Facility Well Name Holly Frontier #1 **UIC Permit #** KS-01-115-001 **Month** May **Year** 2019

Submitted 06/27/2019 **Approved** 07/05/2019 **KOLAR Document ID** 1464427

Class I-V Injection Well Monthly Monitoring

Summary of Monthly Report

Number of days injection occurred: 31

Barrels per Day Maximum: 6,167

			Annulus Pressure psig min 60		Injection Pressure		
	Injection Volume Barrels per Day	Injection Rate Barrels per Minute	Gauge psig	Cont. Record psig	Gauge psig	Cont. Record psig	Amount Added to Seal Pot
Monthly Average	1,206	0.88	149	148	-22.1	-25.4	
Monthly Maximum	1,433	1.17	172	174	-21.0	-19.7	
Monthly Minimum	868	0.45	138	137	-23.0	-26.2	
Monthly Total	37,394						

Summary of Continuous Recorder Data

Maximum Annulus Pressure psig	Minimum Annulus Pressure psig	Maximum Injection Pressure psig	Minimum Injection Pressure psig
176.30	134.80	13.50	26.30

Comments:

Holly Frontier #1 05/2019

Daily Recorder Data

Day	Time 24 hr	Injection Volume Barrels Per Day	Injection Rate Barrels Per Minute	Annulus Pressure (Gauge) psig	Annulus Pressure (Continuous Recorder) psig	Injection Pressure (Gauge) + / -	Injection Pressure (Continuous Recorder) + / -	Seal Pot Fluid Level inches	Type of Fluid Added to Seal Pot	Amount of Fluid Added to Seal Pot gallons	Initials of Collector of Field Recordings		
1	10:29	1,287.60	0.79	148	147.0	-21	-26.0	16			CM		
2	08:20	1,365.00	1.02	150	149.0	-22	-25.9	17			CM		
3	05:55	1,357.76	1.17	150	152.0	-22	-25.9	17			CM		
4	08:25	1,227.17	0.90	154	152.0	-22	-25.8	17			SW		
5	08:05	1,187.21	0.93	150	150.0	-22	-25.9	17			SW		
6	08:00	1,180.21	0.88	150	149.0	-22	-26.0	17			RC		
7	08:30	868.38	0.45	150	147.0	-22	-26.0	17			CM		
8	10:55	1,041.64	1.02	150	149.0	-22	-25.5	16			CM		
9	07:58	1,138.62	0.90	142	141.0	-22	-26.2	16			CM		
10	07:30	1,176.86	0.79	144	143.0	-22	-26.1	16			CM		
11	09:57	1,127.43	0.81	145	145.0	-22	-26.0	16			GAO		
12	05:44	1,185.74	0.83	145	144.0	-22	-26.1	16			GAO		
13	08:10	1,161.57	0.83	148	146.0	-22	-26.0	16			RC		
14	07:50	1,162.90	0.83	150	150.0	-22	-25.9	16			RC		
15	16:40	1,341.90	1.02	172	174.0	-22	-25.2	19			CM		
16	08:30	1,433.05	0.95	165	165.0	-22	-25.4	18			RC		
17	08:45	1,296.52	0.93	153	154.0	-22	-25.4	18			RC		
18	10:25	1,202.45	0.90	154	152.0	-22	-25.5	19			GAO		
19	09:40	1,153.60	0.86	142	141.0	-23	-25.8	17			SW		
20	07:42	1,255.38	0.71	140	140.0	-22	-25.8	18			CM		
21	08:00	1,394.74	1.00	138	137.0	-23	-26.0	17			CM		
22	10:52	1,197.14	0.88	142	142.0	-22	-19.7	17			CM		
23	10:10	1,177.12	0.90	146	143.0	-23	-25.7	18			CM		
24	07:05	1,201.50	0.88	150	150.0	-22	-25.5	18			CM		
25	07:30	1,151.00	0.67	150	144.0	-22	-25.7	18			PS		
26	12:35	1,195.31	0.74	144	142.0	-22	-21.4	17			GAO		
27	08:47	1,176.62	0.62	143	142.0	-22	-25.5	17			GAO		
28	08:30	1,146.17	1.10	152	151.0	-22	-25.4	18			RC		
29	10:35	1,197.71	1.00	147	144.0	-22	-25.4	18			RC		
30	09:40	1,181.00	0.88	147	143.0	-22	-25.6	18			RC		
31	08:30	1,225.14	1.05	150	149.0	-22	-25.3	18			RC		

Holly Frontier #1 05/2019

Weekly Injectate Samples

Kansas Lab Certificate Number E-10146

Week	Temperature		pH		Chloride				
	Degrees Fahrenheit	Date	Standard Units	Date	Cl concentration (mg/l)	Date Sample Collected	Date Sampl Analysed		
1	101.00	05/01/2019	8.70	05/01/2019	129.0	05/01/2019	05/06/2019		
2	101.00	05/08/2019	8.30	05/08/2019	95.0	05/08/2019	05/11/2019		
3	109.00	05/15/2019	8.70	05/15/2019	172.0	05/15/2019	05/17/2019		
4	105.00	05/22/2019	8.70	05/22/2019	87.0	05/22/2019	05/29/2019		
5	106.00	05/29/2019	8.70	05/29/2019	76.0	05/29/2019	06/05/2019		

No monthly injectate samples required.

Holly Frontier #1 05/2019

Quarterly Injectate Samples

Quarter 2
Date Sample Collected 05/29/2019
Kansas Lab Certificate Number E-10146
Lab Name Pace Analytical-Salina

These samples shall be representative of injection activity and shall therefore be collected on days of injection.

Constituent	Value	Units
Ammonia	7.320	mg/l
Arsenic	0.053	mg/l
Benzene	<0.001	mg/l
Calcium	121.000	mg/l
Chromium	0.0150	mg/l
Conductivity	13,900.000	Mmhos
Cyanide	0.030	mg/l
Ethylbenzene	<0.001	mg/l
Iron	0.170	mg/l
Magnesium	17.400	mg/l
Oil and Grease	<5.200	mg/l
Sodium	3,710.000	mg/l
Sulfate	8,500.000	mg/l
Toluene	<0.001	mg/l
Total Alkalinity as CaCO3	195.000	mg/l
Total Dissolved Solids	24,600.000	mg/l
Total Suspended Solids	14.300	mg/l
Xylene	<0.003	mg/l