			X			
	Recip 8		Idle, Depressured		X	N/A			X			
	Recip 9		Running	X	X	N/A			X	X		
	Recip 10		Idle, Depressured		X	N/A						
	Recip 11		Idle, Depressured		X	N/A			X			
	Recip 12		Running	X	X	N/A			X	X		
	Recip 13		Idle, Depressured		X	N/A						
Site 7	Recip 1		Running		X	N/A		X	X	X		
	Recip 2		Running		X	N/A		X	X	X		
	Recip 3		Running		X	N/A		X	X	X		
	Recip 4		Idle, Depressured		X	N/A			X	X		
	Recip 5		Idle, Depressured		X	N/A			X	X		
	Recip 6		Running		X	N/A		X	X	X		
Site 8	Recip 1		Idle, Depressured		X	N/A			X			
	Recip 2		Running	X	X	N/A				X		
	Recip 3		Running	X	X	N/A			X	X		
	Recip 4		Running	X	X	N/A			X	X		
	Recip 5		Running	X	X	N/A			X	X		
Site 9	Centrif 1		Running		X	X						
	Centrif 2		Running		X	X						
Site 10	Centrif 1		Running		X	X			X			
	Centrif 2		Idle, Depressured		X				X			
	Centrif 3		Running		X	X			X			
	Centrif 4		Running		X	X			X			
Site 11	Centrif 1		Running		X	X						
	Centrif 2		Idle, Depressured		X							
	Centrif 3		Running		X	X						
	Centrif 4		Running		X	X						
	Centrif 5		Running		X	X						
	Centrif 6		Running		X	X						

Station and Equipment					Rod Packing Vent Leaks				Station & Compr BD		Starter Vent		
Station	Compressor #	hP	Yr Installed	Status	Tube anemometer		Compr Total	Compr Total	Tube anemometer		Tube anemometer		
					ft/m	CFM	Avg CFD	Corrected Avg SCFD	ft/m	Corr. SCFD	ft/m	Corr. SCFD	
Site 1	Recip 1	2650	1992	Idle, pressurized	447	18.44	26,550	47,935	125	13,404.59	0	0	
	Recip 2	2650	1992	Idle, pressurized	533	21.98	31,658	57,157	125	13,404.59	0	0	
	Recip 3	2650	1992	Idle, pressurized	-	-	-	-	125	13,404.59	0	0	
	Recip 4	4200	2005	Idle, pressurized	-	-	-	-	125	13,404.59	0	0	
	Recip 5	8200	2009	Idle, depressurized, open	-	-	-	-	45	4,825.65	0	0	
	Debrine piping				Idle, pressurized	-	-	-	-	90	9,651.30	0	0
STATION AVERAGE								29,104	52,546	106	11,349.22	0	0

Station and Equipment	Compressor #	hP	Yr Installed	Status	Rod Packing Seal Leaks				Station and Compressor Blowdown Vents	
					Tube anemometer		Compr Total	Compr Total	Tube anemometer	
					ft/m	CFM	Avg CFD	Corrected Avg SCFD	ft/m	Corr. SCFD
Site 2	Recip 1	2800	1965	Idle, pressurized	0	0.00	0	0	0	0
	Recip 2	2800	1965	Idle, pressurized	0	0.00	0	0	0	0
	Recip 3	2800	1965	Idle, pressurized	175	7.22	10,394.25	18,766.42	0	0
	Recip 4	2800	1965	Idle, pressurized	333	13.74	19,778.78	35,709.82	0	0
	Recip 5	2800	1965	Idle, pressurized	75	3.09	4,454.68	8,042.75	0	0
	Recip 6	2800	1965	Idle, pressurized	-	-	-	-	0	0
	Station BD Vent #1 - Yard Piping				-	-	-	-	95	10,187.49
	Station BD Vent #2 - Idle Line piping				-	-	-	-	-	-
	Station BD Vent #3 - Yard Piping				-	-	-	-	85	9,115.12
STATION AVERAGE							6,925.54	12,503.80	23	2,412.83

Station and Equipment					Wet Seal Oil Vent			Station and Compressor Blowdown Vents	
Station	Compressor #	hP	Yr Installed	Status	Tube anemometer ft/m	3 cu ft calibrated bag (ft3/min)	Compr Total Corrected SCFD	Tube anemometer ft/m	Corr. SCFD
Site 3	Centrif 1	4800	1987	Idle, depressurized	0.00	-	0		129,756.40
	Centrif 2	4800	1982	Running	-	25.71	37,028.57	1210.00	0.00
	Centrif 3	4680	1983	Running	-	36.00	51,840.00		0.00
	Aux Seal oil gas & starter						0.0	-	
STATION AVERAGE							29,622.86	1210.00	43,252.13

Engine #	State	Stack Type	Stack ID"	Velocity (FPM)	Corrected Velocity (FPM)	Flow Rate (CFD)	Emission Rate (mol/hr)	**Mass Emission Rate (lb/hr)		
								CH ₄	CO ₂	C ₂ H ₆
Recip 1	Idle	Blow Down	6	280	489	29,021.41	3.2	48.7	1.75	2.26
Recip 2	ON	Blow Down	6	270	471	27,984.93	3.1	47.0	1.69	2.18
Recip 3	Idle	Blow Down	6	345	602	35,758.52	3.9	60.0	2.16	2.78
Recip 4	ON	Blow Down	6	260	454	26,948.45	3.0	45.2	1.63	2.10
Recip 5	Idle	Blow Down	6	650	1134	67,371.13	7.4	113.1	4.07	5.25
Recip 6	ON	Blow Down	6	310	541	32,130.84	3.5	53.9	1.94	2.50
Recip 7	Idle	Blow Down	6	750	1309	77,735.91	8.5	130.5	4.69	6.05
Recip 8	ON	Blow Down	6	510	890	52,860.42	5.8	88.7	3.19	4.12
Recip 9	Idle	Blow Down	6	1450	2530	150,289.43	16.5	252.3	9.08	11.70
Recip 10	Idle	Blow Down	6	150	262	15,547.18	1.7	26.1	0.94	1.21
Recip 11	Idle	Blow Down	6	320	558	33,167.32	3.6	55.7	2.00	2.58
Recip 12	Idle	Blow Down	6	180	314	18,656.62	2.0	31.3	1.13	1.45
Recip 13	Idle	Blow Down	8	330	576	34,203.80	3.8	57.4	2.07	2.66
Recip 14	Idle	Blow Down	8	250	436	25,911.97	2.8	43.5	1.56	2.02
Recip 15	Idle	Blow Down	6	210	366	21,766.06	2.4	36.5	1.3	1.69
3		Packing Vent	2	110	192	11,401.27	1.3	19.1	0.69	0.89
5		Packing Vent	2	100	175	10,364.79	1.1	17.4	0.63	0.81
7		Packing Vent	2	80	140	8,291.83	0.9	13.9	0.50	0.65
9		Packing Vent	2	260	454	26,948.45	3.0	45.2	1.63	2.10

Station	Compressor	Rating (HP)	Installed	Status	BD Vent configuration
Site 4	1	1235	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	2	1235	1948	Running	compressor PRV and BD line combined to one vent stack per compressor
	3	1235	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	4	1235	1948	Running	compressor PRV and BD line combined to one vent stack per compressor
	5	1235	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	6	1235	1948	Running	compressor PRV and BD line combined to one vent stack per compressor
	7	1235	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	8	1235	1948	Running	compressor PRV and BD line combined to one vent stack per compressor
	9	1235	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	10	1235	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	11	1800	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	12	1235	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	13	3500	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	14	3500	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	15	1800	1948	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor

Component Counts

Area	Valves	PRV's	simple OEL's	Connectors	Notes
Compressors, Inside Bldg	195	0	0	n/a	Not counted are 2 BD OELs per idle compressor, 1 per operating compressor.
Comp Manifolds, outside Bldg	86	19	30	n/a	
Cooling Tower piping	46	0	0	n/a	IR camera showed no emissions from this stack
Station BD System	0	0	18	n/a	

Notes:

Station Blowdown Stacks outside fence. Three stacks for station ESD. All were viewed with IR camera and none showed any leaks
"connector" components (flanges, screwed connections) were NOT made

Engine #	State	Stack Type	Stack ID"	Measured Velocity (FPM)	Corrected Velocity (FPM)	Flow Rate (CFD)	Emission Rate (mol/hr)	**Mass Emission Rate (lb/hr)		
								CH ₄	CO ₂	C ₂ H ₆
Recip 1	On	Blow Down	4	0	0.00	0.00	0.0	0.00	0.00	
Recip 2	Idle	Blow Down	4	170	296.66	17,620.14	1.9	29.6	1.07	1.37
Recip 3	Idle	Blow Down	4	90	157.05	9,328.31	1.0	15.7	0.56	0.73
Recip 4	On	Blow Down	4	0	0.00	0.00	0.0	0.0	0.00	0.00
Recip 5	Idle	Blow Down	4	1040	1,814.84	107,793.80	11.8	180.9	6.52	8.39
Recip 6	On	Packing Vent	2	540	942.32	55,969.86	6.1	94.0	3.39	4.36
Recip 7	On	Packing Vent	2	1025	1,788.67	106,239.08	11.7	178.3	6.43	8.27

Station	Compressor	Type	Installed	HP	Status	BD Vent configuration
Site 5	Recip 1	GMV-10	1948	1002	Running	compressor PRV and BD line combined to one vent stack per compressor
	Recip 2	GMV-10	1948	1002	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	Recip 3	GMV-10	1948	1002	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	Recip 4	GMV-10	1948	1002	Running	compressor PRV and BD line combined to one vent stack per compressor
	Recip 5	GMV-10	1948	1002	Idle, depressured	compressor PRV and BD line combined to one vent stack per compressor
	Recip 6	GMW	1948	2278	Idle, depressured	compressor PRV and BD line combined to two vent stacks per compressor
	Recip 7	GMW	1948	2278	Idle, depressured	compressor PRV and BD line combined to two vent stacks per compressor

Component Counts

Area	Valves	PRV's	OEL's	Connectors	Notes
Compressors, Inside Building	35	0	0	n/a	Not counted are 2 BD OELs per idle compressor, 1 per operating compressor.
Comp Manifolds, outside Bldg	110	9	0	n/a	
Station BD System	0	0	unknown	n/a	IR camera showed no emissions from this stack

Notes:

B plant handles Field gas, and sends it to neighboring Gas Processing Plant, which is a separate facility. It handles sour gas
A plant is head station on a mainline, boosting from 180 psig to 500 psig outlet. It handles sweet gas from the Gas Processing Plant
No vent stack measurements were made for the B train, to avoid any sour gas exposure (safety issue)
"connector" components (flanges, screwed connections) were NOT made

Station and Equipment			Rod Packing Seal Leaks								Blowdown Line Leaks							Discharge PRV		Lube Oil Tank			
Station	Compressor #	Status	Hot wire anemometer raw ft/m				Volume Conversion for 1/2" tube (CFM)				Compr Total	Compr Total	Tube anemometer ft/m					Tube anemometer ft/m		Tube anemometer ft/m			
			Cyl 1	Cyl 2	Cyl 3	Cyl 4	Cyl 1	Cyl 2	Cyl 3	Cyl 4	Avg CFD	Corrected Avg SCFD	2" BD	1" BD	Combined	Corr. SCFD	VPAC Comparison		corrected SCFD	VPAC Comparison	corrected SCFD		
Site 6	Recip 1	Running	0	276	0	0	0.00	0.38	0.00	0.00	542	387	0	0	0	0	7.28		-	-	47	4552.70	
	Recip 2	Running	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0	0	7.46	0	0	-	0	0	0.00	
	Recip 3	Running	0	65	0	0	0.00	0.09	0.00	0.00	128	91	0	0	0	0	7.29		-	-	95	9202.27	
	Recip 4	Running	40	70	0	0	0.05	0.10	0.00	0.00	216	154	0	0	0	0	7.02	0	0	-	392	37971.46	
	Recip 5	Running	2043	101	121	8	2.79	0.14	0.16	0.01	4463	3187	0	0	0	0	7.84	180	17,435.88	-	262	25378.89	
	Recip 6	Running											0	95	95	1216.83	7.61	0	0	-	-	-	
	Recip 7	Idle, depressured											0	0	0	0	40.17	0	0	-	-	-	
	Recip 8	Idle, depressured											0	0	0	0	40.17	0	0	-	-	-	
	Recip 9	Running	79	525	21	4	0.11	0.72	0.03	0.01	1235	882	0	0	0	0	40.17	152	14,723.63	-	770	74586.80	
	Recip 10	Idle, depressured											0	0	0	0	40.17		-	-	-	-	
	Recip 11	Idle, depressured											0	0	0	0	40.17	0	0	-	-	-	
	Recip 12	Running	0	27	53	0	0.00	0.04	0.07	0.00	157	112	0	0	0	0	7.33	0	0	-	60	5811.96	
	Recip 13	Idle, depressured											0	0	0	0	40.17		-	-	-	-	
STATION AVERAGE											963	688			7	94	23		37	3,573.28	#DIV/0!	232	22,500.58

Note: Correction factor needs to be applied to all tube anemometer readings for % methane

Station and Equipment			Rod Packing Seal Leaks								Blowdown Line Leaks					Discharge PRV		Lube Oil Tank				
Station	Compressor #	Status	Hot wire anemometer raw ft/m				Volume Conversion for 1/2" tube (cf/m)				Compr Total	Compr Total	Tube anemometer ft/m					ft/m		ft/m		
			Cyl 1	Cyl 2	Cyl 3	Cyl 4	Cyl 1	Cyl 2	Cyl 3	Cyl 4	Avg CFD	Corrected Avg SCFD	2" BD	1" BD	Combined	Corr. SCFD	VPAC Comparison Combined 2" and 1" (SCFD)	corrected SCFD	VPAC Comparison	corrected SCFD		
Site 7	Recip 1	Running	7	4	0	0	0.01	0.01	0.00	0.00	22	15	0	0	0	0	9.02	45	3,914.03	-	-	-
	Recip 2	Running	75	30	67	15	0.10	0.04	0.09	0.02	367	262	0	0	0	0	9.10	0	0	-	-	-
	Recip 3	Running	220	33	3	8	0.30	0.04	0.00	0.01	518	370	0	0	0	0	9.27	0	0	-	-	-
	Recip 4	Idle, depressured											0	0	0	0	-	0	0	-	-	-
	Recip 5	Idle, depressured											0	0	0	0	-	0	0	-	-	-
	Recip 6	Running	35	0	62	123	0.05	0.00	0.08	0.17	432	309	0	0	0	0	9.03	0	0	-	-	-
	Recip 7	Idle, depressured															-			-	-	-
	Recip 8	Idle, depressured															-			-	-	-
STATION AVERAGE											335	239			0	0	9.10	8	652	-	0	-

Note: Correction factor needs to be applied to all tube anemometer readings for % methane
Note: Correction factor needs to be applied to all tube anemometer readings for % methane

Note: large lube oil tank

Station and Equipment			Rod Packing Seal Leaks								Compr Total		Compr Total		Blowdown Line Leaks					Discharge PRV			Lube Oil Tank	
Station	Compressor #	Status	Hot wire anemometer raw ft/m				Volume Conversion for 1/2" tube (CFM)				Avg CFD	Corrected Avg SCFD	2" BD	1" BD	Tube anemometer ft/m			ft/m	Corrected SCFD	VPAC Comparison	ft/m	Corrected SCFD		
			Cyl 1	Cyl 2	Cyl 3	Cyl 4	Cyl 1	Cyl 2	Cyl 3	Cyl 4					Combined	Corrected SCFD	VPAC Comparison SCFD							
Site 8	Recip 1	Idle, depressed											0	0	0	0	38.02	0	0	-	-	-		
	Recip 2	Running	11	5	25	15	0.01	0.01	0.03	0.02	109.96	78.33	0	0	0	0	5.29	-	-	-	-	0	0	
	Recip 3	Running	9	43	40	870	0.01	0.06	0.05	1.19	1,888.88	1,345.65	0	0	0	0	8.13	0	0	-	-	0	0	
	Recip 4	Running	5	0	117	0	0.01	0.00	0.16	0.00	239.55	170.65	0	0	0	0	8.18	0	0	-	-	0	0	
	Recip 5	Idle, Depressed															-	-	-	-	-	-	-	
	Recip 6	Idle, Disassembled											0	0	0	0	36.63	-	-	-	-	-	-	
	Recip 7	Running	0	8	1366	445	0.00	0.01	1.86	0.61	3,571.60	2,544.43	0	0	0	0	7.99	0	0	-	-	0	0	
STATION AVERAGE											1,452.50	1,034.77			0	0	17.37	0	0	#DIV/0!	-	0	0	

Station and Equipment			Wet Seal Degassing							Blowdown Line Leaks				
Station	Compressor #	Status							Compr Total	Inserted Hotwire anemometer ft/m				
									Corrected Avg SCFD	Site BD #1 (2 compr + 1 stn)	Site BD #2 (see list below)	Corr Site BD #1	Corr Site BD #2	VPAC Comparison
			Hot wire anemometer in 3/4" diam plug			Tube Anemometer								
			Raw ft/m	CFM	Corr cfm	Raw ft/m	CFM	Corr cfm		Raw ft/m	Raw ft/m	Corr SCFD	Corr SCFD	SCFD
Site 9	Centrif 1	Running	130	0.40	0.28	60	2.47	3.91	3,021.06	-	-			
	Centrif 2	Running	120	0.37	0.26	76	3.13	4.95	3,756.20	-	-			
										0	-	0		50.28
										-	28		195.4864	22.24
STATION AVERAGE									3,388.63			0	195	36

Station and Equipment			Wet Seal Degassing						Blowdown Line Leaks					Discharge PRV		Lube Oil Tank		
Station	Compressor #	Status	100 liter bag fill times (sec)				Compr Total	Compr Total	Tube anemometer ft/m					ft/m			ft/m	
							Avg CFD	Corrected Avg SCFD	Site BD #1 (4 compr + 2 stn + 2 prv)	Site BD #2 (1 ESD)	Corr Site BD #1 (SCFD)	Corr Site BD #2 (SCFD)	VPAC Comparison (SCFD)		corrected SCFD	VPAC Comparison		corrected SCFD
Site 10	Centrif 1	Running	Meas 1 8.4	Meas 2 3.5	Meas 3 5.9	AVG 5.9	18,103.71	18,103.71										
	Centrif 2	Idle, depressured				n/a												
	Centrif 3	Running	22.5	22.6	14.3	19.8	60,413.51	60,413.51										
	Centrif 4	Running	177	> 240		unknown			482		44745.54		193.54					
STATION AVERAGE							39,258.61	39,258.61		85	44,745.54	7,890.81	105.56					

Station and Equipment			Wet Seal Degassing						Blowdown Line Leaks			
Station	Compressor #	Status	100 liter bag fill times (sec)				Compr Total	Compr Total	Tube anemometer ft/m			
							Avg CFD	Corrected Avg (SCFD)	Train BD	Corr Site BD (SCFD)	Corr Site BD per Compressor (SCFD)	VPAC Comparison (SCFD)
Site 11			Meas 1	Meas 2	Meas 3	AVG						
	Centrif 1	Running	2.4	5.2	4.9	4.2	12,713.28	12,713.28			747.88	5.78
	Centrif 2	Idle, depressured									747.88	84.28
	Centrif 3	Running	4.2	5.8	4.4	4.8	14,645.70	14,645.70			747.88	6.04
	Centrif 4	Running	13.5	11.1	10.5	11.7	35,698.89	35,698.89	770	2991.52	747.88	6.72
	Centrif 5	Running	6.2	6.6	9.6	7.5	22,782.20	22,782.20			339.95	5.36
	Centrif 6	Running	10.7	10	8.3	9.7	29,494.81	29,494.81	175	679.89	339.95	5.52
STATION AVERAGE							23,066.98	23,066.98			611.90	18.95

Centrifugal

Total

Scenario	Site 10	Site 9	Site 11	Site 3	Sample Size	Average (scfd)	Average (Mscfy)
Average BD vent for run	--	0	680	0	6	113	41
Average BD vent for Idle + run	44,746	--	2,992	129,756	11	4,340	1,584
Wet Seal (run)	78,517	6,777	115,335		9	22,292	8,137

Reciprocating at transmission compressor

Scenario	Site 1	Site 2	Site 4	Site 5	Sample Size	Average (scfd)	Average (Mscfy)
Average BD vent for Idle + pressurized	53,618	0			10	5,362	1,957
Average BD for run*			139,924.64	0.00	6	23,321	8,512
Average BD + Idle + depressurized*	4,825.65		509,429.36	134,742.25	15	43,266	15,792
Average Rod Packing for Idle + pressurized	105,092	62,518.99			5	33,522	12,236
Average Rod Packing for run				162,208.94	2	81,104	29,603

*Vent included PRVs

Reciprocating at gathering boosting

Scenario	Site 6	Site 7	Site 8	Sample Size	Average (scfd)	Average (Mscfy)
Average BD vent for run	1217	0	0	16	76	28
Average BD vent for Idle + depressurized	0	0	0	8	0	0
Average PRV for run	32,159.51	3,914.03	0	12	3,006	1,097
Average PRV for Idle + depressurized	0	0	0	6	N/A	N/A
Average Rod Packing for run	4814	957	4,139.07	15	661	241

Component Counts

Site 1

Component	Total	Number of Leakers	Average Leak Rate for Leaking Components (Mscfy)	Component Emission Factor (Mscfy)
Valves	336	1	83.52	0.25
Flanges	537	4	41.29	0.08
Compressor Seals	30	0	0	0
Rod Packing Vents	5	3	1155.76	231.15

Site 2

Component	Total	Number of Leakers	Average Leak Rate for Leaking Components (Mscfy)	Component Emission Factor (Mscfy)
Valves	505	2	47.33	0.09
Flanges	230	4	101.15	0.44
Compressor Seals	30	0	0	0
OELs	12	0	0	0
Connectors	228	0	0	0
Rod Packing Vent	6	3	1391.92	231.99

Site 3

Component	Total	Number of Leakers	Average Leak Rate for Leaking Components (Mscfy)	Component Emission Factor (Mscfy)
Valves	211	3	394.69	1.87
Threaded Connections	213	0	0	0
Flanges	477	0	0	0
Compressor Seals	6	0	0	0
PRVs	11	0	0	0
OELs	3	0	0	0
Connectors	311	0	0	0
Total Connectors	524	0	0	0

Site 4

Component	Total	Number of Leakers	Average Leak Rate for Leaking Components (Mscfy)	Component Emission Factor (Mscfy)
Valves	327	3	185.01	0.57
Flanges		6	71.74	#DIV/0!
PRVs	19	0	0	0
OELs	48	0	0	0
Vents		2	69.12	#DIV/0!

Site 5

Component	Total	Number of Leakers	Average Leak Rate for Leaking Components (Mscfy)	Component Emission Factor (Mscfy)
Valves	255	5	131.51	0.52
PRVs	9	0	0	0
OELs	0	0	0	0

Component	Average Count	Standard Deviation
Valves	327	112
Flanges	415	163
Compressor Seals	22	14
PRVs	13	5
OELs	14	20
Connectors	376	209
Rod Packing Vent		

Fugitive emissions from valves, flanges, and other components

Component	Sample Size (Number of Leaking Components)	Mscfy	Average Leak Rate for Leaking Components (Mscfy)	Standard Deviation (Mscfy)	Component Emission Factor (Mscfy)
Valves	14	2,849.55	203.54	239.89	
Flanges	14	588.28	42.02	57.02	
Compressor Seals	0				
PRVs	0				
OELs	0				
Connectors	0				
Rod Packing Vent	8	8,137.13	1,017.14	1,742.88	

Reciprocating at gathering boosting

Site	Equipment Name	Run Mode	Rod Packing Seal Leaks	Blowdown Line Leaks		Discharge PRV	Lube Oil Tank
			SCFD	SCFD	VPAC Measurement SCFD	SCFD	SCFD
Site 6	Recip 1	Running	387.03	0.00	7.28	-	4,552.70
	Recip 2	Running	0.00	0.00	7.46	0.00	0.00
	Recip 3	Running	91.15	0.00	7.29	0.00	9,202.27
	Recip 4	Running	154.25	0.00	7.02	0.00	37,971.46
	Recip 5	Running	3,187.36	0.00	7.84	17,435.88	25,378.89
	Recip 6	Running	0.00	1,216.83	7.61	0.00	-
	Recip 7	Idle, depressured	0.00	0.00	40.17	0.00	-
	Recip 8	Idle, depressured	0.00	0.00	40.17	0.00	-
	Recip 9	Running	882.03	0.00	40.17	14,723.63	74,586.80
	Recip 10	Idle, depressured	0.00	0.00	40.17	-	-
	Recip 11	Idle, depressured	0.00	0.00	40.17	0.00	-
	Recip 12	Running	112.18	0.00	7.33	0.00	5,811.96
	Recip 13	Idle, depressured	0.00	0.00	40.17	-	-
Site 7	Recip 1	Running	15.44	0.00	9.02	3,914.03	-
	Recip 2	Running	262.40	0.00	9.10	0.00	-
	Recip 3	Running	370.45	0.00	9.27	0.00	-
	Recip 4	Idle, depressured	0.00	0.00	-	0.00	-
	Recip 5	Idle, depressured	0.00	0.00	-	0.00	-
	Recip 6	Running	308.71	0.00	9.03	0.00	-
Site 8	Recip 1	Idle, depressured	0.00	0.00	38.02	0.00	-
	Recip 2	Running	78.33	0.00	5.29	-	0.00
	Recip 3	Running	1,345.65	0.00	8.13	0.00	0.00
	Recip 4	Running	170.65	0.00	8.18	0.00	0.00
	Recip 5	Running	2,544.43	0.00	7.99	0.00	0.00

Reciprocating at transmission compressor

Site	Equipment Name	Run Mode	Blowdown Line Leaks	Rod Packing Vent
			SCFD	SCFD
Site 1	Recip 1	Idle, pressurized	13,404.59	47,934.80
	Recip 2	Idle, pressurized	13,404.59	57,157.16
	Recip 3	Idle, pressurized	13,404.59	-
	Recip 4	Idle, pressurized	13,404.59	-
	Recip 5	Idle, depressurized, open	4,825.65	-
Site 2	Recip 1	Idle, pressurized	0.00	0.00
	Recip 2	Idle, pressurized	0.00	0.00
	Recip 3	Idle, pressurized	0.00	18,766.42
	Recip 4	Idle, pressurized	0.00	35,709.82
	Recip 5	Idle, pressurized	0.00	8,042.75
	Recip 6	Idle, pressurized	0.00	-
	Station BD Vent #1 - Yard Piping	n/a	10,187.49	-
	Station BD Vent #2 - Idle Line piping	n/a	-	-
Station BD Vent #3 - Yard Piping	n/a	9,115.12	-	
Site 4	Recip 1	Idle, depressured	29,021.41	-
	Recip 2	Running	27,984.93	-
	Recip 3	Idle, depressured	35,758.52	11,401.27
	Recip 4	Running	26,948.45	-
	Recip 5	Idle, depressured	67,371.13	10,364.79
	Recip 6	Running	32,130.84	-
	Recip 7	Idle, depressured	77,735.91	8,291.83
	Recip 8	Running	52,860.42	-
	Recip 9	Idle, depressured	150,289.43	26,948.45
	Recip 10	Idle, depressured	15,547.18	-
	Recip 11	Idle, depressured	33,167.32	-
	Recip 12	Idle, depressured	18,656.62	-
	Recip 13	Idle, depressured	34,203.80	-
	Recip 14	Idle, depressured	25,911.97	-
	Recip 15	Idle, depressured	21,766.06	-
Site	Equipment Name	Run Mode	Blowdown Line Leaks	Rod Packing Vent
Site 5	Recip 1	Running	0.00	*
	Recip 2	Idle, depressured	17,620.14	*
	Recip 3	Idle, depressured	9,328.31	*
	Recip 4	Running	0.00	*
	Recip 5	Idle, depressured	107,793.80	*
	Recip 6	Idle, depressured	*	55,969.86
	Recip 7	Idle, depressured	*	106,239.08

Centrifugal

Site	Equipment Name	Run Mode	Wet Seal Degassing	Blowdown Line Leaks	
			SCFD	SCFD	VPAC Comparison SCFD
Site 3	Centrif 1	Idle, depressurized	0.00	129,756.40	-
	Centrif 2	Running	37,028.57	0.00	-
	Centrif 3	Running	51,840.00	0.00	-
Site 9	Centrif 1	Running	3,021.06	0.00	50.28
	Centrif 2	Running	3,756.20	195.49	22.24
Site 10	Centrif 1	Running	18,103.71	-	-
	Centrif 2	Idle, depressured	0.00	-	-
	Centrif 3	Running	60,413.51	-	-
	Centrif 4	Running	0.00	-	-
	Blow Down #1 - Combined (4 compressors + 2 stations + 2 PRVs)	n/a	-	44,745.54	193.54
	Blow Down #2 - Emergency Shutoff Valve	n/a	-	7,890.81	17.57
	Centrif 1	Running	12,713.28	-	5.78
Site 11	Centrif 2	Idle, depressured	0.00	747.88	84.28
	Centrif 3	Running	14,645.70		6.04
	Centrif 4	Running	35,698.89		6.72
	Centrif 5	Running	22,782.20	339.95	5.36
	Centrif 6	Running	29,494.81		5.52

		Blowdown Line Leaks	
		Corrected SCFD	VPAC Measurement SCFD
Site 6	00075	0	7.28
	76461	0	7.46
	76454	0	7.29
	00006	0	7.02
	00072	0	7.84
	76821	1216.82883	7.61
	00243	0	40.17
	76157	0	40.17
	00067	0	40.17
	00052	0	40.17
	00051	0	40.17
	00058	0	7.33
	70436	0	40.17
Site 7	00021	0.00	9.02
	00078	0.00	9.10
	00074	0.00	9.27
	00040	0.00	9.03
Site 8	00018	0.00	38.02
	00099	0.00	5.29
	00050	0.00	8.13
	00019	0.00	8.18
	76611	0.00	7.99
Site 10	Blow Down #1 - Combined (4 compressors + 2 stations + 2 pressure relief valves)	44745.54	193.54
	Blow Down #2 - Emergency Shutoff Valve	7890.81	17.57
Site 9	A	0.00	50.28
	B	195.49	22.24
Site 11	Y-1	747.88	5.78
	Y-2	0.00	84.28
	Y-3	0.00	6.04
	Y-4	0.00	6.72
	K-1	339.95	5.36
	K-2	0.00	5.52

Site	Valve Mscf/yr	Flange Mscf/yr
Site 1	83.52	77.95
		11.14
		53.82
		7.42
		22.27
Site 2	53.82	111.35
	40.83	118.78
		87.23
		87.23
Site 3	1033.73	
	11.14	
	139.19	
Site 4	14.72	161.88
	331.65	38.37
	208.66	157.15
		45.73
		19.97
Site 5	62.02	29.43
	176.60	129.82
	259.65	