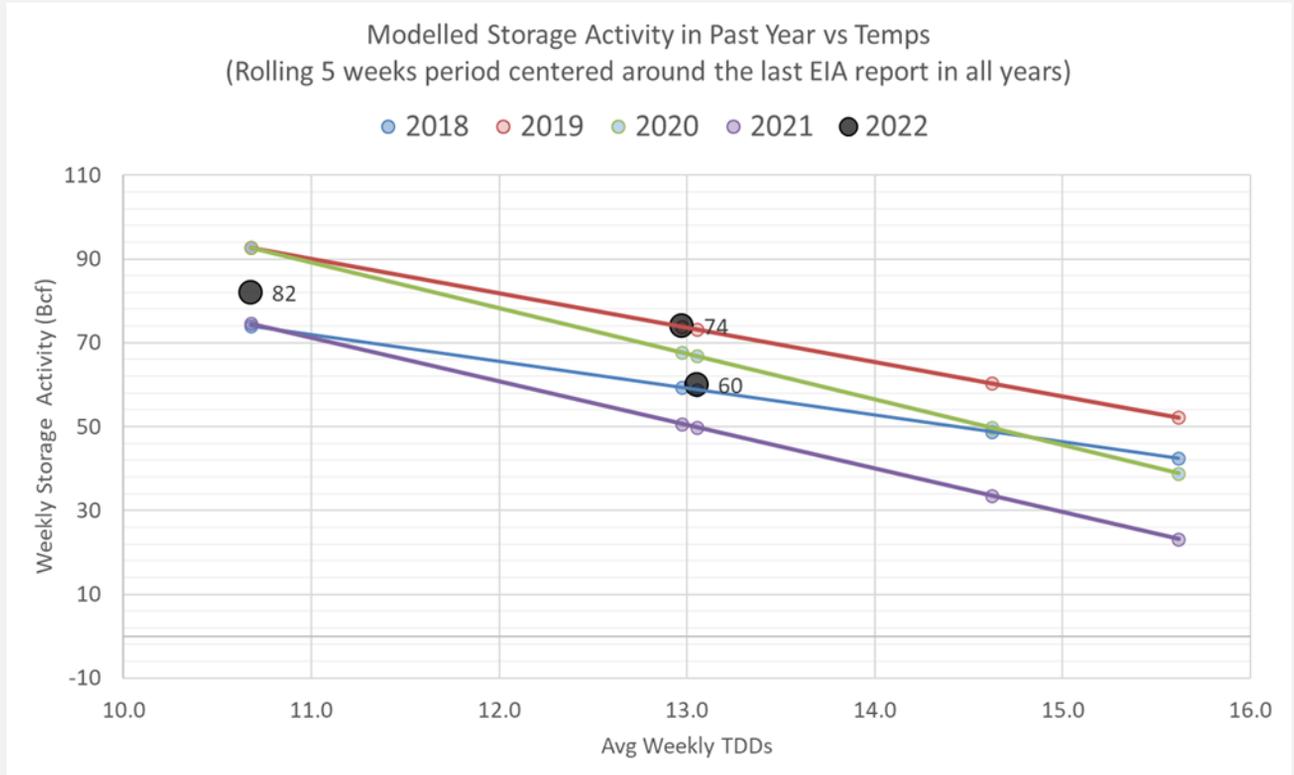


Overall, we estimate this +60 Bcf injection is ~1.4 Bcf/d loose vs the historical rolling 5-week period (wx adjusted). This chart builds in a rolling 5-week regression centered around the last EIA report – week #27 or week ending July 1st. The lines for 2018-2021 essentially show the resulting injection in those years (during week 25 through 29) if they experienced the same temps as this current summer (historicals + the 15-day forecast).



Note: these lines are essentially the linear trendlines you would have observed.

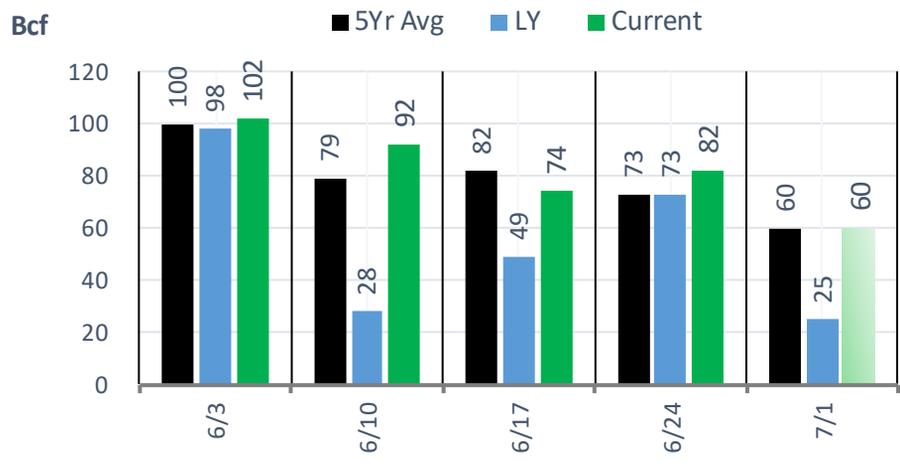
This method takes into account the changing conditions over the summer and adjusts for the weather. Here are the resulting wx adjusted deltas to past years (loose = green, tight = red).

	Current Year Delta to:			
	2018	2019	2020	2021
6/17	2.1	0.0	0.9	3.3
6/24	1.1	-1.5	-1.5	1.1
7/1	0.2	-1.9	-1.0	1.4

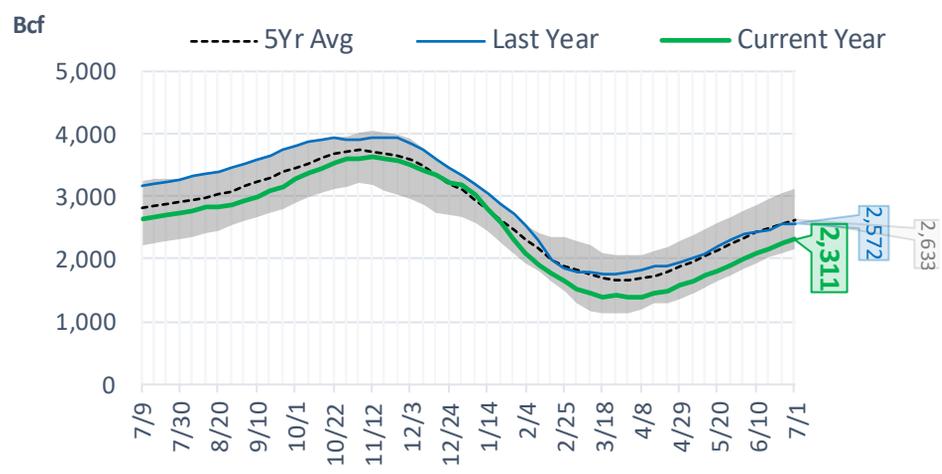
What's concerning after looking at these figures is that if Freeport was still operational then the past two reports would have been net tight to LY, leading to a low end of season. Yes, not in that NEW comfortable range of 3.5-3.6 Tcf we are now expecting.

## EIA Storage Report

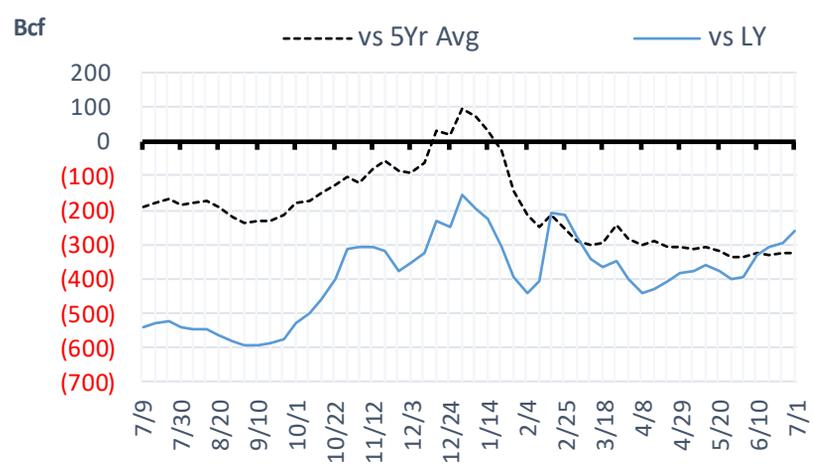
### Total Lower 48 YoY Weekly Change



### Total Lower 48 Storage Levels



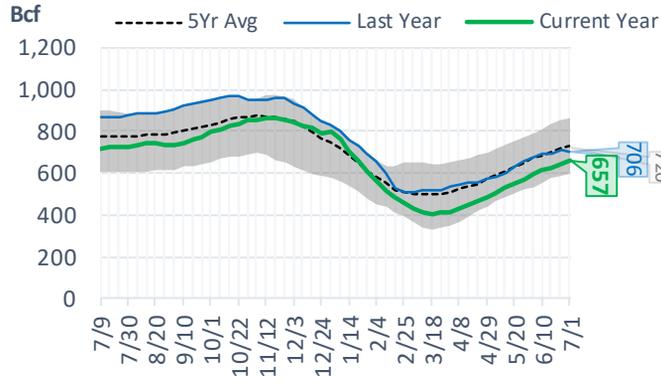
### Total Lower 48 LY Surplus/Deficit



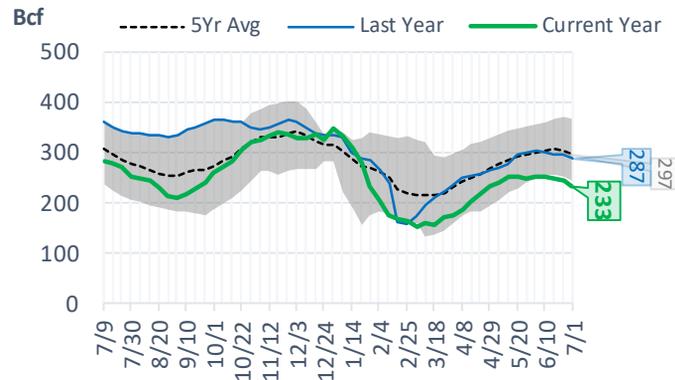
## Natural Gas Storage Stats - Last 5 Weeks

Week Ending	Current 1-Jul	Week - 1 24-Jun	Week - 2 17-Jun	Week - 3 10-Jun	Week - 4 3-Jun	Week - 5 27-May
<b>Total Lower 48 Storage Level</b>	<b>2311</b>	2251	2169	2095	2003	1901
<b>Weekly Change</b>	<b>+60</b>	+82	+74	+92	+102	+82
<b>vs LY</b>	<b>-261</b>	-296	-305	-330	-394	-398
<b>vs 5Yr Avg</b>	<b>-322</b>	-322	-331	-323	-336	-338
<b>S. Central Salt Storage Level</b>	<b>233</b>	242	248	251	251	248
<b>Weekly Change</b>	<b>-9</b>	-6	-3	0	+3	-4
<b>vs LY</b>	<b>-54</b>	-54	-48	-48	-51	-51
<b>vs 5Yr Avg</b>	<b>-64</b>	-61	-57	-53	-50	-49
<b>S. Central NonSalt Storage Level</b>	<b>657</b>	644	628	612	593	569
<b>Weekly Change</b>	<b>+13</b>	+16	+16	+19	+24	+22
<b>vs LY</b>	<b>-49</b>	-63	-69	-82	-85	-87
<b>vs 5Yr Avg</b>	<b>-69</b>	-72	-76	-76	-77	-82
<b>Midwest Storage Level</b>	<b>562</b>	535	506	482	454	426
<b>Weekly Change</b>	<b>+27</b>	+29	+24	+28	+28	+32
<b>vs LY</b>	<b>-74</b>	-84	-85	-85	-89	-93
<b>vs 5Yr Avg</b>	<b>-65</b>	-68	-71	-68	-69	-68
<b>East Storage Level</b>	<b>482</b>	461	430	407	376	345
<b>Weekly Change</b>	<b>+21</b>	+31	+23	+31	+31	+20
<b>vs LY</b>	<b>-38</b>	-48	-54	-52	-64	-64
<b>vs 5Yr Avg</b>	<b>-66</b>	-65	-71	-67	-72	-73
<b>Mountain Storage Level</b>	<b>138</b>	134	128	122	118	113
<b>Weekly Change</b>	<b>+4</b>	+6	+6	+4	+5	+4
<b>vs LY</b>	<b>-38</b>	-38	-40	-42	-41	-37
<b>vs 5Yr Avg</b>	<b>-26</b>	-24	-25	-25	-23	-20
<b>Pacific Storage Level</b>	<b>240</b>	235	231	221	211	200
<b>Weekly Change</b>	<b>+5</b>	+4	+10	+10	+11	+7
<b>vs LY</b>	<b>-6</b>	-8	-8	-21	-64	-66
<b>vs 5Yr Avg</b>	<b>-32</b>	-31	-29	-34	-44	-45

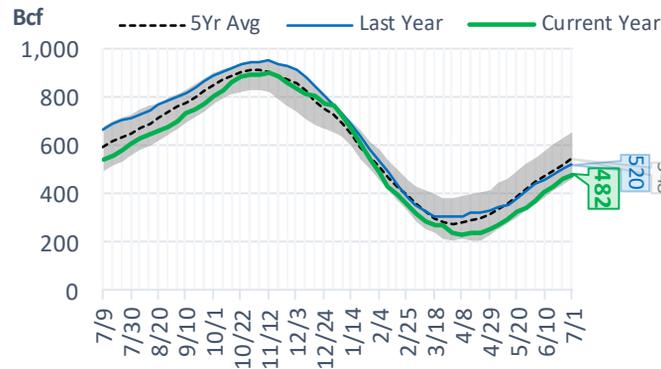
## NonSalt Storage Levels



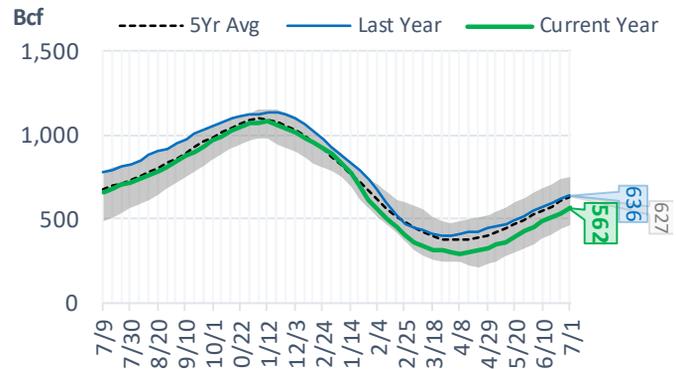
## Salt Storage Levels



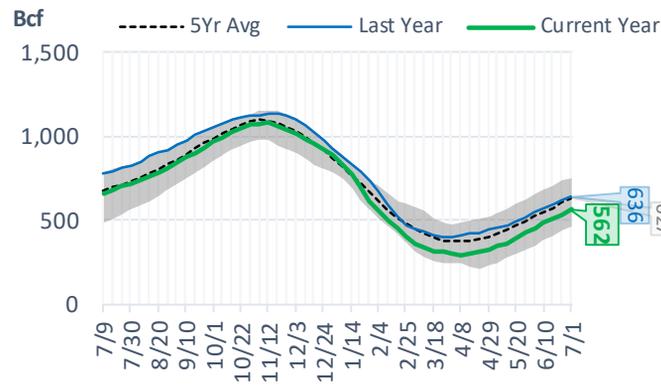
## East Storage Levels



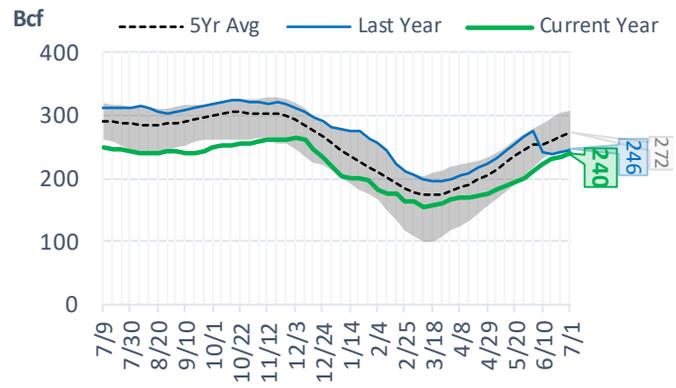
## Midwest Storage Levels



## Midwest Storage Levels



## Pacific Storage Levels



## EIA Storage Week Balances

	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>97.2</b>	<b>96.9</b>	<b>96.7</b>	<b>96.7</b>	<b>97.0</b>	<b>96.9</b>	▼ -0.1	▲ 0.1
<b>Canadian Imports</b>	<b>4.8</b>	<b>5.5</b>	<b>6.1</b>	<b>5.6</b>	<b>5.7</b>	<b>5.6</b>	▼ -0.1	▼ -0.1
L48 Power	30.3	32.3	37.8	37.7	40.2	41.2	▲ 1.0	▲ 4.2
L48 Residential & Commercial	9.1	8.6	8.3	8.7	8.2	8.3	▲ 0.1	▼ -0.2
L48 Industrial	21.4	21.3	21.5	20.1	21.0	20.4	▼ -0.6	▼ -0.6
L48 Lease and Plant Fuel	5.2	5.2	5.2	5.2	5.3	5.3	▲ 0.0	▲ 0.0
L48 Pipeline Distribution	2.2	2.2	2.5	2.5	2.6	2.6	▼ 0.0	▲ 0.2
<b>L48 Regional Gas Consumption</b>	<b>68.3</b>	<b>69.7</b>	<b>75.3</b>	<b>74.2</b>	<b>77.3</b>	<b>77.7</b>	▲ 0.4	▲ 3.6
<b>Net LNG Exports</b>	<b>12.8</b>	<b>12.3</b>	<b>10.7</b>	<b>10.6</b>	<b>10.6</b>	<b>11.2</b>	▲ 0.6	▲ 0.1
<b>Total Mexican Exports</b>	<b>7.1</b>	<b>7.1</b>	<b>7.2</b>	<b>7.0</b>	<b>7.0</b>	<b>6.7</b>	▼ -0.3	▼ -0.4
<b>Implied Daily Storage Activity</b>	<b>13.9</b>	<b>13.2</b>	<b>9.6</b>	<b>10.5</b>	<b>7.7</b>	<b>6.9</b>	<b>-0.8</b>	
<b>EIA Reported Daily Storage Activity</b>	<b>14.6</b>	<b>13.1</b>	<b>10.6</b>	<b>11.7</b>	<b>8.6</b>			
<b>Daily Model Error</b>	<b>-0.6</b>	<b>0.1</b>	<b>-1.0</b>	<b>-1.2</b>	<b>-0.9</b>			

## Monthly Balances

	2Yr Ago	LY	MTD					MoM	vs. LY
	Jul-20	Jul-21	Mar-22	Apr-22	May-22	Jun-22	Jul-22		
<b>Lower 48 Dry Production</b>	<b>89.0</b>	<b>93.5</b>	<b>93.4</b>	<b>95.2</b>	<b>96.2</b>	<b>96.8</b>	<b>96.9</b>	▲ 0.0	▲ 3.4
<b>Canadian Imports</b>	<b>4.4</b>	<b>5.2</b>	<b>5.2</b>	<b>5.8</b>	<b>5.1</b>	<b>5.7</b>	<b>5.6</b>	▼ 0.0	▲ 0.5
L48 Power	43.8	39.7	25.4	24.7	28.8	36.8	41.2	▲ 4.4	▲ 1.5
L48 Residential & Commercial	7.9	8.1	31.5	22.5	12.3	8.5	8.3	▼ -0.2	▲ 0.2
L48 Industrial	20.1	20.8	19.7	21.5	21.1	20.8	20.4	▼ -0.4	▼ -0.4
L48 Lease and Plant Fuel	4.9	5.1	5.2	5.2	5.2	5.2	5.3	▲ 0.0	▲ 0.2
L48 Pipeline Distribution	2.6	2.5	2.9	2.6	2.3	2.5	2.6	▲ 0.2	▲ 0.1
<b>L48 Regional Gas Consumption</b>	<b>79.3</b>	<b>76.2</b>	<b>84.7</b>	<b>76.6</b>	<b>69.8</b>	<b>73.8</b>	<b>77.7</b>	▲ 3.9	▲ 1.5
<b>Net LNG Exports</b>	<b>3.3</b>	<b>10.8</b>	<b>12.9</b>	<b>12.3</b>	<b>12.5</b>	<b>11.2</b>	<b>11.2</b>	▲ 0.0	▲ 0.4
<b>Total Mexican Exports</b>	<b>5.9</b>	<b>7.1</b>	<b>6.5</b>	<b>6.7</b>	<b>7.0</b>	<b>7.1</b>	<b>6.7</b>	▼ -0.4	▼ -0.3
<b>Implied Daily Storage Activity</b>	<b>4.9</b>	<b>4.6</b>	<b>-5.4</b>	<b>5.4</b>	<b>12.0</b>	<b>10.5</b>	<b>6.9</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

Source: Bloomberg, analytix.ai

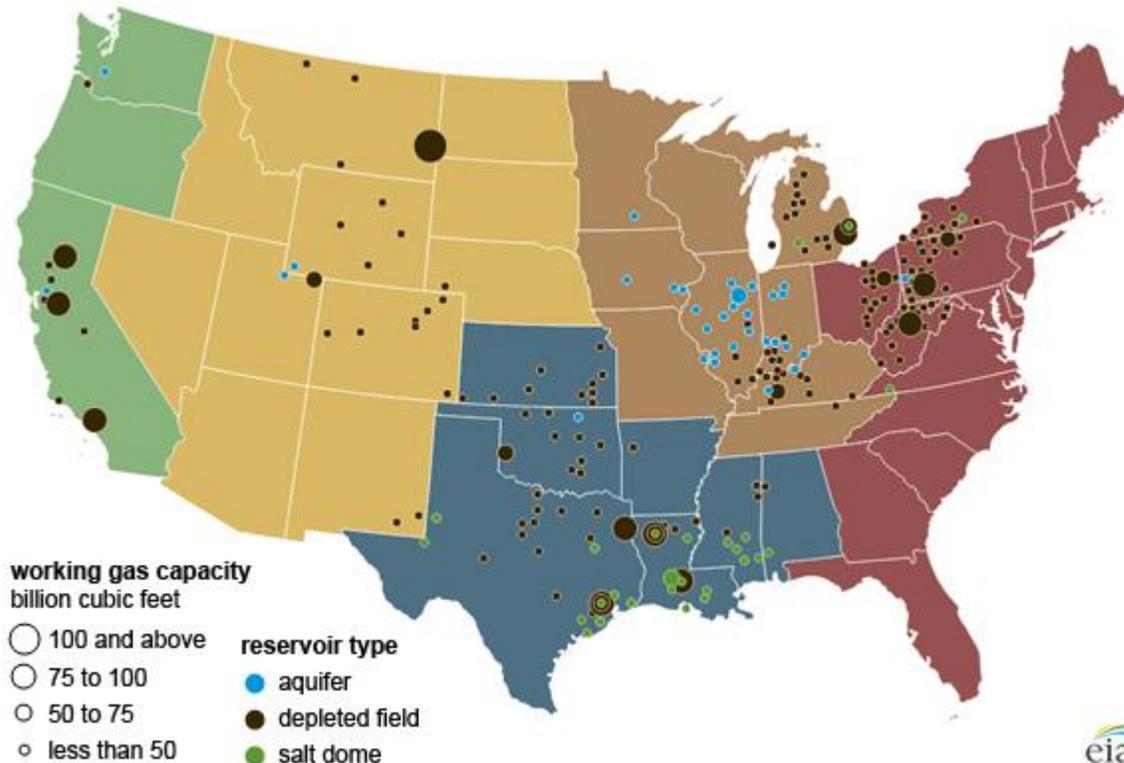
## Regional S/D Models Storage Projection

Week Ending 8-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	8.0	-0.5	7.5	53
East	0.6	1.9	2.5	17
Midwest	3.9	-1.2	2.7	19
Mountain	4.7	-4.0	0.7	5
South Central	-3.4	3.6	0.2	2
Pacific	2.3	-0.8	1.4	10

\*Adjustment Factor is calculated based on historical regional deltas

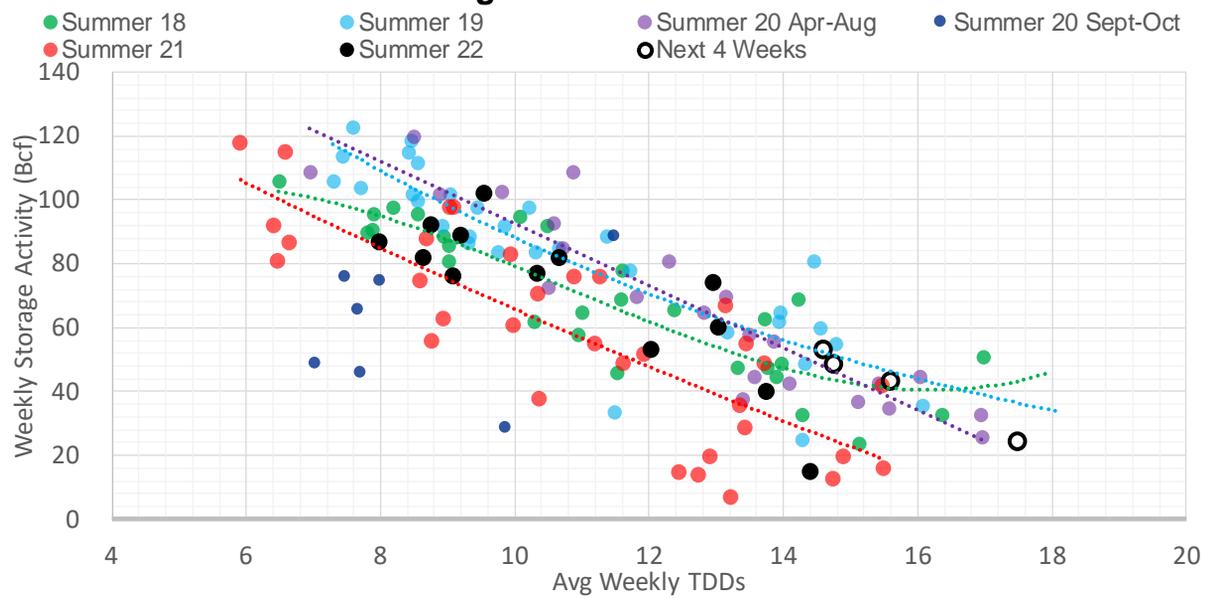
U.S. underground natural gas storage facilities by type (July 2015)



## Weather Model Storage Projection

Next report and beyond		
Week Ending	GWDDs	Week Storage Projection
08-Jul	14.6	53
15-Jul	15.6	43
22-Jul	17.5	24
29-Jul	14.8	48

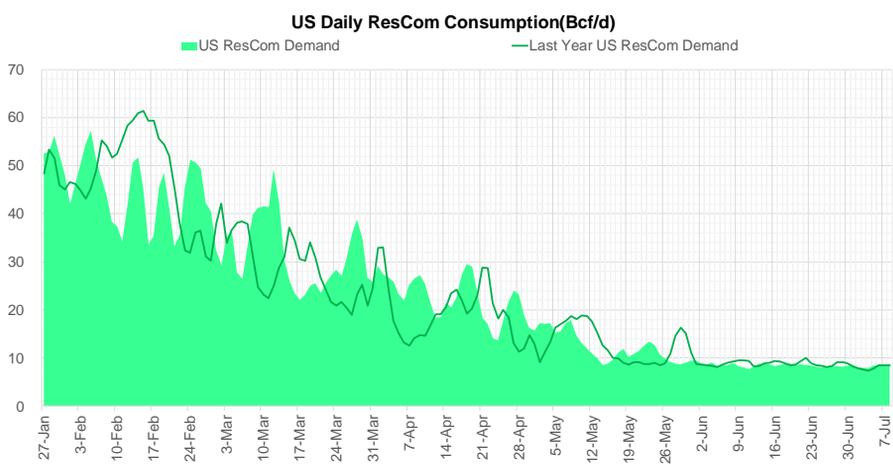
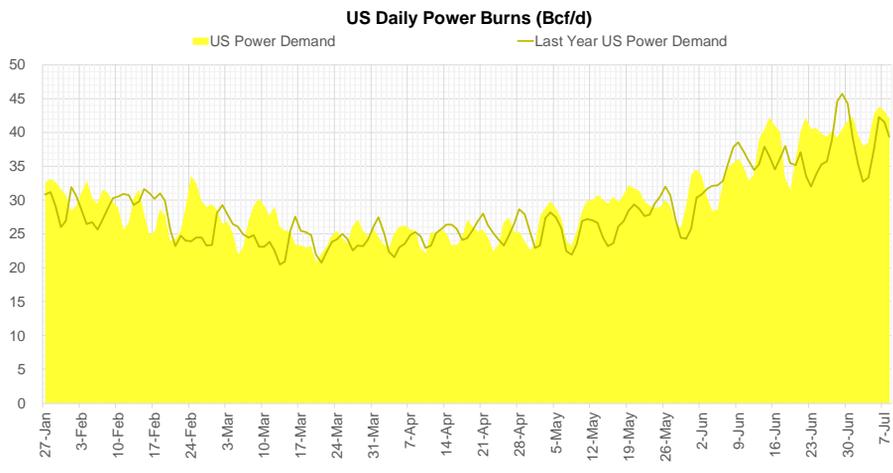
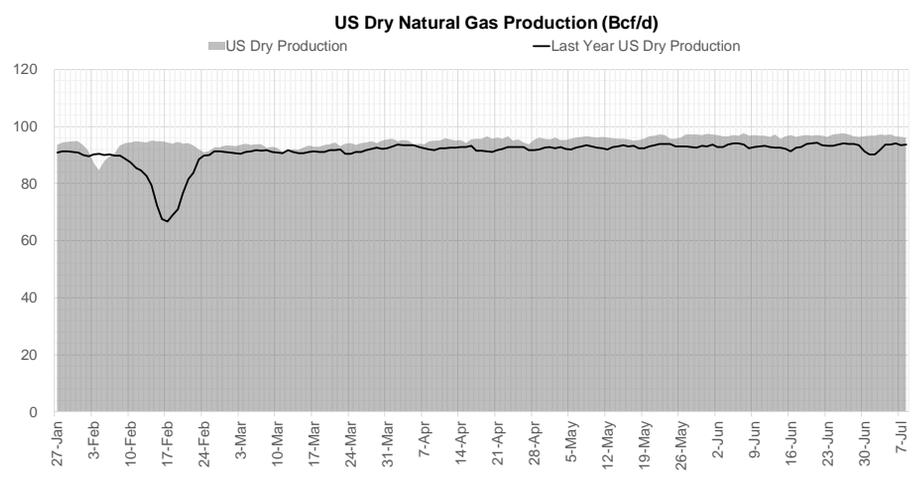
### Weather Storage Model - Next 4 Week Forecast



Note: this is not our official end of season forecast. This chart signifies where storage levels end with 10-year normal weather and current market tightness relative to last year

The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are not necessarily indicative of future results. This communication may contain links to third party websites which are not under the control of and are not maintained by ION Energy Group, and ION Energy Group is not responsible for their content.

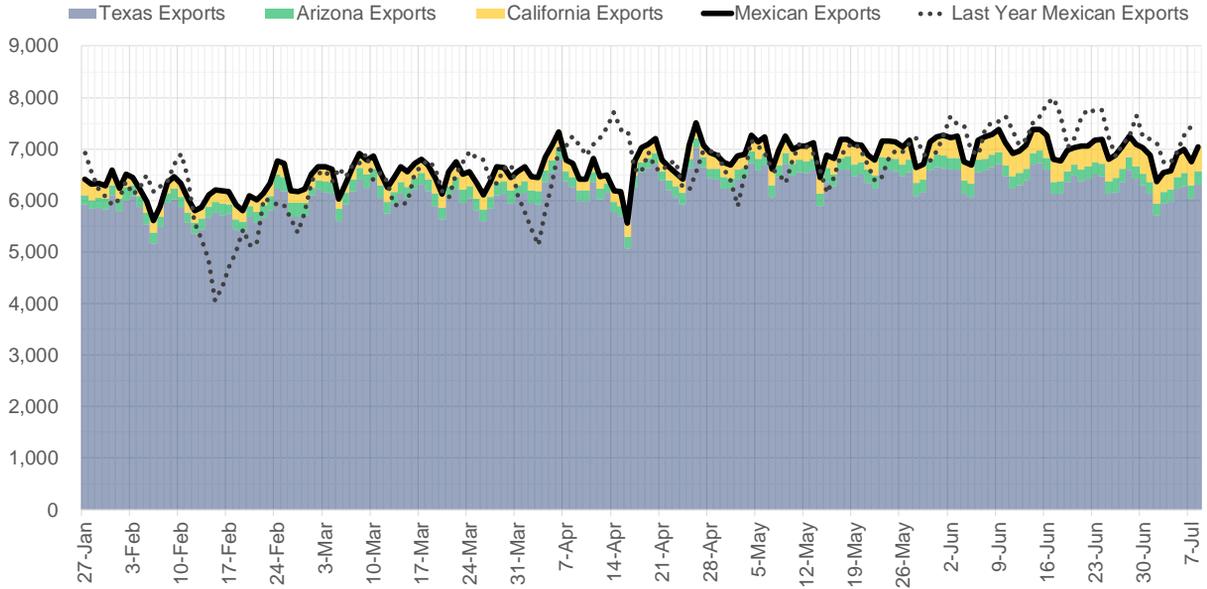
## Supply – Demand Trends



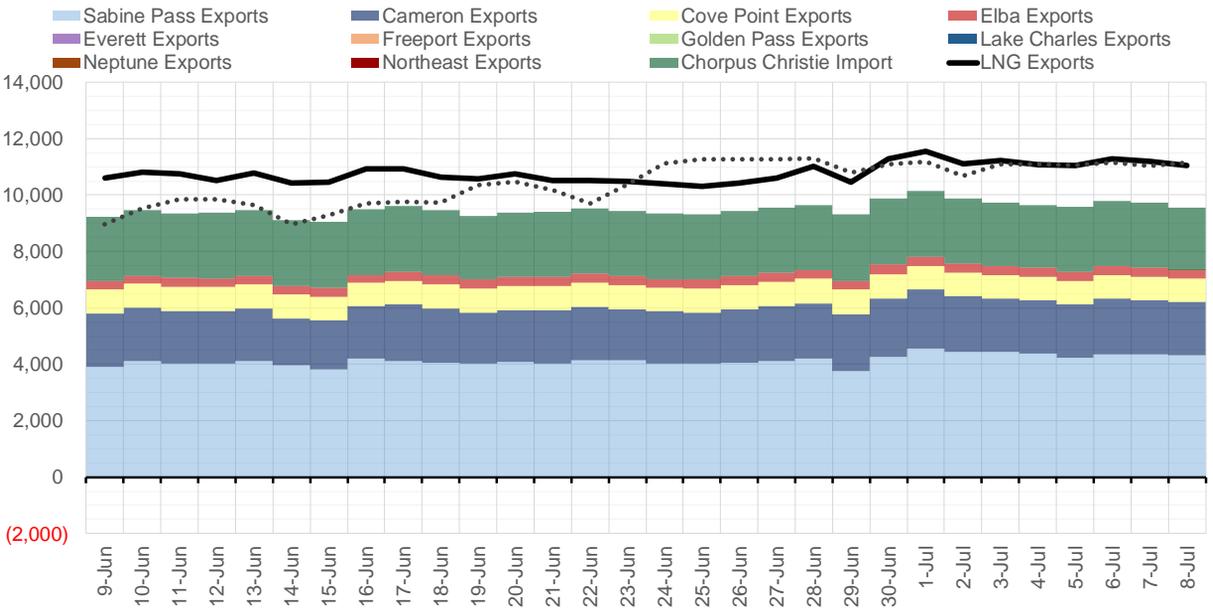
Source: Bloomberg

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## Mexican Exports (MMcf/d)



## Net LNG Exports - Last 30 days (MMcf/d)



Source: Bloomberg

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## Nat Gas Options Volume and Open Interest CME and ICE data combined

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
8	2022	C	7.00	8662	8	2022	C	10.00	41712
8	2022	P	5.00	7601	8	2022	C	12.00	38194
10	2022	C	10.00	5784	10	2022	C	6.00	36076
10	2022	C	10.10	5400	8	2022	C	10.50	31782
8	2022	P	5.50	5144	8	2022	C	7.00	25638
8	2022	P	5.40	5002	9	2022	C	6.00	24416
8	2022	C	10.00	4719	10	2022	P	6.00	23962
8	2022	C	7.10	4398	10	2022	P	3.00	23502
8	2022	P	5.25	3937	10	2022	C	5.00	23365
8	2022	C	6.50	3613	8	2022	C	12.10	22001
8	2022	C	6.00	2963	9	2022	C	10.00	21662
8	2022	P	4.75	2444	10	2022	P	3.50	21630
10	2023	P	2.50	2200	8	2022	P	6.00	20964
8	2022	C	6.75	2193	8	2022	C	6.00	20406
8	2022	C	7.50	2025	10	2022	P	2.50	19826
1	2023	P	5.00	1944	9	2022	P	4.00	19559
3	2023	P	3.00	1810	10	2022	C	10.00	19463
8	2022	P	4.50	1457	5	2023	P	2.00	19018
8	2022	C	8.00	1440	3	2023	C	10.00	18841
8	2022	P	5.75	1424	8	2022	C	8.00	18752
8	2022	C	6.60	1366	8	2022	C	9.00	18519
1	2023	P	5.50	1317	1	2023	C	10.00	18481
8	2022	P	6.00	1316	12	2022	C	5.00	18221
3	2023	C	8.00	1266	9	2022	C	7.00	18196
12	2022	P	3.50	1200	8	2022	P	7.00	17306
9	2022	C	9.00	1187	10	2022	P	2.00	16902
8	2022	C	5.75	1161	2	2023	C	10.00	16574
9	2022	P	5.00	1149	10	2023	P	2.00	16230
8	2022	C	5.50	1117	9	2022	C	4.00	15970
3	2023	C	7.75	1100	12	2022	P	5.00	15562
3	2023	C	10.00	1100	10	2022	P	4.00	15470
8	2022	P	5.55	1093	9	2022	P	2.50	15295
8	2022	C	6.80	1040	10	2022	P	5.00	15169
8	2022	P	6.15	1037	9	2022	P	3.00	15050
11	2022	C	10.00	1029	8	2022	P	5.00	14999
12	2022	P	3.25	1000	10	2022	C	8.00	14966
8	2022	P	5.85	997	8	2022	P	3.00	14958
10	2023	P	3.00	955	9	2022	P	2.75	14887
10	2022	C	8.00	940	8	2022	P	4.00	14688
9	2022	C	7.00	917	10	2022	P	3.25	14532
4	2023	C	6.00	905	3	2023	P	3.00	14414
1	2025	C	6.00	900	9	2022	C	9.00	14292
2	2025	C	6.00	900	8	2022	P	5.50	14288
3	2025	C	6.00	900	12	2022	C	6.00	14037
4	2025	C	6.00	900	10	2022	C	7.00	13992
5	2025	C	6.00	900	9	2022	P	5.00	13729
6	2025	C	6.00	900	10	2023	P	2.50	13615
7	2025	C	6.00	900	10	2022	C	4.00	13308
8	2025	C	6.00	900	8	2022	C	3.00	13226
8	2025	C	6.00	900	9	2022	C	3	13225

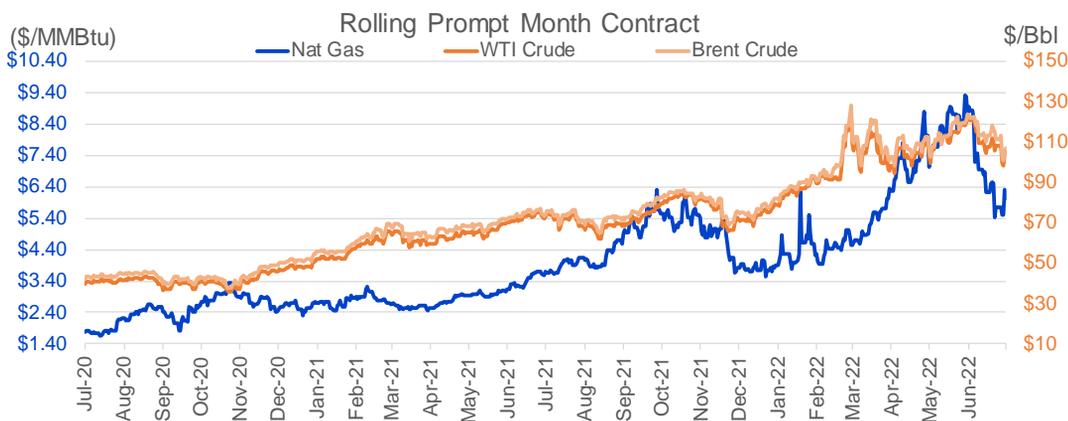
Source: CME, ICE

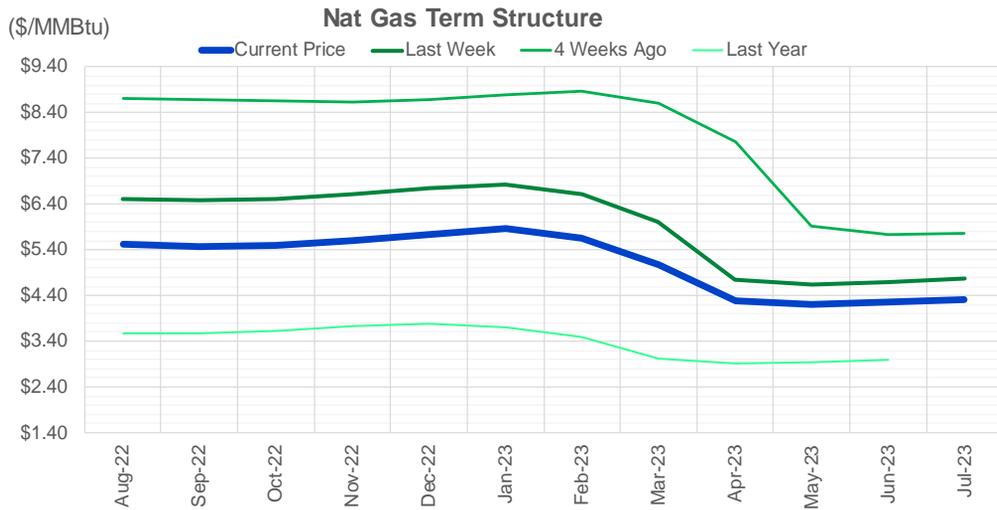
## Nat Gas Futures Open Interest

CME and ICE data combined

CME Henry Hub Futures (10,000 MMBtu)				ICE Henry Hub Futures Contract Equivalent (10,000 MM			
	Current	Prior	Daily Change		Current	Prior	Daily Change
AUG 22	85417	90516	-5099	AUG 22	78398	77841	557
SEP 22	148078	148082	-4	SEP 22	79417	79539	-123
OCT 22	89145	90636	-1491	OCT 22	72439	72548	-109
NOV 22	59194	58046	1148	NOV 22	60067	60179	-112
DEC 22	52036	53674	-1638	DEC 22	64971	64444	527
JAN 23	64351	63179	1172	JAN 23	63612	63782	-170
FEB 23	32143	31768	375	FEB 23	54120	54008	112
MAR 23	48079	48628	-549	MAR 23	50067	49868	199
APR 23	66812	67131	-319	APR 23	50614	50086	529
MAY 23	55111	55539	-428	MAY 23	50260	50188	72
JUN 23	20342	20346	-4	JUN 23	43967	43832	135
JUL 23	19808	19902	-94	JUL 23	43463	43505	-42
AUG 23	15622	15438	184	AUG 23	42688	42656	32
SEP 23	15247	15240	7	SEP 23	41566	41468	98
OCT 23	40269	40275	-6	OCT 23	48467	48974	-507
NOV 23	12324	12223	101	NOV 23	44067	44108	-42
DEC 23	11893	12065	-172	DEC 23	39694	40063	-370
JAN 24	18251	18465	-214	JAN 24	39307	39081	226
FEB 24	7627	7568	59	FEB 24	28581	28620	-39
MAR 24	15568	15756	-188	MAR 24	33419	33147	272
APR 24	13378	13588	-210	APR 24	27446	27399	46
MAY 24	6430	6360	70	MAY 24	26688	26428	261
JUN 24	2359	2340	19	JUN 24	23677	23398	280
JUL 24	2116	2098	18	JUL 24	23427	23340	87
AUG 24	3128	3124	4	AUG 24	23767	23680	87
SEP 24	1484	1475	9	SEP 24	23184	23100	85
OCT 24	7850	7784	66	OCT 24	26430	26374	56
NOV 24	4667	4666	1	NOV 24	24640	24575	65
DEC 24	7103	7103	0	DEC 24	26559	26463	96
JAN 25	14454	14353	101	JAN 25	19675	18880	795

Source: CME, ICE





	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
<b>Current Price</b>	<b>\$5.510</b>	<b>\$5.482</b>	<b>\$5.493</b>	<b>\$5.605</b>	<b>\$5.740</b>	<b>\$5.853</b>	<b>\$5.660</b>	<b>\$5.082</b>	<b>\$4.275</b>	<b>\$4.196</b>	<b>\$4.256</b>	<b>\$4.316</b>
Last Week	\$6.498	\$6.493	\$6.519	\$6.614	\$6.735	\$6.830	\$6.618	\$6.002	\$4.753	\$4.639	\$4.698	\$4.764
vs. Last Week	-\$0.988	-\$1.011	-\$1.026	-\$1.009	-\$0.995	-\$0.977	-\$0.958	-\$0.920	-\$0.478	-\$0.443	-\$0.442	-\$0.448
4 Weeks Ago	\$8.699	\$8.679	\$8.649	\$8.637	\$8.690	\$8.781	\$8.872	\$8.602	\$7.750	\$5.917	\$5.723	\$5.768
vs. 4 Weeks Ago	-\$3.189	-\$3.197	-\$3.156	-\$3.032	-\$2.950	-\$2.928	-\$3.212	-\$3.520	-\$3.475	-\$1.721	-\$1.467	-\$1.452
Last Year	\$3.596	\$3.574	\$3.576	\$3.633	\$3.730	\$3.794	\$3.715	\$3.498	\$3.011	\$2.922	\$2.952	\$2.988
vs. Last Year	\$1.914	\$1.908	\$1.917	\$1.972	\$2.010	\$2.059	\$1.945	\$1.584	\$1.264	\$1.274	\$1.304	\$1.328

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224	▲ 0.000	▲ 0.000	▲ 2.173
NatGas Oct21/Nov21	\$/MMBtu	0.361	▲ 0.000	▲ 0.000	▲ 0.307
NatGas Oct21/Jan22	\$/MMBtu	-1.817	▲ 0.000	▲ 0.000	▼ -2.024
NatGas Apr22/Oct22	\$/MMBtu	0.917	▲ 0.844	▼ -2.702	▲ 0.931
WTI Crude	\$/Bbl	102.73	▼ -3.030	▼ -18.780	▲ 29.790
Brent Crude	\$/Bbl	104.65	▼ -10.160	▼ -18.420	▲ 30.530
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	367.39	▼ -22.430	▼ -72.980	▲ 155.350
Propane, Mt. Bel	cents/Gallon	1.18	▼ -0.033	▼ -0.057	▲ 0.092
Ethane, Mt. Bel	cents/Gallon	0.49	▼ -0.156	▼ -0.190	▲ 0.187
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.000
Coal, PRB	\$/MMBtu	0.70			

Source: CME, Bloomberg

## Baker Hughes Rig Counts

Rotary Rig Count					
7/8/2022					
Baker Hughes 					
U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Oil	597	2	595	219	378
Gas	153	0	153	52	101
Miscellaneous	2	0	2	2	0
Directional	43	0	43	12	31
Horizontal	682	0	682	249	433
Vertical	27	2	25	12	15
Canada Breakout	This Week	+/-	Last Week	+/-	Year Ago
Oil	116	7	109	28	88
Gas	59	2	57	11	48
Miscellaneous	0	0	0	-1	1
Major Basin Variances	This Week	+/-	Last Week	+/-	Year Ago
Ardmore Woodford	4	0	4	3	1
Arkoma Woodford	5	0	5	4	1
Barnett	4	0	4	4	0
Cana Woodford	27	0	27	10	17
DJ-Niobrara	16	0	16	5	11
Eagle Ford	68	0	68	36	32
Granite Wash	3	1	2	1	2
Haynesville	69	0	69	20	49
Marcellus	38	0	38	10	28
Mississippian	1	0	1	1	0
Permian	350	1	349	113	237
Utica	11	0	11	1	10
Williston	38	0	38	20	18