# **Bureau of Land Management**



Amarillo Field Office Helium Operations Statistical Report for

April - 2019



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

Approved for Distribution: Amanda L. Clark

Date: September 25, 2019

# Table 1 - Summary of Helium Operations

### April - 2019

Helium Enrichment Unit Operations Gas Processed	Month Gross Volume	Month Net Helium	Average Percent	Gross FYTD	Net FYTD
Measured Plant Feed (Mcf*)	444,232	68,488	15.42%	3,405,671	531,104
Helium Product (Mcf*)	93,995	68,337	72.70%	723,949	529,686
Residue Natural Gas (Mcf*)	230,356	0	00.00%	1,792,768	0
* Volumes in Mcf at 14.65 psia & 60°F			1		
Natural Gas & Liquids Produced					
Gas Processed				Month	FYTD
Natural Gas Sales (Mcf***)				227,992	1,777,421
NGL Sales (gallons)				98,001	656,238
*** Volumes in Mcf at 14.73 psia & 60°F					
Bush Dome Reservoir Operations	Month	Month			
Conservation gases from all sources	Gross Volume	Net Helium	Average Percent	Gross FYTD	Net FYTD
Total Withdrawn (Mcf*)	443,191	68,374	15.43%	3,414,550	532,558
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			l		
Storage Operations					
Conservation Helium	Volume Outstanding	Month	FYTD	CYTD	Cumulative
		_		-	

Conservation Helium	Volume Outstanding	Month	FYTD	CYTD	Cumulative
Conservation Crude Sale Volume Sold/Paid (Mcf*)		0	0	0	23,073,063
Conservation Crude Sale Volume Transferred (Mcf*)	0	0	0	0	1,203,477
Conservation Helium in Storage (EOM) (Mcf*)		2,899,722			

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

In Kind Helium	Month	FYTD	CYTD	Cumulative
Sale Volumes Transferred (Mcf*)	0	88,258	46,394	3,768,506
Sale Volumes Outstanding (Mcf*)	48,723			
* Volumes in Mcf at 14.65 psia & 60°F	ŀ			

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Private Company Helium Storage Contracts	Month	Month		Annual
Contact Activity	Gross Volume	Net Helium	Average Percent	Helium FYTD
Crude Acquired (Mcf*)	27,165	16,710	61.51%	75496
Crude Disposed (Mcf*)	121,491	85,806	70.63%	582588
Net Balance (Mcf*)	(94,326)	(69,096)		(507,092)
Balance of Stored Helium End Of Month (Mcf*)		2,677,700		
* Volumes in Mcf at 14.65 psia & 60°F				

#### Revenue / Charges

Helium Storage Contracts (Charges Bill	led (\$)		Month	FYTD
Storage Fees Billed (\$)			\$507,562	\$3,515,879
Resource Management Fees Billed (\$)			\$312,458	\$1,874,753
Total Storage and Resource Management fees colle	xted (\$)		\$820,020	\$5,390,633
Conservation Helium - Natural Gas -	Liquid Sales	(Charges Billed (\$)	Month	FYTD
Conservation Crude Helium Sales			\$0	\$0
In Kind Sales			\$0	\$7,944,829
Natural Gas & Liquid Sales			\$71,892	\$3,366,410
Helium Resources Evaluation			Month	FYTD
Revenue Collected from Federal Lease Holds			\$1,861,694	\$14,415,323
Helium Sample Collection Report for month	Submitted - 0	Received - 0	Analyzed - 15	

# Table 2 - Bush Dome Reservoir Operations

		Gross V	Vithdrawal	Net Helium	n Withdrawal	Nitro	ogen	Methane	Methane	Ethar	ne plus	Other (CO2, Ar, H2)	1 1
		Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative
TOTAL		443,191	242,208,648	<u>68,374</u>	44,886,924	<u>109,483</u>	<u>59,711,143</u>	234,653	123,048,785	<u>26,157</u>	12,507,217	<u>4,524</u>	2,054,578
<b>BIVINS A-3</b>	Apr-19	0	10,961,113	0	3,548,629	0	2,772,147	0	4,159,384	0	407,301	0	73,653
<b>BIVINS A-6</b>	Apr-19	42,885	13,027,106	16,178	7,496,442	10,702	3,207,054	14,102	2,051,470	1,564	206,572	339	65,568
<b>BIVINS A-13</b>	Apr-19	30,335	9,641,239	9,294	4,837,385	7,601	2,470,200	11,843	2,047,713	1,364	228,210	233	57,731
<b>BIVINS A-14</b>	Apr-19	34,419	10,895,202	8,382	5,877,117	8,464	2,752,396	15,513	1,982,322	1,734	214,924	325	68,443
<b>BIVINS A-4</b>	Apr-19	28,396	14,713,180	2,783	2,524,821	6,752	3,563,010	16,682	7,712,496	1,843	779,292	335	133,561
BUSH A-2	Apr-19	7,199	14,050,765	312	2,021,601	1,789	3,450,810	4,520	7,671,017	530	791,332	48	116,005
Injection	Apr-19	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-19	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-19	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-19	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-19	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-19	0	(2,527,801)	0	(1,848,815)	0	(601,353)	0	(42,016)	0	0	0	(35,617)
inj Bush A-2	Apr-19	0	(867,658)	0	(625,258)	0	(215,406)	0	(13,980)	0	0	0	(13,015)
Production	Apr-19	0	1,254,876	0	924,742	0	270,231	0	48,129	0	3,199	0	8,575
<b>BIVINS A-1</b>	Apr-19	0	2,686,608	0	48,896	0	636,995	0	1,798,415	0	175,704	0	26,597
<b>BIVINS A-2</b>	Apr-19	17,454	14,692,301	557	1,904,010	4,063	3,590,338	11,406	8,247,741	1,250	826,432	178	123,780
<b>BIVINS A-5</b>	Apr-19	23,087	16,954,187	4,054	2,212,692	5,834	4,165,449	11,682	9,472,624	1,325	957,334	192	146,088
<b>BIVINS A-7</b>	Apr-19	14,009	12,271,540	4,158	2,922,464	3,602	3,093,745	5,507	5,593,412	644	572,582	98	89,337
<b>BIVINS A-9</b>	Apr-19	25,601	11,485,718	733	225,985	6,500	2,835,046	16,304	7,551,023	1,835	769,388	228	104,276
<b>BIVINS A-11</b>	Apr-19	16,900	7,090,650	508	158,090	4,251	1,766,333	10,762	4,621,409	1,204	477,646	176	67,172
<b>BIVINS A-15</b>	Apr-19	30,424	10,997,149	515	450,861	7,051	2,613,157	20,315	7,102,174	2,150	714,573	393	116,384
<b>BIVINS B-1</b>	Apr-19	29,734	9,166,132	696	326,316	7,228	2,224,759	19,312	5,908,903	2,102	609,271	395	96,883
<b>BIVINS B-2</b>	Apr-19	23,510	7,647,247	438	144,074	5,927	1,916,852	15,055	4,961,487	1,642	514,045	449	110,788
BUSH A-1	Apr-19	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-19	26,256	13,137,944	8,160	3,195,813	6,561	3,254,224	10,132	5,965,872	1,171	607,539	231	114,497
BUSH A-4	Apr-19	21,061	9,366,172	1,687	1,643,340	5,347	2,346,940	12,466	4,815,225	1,432	494,427	128	66,240
BUSH A-5	Apr-19	38,510	18,056,936	9,262	4,190,932	9,735	4,537,926	17,268	8,347,132	2,003	856,610	243	124,336
BUSH A-8	Apr-19	14,779	4,892,140	269	89,661	3,654	1,188,090	9,559	3,223,003	1,028	327,165	269	64,221
BUSH A-9	Apr-19	0	3,860,915	0	105,037	0	930,915	0	2,537,187	0	253,463	0	34,312
BUSH A-11	Apr-19	15,150	5,012,335	327	142,765	3,609	1,199,257	9,908	3,277,730	1,079	333,813	227	58,771
BUSH B-1	Apr-19	3,483	3,467,453	60	64,918	811	822,288	2,317	2,316,757	258	229,512	36	33,978
FUQUA A-1	Apr-19	0	2,954,098	0	53,854	0	702,798	0	1,975,175	0	193,573	0	28,699
FUQUA A-2	Apr-19	0	132,119	0	2,404	0	31,322	0	88,458	0	8,637	0	1,297
FUQUA A-3	Apr-19	0	9,303,912	0	577,005	0	2,277,687	0	5,790,357	0	583,701	0	75,162
TT Fuel	Apr-19	67	0	1	0	16	0	44	0	5	0	1	0
field-	wide pcts			15.43%	18.53%	24.70%	24.65%	52.95%	50.80%	5.90%	5.16%	1.02%	0.85%

Latest estimates of reserves and feed to HEU

Apr-19

As of EOM

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

·		
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 - 18	108.029	26.256
Injection 2003 - 18	(1.423)	(1.159)
Produced to Date 2019	1.844	0.284
Injected to Date 2019	0.000	0.000
Amount of Raw Gas Available to CHEU	72.114 ====>	7.873 total helium in reservoir
Estimated Bottom Hole Pressure	265.646	

Volumes in BCF

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

#### Crude Helium Enrichment Unit Operations

	Gross Withdrawal		Vithdrawal	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	Apr-19	444,232	107,113,662	68,488	24,850,792	109,739	26,811,906	235,246	49,224,983	26,223	5,285,498	4,535	940,482
Calculated Feed	Apr-19	443,127	106,988,897	68,373	24,846,783	109,467	26,774,033	234,609	49,122,883	26,154	5,302,465	4,523	942,733
Feed to Box	Apr-19	439,231	106,285,317	68,373	24,846,961	109,467	26,774,115	234,609	49,122,929	26,152	5,302,460	630	238,852
Cheu Product	Apr-19	93,995	31,524,874	68,337	24,482,643	22,969	6,200,138	2,064	623,884	12	907	612	217,302
Residue	Apr-19	230,356	49,114,242	0	2,171	4,885	1,195,057	204,729	43,584,530	20,743	4,331,219	0	1,265
Cold Box Vent	Apr-19	69,044	17,541,435	41	90,460	60,223	15,564,726	8,765	1,824,570	(0)	121	14	61,558
Flare/Boot Strap	Apr-19	69,044	8,057,684	41	51,239	60,223	6,819,728	8,765	1,086,739	(0)	93,586	14	6,391
Fuel From Cheu	Apr-19	6,773	1,457,699	3	484	175	42,086	5,463	1,181,263	1,132	233,866	0	0
Shrinkage/Loss	Apr-19	4,263	547,558	0	0	0	0	0	0	4,263	547,558	0	0
Unaccounted*	Apr-19	34,650	3,965,467	(88)	169,499	21,176	2,951,636	13,559	839,326	0	1,099	3	3,907

\*Before October 2004, the values are estimated

#### Storage Operations

Inventory (contained helium)		
	Government	Private
Beginning inventory	2,900,473	2,746,796
net acceptances +	0	0
redeliveries	0	(69,096)
In Kind Transfers	0	0
Conservation Crude Sales	0	0
Gain/loss	(751)	
Ending Inventory	2,899,722	2,677,700
Total Helium in Reservoir	7,873,428	
Total Helium in Storage	5,577,422	
Helium in native gas	2,296,006	

#### **Crude Helium Pipeline** Gross Net Helium Percent 71.50% 41,761 29,859 Beginning inventory Measured to Pipeline (Private Plants) 27,165 17,104 62.96% Measured from Pipeline (Private Plant 121,491 85,806 70.63% **HEU Production** 93,995 68,337 72.70% Injection 0 00.00% 0 Production 0 0 28,743 **Ending Inventory** 40,728 70.57% Gain/Loss (701) (751)

### Tuck Trigg Reservoir Operations

			Since Field
Native Gas (Gross)	Month	Fiscal Year	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

#### April - 2019

### Table 4 - In Kind Helium Sales

April - 2019

	NASA*	Navy*	Army*	Air Force*	DOE*	Other Fed*	Subtotal*	In Kind+	Charges I	Billed (\$)**
				In Kind H	elium					(billed quarterly)
Airgas Merchant C Month FYTD	Gases, Contra	ict no. INC	18-0102							
Air Liquide Helium Month FYTD	n America, Inc	c., Contract	t no. INC1	3-0104						
Air Products, L.P., Month FYTD	, Contract no.	INC18-010	95							
<b>Messer, LLC, Con</b> Month FYTD	tract no. INC1	8-0106								
<b>Praxair, Inc., Cont</b> Month FYTD	ract no. INC1	8-0112								
<b>Matheson Tri-Gas</b> Month FYTD	, Inc., Contrad	ct no. INC1	8-0114							
Global Gases Ame Month FYTD	erica, Contrac	t no. INC1	8-0116							
Total month	0	0	0	0	0	0	0	0		\$0
Total FYTD	48,166	0	0	0	0	41,244	89,409	88,025		\$7,944,829
Total CYTD	21,412	0	0	0	0	20,873	42,285	41,631		\$3,954,945
Cumulative	2,096,617	108,685	450	271,593	422,045	977,801	3,877,189	3,817,154		\$232,325,399
In Kind Trans	fers						Month	FYTD	CYTD	Cumulative
Transferred Volume outstanding							0 48,723	88,258	46,394	3,768,506

\* Volumes in Mcf at 14.7 psia & 70°F

+ Volumes in Mcf at 14.65 psia & 60°F

#### Natural Gas / Natural Gas Liquid Sales

	Natural Cas / Natural Cas Elquid Cales									
	Natural Gas (Mcf)***	NGLs (gal) Decatherms		Avg Btu Value	Charges Billed (\$)**					
El Paso Natural Ga:		Provides Measure	d Firm/Interruptible Trai	nsportation Services		(billed monthly)				
Month	227,992		251,256	1,102	\$0					
FYTD	1,777,421		1,960,895	1,103	\$0					
Cumulative	48,648,964		52,960,797	1,089	(\$5,088,325)					
Minerals Manageme	ent Service	No Longer Provides Na	tural Gas Marketing Ser	vices						
Cumulative					(\$179,913)					
ETC Marketing Ltd		Purchaser - Natural Gas	3	\$\$/Unit						
Month			254,500	\$0.045621	\$11,611					
FYTD			1,992,186	\$1.493791	\$2,975,909					
Cumulative			52,849,325	\$4.168154	\$219,457,550					
Sandstone		Purchaser - Natural Gas	s Liquids							
Month		98,001	10,594	\$5.690190	\$60,282					
FYTD		656,238	71,157	\$5.487886	\$390,502					
Cumulative		15,113,059	1,610,292	\$10.548330	\$16,985,891					
	Natural Gas (Mcf)***	NGLs (gal)	Purchased (Dth's)	\$\$ Per Unit (\$\$/Dth)		Total (\$\$)				
Total month	227,992	98,001	265,094	\$0.271196		\$71,892				
Total FYTD	1,777,421	656,238	2,063,343	\$1.631532		\$3,366,410				
Total CYTD	936,968	366,977	1,099,716	\$1.290192		\$1,418,845				
Cumulative	48,648,964	15,113,059	54,459,617	\$4.260069		\$231,175,203				

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

\*\*Rounded to nearest dollar

\*\*Rounded to nearest dollar

#### Table 5 - Conservation Crude Sales/Reserve Sell-down Helium & Natural Gas Sales

Helium & Natural Gas Sales								
Award Volume* Outstanding* Sales* Charges Billed (\$)								
	Conservatio	n Helium			(billed quarterly)			
Air Liquide Helium America, Inc.								
Month	0	0	0	\$0				
FYTD	0	0	0	\$0 \$0				
Cumulative	335,217	Ű	335,217	\$25,454,815				
Air Products, L.P.	555,217		555,217	φ20,404,010				
Month	0	0	0	¢0,				
	0	0	0	\$0				
FYTD	0	0	0	\$0				
Cumulative	9,201,991		9,201,991	\$735,759,540				
Messer, LLC								
Month	0	0	0	\$0				
FYTD	0	0	0	\$0				
Cumulative	6,310,276		6,310,276	\$437,286,782				
Keyes Helium Co., LLC								
Month	0	0	0	\$0				
FYTD	0	0	0	\$0				
Cumulative	1,016,747	-	1,016,747	\$70,653,572				
Matheson Tri-Gas, Inc.	1,010,747		1,010,747	φ10,000,01Z				
Month	0	0	0	\$0				
FYTD								
	0	0	0	\$0				
Cumulative	361,534		361,534	\$38,417,646				
Praxair, Inc.								
Month	0	0	0	\$0				
FYTD	0	0	0	\$0				
Cumulative	5,577,644		5,577,644	\$426,522,384				
Global Gases America								
Month	0	0	0	\$0				
FYTD	0	0	0	\$0				
Cumulative	37,767	Ŭ	37,767	\$3,798,165				
Airgas Merchant Gases	51,101		51,101	ψ0,7 00,100				
	0	0		¢0.				
Month	0	0	0	\$0				
FYTD	0	0	0	\$0				
Cumulative	15,667		15,667	\$1,488,365				
IACX Energy								
Month	0	0	0	\$0				
FYTD	0	0	0	\$0				
Cumulative	16,220		16,220	\$1,720,180				
Uniper Global Commodities North Americ								
Month	0	0	0	\$0				
FYTD	0	0	0	\$0 \$0				
	-	0	-					
Cumulative	42,834		42,834	\$5,301,246				
Weil Group Resources LLC								
Month	0	0	0	\$0				
FYTD	0	0	0	\$0				
Cumulative	22,500		22,500	\$2,791,500				
NAH USA Helum Marketing, Inc								
Month	0	0	0	\$0				
FYTD	0	0	0	\$0				
Cumulative	12,834		12,834	\$1,611,246				
Progressive Chemical Technologies LLC	,		,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Month	0	0	0	\$0				
FYTD	0	0	0	\$0 \$0				
		0	-					
Cumulative	1,500		1,500	\$262,500				
Tatal manth		-		<u> </u>	_			
Total month	0	0	0		0			
Total FYTD	0	0	0		\$0			
Total CYTD	0		0		\$0			
Cumulative	23,073,063		23,073,063		\$1,762,102,941			
<b>Conservation Crude Transfers</b>		Month	FYTD	CYTD	Cumulative			
Transferred		0	0	0	1,203,477			
			0	0	1,200,477			
Volume outstanding	± 17 ·	0 in Mcf at 14.65 psia &	0005					
	* Volumes	in Mict at 14 65 noia &	DU'E					

### Table 6 - Helium Resources Evaluation

All Volumes in Mcf at 14.7 psia & 70°F

Revenue Collected From Federal Leaseholds	Month*	FYTD*
Fee Sales & Royalties	\$2,047,678	\$14,374,999
Natural Gas Royalties (1)	\$0	\$0
Natural Gas Rentals	\$0	\$0
Other	<u>\$40,323</u>	<u>\$481,338</u>
Revenue Collected from Federal Lease Holds	\$1,861,694	\$14,415,323

\*Totals do not sum

Helium Analysis and Evaulation	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)	15	132

#### **U.S. Helium Production**

Domestic	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
U.S. Helium Exports (3)	2,520,645	2,451,207
US Helium Imports	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 All Volumes in Mcf at 14.65 psia & 60°F

April - 2019

All Volumes in Mcf at 14.65 psia & 60°F											
	Gross Gas	Holium 0/		ed Gas	Helium		Transferr		Stored		es Billed )**
	Gross Gas	Month	Helium	FYTD	CYTD	Cumulative	Heliu Month	Cumulative	Helium EOM	(ع) Month	) FYTD
<b>Total All Contra</b>	acts*										
Crude Acquired	27,165	61.5%	16,710	75,496	49,438	27,415,660	17,202	60,997,406			
Crude Disposed	121,491	70.6%	85,806	582,588	326,803	54,437,266	17,202	26,797,437		\$507,561.83	Storage Fees
Grade-A Rdlvrd	0		0	0	0	1,478,718				<u>\$312,457.68</u>	<b>RMF</b> Fees
Net/Balance	(94,326)		(69,096)	(507,092)	(277,365)	(28,500,324)	0	34,199,969	2,677,700	\$820,019.51	\$5,390,633
Total Prior Con	ntracts (TER	MINATED)									
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		
Messer, LLC, C	Contract no.	3249									
Crude Acquired											
Crude Disposed											
Net/Balance											
Praxair, Inc., Co	ontract no.	3251									
Crude Acquired											
Crude Disposed											
Net/Balance											
Air Products, L	P., Contrac	t no. 3256									
Crude Acquired											
Crude Disposed											
Net/Balance	lium America	lno Cor	tract no 2	294							
Air Liquide Hel	num America	a, mc., con	u act 110. 3	204							
Crude Acquired											
Crude Disposed Net/Balance											
Keyes Helium (		ntract no	2007								
Crude Acquired	CO., LLC, CO		5201								
Crude Disposed											
Net/Balance											
Matheson Tri-G	Sas Inc. Co	ntract no 3	3288								
Crude Acquired	540, 110., 00		200								
Crude Disposed											
Net/Balance											
Airgas Merchar	nt Gases, Co	ontract no.	3290								
Crude Acquired											
Crude Disposed											
Net/Balance											
Global Gases A	America, Col	ntract no. 3	293								
Crude Acquired											
Crude Disposed											
Net/Balance	una Canta		<u>,</u>								
Linn Operating	, inc., contr	act no. 529	0								
Crude Acquired											
Crude Disposed Net/Balance											
IACX Energy, C	Contract no	3207									
Crude Acquired	sontract no.	5251									
Crude Acquired Crude Disposed											
Net/Balance											
Uniper Global (	Commoditie	s North ∆m	erica LLC	. Contract	no. 3298						
Crude Acquired		All		, contract							
Crude Disposed											
Net/Balance											
Weil Group Res	sources LLC	C, Contract	no. 3299								
Crude Acquired											
Crude Disposed											
Net/Balance											
NAH USA Helu	m Marketing	, Inc, Cont	ract no. 33	00							
Crude Acquired											
Crude Disposed											
Net/Balance			10.0								
Progressive Ch	nemical Tecl	nnologies L	LC, Contr	act no. 33	J1						
Crude Acquired											
Crude Disposed											
Net/Balance											
								1			
Government He	elium										

Government H	elium	
Remaining Crude	Acquired beginning of the month	2,900,473
Crude Disposed:	In Kind Sales transferred for the month	0
	Conservation Crude Sales/Reserve Sell Down transferred (r	0
	Gains and Loses for the month	<u>(751)</u>
Net/Balance of Pu	rchased Helium Remaining for Sale	2,899,722

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

# Table 8 - Compression & CHEU (Operations)

### April - 2019

Field/CHEU Compressor Operations	Month	FYTD	Cumulative	
Spot gas fuel price *	\$ per/MMBTU	\$0.05	#VALUE!	#VALUE!
Fuel used * (now includes field compression well head)	total MMBTU	7,918	#VALUE!	#VALUE!
#1 Compressor run time *	hours	265	3,725	120,573
#2 Compressor run time *	hours	399	1,675	81,305
#3 Compressor run time *	hours	665	3,780	67,599

\* Field/CHEU Compressor Operations based on Apr 19 activity

Crude Helium Enrichment Unit (CHEU)	Month		FY	Cumulative	
CHEU Runtime	Runtime Hrs	Percent	Runtime Hrs	Percent	Runtime Hrs
Processing feed gas	664	92.2%	5,027	98.8%	134,661
Producing residue gas	664	92.2%	4,900	96.3%	131,533
Producing helium product	664	92.2%	4,862	95.6%	127,819
Producing natural gas liquids	664	92.2%	4,875	95.8%	126,912
CHEU Utility Usage	Month	FYTD	Cumulative		

CILO Utility Usage	Ivionth	FYID	Cumulative
Cheu Fuel Gas (Mcf) usage Apr 19	2,873	#VALUE!	#VALUE!
Cheu Pure Water Usage (gallons) Apr 19	790	2,784	318,948
Electricity Metered (Kwh) consumed Mar 19	2,883,035	20,181,245	199,118,867