Bureau of Land Management



Amarillo Field Office Helium Operations Statistical Report for

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

March - 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)

Team Leaders

- -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: September 13, 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: August 26, 2016

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Helium Enrichment Unit Operations	Month	Month	Averes Dereent	Cross EVID	Not EVED
Gas Processed Measured Plant Feed (Mcf*)	Gross Volume 358,807	Net Helium 70,468	Average Percent 19.64%	Gross FYTD 1,699,088	Net FYTD 288,032
Helium Product (Mcf*)		68,698	74.96%		•
Residue Natural Gas (Mcf*)	91,643 165.817	1	0.00%	366,589 753,564	271,739 128
* Volumes in Mcf at 14.65 psia & 60°F	105,617	I	0.00%	753,564	120
'					
Natural Gas & Liquids Produced					
Gas Processed				Month	FYTD
Natural Gas Sales (Mcf***)				164,170	749,904
NGL Sales (gallons) *** Volumes in Mcf at 14.73 psia & 60°F				51,442	191,306
voluntes in file at 14.73 psia & 00 1					
Bush Dome Reservoir Operations	Month	Month	l A D	0	N. (EVED
Conservation gases from all sources	Gross Volume	Net Helium	Average Percent	Gross FYTD	Net FYTD
Total Withdrawn (Mcf*)	357,805	61,892	17.30%	1,785,526	314,376
Crude Injection (Mcf*)	13,209	9,850	74.57%	66,063	48,890
Crude Production (Mcf*) * Volumes in Mcf at 14.65 psia & 60°F	0	0	00.00%	37,008	27,164
·					
Storage Operations	Values a Control ii	84. 4	5,45	0)/75	0 1
Conservation Helium	Volume Outstanding	Month	FYTD	CYTD	Cumulative
Conservation Crude Sale Volume Sold/Paid (Mcf*)	4= 00=	0	886,000	0	20,952,729
Conservation Crude Sale Volume Transferred (Mcf*)	15,000	0	886,000	0	20,937,729
Conservation Helium in Storage (EOM) (Mcf*) Volumes in Mcf at 14.65 psia & 60°F		5,613,245			
·					
n Kind Helium		Month	FYTD	CYTD	Cumulative
Sale Volumes Transferred (Mcf*)		30,785	55,550	30,785	3,319,092
Sale Volumes Outstanding (Mcf*)		30,407			
Contact Activity Crude Acquired (Mcf*)		Gross Volume 71,347	Net Helium 50,758	Average Percent 71.14%	Helium FYTD 242,782
Crude Acquired (Mcf*)		71,347	50,758	71.14%	242,782
Crude Disposed (Mcf*)		124,062	91,161	73.48%	464,965
Net Balance (Mcf*)		(52,715)	(40,403)		(222,183
Balance of Stored Helium End Of Month (Mcf*) Volumes in Mcf at 14.65 psia & 60°F			2,966,410		
Revenue / Charges					
Helium Storage Contracts (Charges Billed (\$)				Month	FYTI
Storage Fees Billed (\$)				\$411,617	\$2,439,003
Reservoir Management Fees Billed (\$)				\$254,561	\$1,272,803
Field Compressor Charges (Charges Billed (\$)				Month	FYTI
Funded by the Refiners (provides for booster compression ser	vices)			\$0	(\$217,296
Cliffside Refiners, LP, by Agreement #GDA010003 (reimburse:	,	nnlies etc.)		<u>\$0</u>	\$88,817
Net-Total (Funded by the Refiners for compression costs.)	S DEW TOT TUEL, IADOL, Su	pplies, etc.)		\$0 \$0	(\$128,479
ver-rotal (i unueu by the ivenillers for compression costs.)				Ψ0	(ψ120,479
Enrichment Unit Charges (Charges Billed (\$)				Month	FYTI
Reservior Management Fees (RMF)				\$254,561	\$1,272,803
Fotal operating costs				(\$824,094)	(\$4,857,054
Sub Total - Items provided by BLM				\$325,014	\$1,862,570
Fotal - Cliffside Refiners, LP, GDA030001				(\$499,081)	(\$2,994,484
Conservation Helium - Natural Gas - Liquid	Sales	(Charges Billed (\$)		Month	FYTI
Conservation Crude Helium Sales				\$0	\$0
n Kind Sales				\$2,374,932	\$4,665,420
Natural Gas & Liquid Sales				\$257,760	\$1,419,016
Helium Resources Evaluation				Month	F\/T1
				Month	FYT[
Revenue Collected from Federal Lease Holds	od 0	Page:	0	\$1,485,441	\$9,255,917
Helium Sample Collection Report for month Submitte	tu - U	Received -	U	Analyzed - 1	U

Table 2 - Bush Dome Reservoir Operations

March - 2016

	1	Gross V	Vithdrawal	Net Helium	Withdrawal	Nitro	ogen	Methane	Methane	Ethar	ne plus	Other (CO2,	Ar, H2)
		Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative	Month	Cumulative
<u>TOTAL</u>		357,805	223,424,057	61,892	41,823,672	89,228	55,048,920	183,449	113,236,662	19,857	11,442,719	3,379	1,872,084
BIVINS A-3	Mar-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	Mar-16	13,768	11,374,807	7,545	6,766,938	3,412	2,795,132	2,454	1,601,158	258	158,491	99	53,089
BIVINS A-13	Mar-16	28,702	8,429,649	9,832	4,441,525	7,232	2,167,865	10,228	1,594,682	1,193	176,982	218	48,595
BIVINS A-14	Mar-16	35,959	9,475,053	11,302	5,474,337	8,990	2,402,596	13,800	1,391,867	1,547	150,640	320	55,612
BIVINS A-4	Mar-16	31,267	13,393,366	3,542	2,379,915	7,536	3,245,327	17,974	6,950,778	1,885	698,302	330	119,044
BUSH A-2	Mar-16	36,793	13,052,624	3,437	1,942,250	9,234	3,200,019	21,484	7,076,152	2,389	725,023	250	109,180
Injection	Mar-16	13,209	66,459,137	9,850	48,008,224	2,975	17,117,991	298	780,333	0	36	86	552,554
inj Bivins A-3	Mar-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	Mar-16	(13,209)	(24,397,088)	(9,849)	(17,658,415)	(2,977)	(6,482,997)	(297)	(142,850)	(0)	(71)	(86)	(112,756)
inj Bivins A-13	Mar-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	Mar-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	Mar-16	0	(2,527,801)	0	(1,848,815)	0	(601,353)	0	(42,016)	0	0	0	(35,617)
inj Bush A-2	Mar-16	0	(867,658)	0	(625,258)	0	(215,406)	0	(13,980)	0	0	0	(13,015)
Production	Mar-16	0	1,254,876	0	924,742	0	270,231	0	48,129	0	3,199	0	8,575
BIVINS A-1	Mar-16	0	2,686,608	0	48,896	0	636,995	0	1,798,415	0	175,704	0	26,597
BIVINS A-2	Mar-16	9,521	13,959,966	319	1,879,279	2,217	3,419,540	6,234	7,770,166	656	774,603	95	116,378
BIVINS A-5	Mar-16	18,232	15,978,749	3,437	2,033,036	4,656	3,916,827	9,018	8,986,053	980	904,466	140	138,367
BIVINS A-7	Mar-16	9,260	11,779,572	2,942	2,776,263	2,417	2,966,023	3,456	5,400,428	385	550,805	61	86,053
BIVINS A-9	Mar-16	13,218	10,363,209	295	197,378	3,417	2,549,245	8,509	6,831,615	889	690,384	108	94,588
BIVINS A-11	Mar-16	3,027	6,406,522	88	137,954	775	1,593,642	1,935	4,184,769	200	429,825	29	60,332
BIVINS A-15	Mar-16	26,370	9,747,151	461	429,338	6,221	2,322,322	17,597	6,267,261	1,773	627,480	319	100,750
BIVINS B-1	Mar-16	25,901	7,958,730	575	298,317	6,351	1,928,410	16,906	5,124,598	1,759	525,785	309	81,620
BIVINS B-2	Mar-16	20,533	6,612,235	391	124,590	5,239	1,656,720	13,147	4,296,054	1,392	442,124	365	92,747
BUSH A-1	Mar-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	Mar-16	23,089	12,054,311	7,894	2,840,894	5,878	2,980,325	8,220	5,564,394	907	563,343	191	105,356
BUSH A-4	Mar-16	10,226	8,609,701	946	1,576,964	2,621	2,153,302	5,962	4,371,375	640	446,103	57	61,957
BUSH A-5	Mar-16	31,526	16,513,332	8,495	3,795,043	8,068	4,144,691	13,311	7,677,651	1,466	781,183	186	114,764
BUSH A-8	Mar-16	11,205	4,219,003	205	77,316	2,755	1,021,727	7,157	2,786,384	912	280,925	177	52,651
BUSH A-9	Mar-16	0	3,860,915	0	105,037	0	930,915	0	2,537,187	0	253,463	0	34,312
BUSH A-11	Mar-16	6,065	4,533,310	125	132,382	1,458	1,084,271	3,986	2,963,712	411	300,951	85	51,994
BUSH B-1	Mar-16	3,140	3,319,517	62	62,318	752	787,664	2,070	2,218,289	216	218,756	40	32,489
FUQUA A-1	Mar-16	0	2,954,098	0	53,854	0	702,798	0	1,975,175	0	193,573	0	28,699
FUQUA A-2	Mar-16	0	132,119	0	2,404	0	31,322	0	88,458	0	8,637	0	1,297
FUQUA A-3	Mar-16	0	9,303,909	0	577,005	0	2,277,687	0	5,790,357	0	583,701	0	75,160
TT Fuel	Mar-16	34	0	1	0	8	0	23	0	2	0	0	0
field-	wide pcts			17.30%	18.72%	24.94%	24.64%	51.27%	50.68%	5.55%	5.12%	0.94%	0.84%

est z-factor 0.980

Latest estimates of reserves and feed to HEU Based on NITEC's 2003 reserves study from NITEC's interim report

As of EOM	Mar-16	Volumes in BCF				
Initial Gas In Pl	ace		330.040			
Produced 1924	to 1961		48.830			
Injected 1924 to	o 1961		0.450			
Remaining Gas	In Place 1961		281.660			
Left Behind Pip	e, 1961		82.060	====>	1.500	BCF of contained helium
Remaining in P	lace, 1961		199.600			
Gas In Place 19	961		199.600			
Produced 1961	to July 2002		82.450			
Injected 1961 to	o July 2002		64.510		Net Helium	
Remaining Gas	In Place July 200	2	181.660		33.997	
Produced July	2002 through Dec	2002	1.096		0.743	
Production 200	3 - 15		90.147		23.308	
Injection 2003 -	· 15		(1.394)		(1.137)	
Produced to Da	ate 2016		0.896		0.168	
Injected to Date	e 2016		(0.013)		(0.010)	
Amount of Raw	Gas Available to	CHEU	90.928	====>	10.925	total helium in reservoir
Estimated Botto	om Hole Pressure		334.863			

* 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

March - 2016

Measured Feed Mar-1 Calculated Feed Mar-1	Month 6 358,807 6 374,624	Vithdrawal Cumulative 88,437,482 88,189,029	Month 70,468	Cumulative 21,809,765	Nitr Month 88.848	Cumulative	Month	hane Cumulative	Ethar Month	ne plus Cumulative	Other (CO Month	D2, Ar, H2) Cumulative
	6 358,807 6 374,624	88,437,482	70,468					Cumulative	Month	Cumulative	Month	Cumulative
	6 374,624	, - , -	-,	21,809,765	88.848	22 470 004						
Calculated Feed Mar-1	- /-	88,189,029	74 420		,	22,179,001	177,279	39,475,721	18,902	4,211,228	3,310	760,887
Calculated I ced Ivial I	6 274 044		14,429	21,785,522	93,029	22,112,825	183,827	39,309,189	19,857	4,221,206	3,483	760,288
Feed to Box Mar-1	6 371,811	87,640,070	74,429	21,785,701	93,029	22,112,907	183,827	39,309,235	19,857	4,221,209	669	211,019
Cheu Product Mar-1	6 91,643	27,455,376	68,698	21,460,378	20,341	5,265,134	2,002	538,563	0	580	602	190,722
Residue Mar-1	6 165,817	39,328,695	1	1,910	3,947	971,844	146,893	34,895,694	14,975	3,457,994	0	1,253
Cold Box Vent Mar-1	6 60,669	14,907,172	92	88,783	50,534	13,199,839	10,027	1,557,392	0	118	15	61,040
Flare/Boot Strap Mar-1	6 60,669	5,423,421	92	49,562	50,534	4,454,841	10,027	819,562	0	93,583	15	5,874
Fuel From Cheu Mar-1	6 8,235	1,203,218	4	356	213	35,495	6,641	976,024	1,376	191,342	0	0
Shrinkage/Loss Mar-1	6 3,505	430,702	0	0	0	0	0	0	3,505	430,702	0	0
Unaccounted* Mar-1	6 41,942	2,822,543	5,634	148,760	17,993	2,116,290	18,263	552,856	(0)	1,209	52	3,427

*Before October 2004, the values are estimated

Storage Operations

Inventory	(contained	helium)
-----------	------------	---------

Beginning inventory	5,657,449	2,978,298
net acceptances +	0	0
redeliveries	0	(40,403
In Kind Transfers	(30,785)	30,785
Conservation Crude Sales	0	0
Gain/loss	(13,419)	
Ending Inventory	5,613,245	2,968,680
Total Helium in Reservoir	10,925,116	
Total Helium in Storage	8,581,925	
Helium in native gas	2.343.191	

Government

Private

Crude Helium Pipeline

	Gross	Net Helium	Percent
Beginning inventory	36,023	26,245	72.86%
Measured to Pipeline (Private Plants)	71,347	50,817	71.23%
Measured from Pipeline (Private Plant	124,062	91,161	73.48%
HEU Production	91,643	68,698	74.96%
Injection	13,209	9,850	74.57%
Production	0	0	
Ending Inventory	42,687	31,329	73.39%
Gain/Loss	(19,054)	(13,419)	

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

Table 4 - In Kind Helium Sales

March - 2016

. 0.0.0		ionain c						IVIAIC	11 2010	
	NASA*	Navy*	Army*	Air Force*	DOE*	Other Fed*	Subtotal*	In Kind+	Charges	Billed (\$)**
				In Ki	nd Heli	um				
AirGas South West Month FYTD	, Contract no	o. INC98-010	1							(billed quarterly)
AirGas North Centre Month FYTD	al, Contract	no. INC98-0	102							
AirGas Intermounta Month FYTD	in, Contract	no. INC98-0	103							
Air Liquide Helium Month FYTD	America, Inc	c., Contract i	no. INC98-	0104						
Air Products, L.P., (Month FYTD	Contract no.	INC98-0105								
Linde Gas North An Month FYTD	nerica, LLC,	Contract no	o. INC98-01	06						
Corp Brothers, Inc. Month FYTD	, Contract no	o. INC98-010	7							
FIBA Technologies, Month FYTD	, Inc., Contra	act no. INC9	8-0108							
General Air Service Month FYTD	& Supply C	o., Contract	no. INC98	-0109						
Praxair, Inc., Contra Month FYTD	act no. INC9	8-0112								
United States Weldi Month FYTD	ing, Inc., Co	ntract no. IN	C98-0113							
Matheson Tri-Gas, I Month FYTD	Inc., Contrac	ct no. INC98	0114							
GT & S, Contract no Month FYTD	o. INC00-011	5								
Global Gases Amer Month FYTD	ica, Contrac	t no. INC13-	0116							
Total month Total FYTD	13,461 25,533	0	0	0	0	,	28,579 59,189	28,139 58,277		\$2,374,932 \$4,665,420
Total CYTD Cumulative	13,461 1,840,619	0 108,674	0 450	0 271,584	0 421,753		28,579 3,402,112	28,139 3,349,424		\$2,374,932 \$192,303,403
In Kind Transformation Transferred Volume outstanding	ers						Month 30,785 30,407	FYTD 55,550	CYTD 30,785	3,319,092

^{*} Volumes in Mcf at 14.7 psia & 70°F

⁺ Volumes in Mcf at 14.65 psia & 60°F

Table 5 - Conservation Crude Sales/Reserve Sell-down

March - 2016

Helium	&	Natural	Gas	Sales	

	Award Volume*	Outstanding*	Sales*	Charges F	Billed (\$)**
	Conservatio		Caroo	onargoo.	(billed quarterly)
		le Helium America, I	nc		(billed quarterly)
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.	333,217		555,217	Ψ25,454,615	
Month	0	0	0	\$0	
FYTD	193,875	0	318,875	\$33,038,000	
Cumulative	8,029,436		8,029,436	\$565,835,027	
Linde Gas North America, LLC	0,020,100		0,020,100	ψοσο,σσο,σ2.	
Month	0	0	0	\$0	
FYTD	140,021	0	140,021	\$14,562,184	
Cumulative	6,030,653		6,030,653	\$404,691,853	
Keyes Helium Co., LLC	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		-,,	, , , , , , , , , , , , , , , , , , , ,	
Month	0	0	0	\$0	
FYTD	21,000	0	21,000	\$2,184,000	
Cumulative	977,113		977,113	\$66,015,798	
Matheson Tri-Gas, Inc.					
Month	0	0	0	\$0	
FYTD	68,000	0	68,000	\$7,072,000	
Cumulative	107,000		107,000	\$10,569,500	
Praxair, Inc.					
Month	0	0	0	\$0	
FYTD	183,104	0	273,104	\$28,407,816	
Cumulative	5,219,676		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	0	0	0	\$0	
FYTD	0	0	0	\$0	
Cumulative	22,967		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	0	0	0		0
Total FYTD	626,000	0	886,000		\$0
Total CYTD	0		0		\$0
Cumulative	20,952,729		20,952,729		\$1,473,267,703
Conservation Crude Transfers		Month	FYTD	CYTD	Cumulative
Transferred		0	886,000	0	20,937,729
Volume outstanding		15,000			

^{*} Volumes in Mcf at 14.65 psia & 60°F

Natural Gas/Liquid Sales

INALUIAI GAS/LIQUIU GAIES										
	Natural Gas (Mcf)***	NGLs (gal)	Decatherms	Avg Btu Value	Charges B	Billed (\$)**				
El Paso Natural Gas		Provides Measured F	irm/Interruptible Tran	sportation Services		(billed monthly)				
Month	164,170		181,137	1,103	(\$27,997)					
FYTD	749,904		827,152	1,103	(\$167,982)					
Cumulative	38,707,888		42,470,011	1,097	(\$4,416,397)					
Minerals Manageme	ent Service	No Longer Provides	Natural Gas Marketin	g Services						
Cumulative					(\$179,913)					
<u>Tenaska</u>		Purchaser -	Natural Gas		\$\$/Unit					
Month			176,500	\$1.506768	\$265,945					
FYTD			835,191	\$1.804868	\$1,507,410					
Cumulative			42,152,404	\$4.657709	\$195,507,065					
Sandstone		Purchaser - Natural (Gas Liquids							
Month		51,442	5,526	\$3.585351	\$19,813					
FYTD		191,306	20,458	\$3.890317	\$79,588					
Cumulative		11,655,605	1,240,133	\$11.875162	\$14,726,780					
	Natural Gas (Mcf)***	NGLs (gal)	Purchased (Dth's)	\$\$ Per Unit	\$\$ Per Unit (\$\$/Dth)					
Total month	164,170	51,442	182,026	\$1.416062		\$257,760				
Total FYTD	749,904	191,306	855,649	\$1.658409		\$1,419,016				
Total CYTD	366,476	58,560	396,082	\$1.494122		\$591,795				
Cumulative	38,707,888	11,655,605	43,392,537	\$4.758055		\$205,637,534				

^{***} Volumes in Mcf at 14.73 psia & 60°F

All Volumes in Mcf at 14.7 psia & 70°F

Revenue Collected From Federal Leaseholds	Month*	FYTD*
Fee Sales & Royalties	\$1,475,330	\$9,212,644
Natural Gas Royalties (1)	\$0	\$0
Natural Gas Rentals	\$0	\$0
Other	<u>\$42,773</u>	<u>\$246,491</u>
Revenue Collected from Federal Lease Holds	\$1,485,441	\$9,255,917

^{*}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	1
Total Number of Other Samples Analyzed (2)	16	47

U. S. Helium Production

Domestic	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

March - 2016

All Volumes in Mcf at 14.65 psia & 6	60°F
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All Volumes	s in Mcf at 14	.65 psia &									
				ed Gas				rred Gas	Stored	Charges	Billed
	Gross Gas F	Helium % Month	Helium	FYTD	Helium CYTD	Cumulative	Month	lium Cumulative	Helium EOM	Month	(\$)** FYTD
Total All Contra		MOTILIT		TIID	CITD	Cumulative	MOTILIT	Cumulative	LOW	IVIOTILIT	וווט
Crude Acquired		71 10/	E0 7E0	242 702	142 700	30,608,739	E2 904	E 4 7E 4 07E			
•	71,347	71.1% 73.5%	50,758 91,161	242,782 464,965	142,799	' '	53,894	54,751,875		¢444 647	Ctorogo Food
Crude Disposed	124,062 0	73.5%	91,161		275,143	50,854,020	23,109	30,027,442		\$411,617	Storage Fees RMF Fees
Grade-A Rdlvrd	(52,715)			(222.482)	(122.244)	1,478,718	20.705	04 704 400	2.066.440	\$254,561 \$666,179	\$3,711,806
Net/Balance		INIATED)	(40,403)	(222,183)	(132,344)	(21,723,999)	30,785	24,724,433	2,966,410	\$666,178	\$3,711,000
Total Prior Con Crude Acquired	iracis (TERIVI	INA I ED)		0	0	17 406 120	0	10 106 000		I	
					0	17,406,129		18,196,898			
Crude Disposed				0	0	11,830,863	0	19,148,768			
Grade-A Rdlvrd				0	0	1,478,718			0		
Number of trailers	l- A	0.000000	-4 004	0	0	9,834			0		
Linde Gas Nort	n America, Li	LC, Contra	ct no. 324	9							
Crude Acquired											
Crude Disposed											
Net/Balance		F4									
Praxair, Inc., Co	ontract no. 32	51									
Crude Acquired											
Crude Disposed											
Net/Balance	D 0										
Air Products, L	.P., Contract I	no. 3256									
Crude Acquired											
Crude Disposed											
Net/Balance											
IACX Energy, C	contract no. 32	297									
Crude Acquired											
Crude Disposed											
Net/Balance											
Pioneer Natura	i Resources U	JSA, Inc, C	ontract n	0. 3286							
Crude Acquired											
Crude Disposed											
Net/Balance											
Keyes Helium C	So., LLC, Con	tract no. 32	287								
Crude Acquired											
Crude Disposed											
Net/Balance											
Air Liquide Heli	ium America,	Inc., Contr	act no. 32	284							
Crude Acquired											
Crude Disposed											
Net/Balance											
Matheson Tri-G	as, Inc., Cont	tract no. 32	288								
Crude Acquired											
Crude Disposed											
Net/Balance	+ Case = O		200								
Airgas Merchar	it Gases, Con	itract no. 3	290								
Crude Acquired Crude Disposed											
Net/Balance											
Global Gases A	merica Cont	ract no 32	93								
Crude Acquired	unenca, com	1461 110. 32	J J								
Crude Disposed											
Net/Balance											
Linn Operating	. Inc., Contrac	et no. 3296									
Crude Acquired	,, 50	0230									
Crude Disposed											
Net/Balance											

Government He	elium	
Remaining Crude	Acquired beginning of the month	5,657,449
Crude Disposed:	In Kind Sales transferred for the month	(30,785)
	Conservation Crude Sales/Reserve Sell Down transferred (montl	0
	Gains and Loses for the month	<u>(13,419)</u>
Net/Balance of Pu	rchased Helium Remaining for Sale	5,613,245

Table 8 - Compression & CHEU (Charges & Operations) March - 2016

Field/CHEU Compressor Operations		Month	FYTD	Cumulative
Spot gas fuel price ∗	\$ per/MMBTU	\$1.51	\$1.79	\$4.95
Fuel used * (now includes field compression well head)	total MMBTU	9,548	37,152	1,666,441
Field Compression Fuel Cost *	\$dollars	\$0	\$4,049	\$658,447
CHEU Compression Fuel Cost *	\$dollars	\$10,270	\$37,589	\$4,241,748
CHEU Process Fuel Cost *	\$dollars	\$4,148	\$24,784	\$2,832,209
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	723	3,362	98,681
#2 Compressor run time *	hours	715	2,308	62,072
#3 Compressor run time *	hours	0	1,033	59,013

^{*} Field/CHEU Compressor Operations based on Mar 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.)	<u>\$0</u>	<u>\$88,817</u>	<u>\$2,880,795</u>
Net Total - Cliffside Refiners, LP	\$0	(\$128,479)	(\$8,541,856)

^{*} BLM provided fuel cost is based on Feb 16 fuel consumed

^{*}Rounded to nearest dollar

Crude Helium Enrichment Unit (CHEU)	Month		FY	Cumulative	
CHEU Runtime	Runtime Hrs	Percent	Runtime Hrs	Percent	Runtime Hrs
Processing feed gas	743	99.9%	3,911	89.0%	108,275
Producing residue gas	730	98.1%	3,066	69.8%	105,784
Producing helium product	723	97.2%	2,909	66.2%	102,474
Producing natural gas liquids	728	97.8%	2,986	68.0%	101,344

		Charges Billed (\$)*			
CHEU Charges		Month	FYTD	Cummulative	
Reservior Management Fees (RMF)		\$254,561	\$1,272,803	\$30,778,005	
Total operating costs		(\$824,094)	(\$4,857,054)	(\$132,081,560)	
Labor		\$130,284	\$781,707	\$13,556,909	
Compressor fuel cost Feb 16		\$9,064	\$42,788	\$4,277,972	
HEU fuel cost Feb 16		\$4,786	\$25,781	\$2,865,868	
Electrical power cost Feb 16		\$109,546	\$584,294	\$19,935,398	
Other		<u>\$71,333</u>	<u>\$428,001</u>	<u>\$12,645,256</u>	
Sub Total - Items provided by BLM		\$325,014	\$1,862,570	\$56,490,759	
Total - Cliffside Refiners, LP, GDA030001		(\$499,081)	(\$2,994,484)	(\$75,590,802)	

*Rounded to nearest dollar

CHEU Utility Usage	Month	FYTD	Cumulative
Cheu Fuel Gas (Mcf) usage Mar 16	2,381	12,791	523,525
Cheu Pure Water Usage (gallons) Mar 16	790	4,523	289,446
Electricity Metered (Kwh) consumed Feb 16	2,576,473	12,823,951	109,521,822