

Bureau of Land Management

Amarillo Field Office Helium Operations Statistical Report for

September - 2017



Distribution:

Fluid Minerals Group Manager, Washington Office
NMSO, New Mexico State Director
NMSO, Associate State Director
NMSO, Petroleum Engineer
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-Federal Leased Lands
-Resources Evaluation & Gas Analysis
-Division Of Helium Operations, -
Engineering and Technical Support

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Compi Amarillo, Texas

Issued: August 6, 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 3, 2018

Table 1 - Summary of Helium Operations

September - 2017

Helium Enrichment Unit Operations

Gas Processed

	Month Gross Volume	Month Net Helium	Average Percent	Gross FYTD	Net FYTD
Measured Plant Feed (Mcf*)	542,033	89,189	16.45%	6,083,753	1,008,781
Helium Product (Mcf*)	118,138	88,286	74.73%	1,342,503	998,392
Residue Natural Gas (Mcf*)	294,067	0	00.00%	3,212,481	93

* Volumes in Mcf at 14.65 psia & 60°F

Natural Gas & Liquids Produced

Gas Processed

	Month	FYTD
Natural Gas Sales (Mcf***)	292,015	3,368,328
NGL Sales (gallons)	103,334	1,147,843

*** 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Total Withdrawn (Mcf*)	551,515	90,749	16.45%	6,346,832	1,048,169
Crude Injection (Mcf*)	0	0	00.00%	9,764	7,204
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*)		885,002	1,710,002	885,002	22,779,063
Conservation Crude Sale Volume Transferred (Mcf*)	0	885,002	1,725,002	900,002	22,837,731
Conservation Helium in Storage (EOM) (Mcf*)		3,475,395			

* Volumes in Mcf at 14.65 psia & 60°F

In Kind Helium

	Month	FYTD	CYTD	Cumulative
Sale Volumes Transferred (Mcf*)	7,792	139,685	100,110	3,525,163
Sale Volumes Outstanding (Mcf*)	34,789			

* 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*)	20,168	12,983	64.37%	216595
Crude Disposed (Mcf*)	128,276	93,899	73.20%	1185134
Net Balance (Mcf*)	(108,108)	(80,916)		(968,539)
Balance of Stored Helium End Of Month (Mcf*)		3,641,745		

* Volumes in Mcf at 14.65 psia & 60°F

Revenue / Charges

Helium Storage Contracts

(Charges Billed (\$))

	Month	FYTD
Storage Fees Billed (\$)	\$163,468	\$7,744,598
Reservoir Management Fees Billed (\$)	\$0	\$1,759,209

Enrichment Unit Charges

(Charges Billed (\$))

	Month	FYTD
Reservoir Management Fees (RMF)	\$163,468	\$1,922,677
Total operating costs	\$900,506	(\$9,061,780)
Sub Total - Items provided by BLM	\$364,401	\$4,717,130
Total - Cliffside Refiners, LP, GDA030001	\$1,264,907	(\$4,344,650)

Conservation Helium - Natural Gas - Liquid Sales

(Charges Billed (\$))

	Month	FYTD
Conservation Crude Helium Sales	\$105,440,238	\$193,730,238
In Kind Sales	\$2,592,754	\$11,059,803
Natural Gas & Liquid Sales	\$887,357	\$9,747,521

Helium Resources Evaluation

	Month	FYTD
Revenue Collected from Federal Lease Holds	\$1,646,963	\$18,547,001
Helium Sample Collection Report for month	Submitted - 0	Received - 0
		Analyzed - 15

*Rounded to nearest dollar

Table 2 - Bush Dome Reservoir Operations

September - 2017

		Gross Withdrawal		Net Helium Withdrawal		Nitrogen		Methane	Methane	Ethane plus		Other (CO ₂ , Ar, H ₂)	
		Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative
TOTAL		551,515	232,420,259	90,749	43,333,581	137,457	57,290,146	287,010	117,896,155	31,048	11,943,187	5,252	1,957,189
BIVINS A-3	Sep-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	Sep-17	50,079	12,114,201	22,314	7,121,660	12,469	2,979,211	13,492	1,777,693	1,430	177,103	374	58,534
BIVINS A-13	Sep-17	35,491	8,987,475	11,599	4,628,802	8,809	2,306,891	13,322	1,799,001	1,495	200,008	265	52,773
BIVINS A-14	Sep-17	41,615	10,146,413	12,001	5,676,621	10,201	2,568,191	17,182	1,660,261	1,857	179,758	374	61,582
BIVINS A-4	Sep-17	40,286	14,064,643	4,626	2,456,973	9,779	3,407,553	22,997	7,335,396	2,443	738,557	441	126,164
BUSH A-2	Sep-17	44,542	13,807,831	3,414	2,007,150	11,223	3,389,981	26,601	7,521,871	3,000	774,478	305	114,351
Injection	Sep-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	Sep-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	Sep-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	Sep-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	Sep-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	Sep-17	0	(2,527,801)	0	(1,848,815)	0	(601,353)	0	(42,016)	0	0	0	(35,617)
inj Bush A-2	Sep-17	0	(867,658)	0	(625,258)	0	(215,406)	0	(13,980)	0	0	0	(13,015)
Production	Sep-17	0	1,254,876	0	924,742	0	270,231	0	48,129	0	3,199	0	8,575
BIVINS A-1	Sep-17	0	2,686,608	0	48,896	0	636,995	0	1,798,415	0	175,704	0	26,597
BIVINS A-2	Sep-17	20,739	14,295,890	738	1,890,820	4,888	3,498,150	13,459	7,989,517	1,444	797,674	209	119,729
BIVINS A-5	Sep-17	30,006	16,436,256	5,641	2,119,127	7,679	4,033,668	14,812	9,212,344	1,634	929,174	240	141,943
BIVINS A-7	Sep-17	7,435	12,000,197	2,184	2,843,232	1,934	3,023,533	2,935	5,485,678	332	560,245	50	87,508
BIVINS A-9	Sep-17	33,071	10,891,912	843	209,998	8,461	2,684,750	21,187	7,170,995	2,299	727,132	281	99,036
BIVINS A-11	Sep-17	22,517	6,693,032	665	146,384	5,720	1,666,519	14,358	4,367,468	1,554	449,557	221	63,104
BIVINS A-15	Sep-17	34,783	10,336,826	608	439,643	8,140	2,460,475	23,210	6,660,617	2,397	668,146	428	107,946
BIVINS B-1	Sep-17	32,438	8,544,444	772	311,830	8,044	2,072,799	21,012	5,505,076	2,211	565,933	399	88,806
BIVINS B-2	Sep-17	28,455	7,089,468	539	133,649	7,228	1,778,019	18,242	4,601,941	1,940	474,641	506	101,218
BUSH A-1	Sep-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	Sep-17	31,261	12,557,863	10,486	3,011,234	7,899	3,108,161	11,342	5,745,637	1,269	583,293	265	109,538
BUSH A-4	Sep-17	22,158	8,928,343	1,990	1,605,995	5,717	2,235,062	12,906	4,557,400	1,417	466,119	129	63,767
BUSH A-5	Sep-17	44,424	17,250,188	11,714	3,990,078	11,351	4,333,128	18,973	7,992,019	2,118	815,871	267	119,092
BUSH A-8	Sep-17	21,453	4,554,506	397	83,532	5,329	1,105,055	13,904	3,003,907	1,459	303,768	363	58,244
BUSH A-9	Sep-17	0	3,860,915	0	105,037	0	930,915	0	2,537,187	0	253,463	0	34,312
BUSH A-11	Sep-17	7,012	4,690,542	149	135,689	1,704	1,122,155	4,580	3,066,933	478	311,583	100	54,182
BUSH B-1	Sep-17	3,753	3,386,978	67	63,525	883	803,579	2,496	2,263,125	270	223,596	37	33,152
FUQUA A-1	Sep-17	0	2,954,098	0	53,854	0	702,798	0	1,975,175	0	193,573	0	28,699
FUQUA A-2	Sep-17	0	132,119	0	2,404	0	31,322	0	88,458	0	8,637	0	1,297
FUQUA A-3	Sep-17	0	9,303,912	0	577,005	0	2,277,687	0	5,790,357	0	583,701	0	75,162
TT Fuel	Sep-17	0	0	0	0	0	0	0	0	0	0	0	0
field-wide pct's				16.45%	18.64%	24.92%	24.65%	52.04%	50.73%	5.63%	5.14%	0.95%	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 Sep-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 - 16	95.429	24.219
Injection 2003 - 16	(1.423)	(1.159)
Produced to Date 2017	4.655	0.767
Injected to Date 2017	0.000	0.000
Amount of Raw Gas Available to CHEU	81.902	====> 9.427 total helium in reservoir
Estimated Bottom Hole Pressure	301.657	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

September - 2017

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	Sep-17	542,033	97,346,304	89,189	23,300,757	135,093	24,395,189	282,076	44,084,330	30,514	4,722,727	5,161	843,300
Calculated Feed	Sep-17	551,515	97,202,812	90,749	23,293,488	137,457	24,353,443	287,010	43,971,877	31,048	4,738,644	5,252	845,360
Feed to Box	Sep-17	547,086	96,582,441	90,749	23,293,666	137,457	24,353,525	287,010	43,971,923	31,048	4,738,643	823	224,684
Cheu Product	Sep-17	118,138	29,425,907	88,286	22,931,431	26,672	5,710,154	2,408	579,876	4	831	768	203,614
Residue	Sep-17	294,067	43,903,234	0	2,131	7,079	1,080,794	260,612	38,955,704	26,376	3,863,343	0	1,262
Cold Box Vent	Sep-17	81,689	16,075,544	50	89,364	73,913	14,255,654	7,714	1,669,145	0	118	12	61,264
Flare/Boot Strap	Sep-17	81,689	6,591,793	50	50,143	73,913	5,510,656	7,714	931,314	0	93,583	12	6,097
Fuel From Cheu	Sep-17	7,158	1,325,867	4	418	185	38,672	5,773	1,074,940	1,196	211,837	0	0
Shrinkage/Loss	Sep-17	3,472	482,219	0	0	0	0	0	0	3,472	482,219	0	0
Unaccounted*	Sep-17	42,563	3,366,009	2,411	176,385	29,608	2,484,747	10,502	699,999	(0)	1,102	42	3,777

*Before October 2004, the values are estimated

Storage Operations

Inventory (contained helium)

	Government	Private
Beginning inventory	4,368,343	2,829,867
net acceptances +	0	0
redeliveries	0	(80,916)
In Kind Transfers	(7,792)	7,792
Conservation Crude Sales	(885,002)	885,002
Gain/loss	(155)	
Ending Inventory	3,475,395	3,641,745
Total Helium in Reservoir	9,426,771	
Total Helium in Storage	7,117,140	
Helium in native gas	2,309,631	

Crude Helium Pipeline

	Gross	Net Helium	Percent
Beginning inventory	29,516	21,503	72.85%
Measured to Pipeline (Private Plants)	20,168	12,983	64.37%
Measured from Pipeline (Private Plant)	128,276	93,899	73.20%
HEU Production	118,138	88,286	74.73%
Injection	0	0	00.00%
Production	0	0	
Ending Inventory	39,226	28,718	73.21%
Gain/Loss	(320)	(155)	

Tuck Trigg Reservoir Operations

Native Gas (Gross)	Since Field		
	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

Table 4 - In Kind Helium Sales

September - 2017

	NASA*	Navy*	Army*	Air Force*	DOE*	Other Fed*	Subtotal*	In Kind+	Charges Billed (\$)**	
In Kind Helium										
Airgas Merchant Gases, Contract no. INC18-0102										
Month										
FYTD										
Air Liquide Helium America, Inc., Contract no. INC18-0104										
Month										
FYTD										
Air Products, L.P., Contract no. INC18-0105										
Month										
FYTD										
Linde Gas North America, LLC, Contract no. INC18-0106										
Month										
FYTD										
Praxair, Inc., Contract no. INC18-0112										
Month										
FYTD										
Matheson Tri-Gas, Inc., Contract no. INC18-0114										
Month										
FYTD										
Global Gases America, Contract no. INC18-0116										
Month										
FYTD										
Total month	17,025	0	0	0	0	14,703	31,728	31,238	\$2,592,754	
Total FYTD	64,770	6	0	8	292	69,636	134,713	132,633	\$11,059,803	
Total CYTD	46,283	6	0	8	292	50,933	97,522	96,016	\$7,969,328	
Cumulative	1,950,792	108,683	450	271,593	422,045	862,302	3,615,864	3,559,877	\$209,931,214	
In Kind Transfers							Month	FYTD	CYTD	Cumulative
Transferred							7,792	139,685	100,110	3,525,163
Volume outstanding							34,789			

* Volumes in Mcf at 14.7 psia & 70°F

+ Volumes in Mcf at 14.65 psia & 60°F

**Rounded to nearest dollar

May numbers are from April, an update will be posted for May at the end of June.

Natural Gas / Natural Gas Liquid Sales

	Natural Gas (Mcf)***	NGLs (gal)	Decatherms	Avg Btu Value	Charges Billed (\$)**
El Paso Natural Gas					
Provides Measured Firm/Interruptible Transportation Services (billed monthly)					
Month	292,015	---	321,003	1,099	(\$27,997)
FYTD	3,368,328	---	3,343,076	993	(\$335,964)
Cumulative	43,450,876	---	47,297,616	1,089	(\$4,920,343)
Minerals Management Service					
No Longer Provides Natural Gas Marketing Services					
Cumulative	---	---	---	---	(\$179,913)
ETC Marketing Ltd					
Purchaser - Natural Gas					
Month	---	---	320,700	\$2.614576	\$838,495
FYTD	---	---	3,489,782	\$2.689732	\$9,386,579
Cumulative	---	---	47,114,887	\$4.439092	\$208,320,755
Sandstone					
Purchaser - Natural Gas Liquids					
Month	---	103,334	11,233	\$6.842284	\$76,859
FYTD	---	1,147,843	121,110	\$5.754320	\$696,906
Cumulative	---	13,228,237	1,407,099	\$11.112224	\$15,636,000
Total					
Total month	292,015	103,334	331,933	\$2.673301	\$887,357
Total FYTD	3,368,328	1,147,843	3,610,892	\$2.699477	\$9,747,521
Total CYTD	2,525,934	871,369	2,739,723	\$2.694795	\$7,382,993
Cumulative	43,450,876	13,228,237	48,521,986	\$4.527495	\$218,856,499

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

**Rounded to nearest dollar

Table 5 - Conservation Crude Sales/Reserve Sell-down

September - 2017

Helium & Natural Gas Sales

	Award Volume*	Outstanding*	Sales*	Charges Billed (\$)**	
Conservation Helium				(billed quarterly)	
<u>Air Liquide Helium America, Inc.</u>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	335,217		335,217	\$25,454,815	
<u>Air Products, L.P.</u>					
Month	129,100	(514,100)	514,100	\$61,152,900	
FYTD	514,100	0	933,409	\$106,033,963	
Cumulative	8,962,845		8,962,845	\$671,868,990	
<u>Linde Gas North America, LLC</u>					
Month	93,239	(118,239)	118,239	\$13,895,441	
FYTD	118,239	0	258,573	\$28,911,179	
Cumulative	6,289,226		6,289,226	\$433,603,032	
<u>Keyes Helium Co., LLC</u>					
Month	14,514	(14,514)	14,514	\$1,727,166	
FYTD	14,514	0	36,358	\$4,064,474	
Cumulative	1,013,471		1,013,471	\$70,080,272	
<u>Matheson Tri-Gas, Inc.</u>					
Month	11,334	(31,334)	31,334	\$3,838,746	
FYTD	31,334	0	78,034	\$8,835,646	
Cumulative	360,034		360,034	\$38,155,146	
<u>Praxair, Inc.</u>					
Month	121,927	(146,927)	146,927	\$17,579,313	
FYTD	146,927	0	330,440	\$37,215,204	
Cumulative	5,550,116		5,550,116	\$421,704,984	
<u>Global Gases America</u>					
Month	0	0	0	\$0	
FYTD	0	0	13,300	\$1,423,100	
Cumulative	36,267		36,267	\$3,535,665	
<u>Airgas Merchant Gases</u>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	15,667		15,667	\$1,488,365	
<u>IACX Energy</u>					
Month	1,220	(1,220)	1,220	\$145,180	
FYTD	1,220	0	1,220	\$145,180	
Cumulative	16,220		16,220	\$1,720,180	
<u>Uniper Global Commodities North America LLC</u>					
Month	11,334	(41,334)	41,334	\$5,038,746	
FYTD	41,334	0	41,334	\$5,038,746	
Cumulative	41,334		41,334	\$5,038,746	
<u>Weil Group Resources LLC</u>					
Month	6,000	(6,000)	6,000	\$714,000	
FYTD	21,000	15,000	6,000	\$714,000	
Cumulative	21,000		6,000	\$714,000	
<u>NAH USA Helium Marketing, Inc</u>					
Month	11,334	(11,334)	11,334	\$1,348,746	
FYTD	11,334	0	11,334	\$1,348,746	
Cumulative	11,334		11,334	\$1,348,746	
Does not CHK w/ billing statement - ^					
Total month	400,002	(885,002)	885,002	105,440,238	
Total FYTD	900,002	15,000	1,710,002	\$193,730,238	
Total CYTD	900,002		885,002	\$105,440,238	
Cumulative	22,779,063		22,779,063	\$1,678,646,449	
Conservation Crude Transfers					
		Month	FYTD	CYTD	Cumulative
Transferred		885,002	1,725,002	900,002	22,837,731
Volume outstanding		0			

* Volumes in Mcf at 14.65 psia & 60°F

Table 6 - Helium Resources Evaluation

September - 2017

All Volumes in Mcf at 14.7 psia & 70°F

Revenue Collected From Federal Leaseholds	Month*	FYTD*
Fee Sales & Royalties	\$1,679,663	\$18,545,107
Natural Gas Royalties (1)	\$0	\$0
Natural Gas Rentals	\$0	\$0
Other	\$34,082	\$449,016
Revenue Collected from Federal Lease Holds	\$1,646,963	\$18,547,001

*Totals do not sum

Helium Analysis and Evaluation	Month	FYTD
Number of Sample Request Letters Sent	0	0
Number of Samples Received	0	0
Number of Samples Analyzed	0	44
Total Number of Samples Analyzed For Resources Division	1	52
Total Number of Other Samples Analyzed (2)	15	192

U. S. Helium Production

<i>Domestic</i>	FY Volume	CY Volume
2012 Helium Sold	4,531,140	4,645,930
2013 Helium Sold	4,725,187	4,623,130
2014 Helium Sold	3,815,746	3,463,698
2015 Helium Sold	3,282,185	3,104,695
2016 Helium Sold	4,559,100	4,644,278
Estimated Helium Resources as of 12/31/2006(Mcf)		732,000,000

	FY-2015	CY-2015
U.S. Helium Exports (3)	2,423,915	2,334,648
US Helium Imports	491,006	565,023

(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

September - 2017

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					
Total All Contracts*											
Crude Acquired	20,168	64.4%	12,983	216,595	124,827	32,117,366	938,633	59,792,945			
Crude Disposed	128,276	73.2%	93,899	1,185,134	874,342	52,717,384	45,839	26,343,500			\$163,468 Storage Fees
Grade-A Rdlvrd	0		0	0	0	1,478,718					\$0.00 RMF Fees
Net/Balance	(108,108)		(80,916)	(968,539)	(749,515)	(22,078,736)	892,794	33,449,445	3,641,745		\$163,468 \$9,509,807
Total Prior Contracts (TERMINATED)											
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		
Linde Gas North America, LLC, Contract no. 3249											
Crude Acquired											
Crude Disposed											
Net/Balance											
Praxair, Inc., Contract no. 3251											
Crude Acquired											
Crude Disposed											
Net/Balance											
Air Products, L.P., Contract no. 3256											
Crude Acquired											
Crude Disposed											
Net/Balance											
Air Liquide Helium America, Inc., Contract no. 3284											
Crude Acquired											
Crude Disposed											
Net/Balance											
Pioneer Natural Resources USA, Inc, Contract no. 3286											
Crude Acquired											
Crude Disposed											
Net/Balance											
Keyes Helium Co., LLC, Contract no. 3287											
Crude Acquired											
Crude Disposed											
Net/Balance											
Matheson Tri-Gas, Inc., Contract no. 3288											
Crude Acquired											
Crude Disposed											
Net/Balance											
Airgas Merchant Gases, Contract no. 3290											
Crude Acquired											
Crude Disposed											
Net/Balance											
Global Gases America, Contract no. 3293											
Crude Acquired											
Crude Disposed											
Net/Balance											
Linn Operating, Inc., Contract no. 3296											
Crude Acquired											
Crude Disposed											
Net/Balance											
IACX Energy, Contract no. 3297											
Crude Acquired											
Crude Disposed											
Net/Balance											
Uniper Global Commodities North America LLC, Contract no. 3298											
Crude Acquired											
Crude Disposed											
Net/Balance											
Weil Group Resources LLC, Contract no. 3299											
Crude Acquired											
Crude Disposed											
Net/Balance											
NAH USA Helium Marketing, Inc, Contract no. 3300											
Crude Acquired											
Crude Disposed											
Net/Balance											

Government Helium	
Remaining Crude Acquired beginning of the month	4,368,343
Crude Disposed: In Kind Sales transferred for the month	(7,792)
Conservation Crude Sales/Reserve Sell Down transferred (month)	(885,002)
Gains and Losses for the month	(155)
Net/Balance of Purchased Helium Remaining for Sale	3,475,395

*Includes In Kind and Conservation Crude transfers from Government storage

**Rounded to nearest dollar

** New Contracts

Table 8 - Compression & CHEU (Charges & Operations) September - 2017

Field/CHEU Compressor Operations		Month	FYTD	Cumulative
Spot gas fuel price *	\$ per/MMBTU	\$2.61	\$2.75	\$4.76
Fuel used * (now includes field compression well head)	total MMBTU	8,275	99,778	1,810,701
Field Compression Fuel Cost *	\$dollars	\$0	\$0	\$658,447
CHEU Compression Fuel Cost *	\$dollars	\$12,685	\$167,446	\$4,463,450
CHEU Process Fuel Cost *	\$dollars	\$8,913	\$107,358	\$2,981,032
Rental compressor(s) fuel consumed (well head)	\$dollars	\$0	\$0	\$207,234
Rental Compressor(s) helium in fuel (Mcf x \$\$)	\$dollars	\$0	\$0	\$315,893
Rental compressor(s) helium in fuel (Mcf)	Mcf	0	0	3645
#1 Compressor run time *	hours	720	7,293	109,559
#2 Compressor run time *	hours	720	6,660	72,123
#3 Compressor run time *	hours	0	2,684	62,008

* Field/CHEU Compressor Operations based on Sep 17 activity

Crude Helium Enrichment Unit (CHEU) CHEU Runtime	Month		FYTD		Cumulative
	Runtime Hrs	Percent	Runtime Hrs	Percent	Runtime Hrs
Processing feed gas	720	100.0%	8,557	97.7%	121,125
Producing residue gas	720	100.0%	8,477	96.8%	118,283
Producing helium product	720	100.0%	8,309	94.9%	114,654
Producing natural gas liquids	720	100.0%	8,391	95.8%	113,700

CHEU Charges	Charges Billed (\$)*		
	Month	FYTD	Cumulative
Reservior Management Fees (RMF)	\$163,468	\$1,922,677	\$33,753,800
Total operating costs	<u>\$900,506</u>	<u>(\$9,061,780)</u>	<u>(\$145,891,938)</u>
Labor	\$161,237	\$1,934,839	\$16,273,455
Compressor fuel cost Aug 17	\$12,685	\$165,432	\$4,472,627
HEU fuel cost Aug 17	\$8,913	\$107,699	\$2,987,166
Electrical power cost Aug 17	\$167,774	\$1,575,971	\$22,026,951
Other	<u>\$13,792</u>	<u>\$933,189</u>	<u>\$13,992,449</u>
Sub Total - Items provided by BLM	\$364,401	\$4,717,130	\$62,962,003
Total - Cliffside Refiners, LP, GDA030001	\$1,264,907	<u>(\$4,344,650)</u>	<u>(\$82,929,935)</u>

*Rounded to nearest dollar

CHEU Utility Usage	Month	FYTD	Cumulative
Cheu Fuel Gas (Mcf) usage Sep 17	2,954	34,602	574,241
Cheu Pure Water Usage (gallons) Sep 17	392	14,791	309,239
Electricity Metered (Kwh) consumed Aug 17	2,855,965	27,325,450	147,442,668