

Bureau of Land Management

Amarillo Field Office

Helium Operations

Statistical Report

for



August - 2016

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

Issued: October 21, 2016

"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: October 21, 2016

Table 1 - Summary of Helium Operations

August - 2016

Helium Enrichment Unit Operations

Gas Processed	Month Gross Volume	Month Net Helium	Average Percent	Gross FYTD	Net FYTD
Measured Plant Feed (Mcf*)	618,929	108,261	17.49%	3,979,044	694,745
Helium Product (Mcf*)	139,281	105,722	75.91%	875,429	654,191
Residue Natural Gas (Mcf*)	324,133	0	00.00%	1,832,608	256

* Volumes in Mcf at 14.65 psia & 60°F

Natural Gas & Liquids Produced

Gas Processed	Month	FYTD
Natural Gas Sales (Mcf***)	319,977	1,815,899
NGL Sales (gallons)	87,373	528,819

*** 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Total Withdrawn (Mcf*)	621,792	108,746	17.49%	4,036,654	706,976
Crude Injection (Mcf*)	0	0	00.00%	71,898	53,251
Crude Production (Mcf*)	0	0	00.00%	37,008	27,164

* 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	886,000	0	20,952,729
Conservation Crude Sale Volume Transferred (Mcf*)	(160,000)	175,000	1,061,000	175,000	21,112,729
Conservation Helium in Storage (EOM) (Mcf*)		5,359,646			

* Volumes in Mcf at 14.65 psia & 60°F

In Kind Helium

	Month	FYTD	CYTD	Cumulative
Sale Volumes Transferred (Mcf*)	3,916	121,936	97,171	3,385,478
Sale Volumes Outstanding (Mcf*)	2,267			

* 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*)	51,093	33,647	65.85%	422,607
Crude Disposed (Mcf*)	194,356	142,258	73.19%	1,023,830
Net Balance (Mcf*)	(143,263)	(108,611)		(601,223)
Balance of Stored Helium End Of Month (Mcf*)		2,831,026		

* Volumes in Mcf at 14.65 psia & 60°F

Revenue / Charges

Helium Storage Contracts (Charges Billed (\$))	Month	FYTD
Storage Fees Billed (\$)	\$462,103	\$4,708,849
Reservoir Management Fees Billed (\$)	\$232,593	\$2,325,921

Field Compressor Charges (Charges Billed (\$))	Month	FYTD
Funded by the Refiners (provides for booster compression services)	\$0	(\$217,296)
Cliffside Refiners, LP, by Agreement #GDA010003 (reimburses BLM for fuel, labor, supplies, etc.)	\$0	\$88,817
Net-Total (Funded by the Refiners for compression costs.)	\$0	(\$128,479)

Enrichment Unit Charges (Charges Billed (\$))	Month	FYTD
Reservoir Management Fees (RMF)	\$232,593	\$2,325,921
Total operating costs	(\$700,698)	(\$8,904,953)
Sub Total - Items provided by BLM	\$201,618	\$3,415,066
Total - Cliffside Refiners, LP, GDA030001	(\$499,081)	(\$5,489,887)

Conservation Helium - Natural Gas - Liquid Sales (Charges Billed (\$))	Month	FYTD
Conservation Crude Helium Sales	\$0	\$0
In Kind Sales	\$0	\$7,893,382
Natural Gas & Liquid Sales	\$920,594	\$4,047,729

Helium Resources Evaluation	Month	FYTD
Revenue Collected from Federal Lease Holds	\$1,476,052	\$16,888,310
Helium Sample Collection Report for month	Submitted - 0	Received - 0
		Analyzed - 27

*Rounded to nearest dollar

Table 2 - Bush Dome Reservoir Operations

August - 2016

		Gross Withdrawal		Net Helium Withdrawal		Nitrogen		Methane	Methane	Ethane plus		Other (CO2, Ar, H2)	
		Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative
TOTAL		621,792	225,675,185	108,746	42,216,273	155,920	55,611,232	319,090	114,391,019	32,565	11,563,957	5,471	1,892,703
BIVINS A-3	Aug-16	0	10,961,112	0	3,548,629	0	2,772,147	0	4,159,383	0	407,301	0	73,653
BIVINS A-6	Aug-16	56,917	11,554,972	27,285	6,860,172	14,398	2,840,000	13,370	1,637,986	1,443	162,410	421	54,403
BIVINS A-13	Aug-16	38,976	8,573,822	13,057	4,490,567	9,817	2,204,182	14,167	1,646,382	1,639	183,001	296	49,690
BIVINS A-14	Aug-16	46,522	9,648,537	14,207	5,528,081	11,617	2,445,934	18,251	1,459,195	2,028	158,164	418	57,164
BIVINS A-4	Aug-16	44,143	13,567,734	5,094	2,399,927	10,652	3,287,416	25,298	7,050,800	2,635	708,726	463	120,866
BUSH A-2	Aug-16	48,567	13,251,962	4,478	1,960,786	12,200	3,250,045	28,485	7,192,738	3,079	737,836	325	110,558
Injection	Aug-16	0	66,464,971	0	48,012,584	0	17,119,298	0	780,461	0	36	0	552,592
inj Bivins A-3	Aug-16	0	(25,652,315)	0	(18,384,452)	0	(6,554,549)	0	(332,777)	0	0	0	(380,537)
inj Bivins A-6	Aug-16	0	(24,402,922)	0	(17,662,775)	0	(6,484,304)	0	(142,978)	0	(71)	0	(112,794)
inj Bivins A-13	Aug-16	0	(6,490,417)	0	(4,706,191)	0	(1,656,853)	0	(122,391)	0	(2)	0	(4,980)
inj Bivins A-14	Aug-16	0	(6,501,333)	0	(4,767,421)	0	(1,602,106)	0	(126,303)	0	(7)	0	(5,497)
inj Bivins A-4	Aug-16	0	(2,527,801)	0	(1,848,815)	0	(601,353)	0	(42,016)	0	0	0	(35,617)
inj Bush A-2	Aug-16	0	(867,658)	0	(625,258)	0	(215,406)	0	(13,980)	0	0	0	(13,015)
Production	Aug-16	0	1,254,876	0	924,742	0	270,231	0	48,129	0	3,199	0	8,575
BIVINS A-1	Aug-16	0	2,686,608	0	48,896	0	636,995	0	1,798,415	0	175,704	0	26,597
BIVINS A-2	Aug-16	22,189	14,032,223	743	1,881,676	5,190	3,436,367	14,547	7,817,426	1,491	779,601	217	117,154
BIVINS A-5	Aug-16	30,054	16,085,294	5,647	2,053,111	7,682	3,944,048	14,910	9,038,811	1,587	910,142	228	139,183
BIVINS A-7	Aug-16	24,098	11,846,146	7,090	2,796,344	6,292	2,983,401	9,531	5,426,286	1,029	553,628	157	86,487
BIVINS A-9	Aug-16	31,707	10,479,273	770	200,083	8,130	2,579,045	20,342	6,906,181	2,200	698,411	266	95,553
BIVINS A-11	Aug-16	26,915	6,481,139	791	140,138	6,850	1,612,640	17,163	4,232,363	1,852	434,949	258	61,049
BIVINS A-15	Aug-16	37,747	9,900,922	660	432,022	8,843	2,358,383	25,182	6,369,831	2,604	638,067	458	102,618
BIVINS B-1	Aug-16	40,618	8,115,653	934	301,869	10,293	1,967,524	27,413	5,228,755	1,779	534,564	199	82,941
BIVINS B-2	Aug-16	31,700	6,736,313	602	126,946	8,055	1,688,276	20,322	4,375,579	2,159	450,559	562	94,953
BUSH A-1	Aug-16	0	5,721,962	0	104,140	0	1,356,677	0	3,830,281	0	374,216	0	56,647
BUSH A-3	Aug-16	35,629	12,183,618	12,231	2,885,292	9,064	3,013,228	12,645	5,610,288	1,393	568,384	296	106,425
BUSH A-4	Aug-16	23,651	8,682,695	2,192	1,583,637	6,067	2,172,011	13,810	4,414,044	1,447	450,633	135	62,371
BUSH A-5	Aug-16	49,172	16,697,288	12,340	3,843,649	12,640	4,191,839	21,999	7,756,660	1,925	789,321	268	115,819
BUSH A-8	Aug-16	22,443	4,292,339	415	78,675	5,568	1,039,936	14,561	2,833,957	1,528	285,915	370	53,857
BUSH A-9	Aug-16	0	3,860,915	0	105,037	0	930,915	0	2,537,187	0	253,463	0	34,312
BUSH A-11	Aug-16	6,382	4,563,675	130	133,002	1,534	1,091,572	4,196	2,983,684	432	303,001	89	52,417
BUSH B-1	Aug-16	4,361	3,338,328	78	62,659	1,029	792,114	2,899	2,230,781	313	220,098	42	32,677
FUQUA A-1	Aug-16	0	2,954,098	0	53,854	0	702,798	0	1,975,175	0	193,573	0	28,699
FUQUA A-2	Aug-16	0	132,119	0	2,404	0	31,322	0	88,458	0	8,637	0	1,297
FUQUA A-3	Aug-16	0	9,303,912	0	577,005	0	2,277,687	0	5,790,357	0	583,701	0	75,162
TT Fuel	Aug-16	68	0	0	0	3	0	55	0	9	0	0	0
field-wide pcts				17.49%	18.71%	25.08%	24.64%	51.32%	50.69%	5.24%	5.12%	0.88%	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 Aug-16 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 - 15	90.147	23.308
Injection 2003 - 15	(1.394)	(1.137)
Produced to Date 2016	3.147	0.561
Injected to Date 2016	(0.019)	(0.014)
Amount of Raw Gas Available to CHEU	88.683	=====> 10.537 total helium in reservoir
Estimated Bottom Hole Pressure	326.603	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

August - 2016

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	Aug-16	618,929	90,717,438	108,261	22,216,477	155,217	22,748,612	317,597	40,637,220	32,409	4,333,473	5,446	781,656
Calculated Feed	Aug-16	621,724	90,452,323	108,746	22,188,478	155,918	22,678,027	319,035	40,462,570	32,555	4,342,258	5,470	780,989
Feed to Box	Aug-16	617,245	89,886,290	108,746	22,188,657	155,918	22,678,110	319,035	40,462,616	32,555	4,342,259	991	214,648
Cheu Product	Aug-16	139,281	27,964,216	105,722	21,842,830	29,812	5,377,456	2,734	549,109	71	710	943	194,111
Residue	Aug-16	324,133	40,407,740	0	2,038	7,931	999,216	287,532	35,851,254	28,671	3,553,975	0	1,256
Cold Box Vent	Aug-16	99,014	15,254,883	79	89,136	91,108	13,506,972	7,801	1,597,543	0	118	26	61,115
Flare/Boot Strap	Aug-16	99,014	5,771,132	79	49,915	91,108	4,761,974	7,801	859,712	0	93,583	26	5,948
Fuel From Cheu	Aug-16	6,843	1,233,748	3	372	177	36,286	5,519	1,000,646	1,143	196,444	0	0
Shrinkage/Loss	Aug-16	2,426	442,732	0	0	0	0	0	0	2,426	442,732	0	0
Unaccounted*	Aug-16	39,644	2,957,182	2,494	159,326	24,027	2,191,805	13,103	601,161	(0)	1,371	20	3,519

*Before October 2004, the values are estimated

Storage Operations

Inventory (contained helium)

	Government	Private
Beginning inventory	5,537,540	2,760,721
net acceptances +	0	0
redeliveries	0	(108,611)
In Kind Transfers	(3,916)	3,916
Conservation Crude Sales	(175,000)	175,000
Gain/loss	1,022	
Ending Inventory	5,359,646	2,831,026
Total Helium in Reservoir	10,536,876	
Total Helium in Storage	8,190,672	
Helium in native gas	2,346,204	

Crude Helium Pipeline

	Gross	Net Helium	Percent
Beginning inventory	28,557	20,559	71.99%
Measured to Pipeline (Private Plants)	51,093	33,752	66.06%
Measured from Pipeline (Private Plant)	194,356	142,258	73.19%
HEU Production	139,281	105,722	75.91%
Injection	0	0	00.00%
Production	0	0	
Ending Inventory	25,668	18,797	73.23%
Gain/Loss	1,094	1,022	

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

August - 2016

	NASA*	Navy*	Army*	Air Force*	DOE*	Other Fed*	Subtotal*	In Kind+	Charges Billed (\$)**	
In Kind Helium										
AirGas South West, Contract no. INC98-0101									(billed quarterly)	
Month										
FYTD										
AirGas North Central, Contract no. INC98-0102										
Month										
FYTD										
AirGas Intermountain, Contract no. INC98-0103										
Month										
FYTD										
Air Liquide Helium America, Inc., Contract no. INC98-0104										
Month										
FYTD										
Air Products, L.P., Contract no. INC98-0105										
Month										
FYTD										
Linde Gas North America, LLC, Contract no. INC98-0106										
Month										
FYTD										
Corp Brothers, Inc., Contract no. INC98-0107										
Month										
FYTD										
FIBA Technologies, Inc., Contract no. INC98-0108										
Month										
FYTD										
General Air Service & Supply Co., Contract no. INC98-0109										
Month										
FYTD										
Praxair, Inc., Contract no. INC98-0112										
Month										
FYTD										
United States Welding, Inc., Contract no. INC98-0113										
Month										
FYTD										
Matheson Tri-Gas, Inc., Contract no. INC98-0114										
Month										
FYTD										
GT & S, Contract no. INC00-0115										
Month										
FYTD										
Global Gases America, Contract no. INC13-0116										
Month										
FYTD										
Total month	0	0	0	0	0	0	0	0	\$0	
Total FYTD	45,271	1	0	0	0	52,763	98,034	96,523	\$7,893,382	
Total CYTD	33,199	1	0	0	0	34,224	67,424	66,385	\$5,602,894	
Cumulative	1,860,357	108,675	450	271,584	421,753	778,139	3,440,957	3,387,670	\$195,531,366	
In Kind Transfers							Month	FYTD	CYTD	Cumulative
Transferred							3,916	121,936	97,171	3,385,478
Volume outstanding							2,267			

* Volumes in Mcf at 14.7 psia & 70°F
 + Volumes in Mcf at 14.65 psia & 60°F

**Rounded to nearest dollar

Table 5 - Conservation Crude Sales/Reserve Sell-down

August - 2016

Helium & Natural Gas Sales

	Award Volume*	Outstanding*	Sales*	Charges Billed (\$)** (billed quarterly)	
Conservation Helium					
Air Liquide Helium America, Inc.					
Month	0	0	0	\$0	
FYTD	20,000	0	50,000	\$5,230,000	
Cumulative	335,217		335,217	\$25,454,815	
Air Products, L.P.					
Month	419,309	0	0	\$0	
FYTD	613,184	419,309	318,875	\$33,038,000	
Cumulative	8,448,745		8,029,436	\$565,835,027	
Linde Gas North America, LLC					
Month	140,334	0	0	\$0	
FYTD	280,355	140,334	140,021	\$14,562,184	
Cumulative	6,170,987		6,030,653	\$404,691,853	
Keyes Helium Co., LLC					
Month	21,844	0	0	\$0	
FYTD	42,844	21,844	21,000	\$2,184,000	
Cumulative	998,957		977,113	\$66,015,798	
Matheson Tri-Gas, Inc.					
Month	221,700	0	0	\$0	
FYTD	289,700	221,700	68,000	\$7,072,000	
Cumulative	328,700		107,000	\$10,569,500	
Praxair, Inc.					
Month	183,513	0	0	\$0	
FYTD	366,617	183,513	273,104	\$28,407,816	
Cumulative	5,403,189		5,219,676	\$384,489,780	
Linde Gas, LLC discontinued 10 2008					
Month	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	200,000		200,000	\$11,035,000	
Global Gases America					
Month	13,300	0	0	\$0	
FYTD	13,300	13,300	0	\$0	
Cumulative	36,267		22,967	\$2,112,565	
Airgas Merchant Gases					
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	15,000	\$1,575,000	
Cumulative	15,000		15,000	\$1,575,000	
Total month	1,000,000	0	0		0
Total FYTD	1,626,000	1,000,000	886,000		\$0
Total CYTD	1,000,000		0		\$0
Cumulative	21,952,729		20,952,729		\$1,473,267,703
Conservation Crude Transfers					
		Month	FYTD	CYTD	Cumulative
Transferred		175,000	1,061,000	175,000	21,112,729
Volume outstanding		(160,000)			

* Volumes in Mcf at 14.65 psia & 60°F

Natural Gas/Liquid Sales

	Natural Gas (Mcf)***	NGLs (gal)	Decatherms	Avg Btu Value	Charges Billed (\$)** (billed monthly)
El Paso Natural Gas					
		Provides Measured Firm/Interruptible Transportation Services			
Month	319,977	---	351,990	1,100	(\$27,997)
FYTD	1,815,899	---	2,000,371	1,102	(\$307,967)
Cumulative	39,773,883	---	43,643,230	1,097	(\$4,556,382)
Minerals Management Service					
		No Longer Provides Natural Gas Marketing Services			
Cumulative	---	---	---	---	(\$179,913)
Tenaska					
		Purchaser - Natural Gas			\$/Unit
Month	---	---	354,700	\$2.554649	\$906.134
FYTD	---	---	1,998,892	\$2.054707	\$4,107,137
Cumulative	---	---	43,316,105	\$4.592595	\$198,106,792
Sandstone					
		Purchaser - Natural Gas Liquids			
Month	---	87,373	9,480	\$4.478599	\$42,457
FYTD	---	528,819	56,839	\$4.373034	\$248,559
Cumulative	---	11,993,118	1,276,514	\$11.669085	\$14,895,751
	Natural Gas (Mcf)***	NGLs (gal)	Purchased (Dth's)	\$\$ Per Unit (\$\$/Dth)	Total (\$\$)
Total month	319,977	87,373	364,180	\$2.527855	\$920,594
Total FYTD	1,815,899	528,819	2,055,731	\$1.968997	\$4,047,729
Total CYTD	1,432,471	396,073	1,596,164	\$2.017655	\$3,220,508
Cumulative	39,773,883	11,993,118	44,592,619	\$4.688955	\$208,266,247

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

**Rounded to nearest dollar

Table 6 - Helium Resources Evaluation

August - 2016

All Volumes in Mcf at 14.7 psia & 70°F

Revenue Collected From Federal Leaseholds	Month*	FYTD*
Fee Sales & Royalties	\$1,496,522	\$16,857,094
Natural Gas Royalties (1)	\$0	\$0
Natural Gas Rentals	\$0	\$0
Other	\$29,691	\$443,995
Revenue Collected from Federal Lease Holds	\$1,476,052	\$16,888,310

*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	46	46
Total Number of Samples Analyzed For Resources Division	46	49
Total Number of Other Samples Analyzed (2)	27	125

U. S. Helium Production

<i>Domestic</i>	FY Volume	CY Volume
2011 Helium Sold	4,531,140	4,645,930
2012 Helium Sold	4,725,187	4,623,130
2013 Helium Sold	4,279,765	4,166,708
2014 Helium Sold	3,815,746	3,466,014
2015 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

(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

August - 2016

All Volumes in Mcf at 14.65 psia & 60°F

	Metered Gas						Transferred Gas Helium		Stored Helium EOM	Charges Month	Billed (\$)** FYTD
	Gross Gas	Helium %	Helium	Helium			Month	Cumulative			
	Month		FYTD	CYTD	Cumulative						
Total All Contracts*											
Crude Acquired	51,093	65.9%	33,647	422,607	322,624	31,866,835	204,790	55,199,649			
Crude Disposed	194,356	73.2%	142,258	1,023,830	834,008	51,412,885	25,874	30,233,830	\$462,103	Storage Fees	
Grade-A Rdlvrd	0		0	0	0	1,478,718			<u>\$232,593</u>	RMF Fees	
Net/Balance	(143,263)		(108,611)	(601,223)	(511,384)	(21,024,768)	178,916	24,965,819	2,831,026	694696.084	\$7,034,769
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											
IACX Energy, Contract no. 3297											
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											
Air Liquide Helium America, Inc., Contract no. 3284											
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											

Government Helium	
Remaining Crude Acquired beginning of the month	5,537,540
Crude Disposed: In Kind Sales transferred for the month	(3,916)
Conservation Crude Sales/Reserve Sell Down transferred (month)	(175,000)
Gains and Losses for the month	<u>1,022</u>
Net/Balance of Purchased Helium Remaining for Sale	5,359,646

*Includes In Kind and Conservation Crude transfers from Government storage

**Rounded to nearest dollar

Table 8 - Compression & CHEU (Charges & Operations)

August - 2016

Field/CHEU Compressor Operations		Month	FYTD	Cumulative
Spot gas fuel price *	\$ per/MMBTU	\$2.55	\$1.96	\$4.89
Fuel used * (now includes field compression well head)	total MMBTU	7,967	73,886	1,703,175
Field Compression Fuel Cost *	\$dollars	\$0	\$4,049	\$658,447
CHEU Compression Fuel Cost *	\$dollars	\$11,189	\$83,111	\$4,287,270
CHEU Process Fuel Cost *	\$dollars	\$9,127	\$57,373	\$2,864,798
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	732	6,447	101,766
#2 Compressor run time *	hours	686	5,446	65,210
#3 Compressor run time *	hours	42	1,143	59,123

* Field/CHEU Compressor Operations based on Aug 16 activity

Field Compressor Charges	Charges Billed (\$)*		
Linde Gas North America, LLC, Contract no. 3249			
Praxair, Inc., Contract no. 3251			
Air Products, L.P., Contract no. 3256			
Keyes Helium Co., LLC, Contract no. 3287			
SubTotal - Cliffside Refiners, LP (provides booster compression services)	\$0	(\$217,296)	(\$11,422,651)
Cliffside Refiners, LP, GDA010003 (BLM provided fuel *, labor, supplies, etc.)	\$0	\$88,817	\$2,880,795
Net Total - Cliffside Refiners, LP	\$0	(\$128,479)	(\$8,541,856)

* BLM provided fuel cost is based on Jul 16 fuel consumed

***Rounded to nearest dollar**

Crude Helium Enrichment Unit (CHEU) CHEU Runtime	Month		FYTD		Cumulative
	Runtime Hrs	Percent	Runtime Hrs	Percent	Runtime Hrs
Processing feed gas	740	99.4%	7,484	92.8%	111,848
Producing residue gas	737	99.1%	6,446	79.9%	109,163
Producing helium product	732	98.4%	6,145	76.2%	105,710
Producing natural gas liquids	733	98.6%	6,308	78.2%	104,666

CHEU Charges	Charges Billed (\$)*		
	Month	FYTD	Cumulative
Reservoir Management Fees (RMF)	\$232,593	\$2,325,921	\$31,831,123
Total operating costs	(\$700,698)	(\$8,904,953)	(\$136,129,459)
Labor	\$130,284	\$1,433,129	\$14,208,332
Compressor fuel cost Jul 16	\$0	\$72,011	\$4,307,195
HEU fuel cost Jul 16	\$0	\$39,380	\$2,879,467
Electrical power cost Jul 16	\$0	\$1,099,876	\$20,450,980
Other	\$71,333	\$770,671	\$12,987,926
Sub Total - Items provided by BLM	\$201,618	\$3,415,066	\$58,043,255
Total - Cliffside Refiners, LP, GDA030001	(\$499,081)	(\$5,489,887)	(\$78,086,205)

***Rounded to nearest dollar**

CHEU Utility Usage	Month	FYTD	Cumulative
Cheu Fuel Gas (Mcf) usage Aug 16	3,108	25,986	536,720
Cheu Pure Water Usage (gallons) Aug 16	46	9,480	294,402
Electricity Metered (Kwh) consumed Jul 16	4,600	23,414,747	120,112,618