

BARNETT SHALE IMPACTS ANALYSIS

Impacts Review Summary

- (1) Based on Receptor and Property Line Distances
(Is there a receptor or property line within the specified distance of the registration? The distances are 1/4 mile for PBR Level 1, 1/2 mile for PBR Level 2, and 1 mile for Standard Permit.)

Authorization selected for this site:	Non-Rule Standard Permit
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Shortest distance in feet to any receptor from any facility/unit included in this registration	5,000.00 ft
Shortest distance in feet to any property line from any facility/unit included in this registration	200.00 ft

Based on the nearest receptor distance:	A full impacts review is required for Benzene.
Based on the nearest property line	A full impacts review is required for H2S, SO2, and NO2.

- (2) Based on Net Project Emission Increases
(Are the net project emission increases less than any of the de-minimis rates?)

	De-minimis Rates (lb/hr)	Net Project Emission Increases			
		steady state lb/hr	< 30 psig periodic lb/hr	≥ 30 psig periodic lb/hr	TPY
Benzene	0.0390	0.2954	0.3818	0.3818	0.1922
H2S	0.0250	0.0002	0.0005	0.0005	0.0001
SO2	2.0000	0.0217	0.0217	0.0217	0.0097
NOX	4.0000	21.4853	21.4853	21.4853	6.3535

Based on the net project emission increases:
A full impacts review is required for Benzene.
A full impacts review is NOT required for H2S.
A full impacts review is NOT required for SO2.
A full impacts review is required for NO2.

- (3) Based on the Project Maximum Predicted Concentrations
(Are project max. predicted Benzene concentrations ≤ 10% of the applicable effects screening level (ESL) or ≤ 25% of the applicable ESL? Are project maximum predicted H2S, SO2, and NOX concentrations ≤ the significant impact level, SIL, where SIL = 4% of the applicable ambient air standard (AAQS)?)

This exemption has not been considered.

- (4) **Based on the above assessment from (1) - (3):**
- | |
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| A full impacts review is required for Benzene. Please see Benzene impacts table for detailed evaluation. |
| A full impacts review is NOT required for H2S. |
| A full impacts review is NOT required for SO2. |
| A full impacts review is required for NO2. Please see NO2 modeling table for detailed evaluation. |

Hibernia Resources IV, LLC
Talbot South (RTF South) Battery

Full Impacts Review - Benzene

Benzene Hourly Steady State - Impact Review										
EPN	FIN	Source Name	TCEQ Impacts table corresponding to EPN	Steady state hourly estimated emissions (lb/hr)	WREPNx	ESLbenzene, short term (µg/m3)	Distance to nearest receptor (ft)	Height of emission release point (ft)	GEPNx	Emax, EPNx, hourly, steadystate (lb/hr)
HT-01	HT-01	Heater Treater	Proc. Vessel Vent	1.7E-06	5.7E-06	170	5,000.00	20	22.0	4.4E-05
HT-02	HT-02	Heater Treater	Proc. Vessel Vent	1.7E-06	5.7E-06	170	5,000.00	20	22.0	4.4E-05
Tanks	Tanks	All Storage Tanks	Tank Hatch	2.9E-01	9.9E-01	170	5,000.00	20	16.2	1.0E+01
FUG-1	FUG-1	Sitewide Fugitives	Fugitive	2.6E-03	8.8E-03	170	5,000.00	3	13.2	1.1E-01
AOS-FL-01	Multiple - Consolidated	Combustion Flare	Flare/Therm Dest.	0.0E+00	0.0E+00	170	5,000.00	25.00	11.0	0.0E+00
Benzene Hourly Steady State - Impacts Review Summary				Estimated, total, hourly, steadystate (lb/hr)	Total	Pass				Emax, total, hourly, steadystate (lb/hr)
				2.95E-01	100%					1.05E+01

Notes

1. Please refer to individual emissions calculation tables for steady-state emission rates information.

Hibernia Resources IV, LLC
Talbot South (RTF South) Battery

Full Impacts Review - Benzene

Benzene Hourly Low Pressure Periodic - Impact Review										
EPN	FIN	Source Name	TCEQ Impacts table corresponding to EPN	LP Periodic hourly estimated emissions (lb/hr)	WREPNx	ESLbenzene, short term (µg/m3)	Distance to nearest receptor (ft)	Height of emission release point (ft)	GEPNx	E _{max} , EPN _x , hourly, LP periodic (lb/hr)
HT-01	HT-01	Heater Treater	Proc. Vessel Vent	1.7E-06	4.4E-06	170	5,000.00	20	22.0	3.4E-05
HT-02	HT-02	Heater Treater	Proc. Vessel Vent	1.7E-06	4.4E-06	170	5,000.00	20	22.0	3.4E-05
Tanks	Tanks	All Storage Tanks	Tank Hatch	2.9E-01	7.7E-01	170	5,000.00	20	16.2	8.0E+00
OIL-LD-01	OIL-LD-01	Tank Truck Oil Loading	Loading	8.6E-02	2.2E-01	170	5,000.00	10	16.8	2.3E+00
WTR-LD-01	WTR-LD-01	Tank Truck Produced Water Loading	Loading	8.6E-04	2.3E-03	170	5,000.00	10	16.8	2.3E-02
FUG-1	FUG-1	Sitewide Fugitives	Fugitive	2.6E-03	6.8E-03	170	5,000.00	3	13.2	8.8E-02
AOS-FL-01	Multiple - Consolidated	Combustion Flare	Flare/Therm Dest.	0.0E+00	0.0E+00	170	5,000.00	25.00	11.0	0.0E+00
MSS-MISC	MSS - Well Unloading	Misc. Degassing	Low P. Blowd./Purg./Pig.	0.0E+00	0.0E+00	170	5,000.00	10	28.0	0.0E+00
Benzene Hourly Low Pressure Periodic - Impacts Review Summary				Estimated, total, hourly, LP periodic (lb/hr)	Total	Pass				E _{max} , total, hourly, LP periodic (lb/hr)
				3.82E-01	100%					1.04E+01

Notes

1. Periodic emissions impacts table has been setup to conservatively include both steady-state and periodic emissions.

Hibernia Resources IV, LLC
Talbot South (RTF South) Battery

Full Impacts Review - Benzene

Benzene Hourly High Pressure Periodic - Impact Review										
EPN	FIN	Source Name	TCEQ Impacts table corresponding to EPN	HP Periodic hourly estimated emissions (lb/hr)	WREPNx	ESLbenzene, short term (µg/m3)	Distance to nearest receptor (ft)	Height of emission release point (ft)	GEPNx	Emax, EPNx, hourly, HP periodic (lb/hr)
HT-01	HT-01	Heater Treater	Proc. Vessel Vent	1.7E-06	4.4E-06	170	5,000.00	20	22.0	3.4E-05
HT-02	HT-02	Heater Treater	Proc. Vessel Vent	1.7E-06	4.4E-06	170	5,000.00	20	22.0	3.4E-05
Tanks	Tanks	All Storage Tanks	Tank Hatch	2.9E-01	7.7E-01	170	5,000.00	20	16.2	8.0E+00
OIL-LD-01	OIL-LD-01	Tank Truck Oil Loading	Loading	8.6E-02	2.2E-01	170	5,000.00	10	16.8	2.3E+00
WTR-LD-01	WTR-LD-01	Tank Truck Produced Water Loading	Loading	8.6E-04	2.3E-03	170	5,000.00	10	16.8	2.3E-02
FUG-1	FUG-1	Sitewide Fugitives	Fugitive	2.6E-03	6.8E-03	170	5,000.00	3	13.2	8.8E-02
AOS-FL-01	Multiple - Consolidated	Combustion Flare	Flare/Therm Dest.	0.0E+00	0.0E+00	170	5,000.00	25.00	11.0	0.0E+00
MSS-MISC	MSS - Well Unloading	Misc. Degassing	Low P. Blowd./Purg./Pig.	0.0E+00	0.0E+00	170	5,000.00	10	28.0	0.0E+00
Benzene Hourly High Pressure Periodic - Impacts Review Summary				Estimated, total, hourly, HP periodic (lb/hr)	Total	Pass				Emax, total, hourly, HP periodic (lb/hr)
				3.82E-01	100%					1.04E+01

Notes

1. Periodic emissions impacts table has been setup to conservatively include both steady-state and periodic emissions.

Hibernia Resources IV, LLC
Talbot South (RTF South) Battery

Full Impacts Review - Benzene

Benzene Annual - Impact Review										
EPN	FIN	Source Name	TCEQ Impacts table corresponding to EPN	Annual estimated emissions (tpy)	WREPNx	ESLbenzene, long term (µg/m3)	Distance to nearest receptor (ft)	Height of emission release point (ft)	GEPNx	Emax,EPNx, annual (tpy)
HT-01	HT-01	Heater Treater	Proc. Vessel Vent	7.3E-06	3.8E-05	4.5	5,000.00	20	22.0	4.3E-04
HT-02	HT-02	Heater Treater	Proc. Vessel Vent	7.3E-06	3.8E-05	4.5	5,000.00	20	22.0	4.3E-04
Tanks	Tanks	All Storage Tanks	Tank Hatch	1.3E-01	6.5E-01	4.5	5,000.00	20	16.2	9.9E+00
OIL-LD-01	OIL-LD-01	Tank Truck Oil Loading	Loading	5.4E-02	2.8E-01	4.5	5,000.00	10	16.8	9.0E-01
WTR-LD-01	WTR-LD-01	Tank Truck Produced Water Loading	Loading	1.8E-03	9.3E-03	4.5	5,000.00	10	16.8	1.2E-01
FUG-1	FUG-1	Sitewide Fugitives	Fugitive	1.1E-02	5.9E-02	4.5	5,000.00	3	13.2	1.1E+00
AOS-FL-01	Multiple - Consolidated	Combustion Flare	Flare/Therm Dest.	0.0E+00	0.0E+00	4.5	5,000.00	25.00	11.0	0.0E+00
MSS-MISC	MSS - Well Unloading	Misc. Degassing	Low P. Blowd./Purg./Pig.	0.0E+00	0.0E+00	4.5	5,000.00	10	28.0	0.0E+00
Benzene Annual Emissions - Impacts Review Summary				Estimated, total, annual (tpy)	Total	Pass				Emax, total, annual (tpy)
				1.92E-01	100%					1.20E+01

Notes

1. Please refer to individual emissions calculation tables for annual emission rates information.

Hibernia Resources IV, LLC
Talbot South (RTF South) Battery

Full Impacts Review - H2S

H2S Hourly Steady State - Impact Review										
EPN	FIN	Source Name	TCEQ Impacts table corresponding to EPN	Steady state hourly emissions (lb/hr)	WREPNx	AAQSH2S, hourly (µg/m3)	Distance to nearest property line (ft)	Height of emission release point (ft)	GEPNx	Emax,EPNx, hourly, steadystate (lb/hr)
Tanks	Tanks	All Storage Tanks	Tank Hatch	0.0E+00	0.0E+00	108	200.00	20	183.0	0.0E+00
FUG-1	FUG-1	Sitewide Fugitives	Fugitive	8.9E-06	3.9E-02	108	200.00	3	1,853.4	2.2E-03
AOS-FL-01	Multiple - Consolidated	Combustion Flare	Flare/Therm Dest.	2.2E-04	9.6E-01	108	200.00	25.00	50.5	2.1E+00
H2S Hourly Steady State - Impacts Review Summary				Estimated, total, hourly, steadystate (lb/hr)		Pass				Emax,total, hourly, steadystate (lb/hr)
				2.30E-04	Total 100%					2.06E+00

Notes

1. Please refer to individual emissions calculation tables for steady-state emission rates information.

Hibernia Resources IV, LLC
Talbot South (RTF South) Battery

Full Impacts Review - H2S

H2S Hourly Low Pressure Periodic - Impact Review										
EPN	FIN	Source Name	TCEQ Impacts table corresponding to EPN	LP Periodic hourly emissions (lb/hr)	WREPNx	AAQSH2S, hourly (µg/m3)	Distance to nearest property line (ft)	Height of emission release point (ft)	GEPNx	Emax,EPNx, hourly, LP periodic (lb/hr)
Tanks	Tanks	All Storage Tanks	Tank Hatch	0.0E+00	0.0E+00	108	200.00	20	183.0	0.0E+00
OIL-LD-01	OIL-LD-01	Tank Truck Oil Loading	Loading	0.0E+00	0.0E+00	108	200.00	10	739.2	0.0E+00
WTR-LD-01	WTR-LD-01	Tank Truck Produced Water Loading	Loading	0.0E+00	0.0E+00	108	200.00	10	739.2	0.0E+00
FUG-1	FUG-1	Sitewide Fugitives	Fugitive	8.9E-06	1.8E-02	108	200.00	3	1,853.4	1.0E-03
AOS-FL-01	Multiple - Consolidated	Combustion Flare	Flare/Therm Dest.	2.2E-04	4.4E-01	108	200.00	25.00	50.5	9.5E-01
MSS-MISC	MSS - Well Unloading	Misc. Degassing	Low P. Blowd./Purg./Pig.	2.7E-04	5.4E-01	108	200.00	10	763.0	7.6E-02
H2S Hourly Low Pressure Periodic - Impacts Review Summary				Estimated, hourly, LP periodic (lb/hr)	Total	Pass				Emax, hourly, LP periodic (lb/hr)
				5.00E-04	100%					1.02E+00

Notes

1. Periodic emissions impacts tables have been setup to conservatively include both steady-state and periodic emissions that could occur simultaneously any given hour.

Hibernia Resources IV, LLC
Talbot South (RTF South) Battery

Full Impacts Review - H2S

H2S Hourly High Pressure Periodic - Impact Review										
EPN	FIN	Source Name	TCEQ Impacts table corresponding to EPN	HP Periodic hourly emissions (lb/hr)	WREPNx	AAQSH2S, hourly (µg/m3)	Distance to nearest property line (ft)	Height of emission release point (ft)	GEPNx	E _{max} ,EPNx, hourly, HP periodic (lb/hr)
Tanks	Tanks	All Storage Tanks	Tank Hatch	0.0E+00	0.0E+00	108	200.00	20	183.0	0.0E+00
OIL-LD-01	OIL-LD-01	Tank Truck Oil Loading	Loading	0.0E+00	0.0E+00	108	200.00	10	739.2	0.0E+00
WTR-LD-01	WTR-LD-01	Tank Truck Produced Water Loading	Loading	0.0E+00	0.0E+00	108	200.00	10	739.2	0.0E+00
FUG-1	FUG-1	Sitewide Fugitives	Fugitive	8.9E-06	1.8E-02	108	200.00	3	1,853.4	1.0E-03
AOS-FL-01	Multiple - Consolidated	Combustion Flare	Flare/Therm Dest.	2.2E-04	4.4E-01	108	200.00	25.00	50.5	9.5E-01
MSS-MISC	MSS - Well Unloading	Misc. Degassing	Low P. Blowd./Purg./Pig.	2.7E-04	5.4E-01	108	200.00	10	763.0	7.6E-02
H2S Hourly High Pressure Periodic - Impacts Review Summary				Estimated, hourly, HP periodic (lb/hr)		Pass			E _{max} , hourly, HP periodic (lb/hr)	
				5.00E-04	Total				1.02E+00	

Notes

1. Periodic emissions impacts tables have been setup to conservatively include both steady-state and periodic emissions that could occur simultaneously any given hour.