

# Bureau of Land Management

## Amarillo Field Office

### Helium Operations

### Statistical Report

for



April - 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

#### *List of Tables*

Table 1 - Summary of Helium Operations  
Table 2 - Bush Dome Reservoir Operations  
Table 3 - Gas Volumes & Inventory  
Table 4 - In Kind Helium Sales  
Table 4 - Natural Gas / Natural Gas Liquid Sales  
Table 5 - Conservation Crude Sales/Reserve Sell-down  
Table 6 - Helium Resources Evaluation  
Table 7 - Helium Storage Contract Activity  
Table 8 - Compression & CHEU (Operations)

*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

April - 2018

**Helium Enrichment Unit Operations**

Gas Processed	Month Gross Volume	Month Net Helium	Average Percent	Gross FYTD	Net FYTD
Measured Plant Feed (Mcf*)	559,802	89,238	15.94%	3,665,204	590,357
Helium Product (Mcf*)	122,806	91,403	74.43%	793,650	589,163
Residue Natural Gas (Mcf*)	305,689	0	00.00%	1,953,127	40

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

**Natural Gas & Liquids Produced**

Gas Processed	Month	FYTD
Natural Gas Sales (Mcf***)	303,133	1,966,491
NGL Sales (gallons)	104,138	688,043

\*\*\* 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Total Withdrawn (Mcf*)	557,080	88,793	15.94%	3,657,218	589,070
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*)		3,392,486			

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

**In Kind Helium**

	Month	FYTD	CYTD	Cumulative
Sale Volumes Transferred (Mcf*)	0	64,823	33,585	3,589,986
Sale Volumes Outstanding (Mcf*)	46,683			

\* 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*)	13,626	8,332	61.15%	74300
Crude Disposed (Mcf*)	132,947	97,007	72.97%	669375
Net Balance (Mcf*)	(119,321)	(88,675)		(595,075)
Balance of Stored Helium End Of Month (Mcf*)		3,126,493		

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

**Revenue / Charges**

Helium Storage Contracts (Charges Billed (\$))	Month	FYTD
Storage Fees Billed (\$)	\$602,703	\$4,202,512
Reservoir Management Fees Billed (\$)	\$231,823	\$1,053,268

**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	\$641,139	\$5,552,317

**Helium Resources Evaluation**

	Month	FYTD
Revenue Collected from Federal Lease Holds	\$1,647,216	\$11,962,062
Helium Sample Collection Report for month	Submitted - 0	Received - 0
		Analyzed - 24

\*Rounded to nearest dollar

Table 2 - Bush Dome Reservoir Operations

April - 2018

		Gross Withdrawal		Net Helium Withdrawal		Nitrogen		Methane	Methane	Ethane plus		Other (CO2, Ar, H2)	Cumulative
		Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	
<b>TOTAL</b>		<b>557,080</b>	<b>236,077,477</b>	<b>88,793</b>	<b>43,922,652</b>	<b>137,296</b>	<b>58,195,276</b>	<b>291,150</b>	<b>119,814,943</b>	<b>33,781</b>	<b>12,150,950</b>	<b>6,059</b>	<b>1,993,655</b>
BIVINS A-3	Apr-18	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	Apr-18	51,307	12,448,285	21,563	7,265,950	12,744	3,062,282	15,006	1,871,873	1,607	187,136	387	61,044
BIVINS A-13	Apr-18	37,806	9,226,748	12,128	4,706,301	9,380	2,366,272	14,390	1,889,432	1,625	210,181	282	54,563
BIVINS A-14	Apr-18	42,987	10,425,144	11,713	5,754,794	10,509	2,636,420	18,377	1,777,364	2,001	192,478	387	64,089
BIVINS A-4	Apr-18	36,596	14,313,740	3,813	2,484,135	8,771	3,467,437	21,154	7,479,202	2,426	753,966	431	129,000
BUSH A-2	Apr-18	10,412	13,949,195	533	2,017,027	2,600	3,425,468	6,439	7,607,374	767	783,997	73	115,329
Injection	Apr-18	0	66,474,735	0	48,019,788	0	17,121,580	0	780,676	0	37	0	552,655
inj Bivins A-3	Apr-18	0	(25,652,315)	0	(18,384,452)	0	(6,554,549)	0	(332,777)	0	0	0	(380,537)
inj Bivins A-6	Apr-18	0	(24,412,686)	0	(17,669,978)	0	(6,486,588)	0	(143,192)	0	(72)	0	(112,856)
inj Bivins A-13	Apr-18	0	(6,490,417)	0	(4,706,191)	0	(1,656,853)	0	(122,391)	0	(2)	0	(4,980)
inj Bivins A-14	Apr-18	0	(6,501,333)	0	(4,767,421)	0	(1,602,106)	0	(126,303)	0	(7)	0	(5,497)
inj Bivins A-4	Apr-18	0	(2,527,801)	0	(1,848,815)	0	(601,353)	0	(42,016)	0	0	0	(35,617)
inj Bush A-2	Apr-18	0	(867,658)	0	(625,258)	0	(215,406)	0	(13,980)	0	0	0	(13,015)
Production	Apr-18	0	1,254,876	0	924,742	0	270,231	0	48,129	0	3,199	0	8,575
BIVINS A-1	Apr-18	0	2,686,608	0	48,896	0	636,995	0	1,798,415	0	175,704	0	26,597
BIVINS A-2	Apr-18	23,231	14,440,608	769	1,895,787	5,390	3,531,974	15,054	8,084,147	1,766	807,547	252	121,153
BIVINS A-5	Apr-18	30,218	16,633,597	5,452	2,155,390	7,711	4,084,053	15,030	9,311,231	1,776	939,466	249	143,457
BIVINS A-7	Apr-18	16,970	12,081,826	4,815	2,866,577	4,382	3,044,627	6,706	5,518,387	953	564,170	114	88,065
BIVINS A-9	Apr-18	33,619	11,120,711	886	215,911	8,493	2,742,704	21,556	7,317,717	2,389	743,341	296	101,038
BIVINS A-11	Apr-18	22,896	6,847,108	667	150,873	5,739	1,705,250	14,641	4,465,943	1,616	460,379	234	64,663
BIVINS A-15	Apr-18	36,697	10,580,614	623	443,806	8,471	2,516,908	24,556	6,823,645	2,579	685,223	468	111,033
BIVINS B-1	Apr-18	35,998	8,769,954	810	317,070	8,677	2,128,080	22,978	5,651,560	2,958	581,498	576	91,746
BIVINS B-2	Apr-18	32,620	7,301,541	604	137,590	8,180	1,831,327	20,965	4,738,178	2,266	489,324	606	105,122
BUSH A-1	Apr-18	0	5,721,962	0	104,140	0	1,356,677	0	3,830,281	0	374,216	0	56,647
BUSH A-3	Apr-18	32,024	12,777,672	10,068	3,082,962	8,103	3,163,687	12,132	5,827,739	1,441	591,934	280	111,349
BUSH A-4	Apr-18	21,514	9,079,790	1,831	1,619,283	5,462	2,273,733	12,539	4,646,036	1,558	476,094	123	64,645
BUSH A-5	Apr-18	47,093	17,536,850	11,595	4,063,552	11,876	4,405,919	20,400	8,116,137	2,677	830,163	544	121,080
BUSH A-8	Apr-18	18,471	4,686,269	334	85,927	4,534	1,137,474	11,996	3,089,451	1,279	312,863	327	60,554
BUSH A-9	Apr-18	0	3,860,915	0	105,037	0	930,915	0	2,537,187	0	253,463	0	34,312
BUSH A-11	Apr-18	20,626	4,796,181	484	138,009	4,883	1,147,503	13,233	3,136,188	1,658	318,746	369	55,734
BUSH B-1	Apr-18	5,996	3,418,392	104	64,070	1,393	810,890	3,998	2,284,064	440	225,896	62	33,472
FUQUA A-1	Apr-18	0	2,954,098	0	53,854	0	702,798	0	1,975,175	0	193,573	0	28,699
FUQUA A-2	Apr-18	0	132,119	0	2,404	0	31,322	0	88,458	0	8,637	0	1,297
FUQUA A-3	Apr-18	0	9,303,912	0	577,005	0	2,277,687	0	5,790,357	0	583,701	0	75,162
TT Fuel	Apr-18	0	0	0	0	0	0	0	0	0	0	0	0
field-wide pct's				15.94%	18.61%	24.65%	24.65%	52.26%	50.75%	6.06%	5.15%	1.09%	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 Apr-18 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	2.103	0.338
Injected to Date 2018	0.000	0.000
Amount of Raw Gas Available to CHEU	78.245	====> 8.838 total helium in reservoir
Estimated Bottom Hole Pressure	288.202	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

April - 2018

#### Crude Helium Enrichment Unit Operations

		Gross Withdrawal		Net Helium Withdrawal		Nitrogen		Methane		Ethane plus		Other (CO <sub>2</sub> , Ar, H <sub>2</sub> )	
		Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative
Measured Feed	Apr-18	559,802	101,011,508	89,238	23,891,114	137,959	25,303,215	292,553	46,006,403	33,955	4,930,915	6,097	879,860
Calculated Feed	Apr-18	557,082	100,858,730	88,793	23,882,528	137,296	25,258,401	291,150	45,889,711	33,783	4,946,270	6,059	881,820
Feed to Box	Apr-18	551,801	100,207,228	88,793	23,882,706	137,296	25,258,483	291,150	45,889,757	33,781	4,946,267	780	230,015
Cheu Product	Apr-18	122,806	30,219,557	91,403	23,520,594	28,040	5,892,383	2,565	596,950	1	865	798	208,765
Residue	Apr-18	305,689	45,856,360	0	2,171	6,667	1,123,739	271,832	40,691,555	27,190	4,037,633	0	1,263
Cold Box Vent	Apr-18	84,672	16,616,264	56	89,819	76,753	14,741,480	7,844	1,723,472	2	120	17	61,373
Flare/Boot Strap	Apr-18	84,672	7,132,512	56	50,599	76,753	5,996,482	7,844	985,641	2	93,585	17	6,206
Fuel From Cheu	Apr-18	6,807	1,374,975	3	442	176	39,944	5,490	1,114,546	1,137	220,043	0	0
Shrinkage/Loss	Apr-18	5,453	502,579	0	0	0	0	0	0	5,453	502,579	0	0
Unaccounted*	Apr-18	26,375	3,558,306	(2,669)	171,110	25,660	2,654,356	3,420	727,924	(2)	1,100	(35)	3,816

\*Before October 2004, the values are estimated

#### Storage Operations

##### Inventory (contained helium)

	Government	Private
Beginning inventory	3,393,155	3,215,168
net acceptances + redeliveries	0	0
	0	(88,675)
In Kind Transfers	0	0
Conservation Crude Sales	0	0
Gain/loss	(669)	
Ending Inventory	3,392,486	3,126,493
Total Helium in Reservoir	8,837,700	
Total Helium in Storage	6,518,979	
Helium in native gas	2,318,721	

##### Crude Helium Pipeline

	Gross	Net Helium	Percent
Beginning inventory	24,317	17,671	72.67%
Measured to Pipeline (Private Plants)	13,626	8,332	61.15%
Measured from Pipeline (Private Plants)	132,947	97,007	72.97%
HEU Production	122,806	91,403	74.43%
Injection	0	0	00.00%
Production	0	0	
Ending Inventory	27,014	19,730	73.04%
Gain/Loss	(788)	(669)	

#### Tuck Trigg 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

April - 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							0	64,823	33,585	3,589,986
Volume outstanding							46,683			

\* Volumes in Mcf at 14.7 psia &amp; 70°F

\*\*Rounded to nearest dollar

+ Volumes in Mcf at 14.65 psia &amp; 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	303,133	---	333,411	1,100	\$0
FYTD	1,966,491	---	2,101,867	1,069	(\$167,982)
Cumulative	45,417,367	---	49,399,483	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	---	---	338,100	\$1.630971	\$551,431
FYTD	---	---	2,138,700	\$2.412994	\$5,160,669
Cumulative	---	---	49,253,587	\$4.351114	\$213,481,425
<b>Sandstone</b>					
Purchaser - Natural Gas Liquids					
Month	---	104,138	11,199	\$8.010327	\$89,708
FYTD	---	688,043	74,383	\$7.523617	\$559,629
Cumulative	---	13,916,280	1,481,482	\$10.932046	\$16,195,629
<b>Total</b>					
<b>Total month</b>	303,133	104,138	349,299	\$1.835502	\$641,139
<b>Total FYTD</b>	1,966,491	688,043	2,213,083	\$2.508861	\$5,552,317
<b>Total CYTD</b>	1,163,348	408,605	1,298,265	\$2.421882	\$3,144,245
<b>Cumulative</b>	45,417,367	13,916,280	50,735,069	\$4.439441	\$224,408,815

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

\*\*Rounded to nearest dollar

Table 5 - Conservation Crude Sales/Reserve Sell-down

April - 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

April - 2018

All Volumes in Mcf at 14.7 psia & 70°F

<b>Revenue Collected From Federal Leaseholds</b>	Month*	FYTD*
Fee Sales & Royalties	\$1,651,151	\$11,921,252
Natural Gas Royalties (1)	\$0	\$0
Natural Gas Rentals	\$0	\$0
Other	\$40,811	\$288,288
<b>Revenue Collected from Federal Lease Holds</b>	<b>\$1,647,216</b>	<b>\$11,962,062</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)	24	102

### 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

April - 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	13,626	61.1%	8,332	74,300	38,257	32,191,666	23,129	60,154,038			
Crude Disposed	132,947	73.0%	97,007	669,375	384,289	53,386,759	23,129	26,573,956			
Grade-A Rdlvrd	0		0	0	0	1,478,718			\$602,703	Storage Fees	
Net/Balance	(119,321)		(88,675)	(595,075)	(346,032)	(22,673,811)	0	33,580,082	<u>\$231,823.45</u>	RMF Fees	
									\$834,526	\$5,255,780	
<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	3,393,155
Crude Disposed: In Kind Sales transferred for the month	0
Conservation Crude Sales/Reserve Sell Down transferred (m)	0
Gains and Losses for the month	(669)
Net/Balance of Purchased Helium Remaining for Sale	3,392,486

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

\*\*Rounded to nearest dollar

\*\* New Contracts



## Table 8 - Compression & CHEU (Operations)

April - 2018

<b>Field/CHEU Compressor Operations</b>		Month	FYTD	Cumulative
Spot gas fuel price *	\$ per/MMBTU	\$1.63	\$2.42	\$4.69
Fuel used * (now includes field compression well head)	total MMBTU	7,868	57,944	1,868,645
Rental compressor(s) helium in fuel (Mcf)	Mcf	0	0	3645
#1 Compressor run time *	hours	397	4,111	113,670
#2 Compressor run time *	hours	691	4,552	76,675
#3 Compressor run time *	hours	349	677	62,685

\* Field/CHEU Compressor Operations based on Apr 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	720	100.0%	4,840	95.1%	125,965
Producing residue gas	720	100.0%	4,705	92.5%	122,989
Producing helium product	720	100.0%	4,668	91.7%	119,322
Producing natural gas liquids	720	100.0%	4,694	92.3%	118,395

*\*Rounded to nearest dollar*

<b>CHEU Utility Usage</b>	Month	FYTD	Cumulative
CheU Fuel Gas (Mcf) usage Apr 18	3,258	21,931	596,172
CheU Pure Water Usage (gallons) Apr 18	215	4,270	313,509
Electricity Metered (Kwh) consumed Mar 18	3,127,651	17,219,130	164,497,756