

# Bureau of Land Management

## Amarillo Field Office

### Helium Operations

### Statistical Report

for



February - 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: August 24, 2018

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

Approved for Distribution: Samuel R.M. Burton

Date: August 21, 2018

## Table 1 - Summary of Helium Operations

February - 2018

### Helium Enrichment Unit Operations

#### Gas Processed

	Month Gross Volume	Month Net Helium	Average Percent	Gross FYTD	Net FYTD
Measured Plant Feed (Mcf*)	527,569	86,446	16.39%	2,660,364	432,922
Helium Product (Mcf*)	118,616	88,205	74.36%	579,227	429,579
Residue Natural Gas (Mcf*)	290,928	0	00.00%	1,424,191	26

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

### Natural Gas & Liquids Produced

#### Gas Processed

	Month	FYTD
Natural Gas Sales (Mcf***)	288,300	1,413,536
NGL Sales (gallons)	104,553	502,574

\*\*\* 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Total Withdrawn (Mcf*)	521,321	85,422	16.39%	2,662,082	433,044
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	900,002
Conservation Helium in Storage (EOM) (Mcf*)		3,394,188			

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

#### In Kind Helium

	Month	FYTD	CYTD	Cumulative
Sale Volumes Transferred (Mcf*)	33,392	64,630	33,392	3,589,793
Sale Volumes Outstanding (Mcf*)	3,744			

\* 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*)	18,079	11,736	64.92%	59600
Crude Disposed (Mcf*)	129,657	94,638	72.99%	486755
Net Balance (Mcf*)	(111,578)	(82,902)		(427,155)
Balance of Stored Helium End Of Month (Mcf*)		3,294,220		

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

### Revenue / Charges

#### Helium Storage Contracts

(Charges Billed (\$))

	Month	FYTD
Storage Fees Billed (\$)	\$608,904	\$3,001,726
Reservoir Management Fees Billed (\$)	\$162,914	\$658,531

#### Enrichment Unit Charges

(Charges Billed (\$))

	Month	FYTD
Reservoir Management Fees (RMF)	\$162,914	\$658,531
Total operating costs	(\$1,159,780)	(\$5,169,619)
Sub Total - Items provided by BLM	\$346,993	\$1,709,367
Total - Cliffside Refiners, LP, GDA030001	(\$812,787)	(\$3,460,252)

#### Conservation Helium - Natural Gas - Liquid Sales

(Charges Billed (\$))

	Month	FYTD
Conservation Crude Helium Sales	\$0	\$1,815,000
In Kind Sales	\$0	\$2,787,555
Natural Gas & Liquid Sales	\$751,078	\$4,356,162

#### Helium Resources Evaluation

	Month	FYTD
Revenue Collected from Federal Lease Holds	\$1,758,766	\$8,392,207
Helium Sample Collection Report for month	Submitted - 0	Received - 0
		Analyzed - 15

\*Rounded to nearest dollar

Table 2 - Bush Dome Reservoir Operations

February - 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>521,321</b>	<b>235,082,341</b>	<b>85,422</b>	<b>43,766,625</b>	<b>129,073</b>	<b>57,949,960</b>	<b>273,609</b>	<b>119,290,458</b>	<b>28,235</b>	<b>12,092,190</b>	<b>4,983</b>	<b>1,983,108</b>
BIVINS A-3	Feb-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	Feb-18	49,210	12,360,949	21,113	7,229,073	12,237	3,040,588	13,997	1,846,482	1,493	184,421	370	60,384
BIVINS A-13	Feb-18	35,842	9,160,794	11,527	4,684,972	8,896	2,349,906	13,617	1,864,476	1,533	207,370	268	54,069
BIVINS A-14	Feb-18	41,442	10,349,945	11,542	5,734,063	10,144	2,618,033	17,484	1,745,435	1,898	189,003	373	63,410
BIVINS A-4	Feb-18	34,307	14,247,530	3,743	2,477,119	8,285	3,451,534	20,073	7,440,742	1,870	749,867	336	128,268
BUSH A-2	Feb-18	9,005	13,929,716	563	2,015,927	2,267	3,420,585	5,597	7,595,301	526	782,700	52	115,204
Injection	Feb-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	Feb-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	Feb-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	Feb-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	Feb-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	Feb-18	0	(2,527,801)	0	(1,848,815)	0	(601,353)	0	(42,016)	0	0	0	(35,617)
inj Bush A-2	Feb-18	0	(867,658)	0	(625,258)	0	(215,406)	0	(13,980)	0	0	0	(13,015)
Production	Feb-18	0	1,254,876	0	924,742	0	270,231	0	48,129	0	3,199	0	8,575
BIVINS A-1	Feb-18	0	2,686,608	0	48,896	0	636,995	0	1,798,415	0	175,704	0	26,597
BIVINS A-2	Feb-18	20,634	14,398,681	708	1,894,381	4,822	3,522,226	13,602	8,056,800	1,312	804,550	190	120,723
BIVINS A-5	Feb-18	28,742	16,580,074	5,260	2,145,656	7,352	4,070,396	14,584	9,284,431	1,342	936,554	204	143,037
BIVINS A-7	Feb-18	14,642	12,053,489	4,179	2,858,518	3,779	3,037,311	5,902	5,507,099	682	562,687	100	87,873
BIVINS A-9	Feb-18	32,956	11,058,107	857	214,267	8,332	2,726,891	21,137	7,277,567	2,341	738,896	290	100,487
BIVINS A-11	Feb-18	22,385	6,804,504	651	149,632	5,617	1,694,572	14,312	4,438,697	1,577	457,375	228	64,228
BIVINS A-15	Feb-18	35,259	10,512,418	600	442,648	8,148	2,501,167	23,587	6,778,005	2,475	680,434	449	110,164
BIVINS B-1	Feb-18	32,006	8,705,686	749	315,620	7,918	2,112,650	21,127	5,610,556	1,872	576,205	339	90,655
BIVINS B-2	Feb-18	31,691	7,240,708	587	136,464	7,954	1,816,074	20,364	4,699,075	2,199	485,101	587	103,994
BUSH A-1	Feb-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	Feb-18	33,004	12,719,766	10,789	3,064,465	8,353	3,149,045	12,446	5,805,845	1,162	589,545	254	110,866
BUSH A-4	Feb-18	21,674	9,039,217	1,888	1,615,795	5,507	2,263,426	12,720	4,622,307	1,430	473,279	128	64,409
BUSH A-5	Feb-18	38,681	17,458,724	9,879	4,044,031	9,798	4,386,182	16,845	8,082,222	1,922	825,944	236	120,346
BUSH A-8	Feb-18	17,749	4,651,644	321	85,301	4,358	1,128,976	11,527	3,066,959	1,229	310,467	314	59,941
BUSH A-9	Feb-18	0	3,860,915	0	105,037	0	930,915	0	2,537,187	0	253,463	0	34,312
BUSH A-11	Feb-18	17,911	4,759,271	394	137,167	4,333	1,138,682	11,898	3,112,138	1,064	316,120	222	55,164
BUSH B-1	Feb-18	4,182	3,407,868	72	63,888	971	808,446	2,789	2,277,045	306	225,124	43	33,364
FUQUA A-1	Feb-18	0	2,954,098	0	53,854	0	702,798	0	1,975,175	0	193,573	0	28,699
FUQUA A-2	Feb-18	0	132,119	0	2,404	0	31,322	0	88,458	0	8,637	0	1,297
FUQUA A-3	Feb-18	0	9,303,912	0	577,005	0	2,277,687	0	5,790,357	0	583,701	0	75,162
TT Fuel	Feb-18	0	0	0	0	0	0	0	0	0	0	0	0
field-wide pct's				16.39%	18.62%	24.76%	24.65%	52.48%	50.74%	5.42%	5.14%	0.96%	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 Feb-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 - 16	101.638	25.237
Injection 2003 - 16	(1.423)	(1.159)
Produced to Date 2018	1.108	0.182
Injected to Date 2018	0.000	0.000
Amount of Raw Gas Available to CHEU	79.240	====> 8.994 total helium in reservoir
Estimated Bottom Hole Pressure	291.864	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

February - 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	Feb-18	527,569	100,006,668	86,446	23,733,680	130,620	25,054,668	276,887	45,477,584	28,573	4,871,531	5,042	869,205
Calculated Feed	Feb-18	521,321	99,864,157	85,422	23,726,511	129,073	25,013,215	273,609	45,365,603	28,235	4,887,549	4,983	871,279
Feed to Box	Feb-18	517,121	99,221,804	85,422	23,726,689	129,073	25,013,297	273,609	45,365,649	28,235	4,887,548	783	228,621
Cheu Product	Feb-18	118,616	30,005,134	88,205	23,361,010	27,088	5,843,440	2,550	592,449	1	863	771	207,371
Residue	Feb-18	290,928	45,327,425	0	2,157	6,178	1,112,085	258,827	40,221,277	25,922	3,990,643	0	1,263
Cold Box Vent	Feb-18	80,889	16,468,907	57	89,720	73,148	14,607,942	7,668	1,709,783	(0)	118	16	61,343
Flare/Boot Strap	Feb-18	80,889	6,985,156	57	50,499	73,148	5,862,945	7,668	971,952	(0)	93,583	16	6,177
Fuel From Cheu	Feb-18	7,242	1,362,481	4	436	188	39,620	5,840	1,104,469	1,210	217,955	0	0
Shrinkage/Loss	Feb-18	1,101	495,149	0	0	0	0	0	0	1,101	495,149	0	0
Unaccounted*	Feb-18	18,347	3,517,664	(2,843)	176,316	22,471	2,612,211	(1,277)	724,181	0	1,102	(4)	3,855

\*Before October 2004, the values are estimated

#### Storage Operations

##### Inventory (contained helium)

	Government	Private
Beginning inventory	3,427,574	3,343,730
net acceptances + redeliveries	0	0
In Kind Transfers	(33,392)	33,392
Conservation Crude Sales	0	0
Gain/loss	5	
Ending Inventory	3,394,188	3,294,220
Total Helium in Reservoir	8,993,727	
Total Helium in Storage	6,688,408	
Helium in native gas	2,305,320	

##### Crude Helium Pipeline

	Gross	Net Helium	Percent
Beginning inventory	33,152	24,263	73.19%
Measured to Pipeline (Private Plants)	18,079	11,736	64.92%
Measured from Pipeline (Private Plant)	129,657	94,638	72.99%
HEU Production	118,616	88,205	74.36%
Injection	0	0	00.00%
Production	0	0	
Ending Inventory	40,478	29,571	73.05%
Gain/Loss	288	5	

#### 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

February - 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>AirGas Intermountain, Contract no. INC98-0103</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		
<b>Total FYTD</b>	15,371	1	0	0	0	18,741	34,113	\$2,787,555		
<b>Total CYTD</b>	0	0	0	0	0	0	0	\$0		
<b>Cumulative</b>	1,966,163	108,685	450	271,593	422,045	881,043	3,649,978	\$212,718,769		
<b>In Kind Transfers</b>							Month	FYTD	CYTD	Cumulative
Transferred							33,392	64,630	33,392	3,589,793
Volume outstanding							3,744			

\* 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>					(billed monthly)
Provides Measured Firm/Interruptible Transportation Services					
Month	288,300	---	317,352	1,101	(\$27,997)
FYTD	1,413,536	---	1,525,116	1,079	(\$139,985)
Cumulative	44,864,412	---	48,822,732	1,088	(\$5,060,328)
<b>Minerals Management Service</b>	No Longer Provides Natural Gas Marketing Services				
Cumulative	---	---	---	---	(\$179,913)
<b>ETC Marketing Ltd</b>				\$/Unit	
Purchaser - Natural Gas					
Month	---	---	316,800	\$2.219897	\$703,264
FYTD	---	---	1,556,000	\$2.629041	\$4,090,788
Cumulative	---	---	48,670,887	\$4.381225	\$212,411,543
<b>Sandstone</b>					
Purchaser - Natural Gas Liquids					
Month	---	104,553	11,213	\$6.761046	\$75,812
FYTD	---	502,574	54,450	\$7.444603	\$405,359
Cumulative	---	13,730,811	1,461,549	\$10.975587	\$16,041,358
	Natural Gas (Mcf)***	NGLs (gal)	Purchased (Dth's)	\$/Per Unit (\$/Dth)	Total (\$)
<b>Total month</b>	288,300	104,553	328,013	\$2.289782	\$751,078
<b>Total FYTD</b>	1,413,536	502,574	1,610,450	\$2.704934	\$4,356,162
<b>Total CYTD</b>	610,393	223,136	695,632	\$2.800461	\$1,948,090
<b>Cumulative</b>	44,864,412	13,730,811	50,132,436	\$4.468947	\$223,212,660

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

\*\*Rounded to nearest dollar

Table 5 - Conservation Crude Sales/Reserve Sell-down

February - 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	900,002
Volume outstanding		0			

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

## Table 6 - Helium Resources Evaluation

February - 2018

All Volumes in Mcf at 14.7 psia & 70°F

<b>Revenue Collected From Federal Leaseholds</b>	Month*	FYTD*
Fee Sales & Royalties	\$1,750,834	\$8,342,613
Natural Gas Royalties (1)	\$0	\$0
Natural Gas Rentals	\$0	\$0
Other	\$49,594	\$202,731
<b>Revenue Collected from Federal Lease Holds</b>	<b>\$1,758,766</b>	<b>\$8,392,207</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)	15	63

### 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

February - 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	18,079	64.9%	11,736	59,600	23,557	32,176,966	80,411	60,058,149			
Crude Disposed	129,657	73.0%	94,638	486,755	201,669	53,204,139	47,019	26,497,260			
Grade-A Rdlvrd	0		0	0	0	1,478,718			\$608,904	Storage Fees	
Net/Balance	(111,578)		(82,902)	(427,155)	(178,112)	(22,505,891)	33,392	33,560,889	3,294,220	\$771,818	\$3,660,257
<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											

<b>Government Helium</b>	
Remaining Crude Acquired beginning of the month	3,427,574
Crude Disposed: In Kind Sales transferred for the month	(33,392)
Conservation Crude Sales/Reserve Sell Down transferred (month)	0
Gains and Losses for the month	5
Net/Balance of Purchased Helium Remaining for Sale	3,394,188

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

\*\*Rounded to nearest dollar

\*\* New Contracts



Table 8 - Compression & CHEU (Charges & Operations) February - 2018

Field/CHEU Compressor Operations		Month	FYTD	Cumulative
Spot gas fuel price *	\$ per/MMBTU	\$2.22	\$2.61	\$4.71
Fuel used * (now includes field compression well head)	total MMBTU	8,371	43,030	1,853,731
CHEU Compression Fuel Cost *	\$dollars	\$10,503	\$65,067	\$4,528,517
CHEU Process Fuel Cost *	\$dollars	\$7,999	\$47,121	\$3,028,153
#1 Compressor run time *	hours	671	3,347	112,906
#2 Compressor run time *	hours	672	3,355	75,478
#3 Compressor run time *	hours	0	137	62,145

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

Crude Helium Enrichment Unit (CHEU) CHEU Runtime	Month		FYTD		Cumulative
	Runtime Hrs	Percent	Runtime Hrs	Percent	Runtime Hrs
Processing feed gas	672	100.0%	3,506	96.8%	124,631
Producing residue gas	672	100.0%	3,451	95.2%	121,735
Producing helium product	672	100.0%	3,419	94.3%	118,074
Producing natural gas liquids	672	100.0%	3,436	94.8%	117,136

CHEU Charges	Charges Billed (\$)*		
	Month	FYTD	Cummulative
Reservior Management Fees (RMF)	\$162,914	\$658,531	\$34,248,863
Total operating costs	<b>(\$1,159,780)</b>	<b>(\$5,169,619)</b>	<b>(\$151,061,557)</b>
Labor	\$118,650	\$593,471	\$16,866,926
Compressor fuel cost Jan 18	\$15,835	\$57,407	\$4,528,097
HEU fuel cost Jan 18	\$12,340	\$39,966	\$3,026,754
Electrical power cost Jan 18	\$157,865	\$627,569	\$22,649,077
Other	<u>\$42,302</u>	<u>\$198,470</u>	<u>\$14,190,919</u>
Sub Total - Items provided by BLM	\$346,993	\$1,709,367	\$64,671,369
Total - Cliffside Refiners, LP, GDA030001	<b>(\$812,787)</b>	<b>(\$3,460,252)</b>	<b>(\$86,390,188)</b>

\*Rounded to nearest dollar

CHEU Utility Usage	Month	FYTD	Cumulative
Cheu Fuel Gas (Mcf) usage Feb 18	3,149	15,128	589,369
Cheu Pure Water Usage (gallons) Feb 18	577	2,701	311,940
Electricity Metered (Kwh) consumed Jan 18	2,805,859	10,911,610	158,190,236