

Bureau of Land Management

Amarillo Field Office

Helium Operations

Statistical Report

for

July - 2017



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)
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-Federal Leased Lands
-Resources Evaluation & Gas Analysis
-Division Of Helium Operations, -
Engineering and Technical Support

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Amarillo, Texas

Compiled by: Joan Grochowina

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Revised

"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

July - 2017

Helium Enrichment Unit Operations

Gas Processed	Month Gross Volume	Month Net Helium	Average Percent	Gross FYTD	Net FYTD
Measured Plant Feed (Mcf*)	558,686	93,550	16.74%	5,009,180	832,041
Helium Product (Mcf*)	123,941	93,002	75.04%	1,109,544	824,310
Residue Natural Gas (Mcf*)	299,451	0	00.00%	2,637,695	93

* Volumes in Mcf at 14.65 psia & 60°F

Natural Gas & Liquids Produced

Gas Processed	Month	FYTD
Natural Gas Sales (Mcf***)	297,309	2,797,668
NGL Sales (gallons)	88,892	947,417

*** 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Total Withdrawn (Mcf*)	563,186	94,304	16.74%	5,253,328	868,321
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*)		0	825,000	0	21,952,729
Conservation Crude Sale Volume Transferred (Mcf*)	0	0	840,000	15,000	21,952,729
Conservation Helium in Storage (EOM) (Mcf*)		4,399,466			

* Volumes in Mcf at 14.65 psia & 60°F

In Kind Helium

	Month	FYTD	CYTD	Cumulative
Sale Volumes Transferred (Mcf*)	(1,353)	101,619	62,044	3,487,097
Sale Volumes Outstanding (Mcf*)	41,617			

* 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*)	16,233	9,818	60.48%	187,365
Crude Disposed (Mcf*)	139,830	102,958	73.63%	992,239
Net Balance (Mcf*)	(123,597)	(93,140)		(804,874)
Balance of Stored Helium End Of Month (Mcf*)		2,882,342		

* Volumes in Mcf at 14.65 psia & 60°F

Revenue / Charges

Helium Storage Contracts (Charges Billed (\$))	Month	FYTD
Storage Fees Billed (\$)	\$685,327	\$6,880,853
Reservoir Management Fees Billed (\$)	\$204,999	\$1,588,994

Field Compressor Charges (Charges Billed (\$))

	Month	FYTD
Funded by the Refiners (provides for booster compression services)	\$0	\$0
Cliffside Refiners, LP, by Agreement #GDA010003 (reimburses BLM for fuel, labor, supplies, etc.)	\$0	\$0
Net-Total (Funded by the Refiners for compression costs.)	\$0	\$0

Enrichment Unit Charges (Charges Billed (\$))

	Month	FYTD
Reservoir Management Fees (RMF)	\$204,999	\$1,588,994
Total operating costs	(\$923,310)	(\$9,033,028)
Sub Total - Items provided by BLM	\$413,351	\$3,933,431
Total - Cliffside Refiners, LP, GDA030001	(\$509,960)	(\$5,099,597)

Conservation Helium - Natural Gas - Liquid Sales (Charges Billed (\$))

	Month	FYTD
Conservation Crude Helium Sales	\$0	\$88,290,000
In Kind Sales	\$0	\$8,467,049
Natural Gas & Liquid Sales	\$870,973	\$8,046,243

Helium Resources Evaluation

	Month	FYTD
Revenue Collected from Federal Lease Holds	\$1,652,466	\$15,290,477
Helium Sample Collection Report for month	Submitted - 0	Received - 0
		Analyzed - 15

*Rounded to nearest dollar

Table 2 - Bush Dome Reservoir Operations

July - 2017

		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	
TOTAL		563,186	231,326,754	94,304	43,153,734	140,257	57,017,630	291,732	117,326,984	31,490	11,881,650	5,403	1,946,757
BIVINS A-3	Jul-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	Jul-17	53,856	12,015,161	24,312	7,077,383	13,417	2,954,549	14,224	1,751,143	1,505	174,294	399	57,793
BIVINS A-13	Jul-17	37,684	8,917,714	12,360	4,605,974	9,355	2,289,575	14,109	1,772,837	1,581	197,074	279	52,253
BIVINS A-14	Jul-17	44,355	10,064,308	12,944	5,652,853	10,880	2,548,063	18,175	1,626,442	1,961	176,103	395	60,848
BIVINS A-4	Jul-17	42,578	13,984,550	4,975	2,447,737	10,339	3,388,108	24,229	7,289,713	2,572	733,703	463	125,290
BUSH A-2	Jul-17	46,364	13,719,219	3,666	2,000,306	11,685	3,367,651	27,588	7,469,000	3,106	768,520	320	113,742
Injection	Jul-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	Jul-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	Jul-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	Jul-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	Jul-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	Jul-17	0	(2,527,801)	0	(1,848,815)	0	(601,353)	0	(42,016)	0	0	0	(35,617)
inj Bush A-2	Jul-17	0	(867,658)	0	(625,258)	0	(215,406)	0	(13,980)	0	0	0	(13,015)
Production	Jul-17	0	1,254,876	0	924,742	0	270,231	0	48,129	0	3,199	0	8,575
BIVINS A-1	Jul-17	0	2,686,608	0	48,896	0	636,995	0	1,798,415	0	175,704	0	26,597
BIVINS A-2	Jul-17	21,837	14,254,550	785	1,889,345	5,147	3,488,406	14,167	7,962,692	1,517	794,797	220	119,311
BIVINS A-5	Jul-17	29,634	16,377,898	5,604	2,108,116	7,585	4,018,733	14,600	9,183,572	1,611	926,001	236	141,478
BIVINS A-7	Jul-17	5,349	11,982,693	1,629	2,838,127	1,392	3,018,981	2,060	5,478,736	232	559,459	36	87,390
BIVINS A-9	Jul-17	35,312	10,825,586	880	208,315	9,036	2,667,783	22,643	7,128,492	2,452	722,523	300	98,473
BIVINS A-11	Jul-17	24,901	6,647,653	737	145,043	6,329	1,654,993	15,877	4,338,531	1,716	446,427	242	62,660
BIVINS A-15	Jul-17	36,307	10,267,550	635	438,432	8,498	2,444,266	24,228	6,614,385	2,502	663,373	444	107,095
BIVINS B-1	Jul-17	34,909	8,479,635	830	310,288	8,655	2,056,726	22,614	5,463,096	2,381	561,515	429	88,009
BIVINS B-2	Jul-17	29,868	7,032,669	566	132,571	7,588	1,763,595	19,150	4,565,523	2,034	470,770	529	100,209
BUSH A-1	Jul-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	Jul-17	31,114	12,497,421	10,528	2,990,915	7,868	3,092,887	11,203	5,723,748	1,252	580,846	263	109,025
BUSH A-4	Jul-17	9,126	8,888,916	813	1,602,485	2,358	2,224,888	5,324	4,534,406	579	463,597	52	63,539
BUSH A-5	Jul-17	46,827	17,161,725	12,405	3,966,712	11,970	4,310,520	19,949	7,954,273	2,222	811,660	280	118,561
BUSH A-8	Jul-17	22,411	4,511,614	415	82,738	5,566	1,094,402	14,528	2,976,104	1,524	300,851	378	57,519
BUSH A-9	Jul-17	0	3,860,915	0	105,037	0	930,915	0	2,537,187	0	253,463	0	34,312
BUSH A-11	Jul-17	7,515	4,675,890	161	135,376	1,827	1,118,594	4,908	3,057,363	512	310,584	107	53,973
BUSH B-1	Jul-17	3,239	3,378,750	57	63,379	762	801,643	2,156	2,257,653	233	223,004	32	33,071
FUQUA A-1	Jul-17	0	2,954,098	0	53,854	0	702,798	0	1,975,175	0	193,573	0	28,699
FUQUA A-2	Jul-17	0	132,119	0	2,404	0	31,322	0	88,458	0	8,637	0	1,297
FUQUA A-3	Jul-17	0	9,303,912	0	577,005	0	2,277,687	0	5,790,357	0	583,701	0	75,162
TT Fuel	Jul-17	0	0	0	0	0	0	0	0	0	0	0	0
field-wide pct's				16.74%	18.65%	24.90%	24.65%	51.80%	50.72%	5.59%	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 Jul-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	3.561	0.587
Injected to Date 2017	0.000	0.000
Amount of Raw Gas Available to CHEU	82.996	====> 9.607 total helium in reservoir
Estimated Bottom Hole Pressure	305.680	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

July - 2017

Crude Helium Enrichment Unit Operations

		Gross Withdrawal		Net Helium Withdrawal		Nitrogen		Methane		Ethane plus		Other (CO ₂ , Ar, H ₂)	
		Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative
Measured Feed	Jul-17	558,686	96,271,730	93,550	23,124,017	139,136	24,127,350	289,401	43,525,047	31,239	4,662,269	5,359	833,047
Calculated Feed	Jul-17	563,186	96,109,506	94,304	23,113,640	140,257	24,080,934	291,732	43,402,868	31,490	4,677,135	5,403	834,929
Feed to Box	Jul-17	558,637	95,497,935	94,304	23,113,819	140,257	24,081,016	291,732	43,402,914	31,490	4,677,134	853	223,052
Cheu Product	Jul-17	123,941	29,192,947	93,002	22,757,349	27,635	5,657,538	2,489	575,140	2	817	814	202,103
Residue	Jul-17	299,451	43,328,447	0	2,131	7,484	1,066,633	265,397	38,446,374	26,569	3,812,048	0	1,262
Cold Box Vent	Jul-17	83,124	15,917,266	58	89,259	75,262	14,112,286	7,788	1,654,368	(0)	118	17	61,235
Flare/Boot Strap	Jul-17	83,124	6,433,515	58	50,038	75,262	5,367,288	7,788	916,537	(0)	93,583	17	6,068
Fuel From Cheu	Jul-17	6,803	1,312,463	3	411	176	38,325	5,487	1,064,130	1,137	209,597	0	0
Shrinkage/Loss	Jul-17	3,782	475,108	0	0	0	0	0	0	3,782	475,108	0	0
Unaccounted*	Jul-17	41,535	3,281,754	1,241	171,738	29,699	2,426,544	10,573	678,678	0	1,102	23	3,692

*Before October 2004, the values are estimated

Storage Operations

Inventory (contained helium)

	Government	Private
Beginning inventory	4,397,989	2,976,835
net acceptances +	0	0
redeliveries	0	(93,140)
In Kind Transfers	1,353	(1,353)
Conservation Crude Sales	0	0
Gain/loss	124	
Ending Inventory	4,399,466	2,882,342
Total Helium in Reservoir	9,606,619	
Total Helium in Storage	7,281,808	
Helium in native gas	2,324,811	

Crude Helium Pipeline

	Gross	Net Helium	Percent
Beginning inventory	26,246	19,282	73.47%
Measured to Pipeline (Private Plants)	16,233	9,831	60.56%
Measured from Pipeline (Private Plant)	139,830	102,958	73.63%
HEU Production	123,941	93,002	75.04%
Injection	0	0	00.00%
Production	0	0	
Ending Inventory	26,234	19,281	73.50%
Gain/Loss	(356)	124	

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

July - 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	0	0	0	0	0	0	0	0	\$0	
Total FYTD	47,745	6	0	8	292	54,934	102,985	101,395	\$8,467,049	
Total CYTD	29,257	6	0	8	292	36,231	65,794	64,778	\$5,376,574	
Cumulative	1,933,766	108,683	450	271,593	422,045	847,600	3,584,136	3,528,639	\$207,338,460	
In Kind Transfers							Month	FYTD	CYTD	Cumulative
Transferred							(1,353)	101,619	62,044	3,487,097
Volume outstanding							41,617			

* Volumes in Mcf at 14.7 psia & 70°F

**Rounded to nearest dollar

+ Volumes in Mcf at 14.65 psia & 60°F

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	297,309	---	326,773	1,099	(\$27,997)
FYTD	2,797,668	---	2,716,027	971	(\$279,970)
Cumulative	42,880,216	---	46,670,567	1,088	(\$4,864,349)
Minerals Management Service					
No Longer Provides Natural Gas Marketing Services					
Cumulative	---	---	---	---	(\$179,913)
ETC Marketing Ltd					
Purchaser - Natural Gas					
Month	---	---	326,900	\$2.584370	\$844,831
FYTD	---	---	2,871,614	\$2.706179	\$7,771,101
Cumulative	---	---	46,496,719	\$4.463365	\$206,705,277
Sandstone					
Purchaser - Natural Gas Liquids					
Month	---	88,892	9,638	\$5.617331	\$54,140
FYTD	---	947,417	99,386	\$5.585420	\$555,113
Cumulative	---	13,027,811	1,385,375	\$11.184124	\$15,494,206
Total					
Total month	297,309	88,892	336,538	\$2.588039	\$870,973
Total FYTD	2,797,668	947,417	2,971,000	\$2.708261	\$8,046,243
Total CYTD	1,955,274	670,943	2,099,831	\$2.705796	\$5,681,715
Cumulative	42,880,216	13,027,811	47,882,094	\$4.552469	\$217,155,221

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

**Rounded to nearest dollar

Table 5 - Conservation Crude Sales/Reserve Sell-down

July - 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	0	0	0	\$0	
FYTD	0	0	419,309	\$44,881,063	
Cumulative	8,448,745		8,448,745	\$610,716,090	
<u>Linde Gas North America, LLC</u>					
Month	0	0	0	\$0	
FYTD	0	0	140,334	\$15,015,738	
Cumulative	6,170,987		6,170,987	\$419,707,591	
<u>Keyes Helium Co., LLC</u>					
Month	0	0	0	\$0	
FYTD	0	0	21,844	\$2,337,308	
Cumulative	998,957		998,957	\$68,353,106	
<u>Matheson Tri-Gas, Inc.</u>					
Month	0	0	0	\$0	
FYTD	0	0	46,700	\$4,996,900	
Cumulative	328,700		328,700	\$34,316,400	
<u>Praxair, Inc.</u>					
Month	0	0	0	\$0	
FYTD	0	0	183,513	\$19,635,891	
Cumulative	5,403,189		5,403,189	\$404,125,671	
<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	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	15,000		15,000	\$1,575,000	
<u>Uniper Global Commodities North America LLC</u>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	0		0	\$0	
<u>Weil Group Resources LLC</u>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	0		0	\$0	
<u>NAH USA Helium Marketing, Inc</u>					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	0		0	\$0	
Total month					
	0	0	0	0	
Total FYTD					
	0	0	825,000	\$88,290,000	
Total CYTD					
	0		0	\$0	
Cumulative					
	21,952,729		21,952,729	\$1,580,307,703	
Conservation Crude Transfers					
		Month	FYTD	CYTD	Cumulative
Transferred		0	840,000	15,000	21,952,729
Volume outstanding		0			

* Volumes in Mcf at 14.65 psia & 60°F

Table 6 - Helium Resources Evaluation

July - 2017

All Volumes in Mcf at 14.7 psia & 70°F

Revenue Collected From Federal Leaseholds	Month*	FYTD*
Fee Sales & Royalties	\$1,657,354	\$15,251,272
Natural Gas Royalties (1)	\$0	\$0
Natural Gas Rentals	\$0	\$0
Other	\$37,311	\$382,234
Revenue Collected from Federal Lease Holds	\$1,652,466	\$15,290,477

*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	0
Total Number of Samples Analyzed For Resources Division	0	1
Total Number of Other Samples Analyzed (2)	15	165

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

July - 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	16,233	60.5%	9,818	187,365	95,597	32,088,136	11,788	56,615,515			
Crude Disposed	139,830	73.6%	102,958	992,239	681,447	52,524,489	13,141	30,708,077			
Grade-A Rdlvrd	0		0	0	0	1,478,718			\$685,327	Storage Fees	
Net/Balance	(123,597)		(93,140)	(804,874)	(585,850)	(21,915,071)	(1,353)	25,907,438	2,882,342	\$890,326	\$8,475,847
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	4,397,989
Crude Disposed: In Kind Sales transferred for the month	1,353
Conservation Crude Sales/Reserve Sell Down transferred (month)	0
Gains and Losses for the month	124
Net/Balance of Purchased Helium Remaining for Sale	4,399,466

*Includes In Kind and Conservation Crude transfers from Government storage

**Rounded to nearest dollar

** New Contracts

Table 8 - Compression & CHEU (Charges & Operations)

July - 2017

Field/CHEU Compressor Operations		Month	FYTD	Cumulative
Spot gas fuel price *	\$ per/MMBTU	\$2.58	\$2.78	\$4.78
Fuel used * (now includes field compression well head)	total MMBTU	7,864	84,118	1,795,041
Field Compression Fuel Cost *	\$dollars	\$0	\$0	\$658,447
CHEU Compression Fuel Cost *	\$dollars	\$11,816	\$144,013	\$4,440,017
CHEU Process Fuel Cost *	\$dollars	\$8,473	\$89,910	\$2,963,584
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	744	5,881	108,147
#2 Compressor run time *	hours	744	5,269	70,732
#3 Compressor run time *	hours	0	2,684	62,008

* Field/CHEU Compressor Operations based on Jul 17 activity

Crude Helium Enrichment Unit (CHEU) CHEU Runtime	Month		FYTD		Cumulative
	Runtime Hrs	Percent	Runtime Hrs	Percent	Runtime Hrs
Processing feed gas	744	100.0%	7,125	97.7%	119,693
Producing residue gas	744	100.0%	7,063	96.8%	116,869
Producing helium product	744	100.0%	6,900	94.6%	113,245
Producing natural gas liquids	706	94.8%	6,978	95.6%	112,287

CHEU Charges	Charges Billed (\$)*		
	Month	FYTD	Cumulative
Reservior Management Fees (RMF)	\$204,999	\$1,588,994	\$33,420,116
Total operating costs	(\$923,310)	(\$9,033,028)	(\$145,863,186)
Labor	\$161,237	\$1,612,366	\$15,950,982
Compressor fuel cost Jun 17	\$16,380	\$140,931	\$4,448,126
HEU fuel cost Jun 17	\$8,574	\$90,313	\$2,969,780
Electrical power cost Jun 17	\$143,579	\$1,254,005	\$21,704,985
Other	\$83,582	\$835,816	\$13,895,076
Sub Total - Items provided by BLM	\$413,351	\$3,933,431	\$62,178,303
Total - Cliffside Refiners, LP, GDA030001	(\$509,960)	(\$5,099,597)	(\$83,684,883)

*Rounded to nearest dollar

CHEU Utility Usage	Month	FYTD	Cumulative
Cheu Fuel Gas (Mcf) usage Jul 17	2,841	28,774	568,413
Cheu Pure Water Usage (gallons) Jul 17	2,884	13,297	307,745
Electricity Metered (Kwh) consumed Jun 17	2,744,877	21,686,562	141,803,780