This was quite the week with the Freeport event grabbing all headlines. The explosion looks isolated to the storage tank area of the facility and the incident did not impact any of the liquefaction trains.

Freeport LNG has formally published a filing with the Texas Commission on Environmental Quality (TCEQ), citing that on June 8 at 11:40 am, an incident occurred, and it "became necessary to bring the Liquefaction Trains 1, 2, and 3 down due to an in-plant incident that resulted in a fire in the liquefaction delivery system." [this comes from a note the Criterion Research team sent to clients on Thursday]. We read this as confirmation the location of the incident is post-liquefaction.

The prompt month contract cratered on Wednesday as fear set in that the Freeport facility could be shut down for a prolonged period. With little news, we saw price recover after the release of the Thursday storage report.

The market looks to have shaken off the impact and believes that the facility will be back in short order. I assume that this is based on reviewing the location of the explosion and the quick dissipation of the fire.

Here is an aerial view of where the explosion took place.

Source: @RonH

The only other definitive piece of information we have at the moment is that the plant will be shut down for at least 3 weeks while federal and state investigators look into possible explanations for the blast. Luckily, no injuries or pollution have been reported, and all employees at the plant have been accounted for – otherwise, this could have been a deeper and longer investigation.

Freeport LNG handles 20 percent of America's LNG exports, and being offline will have supply ramifications for an already tight global natural gas market. Below are some comments from Ruth Liao of ICIS on LinkedIn:

Asia spot LNG prices jumped up 4% as a result of the Freeport #LNG fire. On 9 June, July ICIS East Asia Index (EAX) rose to $24.65/MMBtu and August to $24.85/MMBtu, both up $1.00/MMBtu from the previous day. The ICIS TTF July '22 contract was trading around $26.84/MMBtu on 9 June, up almost 9% from the previous day's close.

The unexpected Freeport LNG fire and subsequent shutdown of three weeks means that there is at least 13 LNG cargoes removed from the global market from the initial period. This is going to tighten prompt supply, particularly in the Atlantic, as a majority of the cargoes have been destined for Europe. We could see the discount narrow or disappear to the ICIS #TTF benchmark for Europe cargoes.

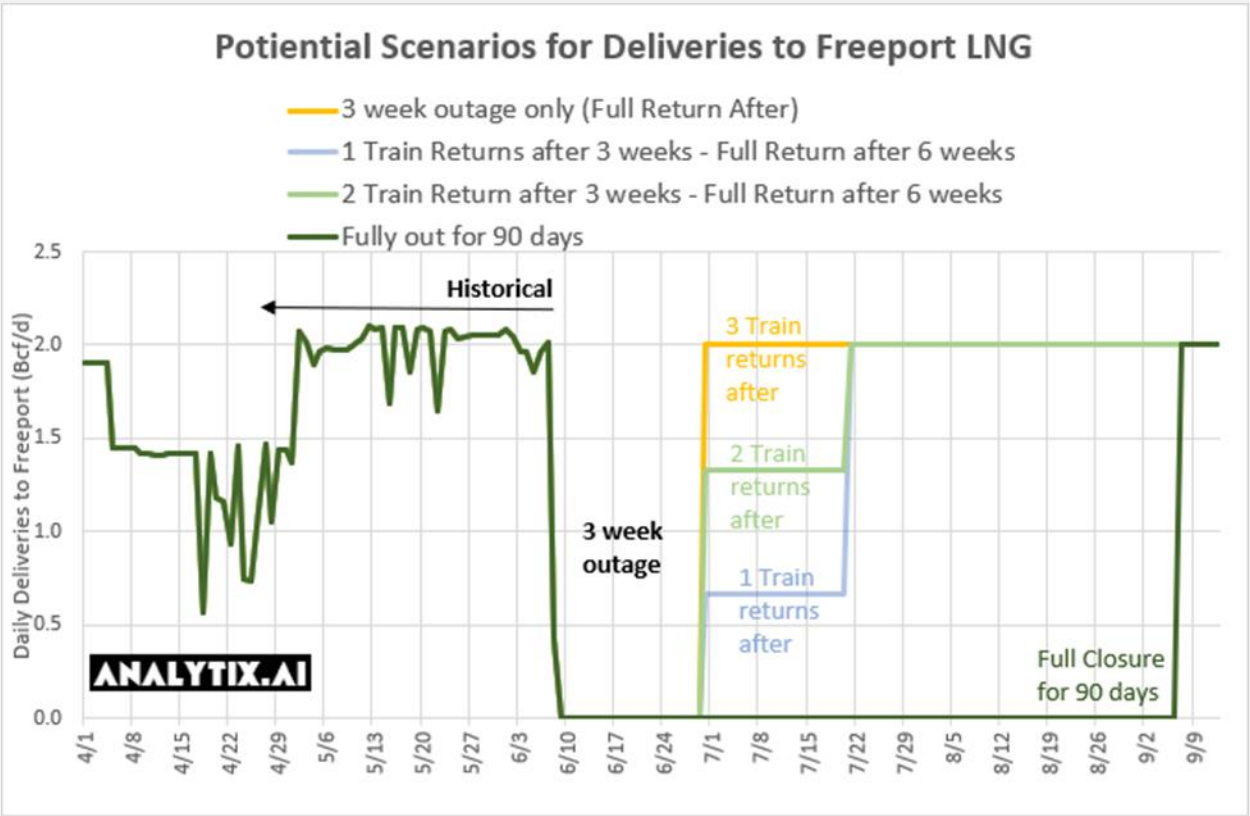
As much as 80% of the cargoes that loaded in March from Freeport LNG went to Europe, including Turkey, according to LNG Edge. In April, 70% of cargoes went to Europe, while in May, it was around 56%, although three cargoes loaded at the end of May are still on the water, so the May figure will be updated.

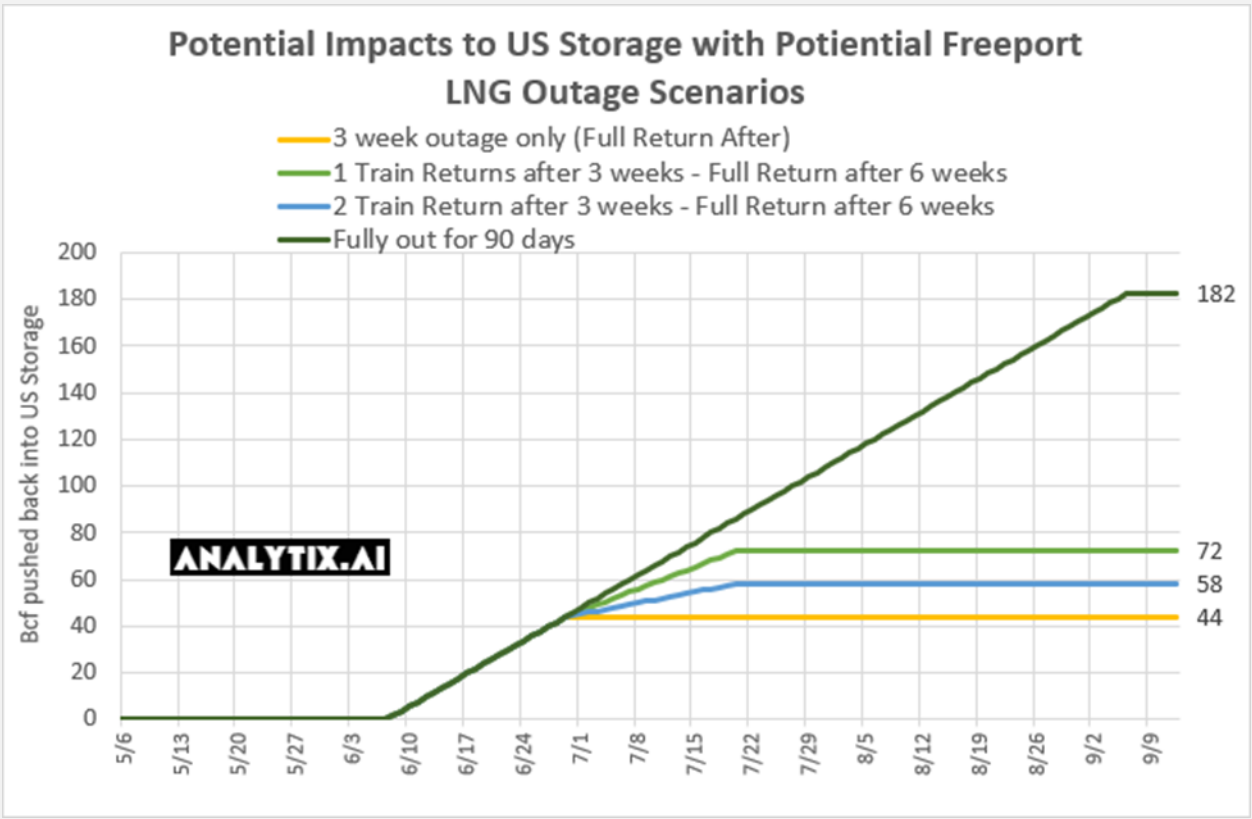
So what's the potential impact on US balances? Below are a few scenarios we built out on the impact on US balances/storage.

In the three scenarios, we assume the best case is the full facility is out for 21 days, while the worst case is the full facility is out for 90 days. The in-between scenarios assume partial recovery of the plant after 21 days.

For the past 30 days, the average delivery to Freeport has been ~2.0 Bcf/d. Assuming that the facility pushes back this amount into the domestic market, our 3 scenarios show the impact on end of season storage being between +44 Bcf and +182 Bcf.

** *These are just scenarios to give an idea of how things could proceed.*





We believe one of the partial recovery scenarios is the most likely outcome. We base this on the location of the explosion/fire in the plant and the quick time it took to get under control. As mentioned, the issues look far from the 3 liquefaction trains, and more related to an inlet pipe to one of the storage tanks.

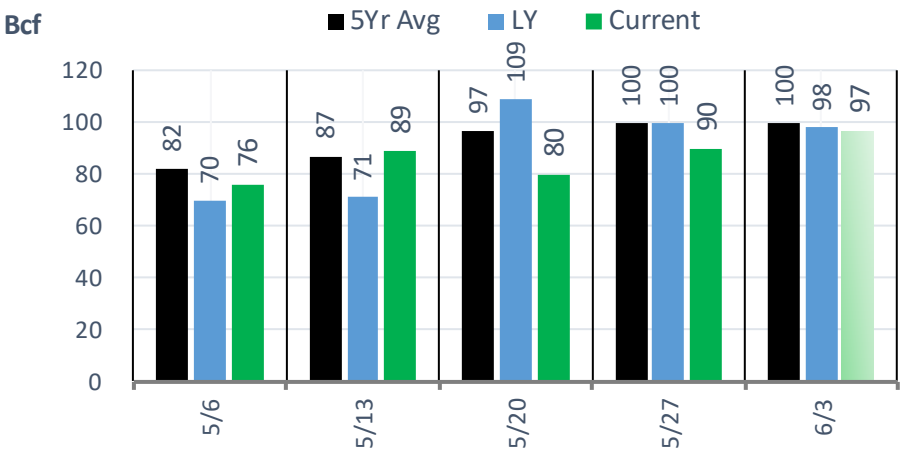
We are not entirely sure how the engineering works, but hear that the storage tanks could be bypassed if the issue was there. A good case study is Cheniere's Sabine Pass facility. The PHMSA ordered Cheniere to shut two LNG storage tanks on Feb 8, 2018, after a crack was discovered in one tank that leaked fuel into an outer layer. With two of five storage tanks out for over 3 years, the facility has been running at optimal levels over that period. The facility has run well above design capacity on many occasions. Each one of the storage tanks at Sabine Pass carries 3.3 Bcf.

On Wednesday the regulators finally authorized Sabine to return one tank.

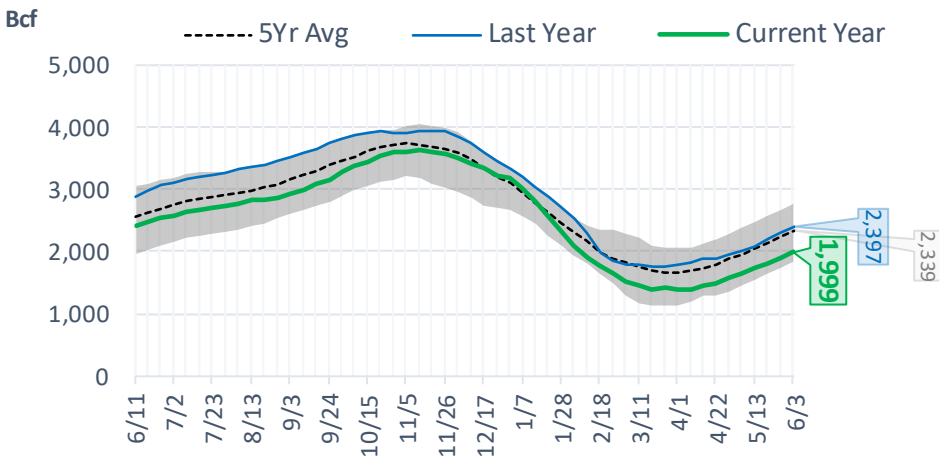
The tanks at Freeport are of similar size (3 tanks x 3.3 Bcf), and therefore there is the potential for the plant to be functional at a partial level at least without one of the storage tanks.

EIA Storage Report

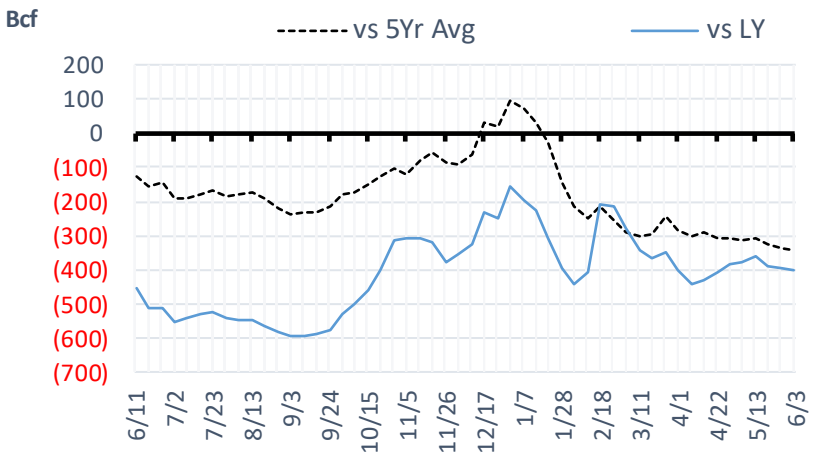
Total Lower 48 YoY Weekly Change



Total Lower 48 Storage Levels



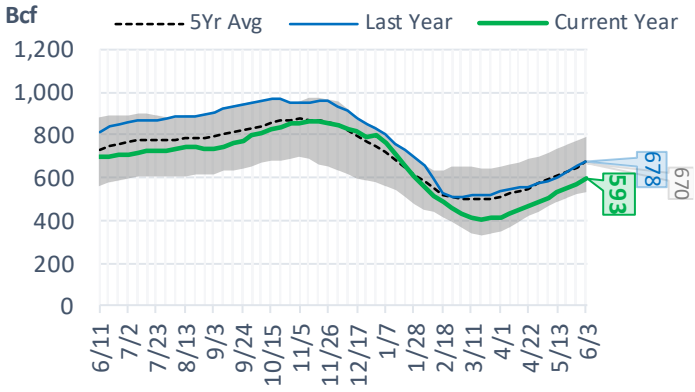
Total Lower 48 LY Surplus/Deficit



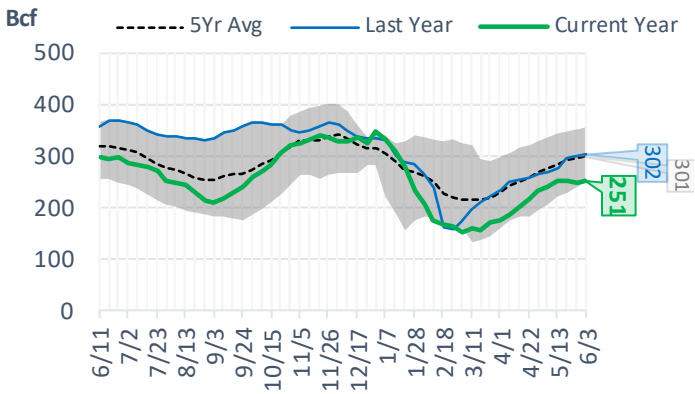
Natural Gas Storage Stats - Last 5 Weeks

Week Ending	Current 3-Jun	Week - 1 27-May	Week - 2 20-May	Week - 3 13-May	Week - 4 6-May	Week - 5 29-Apr
Total Lower 48 Storage Level	**1999**	1902	1812	1732	1643	1567
Weekly Change	**+97**	+90	+80	+89	+76	+77
vs LY	**-398**	-397	-387	-358	-376	-382
vs 5Yr Avg	**-340**	-337	-327	-310	-312	-306
S. Central Salt Storage Level	**251**	248	251	251	241	233
Weekly Change	**+3**	-3	0	+10	+8	+18
vs LY	**-51**	-51	-43	-27	-27	-30
vs 5Yr Avg	**-50**	-49	-41	-33	-35	-35
S. Central NonSalt Storage Level	**593**	569	546	531	507	489
Weekly Change	**+24**	+23	+15	+24	+18	+22
vs LY	**-85**	-87	-85	-74	-79	-81
vs 5Yr Avg	**-77**	-82	-84	-77	-82	-81
Midwest Storage Level	**445**	420	391	364	342	324
Weekly Change	**+25**	+29	+27	+22	+18	+15
vs LY	**-98**	-99	-104	-106	-114	-116
vs 5Yr Avg	**-78**	-74	-76	-77	-77	-77
East Storage Level	**387**	357	325	296	274	253
Weekly Change	**+30**	+32	+29	+22	+21	+15
vs LY	**-53**	-52	-56	-60	-71	-77
vs 5Yr Avg	**-61**	-61	-63	-67	-67	-66
Mountain Storage Level	**118**	113	109	103	96	92
Weekly Change	**+5**	+4	+6	+7	+4	+2
vs LY	**-41**	-37	-34	-31	-34	-31
vs 5Yr Avg	**-23**	-20	-19	-18	-19	-18
Pacific Storage Level	**206**	195	190	187	183	176
Weekly Change	**+11**	+5	+3	+4	+7	+5
vs LY	**-69**	-71	-65	-58	-50	-47
vs 5Yr Avg	**-49**	-50	-45	-38	-32	-29

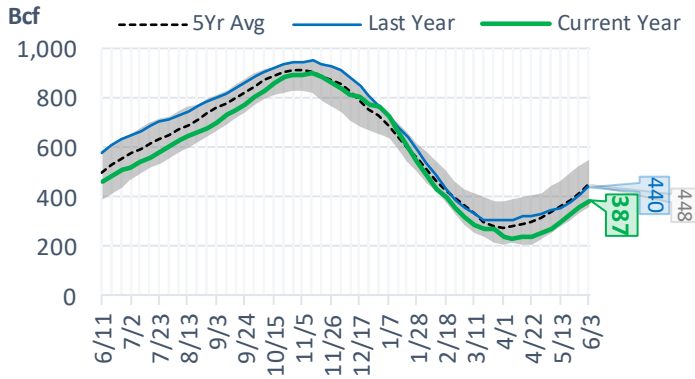
NonSalt Storage Levels



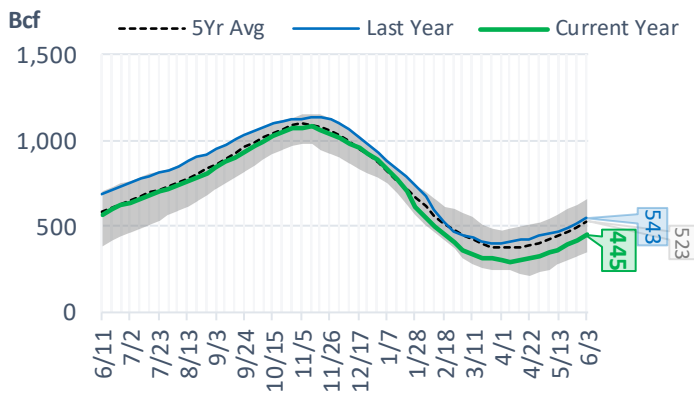
Salt Storage Levels



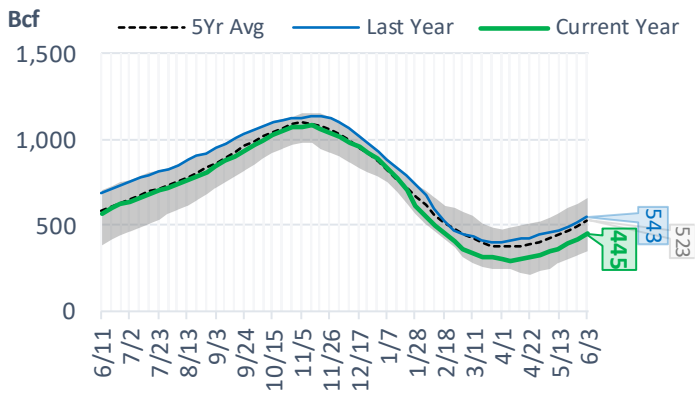
East Storage Levels



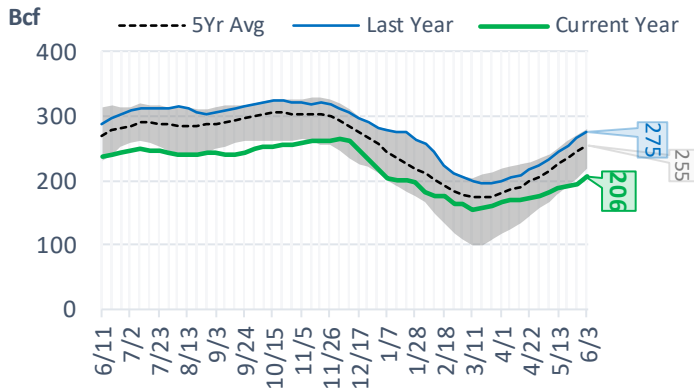
Midwest Storage Levels



Midwest Storage Levels



Pacific Storage Levels



EIA Storage Week Balances

	11-Jun	13-May	20-May	27-May	3-Jun	10-Jun	WoW	vs. 4W
Lower 48 Dry Production	**93.5**	**95.8**	**94.9**	**95.9**	**96.6**	**96.3**	**-0.4**	**0.5**
Canadian Imports	**4.8**	**5.2**	**4.9**	**4.9**	**4.8**	**5.4**	**0.6**	**0.5**
L48 Power	35.1	26.8	30.4	30.0	30.5	33.1	2.7	3.7
L48 Residential & Commercial	8.9	14.5	10.0	11.6	9.1	8.6	-0.5	-2.7
L48 Industrial	20.8	20.9	21.3	20.1	21.4	21.7	0.3	0.8
L48 Lease and Plant Fuel	5.1	5.2	5.1	5.2	5.2	5.2	0.0	0.0
L48 Pipeline Distribution	2.4	2.3	2.3	2.4	2.2	2.2	0.0	-0.1
L48 Regional Gas Consumption	**72.3**	**69.6**	**69.1**	**69.3**	**68.3**	**70.8**	**2.5**	**1.7**
Net LNG Exports	**9.4**	**12.2**	**12.2**	**13.0**	**12.8**	**12.3**	**-0.5**	**-0.2**
Total Mexican Exports	**7.3**	**7.0**	**7.0**	**7.0**	**7.1**	**7.1**	**0.1**	**0.1**
Implied Daily Storage Activity	**9.2**	**12.1**	**11.5**	**11.4**	**13.3**	**11.5**	**-1.8**	
EIA Reported Daily Storage Activity	**2.3**	**12.7**	**11.4**	**12.9**	**13.9**			
Daily Model Error	**6.9**	**-0.6**	**0.1**	**-1.4**	**-0.6**			

Monthly Balances

	2Yr Ago Jun-20	LY Jun-21	Feb-22	Mar-22	Apr-22	May-22	MTD Jun-22	MoM	vs. LY
Lower 48 Dry Production	**87.9**	**93.2**	**92.7**	**93.5**	**95.9**	**95.7**	**96.4**	**0.7**	**3.2**
Canadian Imports	**4.0**	**4.8**	**6.5**	**5.2**	**5.8**	**5.1**	**5.3**	**0.2**	**0.5**
L48 Power	34.9	35.9	28.7	25.5	24.7	28.8	32.4	3.6	-3.5
L48 Residential & Commercial	8.8	8.9	43.3	31.5	22.5	12.3	8.7	-3.6	-0.2
L48 Industrial	20.0	20.2	22.1	19.7	21.4	20.9	21.7	0.8	1.5
L48 Lease and Plant Fuel	4.8	5.0	5.1	5.2	5.2	5.2	5.2	0.0	0.2
L48 Pipeline Distribution	2.3	2.4	3.5	2.9	2.6	2.3	2.2	-0.1	-0.2
L48 Regional Gas Consumption	**70.8**	**72.5**	**102.7**	**84.7**	**76.4**	**69.5**	**70.3**	**0.8**	**-2.2**
Net LNG Exports	**4.0**	**10.2**	**12.4**	**12.9**	**12.3**	**12.5**	**12.4**	**-0.1**	**2.3**
Total Mexican Exports	**5.5**	**7.4**	**6.2**	**6.5**	**6.7**	**7.0**	**7.1**	**0.1**	**-0.3**
Implied Daily Storage Activity	**11.5**	**8.0**	**-22.1**	**-5.4**	**6.2**	**11.8**	**11.9**		
EIA Reported Daily Storage Activity									
Daily Model Error									

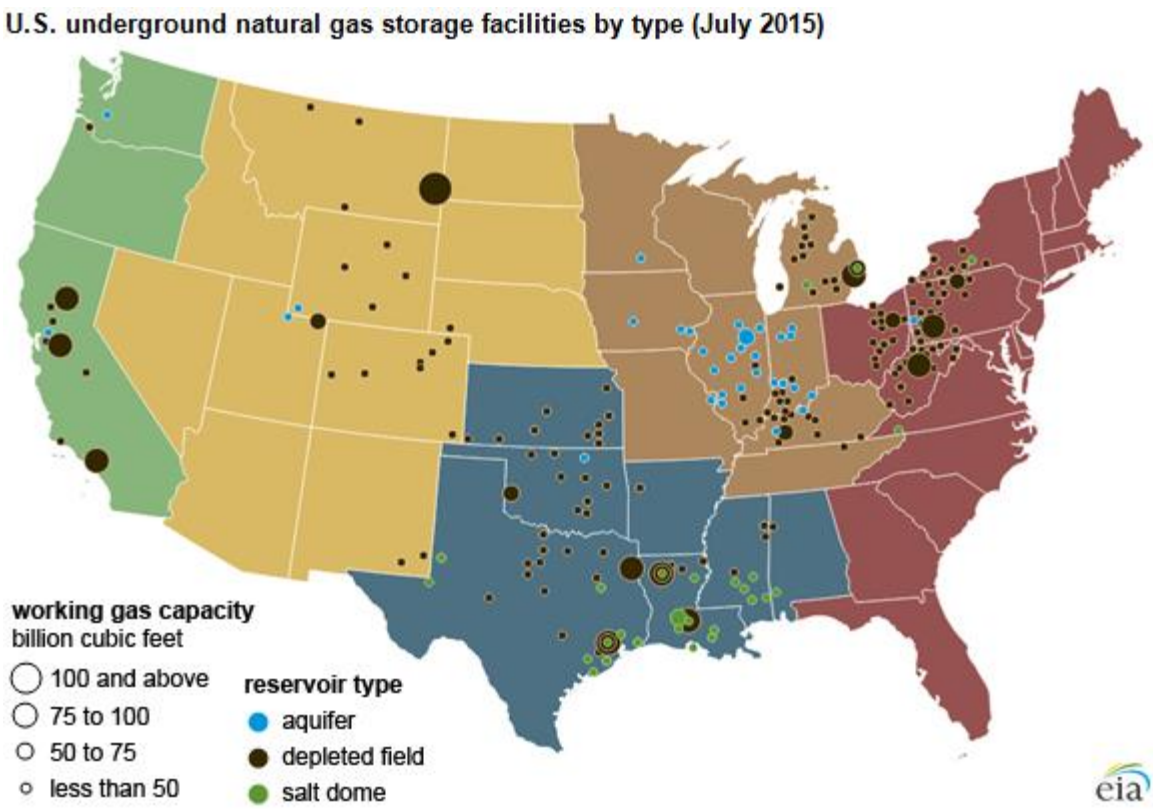
Source: Bloomberg, analytix.ai

Regional S/D Models Storage Projection

Week Ending 10-Jun

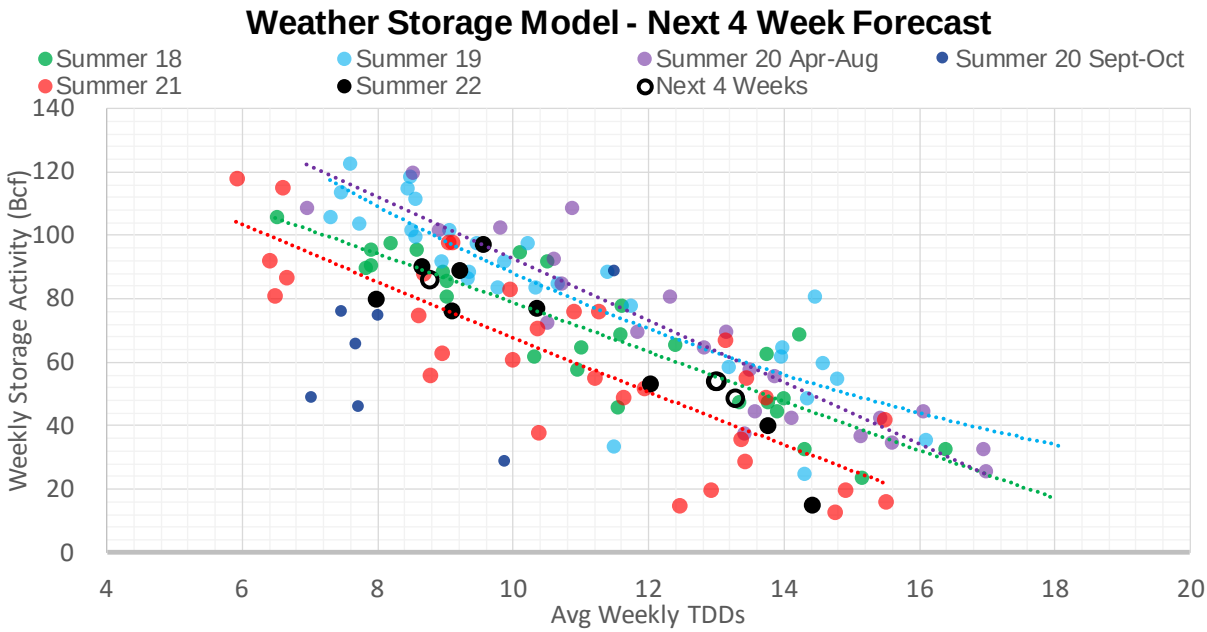
	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	12.4	-0.1	12.3	86
East	1.9	2.1	4.1	28
Midwest	5.1	-1.6	3.6	25
Mountain	4.1	-3.8	0.3	2
South Central	-0.9	3.8	3.0	21
Pacific	2.1	-0.7	1.4	10

*Adjustment Factor is calcuated based on historical regional deltas



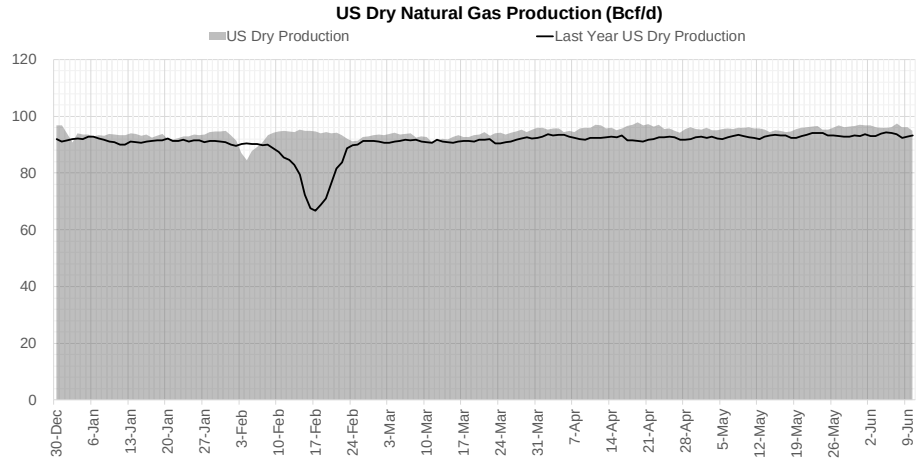
Weather Model Storage Projection

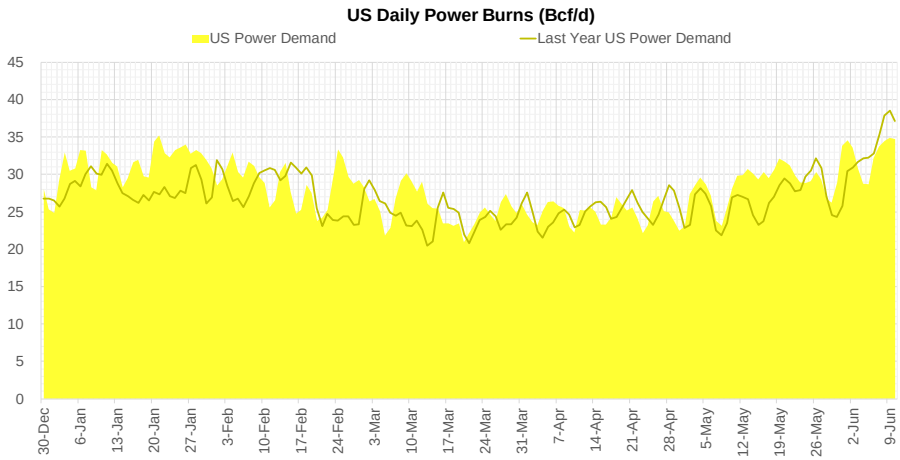
Next report and beyond		
Week Ending	TDDs	Week Storage Projection
10-Jun	8.8	86
17-Jun	13.3	48
24-Jun	13.0	54
01-Jul	13.0	54

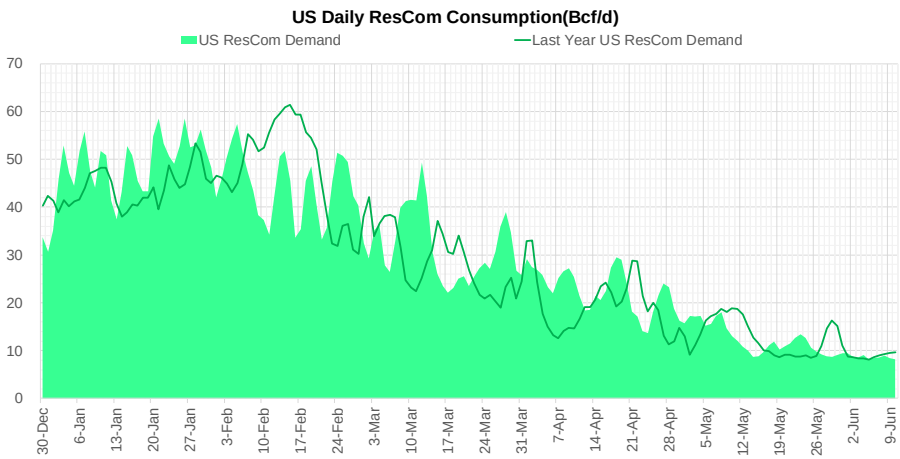


Note: this is not our official end of season forecast. This chart signifies where storage levels end with 10-year normal weather and current market tightness relative to last year

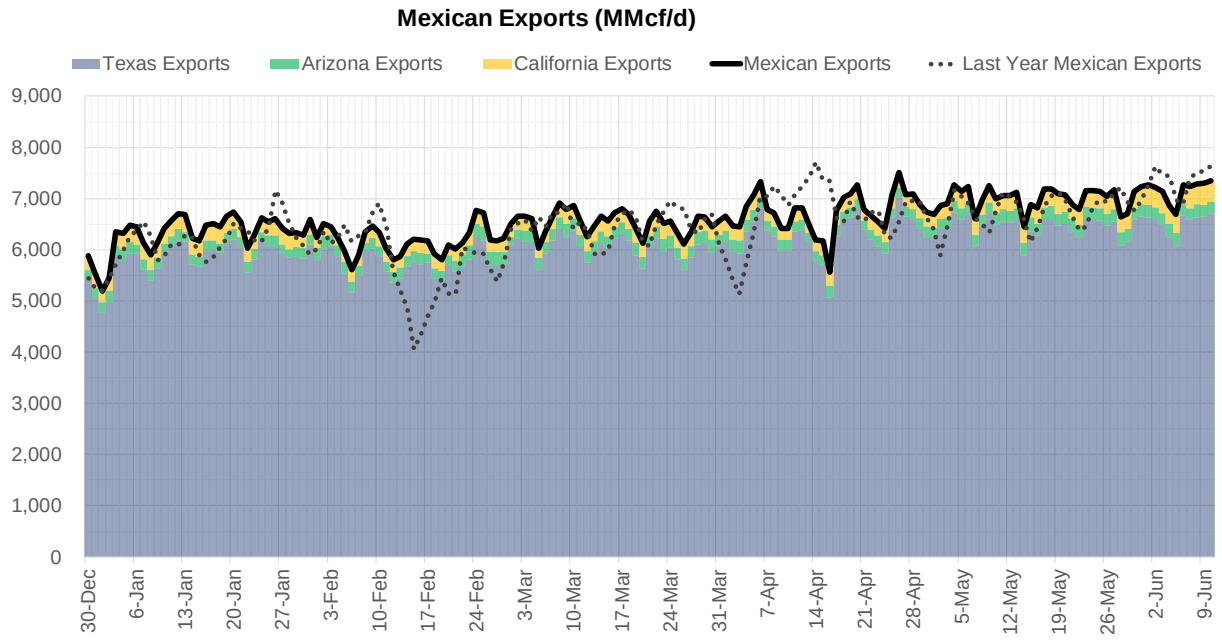
Supply – Demand Trends

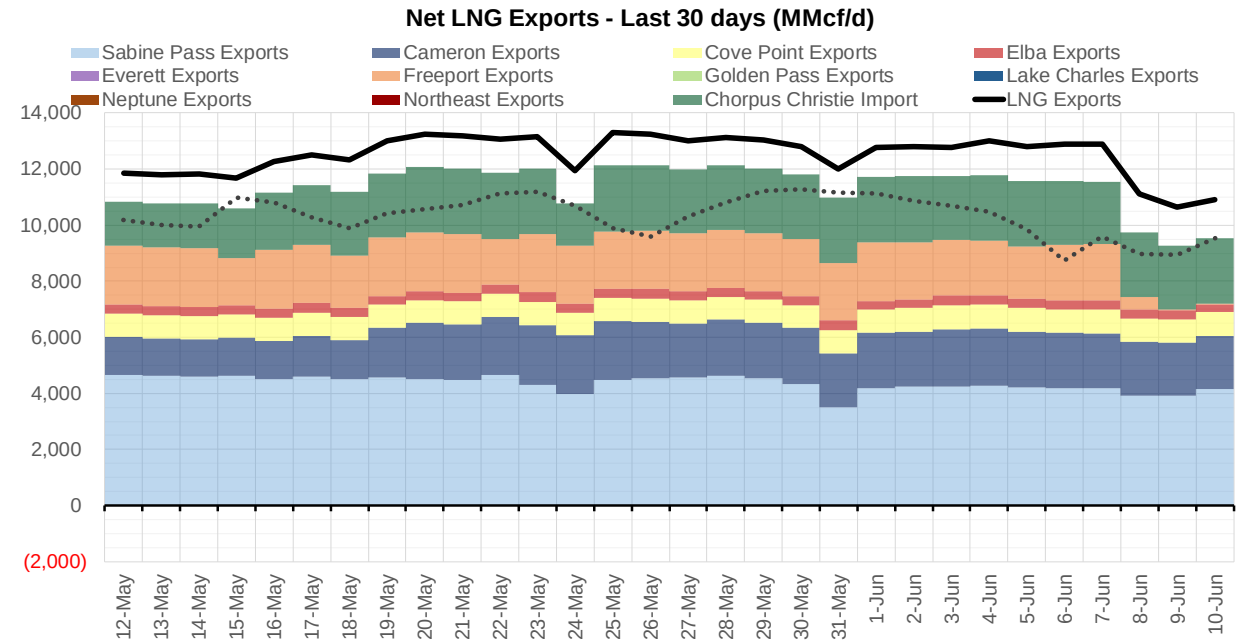






Source: Bloomberg





Source: Bloomberg

Nat Gas Options Volume and Open Interest

CME and ICE data combined

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL
7	2022	C	11.00	13935
7	2022	C	9.50	12145
7	2022	C	10.00	6578
7	2022	C	9.00	5718
7	2022	P	7.00	4818
8	2022	C	10.00	4783
7	2022	P	6.50	4088
7	2022	P	7.50	3890
8	2022	C	12.00	3677
8	2022	P	7.00	2780
8	2022	C	11.00	2776
7	2022	P	8.00	2754
8	2022	C	10.50	2571
7	2022	C	12.00	2552
7	2022	P	6.75	2541
10	2022	P	8.00	2260
12	2022	P	8.00	2150
2	2023	C	8.00	2150
8	2022	P	6.50	1962
7	2022	C	10.50	1913
8	2022	C	15.00	1725
4	2023	P	2.50	1625
5	2023	P	2.50	1625
6	2023	P	2.50	1625
7	2023	P	2.50	1625
8	2023	P	2.50	1625
9	2023	P	2.50	1625
10	2023	P	2.50	1625
7	2022	C	8.70	1595
2	2023	C	10.00	1592
7	2022	C	8.60	1527
10	2022	C	9.00	1416
7	2022	C	13.00	1353
7	2022	C	11.50	1319
8	2022	C	14.00	1304
7	2022	C	15.00	1244
10	2022	P	6.00	1230
8	2022	P	7.50	1229
9	2022	C	10.00	1162
7	2022	P	7.90	1136
8	2022	P	7.10	1132
7	2022	P	8.25	1107
2	2023	C	9.00	1088
8	2022	C	9.00	1013
10	2023	P	3.00	1000
8	2022	C	10.75	971
4	2023	P	3.00	925
5	2023	P	3.00	925
6	2023	P	3.00	925

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
8	2022	C	10.00	48755
7	2022	C	11.00	41605
8	2022	C	10.50	37180
8	2022	C	12.00	36135
10	2022	C	6.00	35685
10	2022	P	6.00	24604
10	2022	C	5.00	24069
9	2022	C	6.00	23676
7	2022	P	6.00	22327
8	2022	C	12.10	22005
7	2022	C	10.00	21803
10	2022	P	3.00	20975
7	2022	P	7.00	20712
10	2022	P	3.50	20595
9	2022	C	10.00	20534
7	2022	C	9.00	20524
7	2022	C	11.10	20508
10	2022	P	2.50	19870
8	2022	P	6.00	19811
8	2022	C	6.00	19733
9	2022	P	4.00	19168
7	2022	C	6.00	18845
5	2023	P	2.00	18827
7	2022	C	8.00	18421
8	2022	C	7.00	18255
12	2022	C	5.00	18221
9	2022	C	7.00	18066
7	2022	C	7.00	17650
7	2022	P	3.25	17344
10	2022	P	2.00	17258
1	2023	C	10.00	16810
7	2022	C	9.50	16551
10	2022	P	4.00	16484
8	2022	C	9.00	16402
9	2022	C	4.00	15970
7	2022	P	5.50	15944
10	2023	P	2.00	15730
10	2022	C	10.00	15655
3	2023	C	10.00	15486
2	2023	C	10.00	15482
9	2022	P	2.50	15292
7	2022	P	3.50	15279
7	2022	P	5.00	15141
9	2022	P	2.75	14883
10	2022	P	3.25	14667
9	2022	P	3.00	14601
8	2022	P	3.00	14554
7	2022	P	3.00	14532
11	2022	P	4.00	14522
7	2022	P	4.5	14510

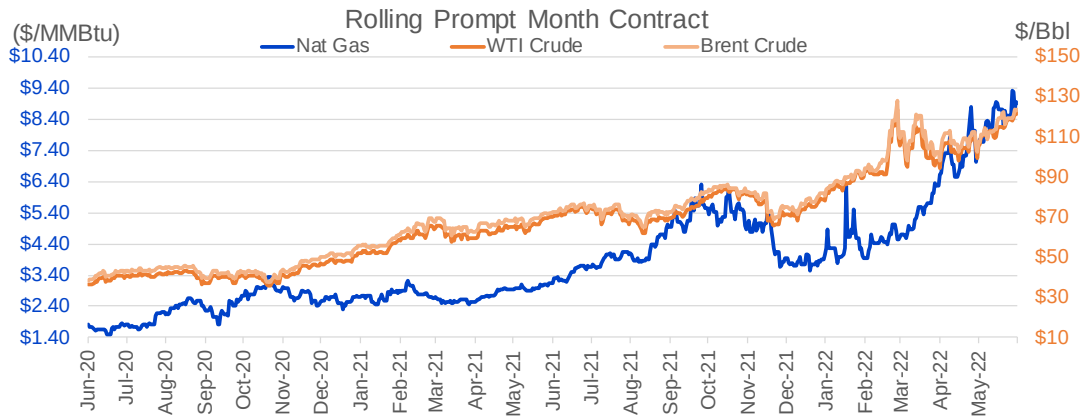
Source: CME, ICE

Nat Gas Futures Open Interest

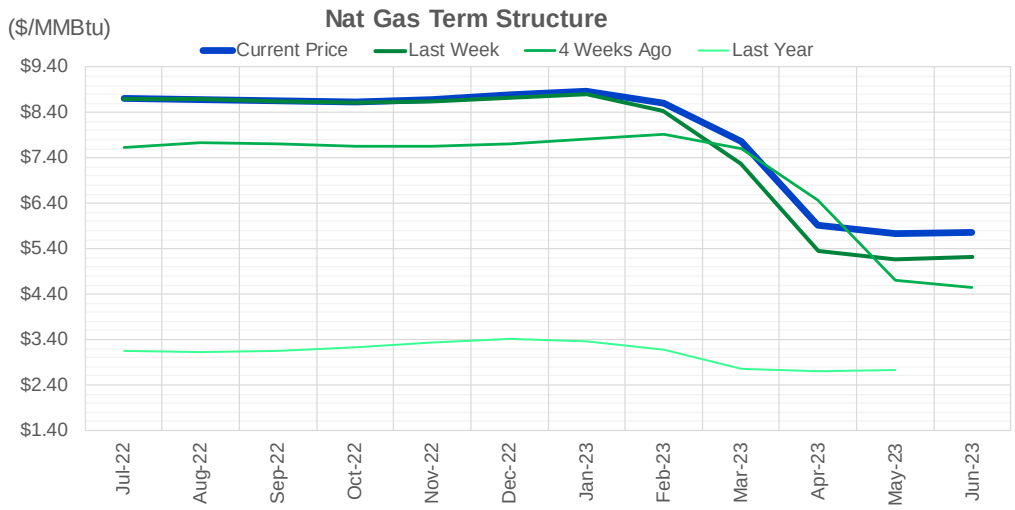
CME and ICE data combined

CME Henry Hub Futures (10,000 MMBtu)				ICE Henry Hub Futures Contract Equivalent (10,000 MM			
	Current	Prior	Daily Change		Current	Prior	Daily Change
JUL 22	127984	157296	-29312	JUL 22	83932	83516	416
AUG 22	75934	72396	3538	AUG 22	62990	66660	-3670
SEP 22	131017	124485	6532	SEP 22	72764	70447	2317
OCT 22	94848	96319	-1471	OCT 22	70937	70750	187
NOV 22	51913	49950	1963	NOV 22	59714	59280	434
DEC 22	52422	52493	-71	DEC 22	63931	64111	-180
JAN 23	63155	64462	-1307	JAN 23	67499	66822	676
FEB 23	27551	28563	-1012	FEB 23	54095	53848	247
MAR 23	45987	45950	37	MAR 23	53722	53304	418
APR 23	63618	62961	657	APR 23	52757	52572	184
MAY 23	65681	66035	-354	MAY 23	52993	52987	7
JUN 23	25335	25391	-56	JUN 23	45625	45665	-40
JUL 23	24637	24500	137	JUL 23	43891	43798	93
AUG 23	15585	15528	57	AUG 23	43647	43700	-52
SEP 23	18866	18979	-113	SEP 23	42742	42754	-12
OCT 23	41267	41507	-240	OCT 23	49489	49410	79
NOV 23	12485	12888	-403	NOV 23	43738	43680	57
DEC 23	14012	14192	-180	DEC 23	39889	40323	-434
JAN 24	19811	20196	-385	JAN 24	39756	39623	134
FEB 24	6011	6240	-229	FEB 24	27198	27080	118
MAR 24	14213	13807	406	MAR 24	32111	31813	298
APR 24	13379	12971	408	APR 24	27498	27402	96
MAY 24	6470	6623	-153	MAY 24	26111	26007	103
JUN 24	2137	2028	109	JUN 24	22491	22393	97
JUL 24	1996	2009	-13	JUL 24	22667	22589	79
AUG 24	2970	2981	-11	AUG 24	22664	22586	79
SEP 24	1385	1376	9	SEP 24	22076	22001	75
OCT 24	7354	7370	-16	OCT 24	25111	25140	-29
NOV 24	4482	4500	-18	NOV 24	23516	23249	267
DEC 24	7172	7417	-245	DEC 24	25307	25260	47

Source: CME, ICE



Market Report



	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23
Current Price	**$8.699**	**$8.679**	**$8.649**	**$8.637**	**$8.690**	**$8.781**	**$8.872**	**$8.602**	**$7.750**	**$5.917**	**$5.723**	**$5.768**
Last Week	$8.696	$8.686	$8.643	$8.614	$8.657	$8.726	$8.797	$8.426	$7.277	$5.361	$5.162	$5.214
vs. Last Week	$0.003	-$0.007	$0.006	$0.023	$0.033	$0.055	$0.075	$0.176	$0.473	$0.556	$0.561	$0.554
4 Weeks Ago	$7.640	$7.727	$7.708	$7.661	$7.650	$7.712	$7.828	$7.921	$7.594	$6.463	$4.716	$4.548
vs. 4 Weeks Ago	$1.059	$0.952	$0.941	$0.976	$1.040	$1.069	$1.044	$0.681	$0.156	-$0.546	$1.007	$1.220
Last Year	$3.129	$3.144	$3.137	$3.157	$3.223	$3.339	$3.419	$3.356	$3.180	$2.768	$2.707	$2.732
vs. Last Year	$5.570	$5.535	$5.512	$5.480	$5.467	$5.442	$5.453	$5.246	$4.570	$3.149	$3.016	$3.036

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jul21/Oct21	$/MMBtu	2.224	0.000	0.000	2.195
NatGas Oct21/Nov21	$/MMBtu	0.361	0.000	0.000	0.301
NatGas Oct21/Jan22	$/MMBtu	-1.817	0.000	0.000	-2.067
NatGas Apr22/Oct22	$/MMBtu	3.619	0.546	1.187	3.605
WTI Crude	$/Bbl	121.51	4.640	15.380	51.220
Brent Crude	$/Bbl	123.07	5.460	15.620	50.550
Fuel Oil, NY Harbour 1%	$/Bbl	97.18	0.000	0.000	0.000
Heating Oil	cents/Gallon	440.37	19.530	48.760	226.030
Propane, Mt. Bel	cents/Gallon	1.24	0.009	-0.003	0.295
Ethane, Mt. Bel	cents/Gallon	0.68	0.040	0.102	0.404
Coal, PRB	$/MTon	12.30	0.000	0.000	0.000
Coal, PRB	$/MMBtu	0.70			

Source: CME, Bloomberg

Market Report

Baker Hughes Rig Counts

Rotary Rig Count

6/10/2022

Baker Hughes

U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Oil	580	6	574	215	365
Gas	151	0	151	55	96
Miscellaneous	2	0	2	2	0
Directional	38	2	36	14	24
Horizontal	668	2	666	248	420
Vertical	27	2	25	10	17
Canada Breakout	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Oil	94	22	72	35	59
Gas	47	2	45	13	34
Major Basin Variances	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Ardmore Woodford	2	0	2	0	2
Arkoma Woodford	4	0	4	3	1
Barnett	4	0	4	3	1
Cana Woodford	27	0	27	12	15
DJ-Niobrara	15	0	15	9	6
Eagle Ford	68	2	66	35	33
Granite Wash	2	0	2	1	1
Haynesville	68	0	68	19	49
Marcellus	39	0	39	11	28
Mississippian	2	0	2	2	0
Permian	345	3	342	109	236
Utica	12	0	12	4	8
Williston	38	0	38	22	16