

# Bureau of Land Management

## Amarillo Field Office

### Helium Operations

### Statistical Report

for



May - 2018

#### *Distribution:*

Fluid Minerals Group Manager, Washington Office  
NMSO, New Mexico State Director  
NMSO, Associate State Director  
NMSO, Petroleum Engineer  
Field Manager, Amarillo Field Office  
Assistant Field Managers (3)  
Team Leaders  
-Federal Leased Lands  
-Resources Evaluation & Gas Analysis  
-Division Of Helium Operations, -  
Engineering and Technical Support

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*Compi* Amarillo, Texas

Issued: November 8, 2018

**REVISED**

**"Please Note: Data in this report is accurate as of print date; however all data is subject to change."**

Approved for Distribution: Joseph B. Peterson (Acting FM)

Date: November 7, 2018

Table 1 - Summary of Helium Operations

May - 2018

**Helium Enrichment Unit Operations**

Gas Processed	Month Gross Volume	Month Net Helium	Average Percent	Gross FYTD	Net FYTD
Measured Plant Feed (Mcf*)	564,374	89,712	15.90%	4,229,578	680,069
Helium Product (Mcf*)	123,289	91,938	74.57%	916,939	681,100
Residue Natural Gas (Mcf*)	309,422	0	00.00%	2,262,549	40

\* Volumes in Mcf at 14.65 psia & 60°F

**Natural Gas & Liquids Produced**

Gas Processed	Month	FYTD
Natural Gas Sales (Mcf****)	307,084	2,273,575
NGL Sales (gallons)	120,155	808,198

\*\*\* Volumes in Mcf at 14.73 psia & 60°F

**Bush Dome Reservoir Operations**  
Conservation gases from all sources

	Month Gross Volume	Month Net Helium	Average Percent	Gross FYTD	Net FYTD
Total Withdrawn (Mcf*)	569,734	90,564	15.90%	4,226,952	679,635
Crude Injection (Mcf*)	0	0	00.00%	0	0
Crude Production (Mcf*)	0	0	00.00%	0	0

\* Volumes in Mcf at 14.65 psia & 60°F

**Storage Operations**

Conservation Helium	Volume Outstanding	Month	FYTD	CYTD	Cumulative
Conservation Crude Sale Volume Sold/Paid (Mcf*)		0	15,000	0	22,779,063
Conservation Crude Sale Volume Transferred (Mcf*)	0	0	15,000	0	903,477
Conservation Helium in Storage (EOM) (Mcf*)		3,352,779			

\* Volumes in Mcf at 14.65 psia & 60°F

**In Kind Helium**

	Month	FYTD	CYTD	Cumulative
Sale Volumes Transferred (Mcf*)	39,591	104,414	73,176	3,629,577
Sale Volumes Outstanding (Mcf*)	7,092			

\* Volumes in Mcf at 14.65 psia & 60°F

**Private Company Helium Storage Contracts**

Contact Activity	Month Gross Volume	Month Net Helium	Average Percent	Annual Helium FYTD
Crude Acquired (Mcf*)	19,750	12,779	64.70%	87079
Crude Disposed (Mcf*)	142,416	104,020	73.04%	773395
Net Balance (Mcf*)	(122,666)	(91,241)		(686,316)
Balance of Stored Helium End Of Month (Mcf*)		3,074,843		

\* Volumes in Mcf at 14.65 psia & 60°F

**Revenue / Charges**

Helium Storage Contracts (Charges Billed (\$))	Month	FYTD
Storage Fees Billed (\$)	\$622,668	\$4,825,180
Reservoir Management Fees Billed (\$)	\$221,617	\$1,274,885

**Conservation Helium - Natural Gas - Liquid Sales**

(Charges Billed (\$))	Month	FYTD
Conservation Crude Helium Sales	\$0	\$1,815,000
In Kind Sales	\$0	\$6,192,496
Natural Gas & Liquid Sales	\$693,284	\$6,245,600

**Helium Resources Evaluation**

	Month	FYTD
Revenue Collected from Federal Lease Holds	\$1,815,308	\$13,777,371
Helium Sample Collection Report for month	Submitted - 0	Received - 0
		Analyzed - 20

\*Rounded to nearest dollar

Table 2 - Bush Dome Reservoir Operations

May - 2018

		Gross Withdrawal		Net Helium Withdrawal		Nitrogen		Methane	Methane	Ethane plus		Other (CO2, Ar, H2)	
		Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative
<b>TOTAL</b>		<b>569,734</b>	<b>236,647,211</b>	<b>90,564</b>	<b>44,013,216</b>	<b>140,976</b>	<b>58,336,253</b>	<b>298,241</b>	<b>120,113,185</b>	<b>34,127</b>	<b>12,185,078</b>	<b>5,825</b>	<b>1,999,480</b>
BIVINS A-3	May-17	0	10,961,112	0	3,548,629	0	2,772,147	0	4,159,384	0	407,301	0	73,653
BIVINS A-6	May-17	51,772	12,500,058	21,683	7,287,634	12,935	3,075,217	15,128	1,887,001	1,627	188,763	399	61,443
BIVINS A-13	May-17	38,396	9,265,145	12,337	4,718,639	9,599	2,375,870	14,515	1,903,947	1,653	211,834	292	54,855
BIVINS A-14	May-17	43,580	10,468,725	11,902	5,766,695	10,737	2,647,158	18,508	1,795,872	2,036	194,513	398	64,487
BIVINS A-4	May-17	39,371	14,353,111	4,091	2,488,226	9,441	3,476,879	22,733	7,501,935	2,638	756,604	469	129,468
BUSH A-2	May-17	9,757	13,958,952	484	2,017,511	2,434	3,427,902	6,025	7,613,399	743	784,740	70	115,400
Injection	May-17	0	66,474,735	0	48,019,788	0	17,121,580	0	780,676	0	37	0	552,655
inj Bivins A-3	May-17	0	(25,652,315)	0	(18,384,452)	0	(6,554,549)	0	(332,777)	0	0	0	(380,537)
inj Bivins A-6	May-17	0	(24,412,686)	0	(17,669,978)	0	(6,486,588)	0	(143,192)	0	(72)	0	(112,856)
inj Bivins A-13	May-17	0	(6,490,417)	0	(4,706,191)	0	(1,656,853)	0	(122,391)	0	(2)	0	(4,980)
inj Bivins A-14	May-17	0	(6,501,333)	0	(4,767,421)	0	(1,602,106)	0	(126,303)	0	(7)	0	(5,497)
inj Bivins A-4	May-17	0	(2,527,801)	0	(1,848,815)	0	(601,353)	0	(42,016)	0	0	0	(35,617)
inj Bush A-2	May-17	0	(867,658)	0	(625,258)	0	(215,406)	0	(13,980)	0	0	0	(13,015)
Production	May-17	0	1,254,876	0	924,742	0	270,231	0	48,129	0	3,199	0	8,575
BIVINS A-1	May-17	0	2,686,608	0	48,896	0	636,995	0	1,798,415	0	175,704	0	26,597
BIVINS A-2	May-17	24,248	14,464,855	800	1,896,587	5,625	3,537,599	15,686	8,099,832	1,870	809,417	267	121,420
BIVINS A-5	May-17	30,606	16,664,203	5,512	2,160,902	7,820	4,091,873	15,196	9,326,427	1,824	941,290	254	143,711
BIVINS A-7	May-17	17,654	12,099,481	5,047	2,871,624	4,606	3,049,233	7,030	5,525,417	847	565,018	124	88,188
BIVINS A-9	May-17	33,709	11,154,420	894	216,806	8,509	2,751,213	21,612	7,339,329	2,398	745,739	297	101,334
BIVINS A-11	May-17	22,996	6,870,104	672	151,545	5,758	1,711,009	14,707	4,480,650	1,624	462,003	235	64,897
BIVINS A-15	May-17	37,476	10,618,090	635	444,441	8,643	2,525,551	25,083	6,848,728	2,636	687,858	479	111,512
BIVINS B-1	May-17	36,880	8,806,835	837	317,907	8,995	2,137,075	23,784	5,675,344	2,770	584,268	494	92,240
BIVINS B-2	May-17	32,847	7,334,388	607	138,196	8,231	1,839,558	21,115	4,759,294	2,283	491,607	611	105,733
BUSH A-1	May-17	0	5,721,962	0	104,140	0	1,356,677	0	3,830,281	0	374,216	0	56,647
BUSH A-3	May-17	31,969	12,809,641	10,009	3,092,971	8,101	3,171,788	12,113	5,839,852	1,464	593,399	281	111,631
BUSH A-4	May-17	25,821	9,105,611	2,192	1,621,475	6,553	2,280,286	15,025	4,661,061	1,903	477,997	147	64,792
BUSH A-5	May-17	48,409	17,585,260	11,976	4,075,528	12,330	4,418,249	21,169	8,137,306	2,624	832,787	310	121,390
BUSH A-8	May-17	18,703	4,704,972	338	86,266	4,589	1,142,062	12,148	3,101,599	1,295	314,159	332	60,886
BUSH A-9	May-17	0	3,860,915	0	105,037	0	930,915	0	2,537,187	0	253,463	0	34,312
BUSH A-11	May-17	20,758	4,816,939	463	138,472	4,961	1,152,465	13,474	3,149,662	1,542	320,288	318	56,052
BUSH B-1	May-17	4,780	3,423,172	82	64,152	1,108	811,998	3,189	2,287,254	351	226,247	49	33,521
FUQUA A-1	May-17	0	2,954,098	0	53,854	0	702,798	0	1,975,175	0	193,573	0	28,699
FUQUA A-2	May-17	0	132,119	0	2,404	0	31,322	0	88,458	0	8,637	0	1,297
FUQUA A-3	May-17	0	9,303,912	0	577,005	0	2,277,687	0	5,790,357	0	583,701	0	75,162
TT Fuel	May-17	0	0	0	0	0	0	0	0	0	0	0	0
field-wide pct's				15.90%	18.60%	24.74%	24.65%	52.35%	50.76%	5.99%	5.15%	1.02%	0.84%

Latest estimates of reserves and feed to HEU

Based on NITEC's 2003 reserves study from NITEC's interim report

As of EOM May-17 Volumes in BCF

Initial Gas In Place	330.040	
Produced 1924 to 1961	48.830	
Injected 1924 to 1961	0.450	
Remaining Gas In Place 1961	281.660	
Left Behind Pipe, 1961	82.060	=====> 1.500 BCF of contained helium
Remaining in Place, 1961	199.600	
Gas In Place 1961	199.600	
Produced 1961 to July 2002	82.450	
Injected 1961 to July 2002	64.510	Net Helium
Remaining Gas In Place July 2002	181.660	33.997
Produced July 2002 through Dec 2002	1.096	0.743
Production 2003 - 17	101.638	25.237
Injection 2003 - 17	(1.423)	(1.159)
Produced to Date 2018	2.673	0.429
Injected to Date 2018	0.000	0.000
Amount of Raw Gas Available to CHEU	77.675	=====> 8.747 total helium in reservoir
Estimated Bottom Hole Pressure	286.106	est z-factor 0.980

\* All volumes on Table 2 are reported in Mcf at 14.65 psia & 60°F

### Table 3 - Gas Volumes & Inventory

May - 2018

#### Crude Helium Enrichment Unit Operations

		Gross Withdrawal		Net Helium Withdrawal		Nitrogen		Methane		Ethane plus		Other (CO2, Ar, H2)	
		Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative
Measured Feed	May-17	564,374	101,575,882	89,712	23,980,827	139,650	25,442,865	295,436	46,301,839	33,806	4,964,721	5,770	885,630
Calculated Feed	May-17	569,734	101,428,464	90,564	23,973,092	140,976	25,399,377	298,241	46,187,952	34,127	4,980,398	5,825	887,645
Feed to Box	May-17	564,709	100,771,938	90,564	23,973,270	140,976	25,399,460	298,241	46,187,998	34,127	4,980,394	800	230,815
Cheu Product	May-17	123,289	30,342,846	91,938	23,612,532	28,073	5,920,456	2,458	599,408	1	866	819	209,584
Residue	May-17	309,422	46,165,782	0	2,171	7,097	1,130,835	274,648	40,966,203	27,677	4,065,310	0	1,263
Cold Box Vent	May-17	85,221	16,701,485	59	89,879	77,213	14,818,693	7,930	1,731,402	1	121	17	61,390
Flare/Boot Strap	May-17	85,221	7,217,733	59	50,658	77,213	6,073,695	7,930	993,571	1	93,586	17	6,223
Fuel From Cheu	May-17	6,749	1,381,724	3	446	175	40,118	5,443	1,119,989	1,128	221,171	0	0
Shrinkage/Loss	May-17	5,322	507,900	0	0	0	0	0	0	5,322	507,900	0	0
Unaccounted*	May-17	34,706	3,593,012	(1,436)	169,674	28,418	2,682,774	7,762	735,685	(1)	1,099	(36)	3,779

\*Before October 2004, the values are estimated

#### Storage Operations

##### Inventory (contained helium)

	Government	Private
Beginning inventory	3,392,486	3,126,493
net acceptances + redeliveries	0	0
In Kind Transfers	(39,591)	39,591
Conservation Crude Sales	0	0
Gain/loss	(116)	
Ending Inventory	3,352,779	3,074,843
Total Helium in Reservoir	8,747,136	
Total Helium in Storage	6,427,622	
Helium in native gas	2,319,515	

##### Crude Helium Pipeline

	Gross	Net Helium	Percent
Beginning inventory	27,014	19,730	73.04%
Measured to Pipeline (Private Plants)	19,750	12,779	64.70%
Measured from Pipeline (Private Plant)	142,416	104,020	73.04%
HEU Production	123,289	91,938	74.57%
Injection	0	0	00.00%
Production	0	0	
Ending Inventory	27,775	20,310	73.12%
Gain/Loss	138	(116)	

#### Tuck Triqq Reservoir Operations

Native Gas (Gross)	Month	Fiscal Year	Since Field
			Discovery
Total in place, beg. of period	5,198,688	5,198,688	5,890,000
Recoverable in place, beg. of period	4,528,688	4,528,688	5,220,000
Production during period to date	0	0	691,312
Total in place, end of month	5,198,688	5,198,688	5,198,688
Recoverable in place, end of month	4,528,688	4,528,688	4,528,688

\* All volumes on Table 3 are reported in Mcf at 14.65 psia & 60°F

Table 4 - In Kind Helium Sales

May - 2018

	NASA*	Navy*	Army*	Air Force*	DOE*	Other Fed*	Subtotal*	In Kind+	Charges Billed (\$)**	
<b>In Kind Helium</b>										
<b>Airgas Merchant Gases, Contract no. INC18-0102</b>										
Month										
FYTD										
<b>Air Liquide Helium America, Inc., Contract no. INC18-0104</b>										
Month										
FYTD										
<b>Air Products, L.P., Contract no. INC18-0105</b>										
Month										
FYTD										
<b>Linde Gas North America, LLC, Contract no. INC18-0106</b>										
Month										
FYTD										
<b>Praxair, Inc., Contract no. INC18-0112</b>										
Month										
FYTD										
<b>Matheson Tri-Gas, Inc., Contract no. INC18-0114</b>										
Month										
FYTD										
<b>Global Gases America, Contract no. INC18-0116</b>										
Month										
FYTD										
<b>Total month</b>	0	0	0	0	0	0	0	0	\$0	
<b>Total FYTD</b>	35,540	1	0	0	0	38,851	74,392	73,242	\$6,192,496	
<b>Total CYTD</b>	20,169	0	0	0	0	20,110	40,279	39,657	\$3,404,941	
<b>Cumulative</b>	1,986,331	108,685	450	271,593	422,045	901,154	3,690,257	3,633,119	\$216,123,710	
<b>In Kind Transfers</b>							Month	FYTD	CYTD	Cumulative
Transferred							39,591	104,414	73,176	3,629,577
Volume outstanding							7,092			

\* Volumes in Mcf at 14.7 psia & 70°F

\*\*Rounded to nearest dollar

+ Volumes in Mcf at 14.65 psia & 60°F

**Natural Gas / Natural Gas Liquid Sales**

	Natural Gas (Mcf)***	NGLs (gal)	Decatherms	Avg Btu Value	Charges Billed (\$)**
<b>El Paso Natural Gas</b>					
Provides Measured Firm/Interruptible Transportation Services (billed monthly)					
Month	307,084	---	337,908	1,100	\$0
FYTD	2,273,575	---	2,439,775	1,073	(\$167,982)
Cumulative	45,724,451	---	49,737,391	1,088	(\$5,088,325)
<b>Minerals Management Service</b>					
No Longer Provides Natural Gas Marketing Services					
Cumulative	---	---	---	---	(\$179,913)
<b>Tenaska</b>					
Purchaser - Natural Gas					
Month	---	---	342,054	\$1.732274	\$592,531
FYTD	---	---	2,480,754	\$2.319134	\$5,753,200
Cumulative	---	---	49,595,641	\$4.333052	\$214,073,956
<b>Sandstone</b>					
Purchaser - Natural Gas Liquids					
Month	---	120,155	12,830	\$7.852899	\$100,753
FYTD	---	808,198	87,213	\$7.572058	\$660,382
Cumulative	---	14,036,435	1,494,312	\$10.905608	\$16,296,381
<b>Total</b>					
<b>Total month</b>	307,084	120,155	354,884	\$1.953550	\$693,284
<b>Total FYTD</b>	2,273,575	808,198	2,567,967	\$2.432119	\$6,245,600
<b>Total CYTD</b>	1,470,432	528,760	1,653,149	\$2.321345	\$3,837,529
<b>Cumulative</b>	45,724,451	14,036,435	51,089,953	\$4.422174	\$225,102,099

\*\*\* Volumes in Mcf at 14.73 psia & 60°F

\*\*Rounded to nearest dollar

Table 5 - Conservation Crude Sales/Reserve Sell-down

May - 2018

## Helium &amp; Natural Gas Sales

	Award Volume*	Outstanding*	Sales*	Charges Billed (\$) **	
<b>Conservation Helium</b>				<b>(billed quarterly)</b>	
<b><u>Air Liquide Helium America, Inc.</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	335,217		335,217	\$25,454,815	
<b><u>Air Products, L.P.</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	8,962,845		8,962,845	\$671,868,990	
<b><u>Linde Gas North America, LLC</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	6,289,226		6,289,226	\$433,603,032	
<b><u>Keyes Helium Co., LLC</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	1,013,471		1,013,471	\$70,080,272	
<b><u>Matheson Tri-Gas, Inc.</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	360,034		360,034	\$38,155,146	
<b><u>Praxair, Inc.</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	5,550,116		5,550,116	\$421,704,984	
<b><u>Global Gases America</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	36,267		36,267	\$3,535,665	
<b><u>Airgas Merchant Gases</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	15,667		15,667	\$1,488,365	
<b><u>IACX Energy</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	16,220		16,220	\$1,720,180	
<b><u>Uniper Global Commodities North America LLC</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	41,334		41,334	\$5,038,746	
<b><u>Weil Group Resources LLC</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	15,000	\$1,815,000	
Cumulative	21,000		21,000	\$2,529,000	
<b><u>NAH USA Helium Marketing, Inc</u></b>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	11,334		11,334	\$1,348,746	
<b>Total month</b>					
	0	0	0	0	
<b>Total FYTD</b>					
	0	0	15,000	\$1,815,000	
<b>Total CYTD</b>					
	0		0	\$0	
<b>Cumulative</b>					
	22,779,063		22,779,063	\$1,678,646,449	
<b>Conservation Crude Transfers</b>					
		Month	FYTD	CYTD	Cumulative
Transferred		0	15,000	0	903,477
Volume outstanding		0			

\* Volumes in Mcf at 14.65 psia &amp; 60°F

## Table 6 - Helium Resources Evaluation

May - 2018

All Volumes in Mcf at 14.7 psia & 70°F

<b>Revenue Collected From Federal Leaseholds</b>	Month*	FYTD*
Fee Sales & Royalties	\$1,812,396	\$13,733,647
Natural Gas Royalties (1)	\$0	\$0
Natural Gas Rentals	\$0	\$0
Other	\$43,724	\$332,012
<b>Revenue Collected from Federal Lease Holds</b>	<b>\$1,815,308</b>	<b>\$13,777,371</b>

\*Totals do not sum

<b>Helium Analysis and Evaluation</b>	Month	FYTD
Number of Sample Request Letters Sent	0	0
Number of Samples Received	0	0
Number of Samples Analyzed	0	0
Total Number of Samples Analyzed For Resources Division	0	0
Total Number of Other Samples Analyzed (2)	20	122

### U. S. Helium Production

<i>Domestic</i>	FY Volume	CY Volume
2013 Helium Sold	4,725,187	4,623,130
2014 Helium Sold	4,279,765	4,166,708
2015 Helium Sold	3,815,746	3,463,698
2016 Helium Sold	3,282,185	3,466,014
2017 Helium Sold	4,559,100	4,644,278
Estimated Helium Resources as of 12/31/2016 (Mcf)		723,000,000

	FY-2017	CY-2017
<b>U.S. Helium Exports</b> (3)	2,520,645	2,451,207
<b>US Helium Imports</b>	731,407	666,908

(1) Includes drip gas sales & other miscellaneous gas sales.

(2) Includes pipeline, field survey, and other requested analyses.

(3) Data from Department of Commerce - Bureau of the Census.

# Table 7 - Helium Storage Contract Activity

May - 2018

All Volumes in Mcf at 14.65 psia & 60°F

	Metered Gas					Transferred Gas Helium		Stored Helium EOM	Charges Billed (\$)**		
	Gross Gas	Helium %	Helium	Helium			Month		Cumulative	Month	FYTD
				FYTD	CYTD	Cumulative					
<b>Total All Contracts*</b>											
Crude Acquired	19,750	64.7%	12,779	87,079	51,036	32,204,445	66,102	60,231,850			
Crude Disposed	142,416	73.0%	104,020	773,395	488,309	53,490,779	26,511	26,600,467			
Grade-A Rdlvrd	0		0	0	0	1,478,718					
Net/Balance	(122,666)		(91,241)	(686,316)	(437,273)	(22,765,052)	39,591	33,631,383	3,074,843	\$622,668 Storage Fees \$221,616.64 RMF Fees \$844,284 \$6,100,065	
<b>Total Prior Contracts (TERMINATED)</b>											
Crude Acquired				0	0	17,406,129	0	18,196,898			
Crude Disposed				0	0	11,830,863	0	19,148,768			
Grade-A Rdlvrd				0	0	1,478,718					
Number of trailers				0	0	9,834			0		
<b>Linde Gas North America, LLC, Contract no. 3249</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Praxair, Inc., Contract no. 3251</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Air Products, L.P., Contract no. 3256</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Air Liquide Helium America, Inc., Contract no. 3284</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Pioneer Natural Resources USA, Inc, Contract no. 3286</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Keyes Helium Co., LLC, Contract no. 3287</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Matheson Tri-Gas, Inc., Contract no. 3288</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Airgas Merchant Gases, Contract no. 3290</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Global Gases America, Contract no. 3293</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Linn Operating, Inc., Contract no. 3296</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>IACX Energy, Contract no. 3297</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Uniper Global Commodities North America LLC, Contract no. 3298</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>Weil Group Resources LLC, Contract no. 3299</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											
<b>NAH USA Helium Marketing, Inc, Contract no. 3300</b>											
Crude Acquired											
Crude Disposed											
Net/Balance											

Government Helium	
Remaining Crude Acquired beginning of the month	3,392,486
Crude Disposed: In Kind Sales transferred for the month	(39,591)
Conservation Crude Sales/Reserve Sell Down transferred (m)	0
Gains and Losses for the month	(116)
Net/Balance of Purchased Helium Remaining for Sale	3,352,779

\*Includes In Kind and Conservation Crude transfers from Government storage

\*\*Rounded to nearest dollar

\*\* New Contracts



## Table 8 - Compression & CHEU (Operations)

May - 2018

<b>Field/CHEU Compressor Operations</b>		Month	FYTD	Cumulative
Spot gas fuel price *	\$ per/MMBTU	\$1.73	\$2.33	\$4.68
Fuel used * (now includes field compression well head)	total MMBTU	7,802	65,746	1,876,447
Rental compressor(s) helium in fuel (Mcf)	Mcf	0	0	3645
#1 Compressor run time *	hours	736	4,847	114,406
#2 Compressor run time *	hours	722	5,274	77,397
#3 Compressor run time *	hours	25	702	62,710

\* Field/CHEU Compressor Operations based on May 18 activity

<b>Crude Helium Enrichment Unit (CHEU) CHEU Runtime</b>	Month		FYTD		Cumulative
	Runtime Hrs	Percent	Runtime Hrs	Percent	Runtime Hrs
Processing feed gas	744	100.0%	5,584	95.7%	126,709
Producing residue gas	744	100.0%	5,449	93.4%	123,733
Producing helium product	744	100.0%	5,412	92.8%	120,066
Producing natural gas liquids	744	100.0%	5,438	93.3%	119,139

<b>CHEU Utility Usage</b>	Month	FYTD	Cumulative
CheU Fuel Gas (Mcf) usage May 18	3,154	25,085	599,326
CheU Pure Water Usage (gallons) May 18	1,182	5,452	314,691
Electricity Metered (Kwh) consumed Apr 18	2,804,423	20,023,553	167,302,179